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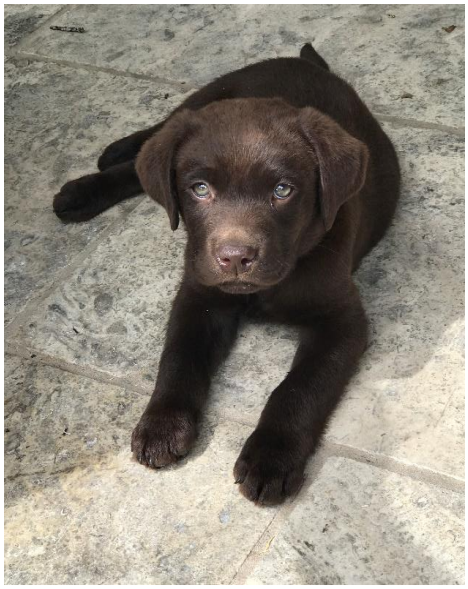

December 2017

In this quarterly edition, we review performance and attribution. We discuss structural change. We have included a book review and notes from various investor days we attended Image: 2018 is the year of the dog (Chinese New Year).

selector

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About Selector

We are a boutique fund manager with a combined experience of over 150 years. We believe in long-term wealth creation and building lasting relationships with our investors.

Our focus is stock selection. Our funds are high conviction, concentrated and index unaware. As a result, we have low turnover and produce tax effective returns.

We seek businesses with leadership qualities, run by competent management teams, underpinned by strong balance sheets and with a focus on capital management.

Dear Investor,

There is a lot to worry about. The property market, the royal commission into the banks, the arrival of online retailer Amazon, elevated equity market valuations and to boot, interest rates at record lows. Speak to anyone remotely interested in markets and their list of concerns is long. On the whole, we agree. Nothing is ever quite right.

Over the past quarter we have seen a more buoyant mood, reflected by our own main equities index advancing 8.20%. The U.S. stock market hit record highs following the release of data supportive of the country's economic fundamentals. Outgoing U.S. Federal Reserve Chair Janet Yellen surmised as much in her most recent update: *"The economic expansion is increasingly broad based across sectors as well as across much of the global economy."*

On multiple fronts, the global economic outlook is positive. Heading into 2018, synchronised global growth is a welcome trend following a period of such lack-lustre activity. Higher interest rates now appear to be a near certainty. Already the U.S. Federal Reserve has shown its hand, projecting a lift in the Federal Funds Rate from the current range of 1.25%-1.50% to 2.75%, by 2020. Similar moves from the Bank of England and the Bank of Korea are illustrative of the broad shift now underway. Our own Reserve Bank has maintained a more neutral stance, seeking to balance the structural challenges affecting most established businesses.

As these events unfold, markets and investor sentiment will be impacted but that is only half the story. The stock market is a collection of businesses, each with its own story, operating on its own timeline. This has been borne out in our meetings with company management teams. Importantly, it illustrates why we place so much emphasis on picking businesses rather than a market direction.

The structural changes that the world is forcing on business should be a key point of investor concern. In most instances, this will inevitably lead to significant business realignment. In our review of the book *"Red Teaming",* we touch upon this and the pitfalls of failing to identify the shifts. We follow this up with an article titled *"The Fat Pitch"*, reflecting on the need for investor patience when contemplating new opportunities.

During the quarter, we undertook many site visits, including company organised investor days. We share our thoughts on one such tour in our, *"Travelling"* article and explore how science research is evolving.

For the December quarter, the Fund delivered a gross positive return of **11.84%** compared to the All Ordinaries Accumulation Index which posted a gain of **8.20%**. For the financial year to date the Fund has delivered a gross positive return of **15.23%** compared to the All Ordinaries Accumulation Index which has posted a gain of **9.31%**.

We trust you find the report informative.

Regards,

Selector Investment Team

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Quote: Andrew Bassat CEO SEEK

On the structural challenges currently impacting many industries, Andrew Bassat, CEO of online employment group SEEK, had these words to offer:

"Australians are much more vulnerable to disruption than anyone realises. I look around industry by industry and I say 'I can't see Australian companies winning that industry...' I have spoken to some of the bank CEO's; they get disruption and the need to move fast, but they say it is really hard to focus on this stuff. They need to go hard. I think they are missing the point; you need a strategy first on how you will survive and thrive, not just be innovative for the sake of it."

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Performance December 2017

For the quarter ending December 2017, the Fund delivered a gross positive return of **11.84%** as compared with the **8.20%** rise in the All Ordinaries Accumulation Index.

Performance table since inception

Returns	Gross Fund Return (%)	All Ordinaries Accumulation Index (%)	All Ordinaries Index (%)
3 Months	11.84	8.20	7.35
6 Months	15.23	9.31	7.00
1 Year	26.01	12.47	7.84
3 Years annualised	17.55	9.23	4.60
5 Years annualised	20.04	10.37	5.74
10 Years annualised	7.94	4.01	(0.40)
Since Inception annualised	12.82	8.25	3.77

Fund's Top 10 holdings

Top 10 December 2017	Top 10 September 2017
ALTIUM	ALTIUM
ARISTOCRAT LEISURE	AINSWORTH GAME TECHNOLOGY
BLACKMORES	ARISTOCRAT LEISURE
COCHLEAR	COCHLEAR
CSL	CSL
FLIGHT CENTRE TRAVEL GROUP	FLIGHT CENTRE TRAVEL GROUP
JUMBO INTERACTIVE	NIB HOLDINGS
NIB HOLDINGS	RESMED
RESMED	SEEK
SEEK	TECHNOLOGY ONE
Top 10: 46.51%	**Top 10: 45.85%**

* *Listed in alphabetical order*

Selector employs a high conviction, index unaware, stock selection investment strategy, which typically targets 15-25 stocks for the Fund. As shown above, the Fund's top 10 positions usually represent a high percentage of its equity exposure. Current and past portfolio composition has historically been very unlike that of your average "run-of-the-mill index hugging" fund manager. Our goal remains focused on truly differentiated broad-cap businesses rather than the closet index hugging portfolios offered by most large fund managers.

ASX Sector Performance – December 2017 Quarter

S&P ASX Industry Sectors	December 2017 Quarter Performance (%)
ENERGY	17.86
INFORMATION TECHNOLOGY	15.56
MATERIALS	12.86
CONSUMER DISCRETIONARY	10.78
CONSUMER STAPLES	9.99
HEALTH CARE	8.15
TELECOMMUNICATIONS	6.29
INDUSTRIALS	4.21
FINANCIALS	2.02

Portfolio Commentary

December 2017 Quarter

Top 5 contributors	%	Top 5 detractors	%
ALTIUM	1.43	OFX GROUP	-0.58
ACONEX	1.37	AINSWORTH GAME TECHNOLOGY	-0.56
BLACKMORES	1.32	IOOF HOLDINGS	-0.12
ARISTOCRAT LEISURE	1.01	VIRTUS HEALTH	-0.09
JUMBO INTERACTIVE	0.81	FLIGHT CENTRE TRAVEL GROUP	-0.06

Top Contributors

1. Altium (ASX:ALU)

In November we attended the Altium annual general meeting which was immediately followed by a business and technology strategy session. On hand to present were the group's key executives, led by CEO Aram Mirkazemi and COO Henry Potts. Altium have for some time mapped out their long-term strategy to investors which encompasses three pillars.

The first pillar is to achieve Printed Circuit Board (PCB) design software leadership by delivering consistent double-digit revenue growth and expanding operating margins. While these aspirations are far from trivial, they underpin the group's long-term vision.

The second pillar is a commitment to staying true to label, while bringing transformational changes to the electronics industry.

The final pillar is acknowledging that success cannot be achieved in isolation and partnering with like-minded engineering software companies will deliver better outcomes for customers.

Management have provided financial targets for the immediate future, which include generating revenues of US$200m and operating margins of greater than 35% by 2020. In comparison, revenues for 2017 came in at US$111m while underlying operating margins were 32%.

Management's confidence in hitting these targets comes from their significant ongoing investment, continued geographic expansion and the group's singular commitment to delivering a complete solution for all participants in the PCB ecosystem. Altium is now able to offer solutions to all market participants including community and student users with Circuitmaker, entry level engineers with Circuitstudio, specialist PCB designers with Altium Designer and finally Altium Nexus, the high-end collaborative solution. In all, Altium is enabling engineers at all levels, be they entry level, mainstream or sophisticated users to have access to a complete solution offering.

Altium's commitment to users is to deliver annual software updates. Recent acquisitions of Octopart and Upverter have also allowed the business to participate more deeply within the fast-evolving electronics design industry. The combination of PCB design solutions, manufacturing services capability and electronic parts distribution, is estimated to be worth US$2 trillion.

Mirkazemi has assembled an impressive executive team that is delivering on the high benchmark that he has set. The opportunity is significant while management's strategy is compelling and clear. We continue to be of the view that Altium is uniquely positioned to execute against its stated goal of becoming the PCB design software leader in the short term and transforming the electronic design industry over the medium term.

2. Aconex (ASX:ACX)

On 18 December, the Aconex Board of Directors unanimously recommended a $1.6b acquisition proposal by Oracle, a U.S. based relational database management software provider. The transaction values the construction management software as a service business at $7.80 per share, a 47% premium to the previous closing price of $5.29.

Aconex management commented that the two businesses are a *"great, natural fit and [are] highly complementary in terms of vision, product, people and geography."* While the announcement may have caught the market off guard, Oracle's reason for putting their foot on Aconex should not. After building an offering which streamlines many of the processes and procedures of the construction industry, Aconex has developed a broad array of influential clients globally. With the risk that Aconex could begin encroaching upon Oracle's turf with modules such as Connected Cost and a large overlap in client bases, Oracle obviously viewed the $1.6b purchase as an insurance policy. We have discussed on numerous occasions the short sightedness of markets and the Oracle transaction may be the perfect example of the difference in investment time horizons between public and private markets.

3. Blackmores (ASX:BKL)

Blackmores provided an update on trading for the current year at its annual general meeting, reporting sales growth of 9% and profit growth of 28% for the first quarter of 2018. The vitamins, minerals and supplements company has outlined that demand from Chinese consumers remains strong, however, the routes to market continue to evolve due to regulatory changes and shifting consumer patterns. Sales to Chinese consumers rose around

28% during the quarter. For the 2018 financial year, the company expects to report higher profits than the $58m reported in 2017.

Blackmores has a market capitalisation of $2.7b and net debt of $45m.

4. Aristocrat Leisure (ASX:ALL)

See newsletter body.

5. Jumbo Interactive (ASX:JIN)

Online lotteries retailer Jumbo Interactive provided a half year trading update during December. The company was expecting to deliver total transaction value (TTV) of $83-$85m, up 19%-22% compared with the previous corresponding period, while net profits were expected to rise 23%-29% to between $4.3m-$4.5m. A combination of continued customer acquisition, existing customer activation strategies and an increased number of large jackpots during the period drove stronger top line results. This strong improvement in TTV has helped improve the bottom line, which is also benefitting from the closure of the loss making German division.

Shortly after the end of the quarter, the company issued revised guidance, upgrading TTV expectations to $89m, an increase of 28% and net profits of $5.0m, an increase of 43%.

The expected results are a validation of the operating leverage within the Jumbo business, which has previously been masked by the failed German strategy and lower lottery jackpot activity.

Jumbo Interactive has a market capitalisation of $200m and net cash of $36m.

Bottom Contributors

1. OFX Group (ASX:OFX)

Money Services Bureau (MSB) OFX Group delivered their results for the 6 months to September during the quarter. While net profit fell 14.1% during the half, the prior period benefitted from a number of one-off items including a non-cash tax benefit and the strong activity associated with Brexit. More importantly the group grew active clients 5.1% and transactions increased 12.2%. A decline in average transaction value saw turnover rise 8.1% to $10.3b.

Over the past year, the company has dealt with all manner of issues. Changes in management and key personnel are always difficult issues. Underinvestment in prior years demanded increased spend on technology, marketing and operations. This has compressed operating margins despite the expanding top line. Importantly though, this half, the results demonstrated positive operating leverage, with net operating income rising and cash operating expenses falling.

With a market capitalisation of $340m, the company is trading on a forecast multiple of 17x, carrying net cash of $35m and yielding 4.5%. All regions are profitable and the shift to online international money transfer, away from the traditional banking network, remains in its infancy.

2. Ainsworth Game Technology (ASX:AGI)

Slot machine manufacturer Ainsworth Game Technology posted a sharp turnaround in the back half of 2017 with adjusted net profits increasing from $15.8m to $31.8m. The improvement was driven primarily by strong performances in Latin America and the Rest of World segment, which includes sales to partner and shareholder, Novomatic AG. The company delivered adjusted net profit of $47.6m for the full year, down 9% compared with 2016.

More importantly, a restructure of the game design department is showing promise. The release of a number of new titles such as Pacman, Big Hit and Firepower have been generating keen interest from customers in the key U.S. and Australian markets. Development of more popular games and a faster production cycle are critical for the company to regain market share from major competitor Aristocrat Leisure.

During the quarter European Gaming conglomerate Novomatic AG received approval to purchase 172.1m shares from company founder Len Ainsworth, representing 52% of Ainsworth Game Technology's shares. The transaction was finalised on 5 January 2018 and while he will continue to work for the company as a consultant for a period of 12 months, Mr Ainsworth resigned as an Executive Director of the company.

Ainsworth Game Technology has a market capitalisation of $710m and net debt of $45m.

3. IOOF Holdings (ASX:IFL)

See newsletter body.

4. Virtus Health (ASX:VRT)

IVF specialist Virtus Health experienced difficult conditions in the 2017 financial year as IVF cycles in the company's main market, the eastern-seaboard of Australia, were flat compared with the prior year. Competition from low cost service providers saw Virtus lose market share and revenue fell from $261m to $257m. Adjusted profit after tax fell accordingly from $35m to $30m. Management initially failed to react to shifting consumer preferences but the business is now well placed to respond to industry challenges. An organisational restructure in Victoria is now complete, pricing changes to the low cost *"TFC"* model have been implemented and operating expenses have been cut.

Strong profit growth from the diagnostics division was one of the positives to come out of the 2017 results. Increased demand from parents for pre-natal diagnostics and genetic screening saw revenue rise 8.7%.

A rebound in monthly IVF cycle growth since June is providing a tailwind for the industry in general and following the operational reset, the company is well positioned to capitalise on the improved conditions.

Virtus Health has a market capitalisation of $420m and net debt of $130m.

5. Flight Centre Travel Group (ASX:FLT)

Earlier this year Flight Centre, Australia's leading travel group, reported underlying profit before tax of $330m, down 7% in 2017 compared with 2016. Earnings fell despite total transaction value (TTV) growing by 4% to a record $20.1b.

Following a weak first half, the company delivered a particularly strong second half. Airfare deflation over the previous 18 months presented a headwind to otherwise strong organic ticket sales growth. As this airfare deflation abated in the second half of 2017, TTV returned to strong growth.

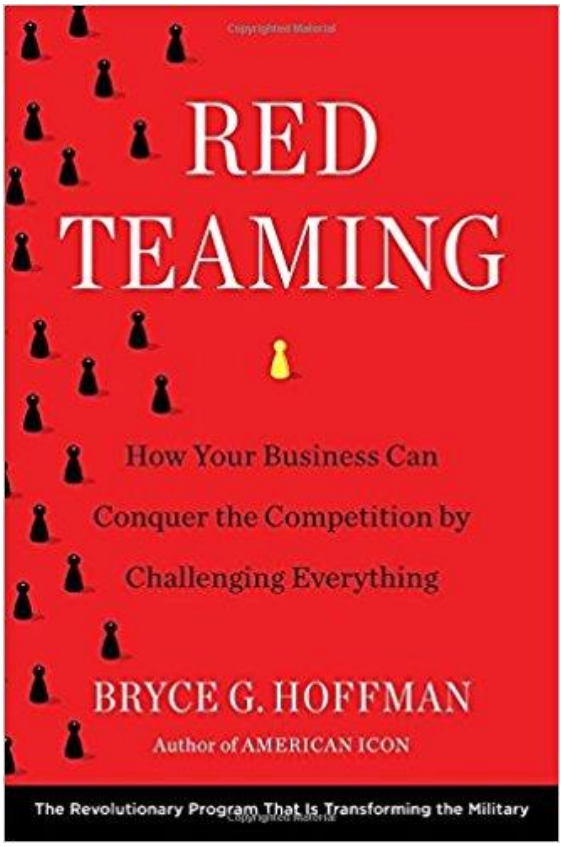
Management has outlined an aspirational goal of earning a net margin of 2% of TTV as profit before tax within the next 3 to 5 years. Currently the group's net margin sits at 1.6%. The company is targeting 7% growth in TTV annually and has renewed its focus on controlling cost growth to deliver the required operating leverage to meet its 2% margin target.

This focus will see Flight Centre turn its attention to breakeven or loss-making businesses and brands. Management have committed to shutting, divesting or transforming these businesses within three years. Several operational changes to streamline support structures have already been made as a part of these initiatives.

At the company's annual general meeting management provided a trading update for the 2018 financial year. Underlying profit before tax is expected to fall within the range of $350m-$380m representing growth of 6%-16%. International business units are expected to be key drivers of this expansion. In-destination businesses will contribute to growth, assisted by a number of bolt on acquisitions made in recent years.

Flight Centre Travel Group has a market capitalisation of $4.6b and net cash of $370m.

Red Teaming - book review



In 2000 Fairfax passed up the opportunity to acquire a stake in online real estate listings operator Realestate.com.au allowing News Corporation to step in and take a 44% stake. The Fairfax board also chose to give upstart online auto site Carsales.com a miss and compounded this with a decision in 2003 not to invest in fledgling online employment site Seek.

Hindsight is a wonderful thing, but this trifecta of poor decisions has cost the mighty *"rivers of gold"* classifieds business plenty. The company had underestimated the impact of the internet and that those smaller upstarts would go on to create a completely new operating environment.

Put this down to hubris, arrogance or ignorance but the passage of time has seen a once dominant media player lose its advantage, a victim of structural decline.

Fairfax is not alone in having regrets. Back in 2000 CEO of Netflix, Reed Hastings, was just starting out in the world of movies. Initially operating as a video rental business, Hastings saw the move to online as inevitable. But in the interim, to survive, it needed to cut a deal. Hastings approached industry leader Blockbuster with an offer. Netflix would help Blockbuster move online in exchange for Blockbuster giving Netflix a physical presence in its stores. It's pretty obvious that most executives wouldn't give their weaker opponent a leg up and so it was the case with Blockbuster.

Blockbuster couldn't see the threat online would pose and compounded their actions when Netflix offered to sell them the business a few years later for US$50m. Such was the confidence within the company, that Blockbuster CEO Jim Keyes declared in December 2008 that: *"Neither Redbox or Netflix are even on the radar screen in terms of competition."* The passage of time and shift of movies to the web saw Blockbuster file for bankruptcy less than two years later. By the time the final Blockbuster store was closed in 2013, Netflix was worth almost US$20b. Today the Nasdaq traded business is valued at US$96b.

Red Teaming, a book written by Bryce Hoffman sheds some light on why we are prone to making ill informed decisions. Hoffman asks: *"What is red teaming? Developed by the military and intelligence agencies, red teaming is a revolutionary way to stress test strategies, flush out unseen threats and missed opportunities."* Its aim is very much about: *"Questioning the unquestionable. Thinking the unthinkable and challenging everything."*

It came to the fore after the U.S. invasion of Iraq in 2003. Initially seen as a successful mission, it soon became apparent that the U.S. victory came at a cost. The removal of Saddam Hussein's Ba'ath Party had left a vacuum for other clans and tribes to fill. The infighting and struggle for power left the Allied forces exposed and more importantly, unable to leave. The subsequent analysis of these events undertaken years later would suggest that despite the best laid plans and military intelligence the army had to offer, the simple fact remained that: *"You have to be open to the fact that maybe - just maybe - you've got it wrong."* In this instance, the military had underestimated how ill-equipped the people of Iraq would deal with the sectarian violence that followed.

These events would shape how the U.S. would deal with future conflicts, implementing a system it hoped would avert such miscalculations in the future. In 2005 the U.S. army established red teaming. The term *"red team"* is to denote the concept of a group working together to penetrate the defensive line. Author Bryce Hoffman is the first civilian from outside government to graduate from the U.S. army's elite red team leaders course.

Hoffman notes that while the Army have incorporated red teaming at its core, its concept can be applied more broadly: "*Red teaming works. It works for small California tech start-ups and Japanese sovereign wealth funds. It works for old, iconic corporations and innovative disrupters. It works for non-profits and hedge funds."*

When applied to business the conceptual benefits of red teaming become quite apparent. Many examples are provided throughout the book, highlighting miss-steps similar to those outlined in our opening remarks.

First and foremost, red teaming only works if there is buy-in from the top. Depending on the size of the organization, a red team can either be a permanent structure or one assembled to review a particular task. Team numbers vary, however, the optimum size is between five and eleven individuals, all with differing skills.

Hoffman notes: *"Red teaming is most effective when the red team has permission to question the unquestionable, think the unthinkable, and challenge everything."* And importantly: *"They need the confidence and assurance to challenge the status quo, as well as the self-assurance required to recognise their own biases and limitations."*

All this sounds rather sensible but with so many highly paid external consultants to call upon in a crisis, is there a need for such a team? Here it is important to make a clear distinction, that the point of red teaming is not to step in when things turn nasty but to prevent them from occurring in the first place. It is to stop groupthink, where conclusions are reached without sufficient discussion and analysis of the potential alternatives.

Acquisitions are a good case in point. All too often a deal, sometimes couched as transformational, is delivered by a management team and their advisors, all flying the same flag. When everyone is leaning to one side it's very difficult to question the deal's merits and much harder to change opinions. Berkshire Hathaway's Warren Buffett said it quite nicely in one of his annual letters to shareholders: *"When stock is the currency being contemplated in*

an acquisition and when directors are hearing from an advisor, it appears to me that there is only one way to get a rational and balanced discussion. Directors should hire a second advisor to make the case against the proposed acquisition, with its fee contingent on the deal not going through."

He didn't call it red teaming but the goal is the same. Question the rationale for wanting to make the deal, approach it from multiple angles and be less swayed by those with vested interests.

Every business needs devil's advocates, those that question the status quo or see the world in a slightly different light. Perhaps if the Fairfax board had not been so dismissive of the online world, a much better outcome would have emerged. Today, companies don't have the luxury of being dismissive. While Gerry Harvey, founder of retail group Harvey Norman, may still question the merits of global online competitors, the facts would suggest the potential erosion to business revenues and margins is just a matter of time.

Shareholders need to be thinking about their investments along similar lines to the newer technology based businesses of today. In 2015, when announcing the splitting of Google into two, with the new parent being Alphabet, cofounder Larry Page outlined the rationale behind the move in a memo to staff. Recall Google was a business that started life back in 1998: *"We've long believed that over time companies tend to get comfortable doing the same thing, just making incremental changes. But in the technology industry, where revolutionary ideas drive the next big growth areas, you need to be a bit uncomfortable to stay relevant."*

Similar feelings were being shared over at Toyota Motor Corporation, when at the top of its international game in 2004, Chairman Fuji Cho outlined in a keynote address to the automobile industry conference held in the U.S. that the company had to rethink its strategy: "*Any company not willing to take the risk of reinventing itself is doomed. The world is changing much too fast. Our industry has never been more competitive."*

So why are attitudes harboured by the likes of Google and Toyota executives so rare? Inertia would rank high as a cause. To change a formula that has been kind and profitable for a business and its shareholders is a hard sell. And it's this type of thinking that helps drive the sort of short-term thinking that so often proves costly to companies in the long run.

Former Intel President and CEO Andrew Grove is one that confronted the challenge head on. In the classic book, *"Only the Paranoid Survive"* Grove explains the reasoning for the company turning its back on its own memory business that was haemorrhaging losses to the ever-more efficient Japanese producers: *"If we get kicked out and the board brought in a new CEO, what do you think he would do. Gordon answered without hesitation. He would get us out of memories. I stared at him numb, then said, why shouldn't you and I walk out the door, come back and do it ourselves."*

It is somewhat rare to see such bold and decisive action taken by those in charge. In this case both Intel Chairman George Moore and CEO Andy Grove needed to act and they did. All too often this isn't the case and critical decisions are put on the back burner.

Perhaps this is the real benefit of red teaming. To force executives, boards and management teams to think about consequences beyond the short term. Establishing a red team model that fits an organisation will allow critical issues to be discussed and analysed without fear of retribution. This is certainly true when strong individuals within a business, either through seniority or character, ram home a view. Too often the desire to get bigger comes at a significant cost to shareholders; think Slater and Gordon risking shareholder funds on a debt fuelled U.K. expansion.

Ideally, as Buffett suggested, the time to question things is before they happen. Red teaming should begin after a plan has been created but before it has been given the tick of approval. The reason for this is clear, the role of the red team is not to hinder, nor determine the plan but to make the plan better. Having a team that reviews a plan from different points of view

to those championing that path is the ultimate goal of a red team, remembering that humans are susceptible to biases.

Experts are susceptible to not questioning their own points of view and are subject to natural human biases, making it necessary to question their views independently, thereby reducing the risk of falling foul of overconfidence. Supermarket leader Woolworth's decision to embark on a rollout of hardware stores across the country, against a proven competitor in Bunnings, will be seen in years to come as a textbook example of what not to do. Operating as a joint venture alongside partner U.S. retailer Lowes, the board supported a risky strategy involving significant upfront capital whilst exposing itself to heavy operating losses. Not only did management underestimate the difficulty of the task, it also took its eye off its main asset, the supermarket business.

A red team may not have stopped Woolworths continuing with their plan. That is not their role. Done right, red teaming provides quality analysis and data that raises *"what if"* scenarios. Such events may be low probability outcomes, but their financial impact can be catastrophic if they come to pass. Fortunately for Woolworths they have been able to walk away from their hardware debacle even after shredding hundreds of millions of dollars.

The same cannot be said of our National Broadband Network (NBN). Governments are very good at making decisions without proper analysis. The NBN, an investment said to cost $43b when first unveiled is now expected to hit $49b, made up of debt and equity, taxpayers' equity. The arrogance to roll out such a plan without any cost benefit analysis is now coming home to roost. The marketing spin that the NBN investment would: *"revolutionise healthcare, helping our towns to grow"*, has yet to be backed up with network performance.

Back in April 2009 when the NBN was first unveiled, little thought was given to the threat of new technologies. Today, with a reliance on fibre technology, the yet to be competed project is now being exposed on two fronts. A cost blow-out calls into question its ability to generate an economic return on capital and the deployment of newer technologies that will render the NBN network even less competitive. Analysts now predict the advent of 5G mobile technology will cut a swathe through the market, predicting that up to 25% of the market, equivalent to $10b of revenue, could be delivered via this method. Unfortunately, Governments are less

accountable for their actions than businesses or management teams, but a red team surely would have helped in this scenario.

As Hoffman notes there is no right way to red team. It's best carried out in an interactive process and conducted throughout the project period, where the focus is on the key issues identified. The book is recommended reading and while we are the first to acknowledge there is the risk of consultant spin, valuable lessons can be learnt.

Now more than ever, no business can afford to be complacent or assume a status quo position. Witness the global payments industry which is currently going through its own structural moment. The most popular names continue to dominate, be they Visa, Mastercard or American Express. However, new competitors are gaining traction.

While the share market is not always a good indicator of success (fads will come and go) it was interesting to witness the market capitalisation of PayPal Holdings surpass that of American Express during October. PayPal Holdings, an electronic money transfer business was spun off from parent eBay two years ago with a valuation of US$47b. It recently passed US$95b and in the process, overtook American Express, a business steeped in history and one that has prided itself on brand and reputation.

PayPal Holdings' market valuation is around half that of MasterCard and two-fifths of Visa. The group trades on a much higher earnings multiple but that is to be expected, since many see PayPal Holdings as being much more of a technology platform player than just a credit card provider. Whether that justifies its valuation is for another day, suffice to say that others are prepared to pay a higher price for a business that is early in its adoption phase.

As Henry Ford II summed up: *"Nobody can really guarantee the future. The best we can do is size up the chances, calculate the risks involved, estimate our ability to deal with them and then make our plans with confidence."*

A red team may not be for every business, but shareholders could do far worse.

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The Fat Pitch

"I call investing the greatest business in the world because you never have to swing. You stand at the plate; the pitcher throws you General Motors at 47! U.S. Steel at 39! and nobody calls a strike on you. There's no penalty except opportunity lost. All day you wait for the pitch you like; then when the fielders are asleep, you step up and hit it."

Among a host of wonderful investment quotes from Warren Buffett this one is a standout.

While Australian's may not be familiar with the game of baseball, waiting for the *"Fat Pitch"* is a lesson we can all learn, both in life and investing. Too often we complain that inaction is the result of a lack of ideas or thoughtful leadership. The reality is patience is a discipline not well practised by many investors or companies.

To some degree this is understandable since professional managers and board directors are paid to do something. Buffett debunks this misnomer. Unlike baseball, where the batter must swing or risk striking out, business is a different game. Each day the market presents opportunities, some good, others not so good. The real skill in investing is waiting patiently for the ones that deserve to be acted on. In truth, unlike Buffett's baseball analogy, there is a cost for investors of doing nothing, the opportunity cost of time lost while waiting.

Not all investors see it that way and a few wait for the fat pitch. To be fair, Buffett is an exceptional investor, but the virtue he extolls, of remaining disciplined when buying, is grounded in common sense.

Over the course of the year a number of businesses owned by our Funds have seen fit to make strategic acquisitions. The issue is always, do they fit culturally, do they make commercial sense and was it a fat pitch?

Aristocrat Leisure

In August 2017, global gaming operator Aristocrat Leisure announced the acquisition of a private, Israeli, free-to-play, mobile, social and web based game developer Plarium for upfront consideration of US$500m, valuing the business at 10x operating earnings. The vendors are also entitled to an earn-out payment on the basis of achieved results for calendar years 2017 and 2018.

The business was established in 2009 and in 2017 the company recorded revenue of US$201m and operating earnings of US$44m. Since 2012 the group has grown both revenues and earnings by compound growth rates of 55% and 63% respectively. The co-founder Avraham Shalel, along with key members of the management team have also committed to the business, accepting a deferred portion of the consideration out to 2020.

From Aristocrat's perspective, the strategic rationale for the move surrounds access to an expanding digital market beyond the group's current social casino segment, valued at US$4.3b. This new segment, defined broadly as the strategy, role-playing and casual gaming segment, has an addressable market valued at US$22b.

As we have previously noted, Trevor Croker was installed as the group's new CEO following Jamie Odell's decision to step down in February 2017. Croker joined the company in 2009 at the same time predecessor, Jamie Odell, was appointed CEO. Since joining Aristocrat, Croker's roles have included managing the traditional gaming markets of Australia, New Zealand, Asia Pacific and EMEA. Since 2015, his responsibilities shifted to the digital business and specifically the group's oversight of total product portfolio, product strategy and management of the creative studios. The acquisition should be viewed in this context. Whilst Croker is new to the role, his involvement in the business including the digital side runs deep.

His comment following the announcement of the Plarium acquisition is worth noting: "*I think if you had told us four or five years ago we would be looking at the digital space, I'm not sure we would have believed you. But I do look at us as a technology company now, not a manufacturing company. We have a lot more software engineers and coders building things in the digital space than we would have manufacturing engineers, for example. The deal brings digital to 22% of the business, and growing.*"

As to the merits of deal itself: "*The strategic and financial benefits are compelling for Aristocrat shareholders. Following the acquisition of Product Madness in 2012, Aristocrat's digital division experienced exceptional growth and Product Madness is now a top five social casino gaming publisher globally. Plarium provides a unique opportunity to continue and accelerate this growth by diversifying into attractive new mobile gaming segments. It is a great start-up story. It was only started in 2009 and it has been profitable since then.*"

Management's strategy of expanding the group's traditional gaming operations as well as the newer digital segment was evident in November, with the announcement of an all cash US$990 acquisition of Social Casino game developer Big Fish, from listed U.S. company Churchill Downs. The business was acquired by Churchill Downs in 2014 for US$885m and disposal of Big Fish was largely driven by its renewed focus on its core casino and thoroughbred operations. For Aristocrat, the acquisition propels the company into the number two position of global Social Casino operators and largely fulfills Croker's desire to achieve scale within this important and growing market segment.

In 2017, the Big Fish operations earned US$458m in revenue and operating profits of US$83m, implying a 11.9x acquisition multiple. The business comprises three core segments across desktop and mobile platforms. The largest is the Social Casino operations with revenues of US$194m, followed by Social Gaming at US$184m and Premium Paid services at US$81m. At the end of September, the business had 12.4 monthly active users across its games platform. Globally, the Social Casino market is estimated to be worth US$4.3b, growing 12% annually, while the much bigger Social Gaming market is expected to grow from US$46b to US$65b by 2020.

These two acquisitions, when combined with the group's existing digital division, will become Aristocrat's largest contributor, with $1.3b of revenues representing 38% of the group total. Importantly recurring revenue across all operations will rise from 52% to 65%.

The group is funding the acquisition with debt, which will see gearing ratios rise to 2.7x pro-forma operating profits of $1.2b. Croker is clearly confident that the acquisition meets all of their required metrics, commenting that: *"The acquisition of Big Fish will immediately provide scale across our entire digital platform. The strategic and financial benefits from the acquisition are highly compelling."*

No doubt there is risk associated with the digital opportunity, as well as the uncertainty presented by bringing into the fold a new management team. That said, Crocker is now looking to replicate the success of the original purchase of Product Madness with the group's foray into a much larger addressable market.

IOOF Holdings

While Aristocrat Leisure has historically steered clear of acquisitions, financial services group, IOOF Holdings, would be more appropriately described as a serial acquirer. Perhaps what should also be acknowledged is that many, if not all, of the deals completed in IOOF's long history have been accomplished with limited competitive bidding tension.

In October, the group announced the acquisition of Australian and New Zealand's Banking Group's (ANZ) Wealth Management business for total cash consideration of $975m. ANZ's original desire was to dispose of its life insurance and wealth management business as one unit, however, the difficulty in finding a suitable buyer necessitated a sale of the businesses as separate units. Long standing IOOF CEO Chris Kelaher clearly outlined how attractive the deal was: *"I am extremely confident that this transaction will deliver superior outcomes for our clients, advisers and shareholders."*

The transaction will be the largest that the group has undertaken since listing, as well as the most complex. In terms of scale, funds under advice (FUAdvice) will rise by 34% to $77b, funds under administration (FUAdmin) by 125% to $83.8b, funds under management by 115% to $44b and the total number of advisors will increase by 71% to 1,734. This significantly increases the group's scale and is highly complementary.

While execution is critical, wealth management is a scale business and in that sense IOOF will see a material increase in its market share across all segments. IOOF will be second only to AMP in both FUAdvice and financial advisers, while moving up into fifth position when measured by FUAdmin. Additionally, ANZ has already positioned the business for a more competitive world. For IOOF, picking up ANZ's Smart Choice superannuation platform provides the group with a competitive digital solution suited to an industry moving further online.

The deal was contingent on ANZ successfully separating the life insurance business from the wealth management operations, which was successfully concluded in mid-December following the announced sale to Zurich Financial Services Australia. With this sale now confirmed IOOF has provided an expected timeline to completion of 12 months. IOOF will be working with ANZ in the interim to expedite the transaction but no consideration will be paid until the businesses have been separated.

Importantly, IOOF management was granted considerable access to the ANZ accounts to carry out due diligence, reflected by their target of pre-tax synergy benefits of $65m per annum by 2021. IOOF expect to spend $130m over three years to fully implement and integrate the two businesses, reflecting a payback period of two years on integration costs.

For the 2017 year, the ANZ wealth management business delivered underlying net profits of $63m, representing a price to earnings multiple of 15.5x. Assuming IOOF can deliver the targeted synergies, the purchase multiple drops to 9x. The transaction funding has been arranged by way of a $450m institutional placement, a share purchase plan and new debt. The company entered the transaction debt free and management have committed to maintaining the current full year dividend payout of 54 cents until deal completion.

Overall, the deal is expected to deliver mid-single digit earnings per share accretion in the 2019 financial year, increasing to 15% in the first full year and 20% thereafter. ANZ and IOOF have also entered into a 20-year strategic alliance which will see ANZ distribute IOOF wealth products across ANZ's banking network. Kelaher describes this aspect of the deal as follows: "*It's the partnership that is icing on the cake. You can look at existing profit and what you're purchasing, but it's the growth piece into the future that's exciting.*"

Head of ANZ Wealth Management, Alexis George announced the decision to split the wealth and insurance businesses to allow for a sale, confirming what had been known for some time: *"We weren't the right owner…we felt there were better players out there to deliver that and invest in it… We don't need to spend money in investing in these two components, let's find a partner who can."*

For IOOF, as a committed, focused player in the wealth management industry, the deal appears compelling, both strategically and financially.

James Hardie

In November, global fibre cement manufacturer James Hardie announced a significant move into the European market with the purchase of the region's premium fibre gypsum board manufacturer Fermacell. The acquisition is scheduled to settle in the fourth quarter of the company's 2018 fiscal year, an all-cash transaction valued at US$549m. The business has an estimated 70% market share in its product category, with annual revenues running at US$313m and operating profits of US$61m. The business is headquartered in Germany, operating six manufacturing plants, employing 800 staff and a sales force covering 12 countries.

Since taking the role as CEO in 2004, CEO Louis Gries, has steadfastly focused on building a dominant U.S. fibre cement business from scratch. Today, on the back of the group's organic growth strategy, James Hardie is the market leader. The acquisition of Fermacell is therefore somewhat out of character, however, as Gries noted: *"Fermacell's market position, go-to-market strategy and strong management team will enable us to scale and accelerate our European business, which has long been a strategic goal. Fermacell will diversify our geographic, product and end-market portfolio, complementing our strong positions in North*

America and Australasia, and will create significant growth opportunities and drive long-term value for customers, employees and shareholders."

While details surrounding the deal are limited, management have been aware of Fermacell since 2008. The group has acknowledged the cultural fit between the two businesses is a key attraction. The transaction is expected to be earnings accretive in the second full year of ownership, after accounting for all integration and one-off costs. Fermacell will represent approximately 15% of total group revenue. James Hardie will fund the acquisition using debt.

Oil Search

In November, PNG based oil and gas exploration and production company, Oil Search surprised the market with an acquisition of oil interests in Alaska's North Slope. Not dissimilar to James Hardie's CEO Louis Gries, Oil Search's CEO Peter Botten has had an unwavering focus on development of oil and gas assets in Papua New Guinea. In typically unpredictable style, the price and attractiveness of the Alaskan assets seemed to present the right opportunity for Oil Search's shift in strategy.

The undeveloped oil fields on Alaska's North Slope have been acquired for an up front consideration of US$400m, giving the group an equity stake of 25.5% in the Pikka Unit and a 37.5% interest in the Horseshoe Block. The interests give Oil Search access to a confirmed oil resource of 500 million barrels gross. Further drilling is aimed at lifting this to 1.2 billion barrels of oil. Based on these estimates, the company has acquired the resources on a purchase price equivalent of US$1.30 - US$3.10 per barrel.

The company has also acquired an option to double its ownership in both fields for US$450 million. Based on preliminary estimates, Oil Search is targeting front end engineering design (FEED) completion in 2019, final investment decision (FID) by 2020 and first oil production in 2023. Development of the field is expected to cost US$4b, however, there is the potential for development costs to be substantially reduced by sharing existing infrastructure in neighbouring fields. Oil Search is likely to use the option to farm-in other oil majors with assets in the region to increase alignment and improve the economics of the project. The company expects to contribute US$300-US$400m of equity for the development of the project over three years, funding the balance with project finance debt.

The company will assume operation of the assets in June 2018, with the first phase of production in 2023 expected to see flow rates of 80,000-120,000 barrels per day, providing the company with 7-11 million barrels per annum net to Oil Search.

The decision to pursue this asset is in keeping with management's track record of doing things differently. Their success in PNG is illustrative of their ability to manage and develop assets that others sought to pass on. Announcing the deal following extensive due diligence, long standing CEO Peter Botten explained their rationale: *"The reality in PNG is there is a long period of time between final investment decisions and development and expansion does take a while. The oil assets acquired today are more in our control, faster to market and potentially has higher returns and faster payback. We believe we've now got world class reserves in both gas and oil, we believe the acquisition has been done at a very conservative cost base and the*

combination between the upside we have in PNG and the upside we have in Alaska is one that is unusual in the oil and gas space, and sets ourselves a platform for very substantial growth over the next 10 years."

Carsales.com

In November, Australia's leading online automotive classifieds business Carsales.com confirmed the purchase of the remaining 50.1% shares of SK Encarsales.com for $244m. This gives Carsales.com full ownership of South Korea's number one online auto classified business and follows the group's original purchase of 49.9% of the business for $126m in 2014.

The move is aligned with a long-term strategy of leveraging the group's intellectual property internationally. CEO Cameron McIntyre, acknowledged that the move is an important milestone, freeing the Korean management team from the conflicts within the larger SK Encar group that have, at times, held back the online classifieds business. SK Encarsales.com is highly profitable and operates in a Korean market with 22 million vehicles, some 25% larger than our 18 million local market. Carsales.com is acquiring the business with net cash and the deal is forecast to be earnings per share accretive during 2019. In 2017 SK Encarsales.com posted revenues of $47m and net profits of $23m.

Summary

By their very nature, outstanding opportunities are infrequent. When they do come along they need to be seized with both hands. But the discipline of waiting for the right one, the fat pitch, is not without its challenges. Most notably, the constant noise of the market often tricks investors and companies alike into swinging far too frequently. Time will tell whether these businesses have made the right moves. Suffice to say, they have shown sufficient restraint in getting this far.

SFM

Travelling

We travelled south to Melbourne in October, attending meetings with three businesses held within our portfolios. We are mindful of the access that is provided to us, knowing full well that we are taking up management's time. That is not our intention, but our interests in the underlying business is genuine, while our knowledge base only benefits as a result.

On this occasion, we caught up with Andrew Bassat, CEO of online employment group SEEK, John Forsyth, non-executive director of 4WD specialist ARB and attended plumbing group Reece's annual general meeting hosted by CEO Peter Wilson.

SEEK

We started the day by visiting SEEK headquarters and its co-founder and CEO Andrew Bassat. SEEK is a business which we have written about on several occasions in our newsletters. Management have run the business sensibly since first coming to market in 2005, overcoming various obstacles along the way. On this occasion, we wanted to understand how management were feeling about the industry, along with the opportunities and challenges that lay ahead.

We suggested to Bassat that his public addresses gave the impression of a *"glass half-full"* outlook. It appears we were wrong on our assessment, noting that while management approach their job in a confident manner they remain vigilant of the challenges that can beset any business. In the context of SEEK, the arrival of LinkedIn seven years ago was one such event that provided a wake-up call.

Since its establishment in 1998 and subsequent stock market listing in 2005, the business has benefited from the structural shift of job ads from print to online. As the dominant Australian online job listings site, re-investment was never a high priority. The arrival of offshore global competitors LinkedIn and Indeed fundamentally altered management's thinking. The group had underinvested and allowed competitors to enter the market. Bassat openly admits that this was a *"scary period"* for the group and one that has shaped the current strategy.

Today, the business is no longer just a sales and marketing company. The group has a much more diverse offering, it is the leader in numerous international markets and is increasingly data driven. The company has invested heavily to improve outcomes, lift engagement and grow job applicant profiles. The number of individual resumes in SEEK's database has risen from seven million to nine million out of the total Australian work force which numbers around 12 million.

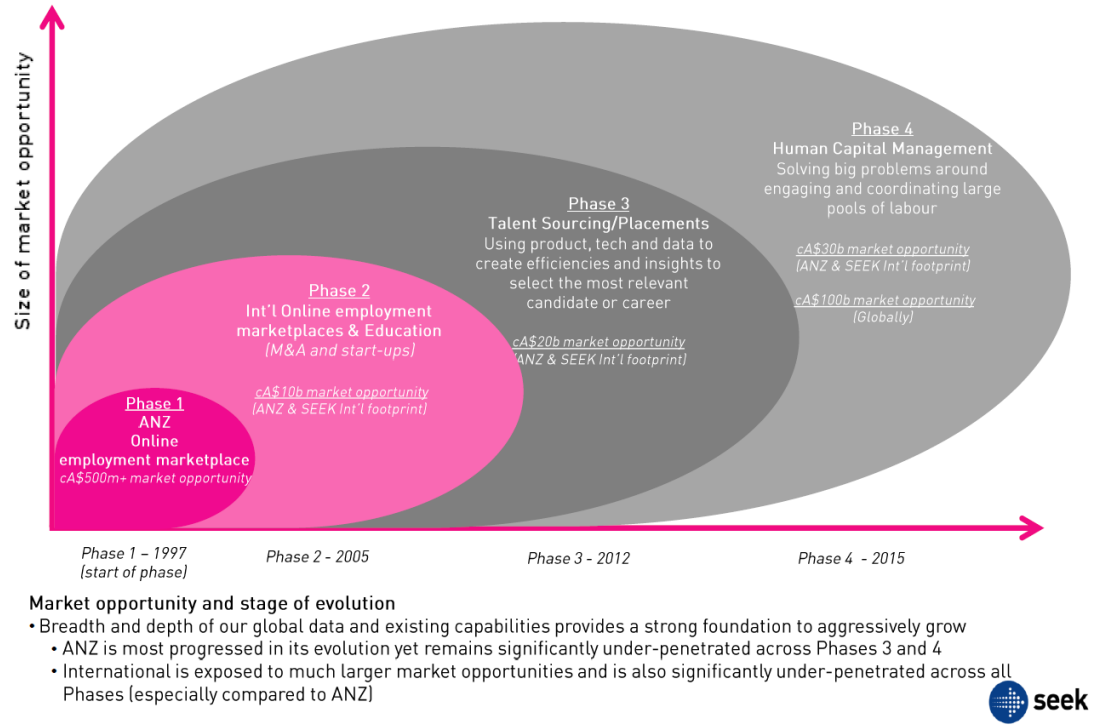
SEEK is now well positioned to extend its lead having relearnt the importance of re-investment. Capturing more relevant data and providing insights to employers has allowed the group to better monetise its assets. More importantly, SEEK now recognises the power of engagement and continues to deepen customer relationships with new products and services. Employment revenues are no longer driven purely by the volume of ads posted on the website, but is now driven by a combination of volume, price and product mix, better reflecting the value delivered to hirers.

SEEK's Australian and New Zealand Managing Director Michael Ilczynski recently commented about the role that artificial intelligence was having within the organization: "*It's really about using predicative analytics to predict the opportunities that might be relevant. The breadth and depth of the data we've got across all of our business gives us wonderful opportunities. Because the candidate is logged in, we can see what they click on: the models are able to learn, based on the responses and it can be married with their search behaviour. The game has really changed over the last five years. We're at the point for different products, it can be built relatively quickly once and then we can choose what market we want to test and learn in.*"

These learnings are now being applied across the group's broader international operations. Bassat noted that the Australian market remained some years ahead of its offshore businesses. Internally, SEEK has established a small global unit to bridge the gap. Importantly, Bassat remains confident that while some level of product customisation is required, the majority of existing services can be easily incorporated within the group's offshore operations, providing significant scale benefits.

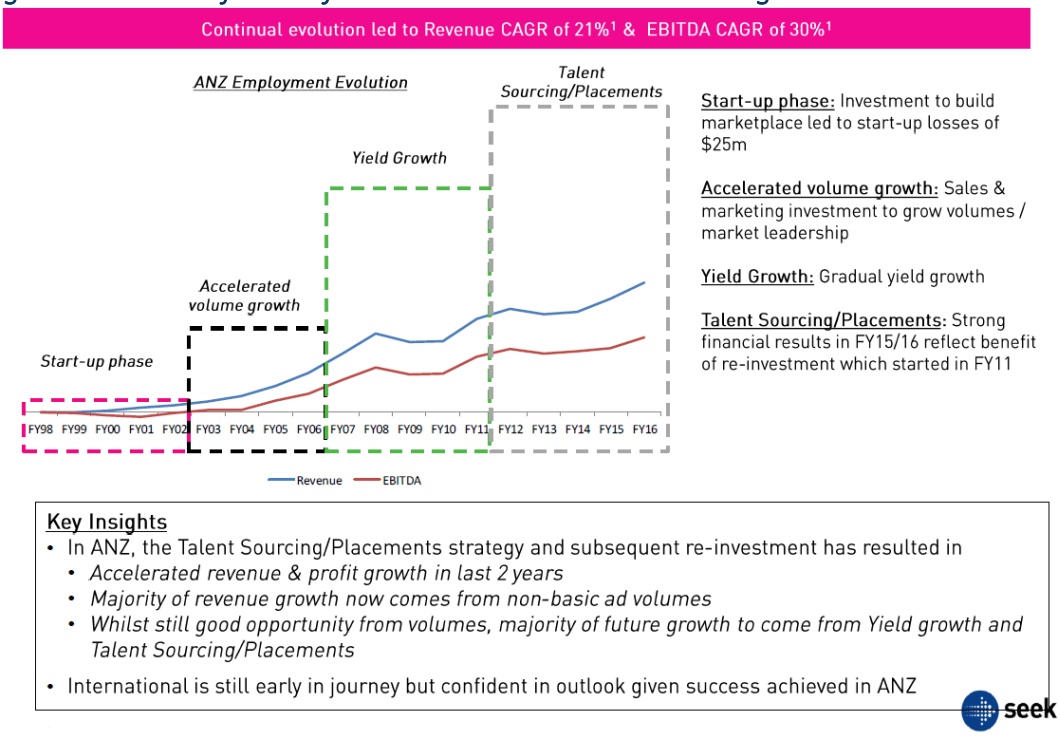
This will allow SEEK to expand across multiple disciplines, including the traditional online employment, education and now talent placement services. The company highlights the transitions they have experienced since start-up, one initially driven by volume, to higher yielding valued added services. *Figure 1* and *Figure 2* illustrates the progress thus far and the likely trend investors should expect over the coming decades.

Figure 1: SEEK business model evolution



Source: SEEK HY17 Results Presentation

Figure 2: SEEK confident of International business' outlook given success in ANZ



Source: SEEK presentation at 2017 Macquarie Conference

In China, the re-privatization of online employment group Zhaopin has been completed. SEEK will most likely end the process where it began, as a 61% investor with two newly aligned and well credentialed private equity investors in the form of Hillhouse Capital and FountainVest Partners.

In 2017, Zhaopin grew revenues 13% to $327m and operating profits were flat at $80m. The mismatch between growth rates of revenues and earnings reflects management's conscious decision to reinvest in the business. By way of example, Zhaopin currently services just 600,000 small-to-medium enterprises (SME) out of a market size estimated at 81 million SME's. China is a market dominated by SME's, spread over a large area. With 33 offices, Zhaopin is aiming to extend its reach geographically with in-region offerings, in much the same way it has done locally.

Finally, in its education division the group has an impressive list of achievements. Much of its success has come from start-ups teamed with strategic partners. The sale of its 50% shareholding in IDP reaped a return of $333m on an initial investment of $36m made in 2006. The company's most recent venture involves a partnership entered during 2011 with Swinburne University of Technology, offering online courses. From an initial investment of $10m, the joint venture recorded revenues of $109m and operating profits of $37m during 2017.

SEEK's ownership has subsequently been lifted to 80%, valuing the whole business at $400m. The change in ownership has also seen the business renamed Online Education Services

(OES). A recent partnership struck with Western Sydney University aims to replicate the success achieved with Swinburne. Further partnerships are on the cards along with overseas expansion.

SEEK has built a world class business by taking a long-term approach. Maximising short term profits has never been a priority. Their approach has revolved around the building of an ecosystem of products and services which help meet the basic needs of people's lives in education and employment. The offerings have now been enhanced through the collection of a rich set of data which is difficult for competitors to replicate, resulting in greater customer engagement. Getting this part right is more likely to ensure long run success. Bassat has been integral to the group's performance to date and his propensity to take the long road, investing upfront, should be followed by others and applauded by shareholders.

ARB Corporation

Our next visit took us to 4WD specialist ARB. Our meeting was not with a Brown, but a fellow director who has been with the business since the group first floated back in 1987. We met at the company's offices in the city, a quiet environment for the key executives. One that, in our opinion, provided the appropriate atmosphere to allow for considered business decisions to be made. Judging by the company's track record since listing, they are certainly clear thinkers.

As John Forsyth explained, while handing us a two-page summarised copy of the group's financial performance since listing, the management team led by Roger and Andrew Brown are not one to complicate things. They have a very clear focus on the business and its direction. *Table 1* provides an excerpt of the financial performance since listing.

Table 1: ARB Corporation Limited financial results time series

Year	Issued Capital	Sales Revenue	Export Sales	EBIT	NPAT	EPS	DPS	ROE	EBIT Margin	Share Price	Market Cap
	shares	$m	$m	$m	$m	cents	cents	%	%	$ adj	$
30-Jun-87	10,141,544	1.5	–	0.1	0.0	0.1	–	1.0%	4.8%	–	–
30-Jun-88	10,141,544	8.7	0.5	0.3	(0.1)	(0.3)	–	(2.0%)	3.0%	–	–
30-Jun-89	10,141,544	12.6	0.5	1.6	0.5	1.0	0.6	5.0%	12.7%	–	–
30-Jun-90	10,933,850	14.2	1.1	1.6	1.0	2.0	1.1	10.0%	11.2%	–	–
30-Jun-91	10,998,369	13.3	1.7	0.5	0.3	0.5	0.6	3.0%	3.4%	–	–
30-Jun-92	11,057,097	15.7	2.4	0.9	0.7	1.2	0.9	6.0%	5.7%	–	–
30-Jun-93	11,177,042	20.8	2.8	1.9	1.5	2.7	1.5	13.0%	9.0%	0.2200	12,294,746
30-Jun-94	11,252,531	25.7	4.0	2.3	1.6	2.8	1.7	13.0%	8.9%	0.3360	18,904,252
30-Jun-95	11,252,531	28.9	5.5	2.6	1.8	3.1	1.9	13.0%	9.1%	0.2780	15,641,018
30-Jun-96	11,252,531	33.6	7.5	3.3	2.1	3.7	2.1	14.0%	9.8%	0.3700	20,817,182
30-Jun-97	11,252,531	38.2	9.7	4.1	2.5	4.5	2.3	16.0%	10.7%	0.5200	29,256,581
30-Jun-98	11,252,531	44.0	12.6	5.7	3.4	6.1	2.8	20.0%	12.9%	0.7400	41,634,365
30-Jun-99	11,252,531	50.9	16.4	6.5	4.0	7.1	3.4	20.0%	12.7%	1.2000	67,515,186
30-Jun-00	11,252,531	59.1	20.1	8.2	5.1	9.1	4.4	22.0%	13.9%	1.0200	57,387,908
30-Jun-01	12,613,036	67.8	25.5	10.1	6.5	11.4	25.0	24.0%	14.9%	1.7500	110,364,065
30-Jun-02	12,613,036	78.8	29.3	12.0	8.3	13.1	6.5	26.0%	15.2%	2.7000	170,275,986
30-Jun-03	63,065,180	88.0	33.2	14.8	10.3	16.3	8.0	27.0%	16.8%	2.6000	163,969,468
30-Jun-04	63,201,976	100.7	31.9	17.4	12.1	19.2	9.5	27.0%	17.3%	3.5300	223,102,975
30-Jun-05	66,565,082	114.7	35.9	21.0	14.2	21.8	30.5	27.0%	18.3%	3.0500	203,023,500
30-Jun-06	66,565,082	125.9	41.1	22.9	15.8	23.7	11.5	26.0%	18.2%	3.1500	209,680,008
30-Jun-07	66,565,082	146.1	50.3	22.4	15.8	23.7	13.0	23.0%	15.3%	4.3000	286,229,853
30-Jun-08	66,565,082	171.6	55.1	28.5	19.6	29.5	15.0	25.0%	16.6%	3.8500	256,275,566
30-Jun-09	66,565,082	191.2	56.4	32.0	22.5	33.9	16.5	24.0%	16.7%	3.5500	236,306,041
30-Jun-10	72,481,302	228.0	55.7	44.6	32.6	46.3	59.5	29.0%	19.6%	5.8000	420,391,552
30-Jun-11	72,481,302	254.2	56.8	50.4	37.9	52.2	23.0	29.0%	19.8%	7.5700	548,683,456
30-Jun-12	72,481,302	268.7	59.4	51.3	38.5	53.1	25.0	25.0%	19.1%	9.1000	659,579,848
30-Jun-13	72,481,302	291.5	59.3	57.8	42.4	58.4	28.0	24.0%	19.8%	11.4000	826,286,843
30-Jun-14	72,493,302	297.8	69.7	56.1	42.6	58.7	29.0	22.0%	18.8%	12.2400	887,318,016
30-Jun-15	79,156,214	329.8	82.1	59.8	44.1	57.8	129.0	19.0%	18.1%	13.0300	1,031,405,468
30-Jun-16	79,168,214	356.9	92.4	64.5	47.4	59.9	31.5	19.0%	18.1%	16.7400	1,325,275,902
30-Jun-17	79,184,214	382.6	105.6	67.4	49.2	62.1	34.0	18.0%	17.6%	15.7100	1,243,984,002

Source: ARB Corporation

Perhaps here it's important to provide some historical perspective on how the ARB business began. In 1975, having just returned from a road trip from Melbourne to Cape York, in far North Queensland, Tony Brown, brother of current directors Roger and Andrew Brown reflected on his experience. Driving an old Land Rover which he had completely rebuilt and equipped with a homemade roof rack, the poor experiences of others dealing with inadequate equipment became immediately apparent to him. Back in Melbourne, intent on building quality product, Tony Brown began manufacturing roof racks, selling direct to customers and local companies.

As Andrew Brown explains: *"What started Tony off was the people he met on the way, and the trouble they were having with products. At home, it was basically just roof racks, and Tony and I built a bender. We had to bend square tubes, so we made a bender with a big 12-foot bar on it, and we ran around it and bent the tube. We didn't know how to weld, so the old*

man bought an arc welder for us, an Abel 130 Amp arc welder, and we learnt how to weld…and that's where it basically started."

The passage of time has seen the business grow its range of products, manufacturing scale and in geographic reach. Today, as *Table 1* lays out, the group now turns over $382m, generating operating profits of $67m, at margins of 17.5%. The group's manufacturing capabilities extend beyond Australia into Thailand, where three facilities are in operation.

From a product perspective, the group's key focus is on servicing the 4WD and Sports Utility Vehicles (SUV) markets. An extensive range of in-house designed products are the mainstay of the group. What began as a desire to build better roof racks has extended into bull bars, suspension equipment, air compressors, shock absorbers, canopies, fridge freezers, LED lights and fuel tanks. The list is long and very specific to these markets. As Andrew Brown noted, *"We're not afraid to have a crack at developing new products in-house. Even if we're not experts to begin with, we inevitably end up producing world class products."*

The company has largely avoided acquisitions in their pursuit of growth. This doesn't mean there isn't interest but as Forsyth commented, the valuation gap between buyer and seller is often significant. This hasn't impeded the company's progress, domestically or internationally. Locally, ARB products are distributed through multiple channels including, 25 company owned stores, 36 independently run outlets and over 100 stockists. Fleet car buyers and original equipment manufacturers (OEM) provide additional channels to market.

Internationally, ARB products are sold in multiple countries with the U.S. being the largest. During 2017, export sales totalled $105m or 27% of group revenues. Over the past decade this division has averaged compound annual growth of 7.7%. The U.S. market with $50m in revenue provides a solid base for future growth, with management taking a prudent approach to expansion. Elsewhere, ARB Europe has entered its fourth year of operation, while the ARB Middle East office has just completed its first year of business.

There are many nuances to the way ARB does business but undoubtedly the key observation is a management team that has been able to remain focused on delivering an outstanding range of quality products that customers deem relevant. Executive chairman Roger Brown emphasised the importance of this point: *"In 40 years, we've stayed the same business. We've been very fortunate that the market for our products has grown, and we've grown, but we manufacture, supply and distribute accessories for 4WD vehicles, and it hasn't changed."*

Based on their track record you can appreciate why the company isn't about to change any time soon. As John Forsyth commented: *"Staying in the same business is a key focus"* and just as important, what can shareholders expect from ARB? *"More of the same for quite some time."*

Reece

Leaving ARB and the Browns, our next meeting was with Reece and the Wilsons, where we joined other shareholders at the company's 64th annual general meeting. Reece is a company for whom shareholder attendance should be mandatory. This year the company shifted the

meeting venue from its usual Computershare registry office in the suburbs to a more accessible and convenient Melbourne CBD location.

The move is in keeping with the many changes underway at what is a very progressive plumbing company. Led by Peter Wilson since 2008 and supported by a board dominated by Wilsons, Reece's track record is nothing short of phenomenal. As a matter of background, we encourage you to read our March 2014 Selector Quarterly newsletter where we profiled the business.

Not dissimilar to ARB, the company has prided itself on saying very little and allowing the numbers to do the talking. *Table 2* provides an historical financial perspective, bearing in mind that since listing the company has not called upon shareholders for additional capital, nor has it ventured too far from its organic, focused approach.

Table 2: Reece financial results time series

Financial Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Sales ($m)	1,009.6	1,113.0	1,308.0	1,437.0	1,507.5	1,503.5	1,563.6	1,518.5	1,534.9	1,775.9	2,085.1	2,276.4	2,429.9
EBIT ($m)	107.5	123.1	149.8	164.0	146.0	159.9	165.0	158.0	171.9	190.1	236.0	284.0	307.9
NPAT ($m)	42.5	46.7	61.5	75.3	86.9	103.5	114.8	99.5	114.3	118.6	113.6	119.1	133.5
EPS ($)	0.43	0.47	0.62	0.76	0.87	1.04	1.15	1.00	1.15	1.19	1.14	1.20	1.34
DPS ($)	0.38	0.44	0.52	0.57	0.51	0.58	0.61	0.61	0.62	0.64	0.76	0.92	1.00
EBIT margin (%)	10.1%	10.6%	11.1%	11.5%	11.4%	9.7%	10.6%	10.5%	10.4%	11.2%	10.7%	11.3%	12.5%
ROCE (%)	38.0%	37.8%	36.6%	33.9%	27.7%	33.2%	31.2%	28.8%	27.8%	19.8%	23.2%	26.3%	25.7%
Net Cash ($m)	46.0	50.4	23.6	6.8	6.7	113.6	125.9	157.7	147.3	(131.0)	(90.1)	(39.9)	(39.9)
No of stores	271	310	349	388	429	439	440	453	465	559	564	578	600
Avg sale per store ($m)	3.7	3.6	3.7	3.7	3.5	3.4	3.6	3.4	3.3	3.2	3.7	3.9	4.0
Avg EBIT per store ($m)	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.3	0.4	0.3	0.4	0.5	0.5

The level of excellence that exists across the organisation may surprise some investors. A Net Promotor Score of +64, where anything above zero is said to be good and above 50 excellent, illustrates the strong loyalty that exists among the company's customers. In fact, its commitment to the customer is reflected in many of the company's current endeavours. A 587 store network is supported by their nation-wide, state of the art supply chain which has kept out of stock rates at extremely low levels.

With a team of over 140 information technology specialists, Wilson describes Reece as more of a technology company, as it continues to invest in new applications and digital services to assist plumbers. This year saw the release of a new online application, the maX app. Described as an end to end solution: *"Customers can find products and prices, generate lists and quotes, place orders, make payments, manage their account and track deliveries. Anytime, anywhere, on any device."*

Complementing the customer service side of things are the benefits delivered by operating with scale. Being the leading supplier of plumbing and bathroom products, Reece's market strength allows it to negotiate exclusive, nation-wide distribution of world class plumbing brands including the Grohe bathroom fittings and Rocla toilets, among other high-end products.

The result is a business that sets very high operational standards, backed by a strong culture, and a set of shared values, all working towards a common purpose.

The group's financial track record is testament to their successful business formula. It also speaks volumes of a management team's pursuit of excellence, delivered in an understated manner. The annual meeting didn't disappoint, and we left more confident that the business remains in very good hands.

SFM

Genetics and structural change

Year	Genetics timeline 1859-2017
1859	Discovery of natural selection - Charles Darwin wrote "On the Origin of Species"
1865	Gregor Mendel's experiments on peas demonstrate that heredity is transmitted in discrete units
1869	Frederick Miescher isolates DNA from cells for the first time and calls it "nuclein"
1879	Walter Flemming describes Mitosis - chromosome behaviour during animal cell division
1902	Walter Sutton observes the segregation of chromosomes during meiosis matched the segregation pattern of Mendel's
1902	Archibald Garrod, observes the disease alkaptonuria is inherited according to Mendelian rules. This disease involves a recessive mutation, and was among the first conditions ascribed to a genetic cause
1909	Wilhelm Johannsen coins the word "gene" to describe the Mendelian unit of heredity
1911	Thomas Hunt Morgan studies fruit fly chromosomes. This shows that chromosomes carry genes
1941	George Beadle shows that genes regulate distinct chemical events. Each gene directs the formation of one enzyme
1943	William Astbury, obtains first X-ray of DNA, it reveals that DNA has a regular periodic structure with stacked nucleotide bases
1944	Oswald Avery, Colin MacLeod & Maclyn McCarty show DNA (not proteins) transform the properties of cells, clarifying the chemical nature of genes
1944	Barbara McClintock, using corn, discovers that genes can move around on chromosomes. These mobile genes are called transposons & are found in many species
1952	Alfred Hershey & Martha Chase show that only the DNA of a virus needs to enter a bacterium to infect it, providing strong support for the idea that genes are made of DNA
1953	Francis H. Crick and James D. Watson described the double helix structure of DNA. They receive the Nobel Prize in 1962
1955	Joe Hin Tjio defines 46 as the exact number of chromosomes in human cells (23 pairs)
1956	Vernon Ingram discovers that a specific chemical alteration in a haemoglobin protein is the cause of sickle cell disease
1958	Matthew Meselson and Franklin Stahl demonstrate that DNA replicates semi conservatively. Each strand from the parent DNA molecule ends up paired with a new strand from the daughter generation
1959	Jerome Lejeune and his colleagues discover that Down Syndrome is caused by trisomy 21. There are three copies, rather than two, of chromosome 21, and this extra chromosomal material interferes with normal development
1961	Robert Guthrie develops a method to test newborns for the metabolic defect, phenylketonuria (PKU)
1961	Sydney Brenner, François Jacob and Matthew Meselson discover that mRNA takes information from DNA in the nucleus to the protein-making machinery in the cytoplasm
1966	Marshall Nirenberg and others figure out the genetic code that allows nucleic acids with their 4-letter alphabet to determine the order of 20 kinds of amino acids in proteins
1968	Scientists describe restriction nucleases, enzymes that recognize and cut specific short sequences of DNA. The resulting fragments can be used to analyse DNA, and these enzymes later became an important tool for mapping genomes
1972	Scientists produce recombinant DNA molecules by joining DNA from different species and subsequently inserting the hybrid DNA into a host cell, often a bacterium
1973	First animal gene cloned. Researchers fuse a segment of DNA containing a gene from the African clawed frog Xenopus with DNA from the bacterium E. coli and placed the resulting DNA back into an E. coli cell. There, the frog DNA was copied and the gene it contained directed the production of a specific frog protein
1975	Frederick Sanger and colleagues, develop rapid DNA sequencing methods
1976	Genentech becomes the first genetic engineering company, founded by Herbert Boyer
1978	Recombinant human insulin is produced for the first time and with this development the biotechnology industry grew rapidly
1981	Scientists successfully add stably inherited genes to laboratory animals. The first transgenic animals - Mice and Fruit Flies provide a new way to test the functions of genes
1981	The first genetically engineered plant is reported
1982	Genentech markets the first recombinant DNA drug, human insulin
1983	First disease gene is mapped - A genetic marker for Huntington's disease is found on chromosome 4
1983	The polymerase chain reaction, or PCR, is used to amplify DNA. This method allows researchers to quickly make billions of copies of a specific segment of DNA, enabling them to study it more easily
1983	The first artificial chromosome is synthesized
1986	A method for finding a gene without the knowledge of the protein it encodes is developed. Called positional cloning, it aids the understanding of inherited diseases, such as muscular dystrophy
1987	The first comprehensive genetic map is based on variations in DNA sequence that can be observed by digesting DNA with restriction enzymes. The map is used to help locate genes responsible for diseases
1987	Scientists discover that artificial chromosomes made from yeast can reliably carry large fragments of human DNA containing millions of base-pair pieces. Earlier methods used plasmids and viruses, which can carry only a few thousand base-pair pieces. The ability to deal with much larger pieces of DNA makes mapping the human genome easier

Year	Genetics timeline 1859-2017
1988	Chymosin (known as Rennin) was the first enzyme produced from a genetically modified yeast to be approved for use in food
1988	Only five proteins from genetically engineered cells had been approved as drugs by the United States Food and Drug Administration (FDA), but this number would skyrocket to over 125 by the end of the 1990's
1989	Repetitive DNA sequences called microsatellites are used as genetic landmarks to distinguish between people. Another type of marker, sequence–tagged sites, are unique stretches of DNA that can be used to make physical maps of human chromosomes
1990	The Department of Energy and the National Institutes of Health announce a plan for a 15-year project to sequence the human genome. This will eventually result in sequencing all 3.2 billion letters of the human genome
1990	The first successful gene therapy is performed on a 4-year-old girl suffering from an immune disorder
1992	A French team builds a low-resolution, microsatellite genetic map of the entire human genome. Each generation of the map helps geneticists locate disease genes on chromosomes
1993	The U.S. FDA declared that genetically modified (GM) foods are "not inherently dangerous" and do not require special regulation
1993	U.S. FDA approves recombinant deoxy ribonuclease I—or DNase I (generic name dornase alfa, tradename Pulmozyme)—to treat cystic fibrosis.
1994	FLAVR SAVR Tomato - The U.S FDA approves the sale of the first genetically modified food.
1996	Dolly the sheep delivered - Ian Wilmut and colleagues from the Roslin Institute and PPL Therapeutics deliver the first mammal cloned from an adult somatic cell. She will live until 2003
1996	First weed and insect resistant biotech crops commercialized. U.K. authorities call Roundup Ready soybeans "as safe as conventional soybeans"
1997	The mouse genetic map is sequenced. It is valuable to genetic research because humans and mice share almost all their genes, and the genes on average are 85% identical. This increases the utility of mice as animal models for genetic disease in humans
1998	Mycobacterium tuberculosis causes the chronic infectious disease tuberculosis. The sequencing of this bacterium is expected to help scientists develop new therapies to treat the disease
1998	The first genome sequence of a multicellular organism, the round worm, Caenorhabditis elegans, is completed.
1999	The death of 18-year-old Jesse Gelsinger in a University of Pennsylvania gene-therapy trial prompts industry-wide reappraisal
1999	The first full-length sequence of a human chromosome is produced. Chromosome 22 was first because it is relatively small and had a highly detailed map already available. Such a map is necessary for the clone by clone sequencing approach
2000	HGP researchers sequence 90 percent of the human genome. This working draft sequence is estimated to be 99.9% accurate
2001	A consortium including scientists from Celera Genomics and 13 other organizations publish the first consensus sequence of human genome. 2.91-billion base pairs were generated by whole-genome shotgun sequencing. Findings include 26,588 v-encoding transcripts, plus about 12,000 possible (but weakly supported) genes, separated by large tracts of apparently noncoding sequence. Only 1.1% of the genome is spanned by exons, whereas 24% is in introns, with 75% of the genome being intergenic DNA
2001	U.S FDA approves Gleevec® (imatinib), a gene-targeted drug for patients with chronic myeloid leukemia. Gleevec is the first gene-targeted drug to receive FDA approval
2002	The Mouse Genome Sequencing Consortium publishes an assembled draft and comparative analysis of the mouse genome. This milestone was originally planned for 2003
2002	Teams from TIGR and the Sanger Centre report the 23 M base pair, AT-rich genomic sequence of Plasmodium falciparum, the malaria parasite, which carries some 5,300 genes. The same week, Celera Genomics researchers publish their genome of malaria's Anopheles mosquito vector.
2002	Researchers sequence over 90% of the rat genome. It encodes a similar number of genes to humans. Almost all human genes known to be associated with disease have orthologues in the rat genome. Rats are a reservoir of pathogens & carry over 70 diseases.
2003	Completion of the Human Genome Sequencing. The finished human genome sequence will be at least 99.99% accurate
2003	China approves world's first gene therapy product. The China State Food and Drug Administration approves the world's first commercial gene therapy product—Gendicine, from Shenzhen SiBiono GeneTech, which delivers the p53 gene via an adenovirus vector as a therapy for squamous cell head and neck cancer
2004	The U.S FDA approves Roche AmpliChip Cytochrome P450 Genotyping Test, the first DNA microarray system okayed for clinical applications
2004	The U.S FDA approves the first antiangiogenic drug for cancer, Avastin® (monoclonal antibody)
2005	Harvard scientists report fusing adult skin cells with embryonic stem cells so that the cells behave like embryonic stem cells
2006	The U.S FDA approves the recombinant vaccine Gardasil®, the first vaccine developed against human papillomavirus (HPV), an infection implicated in cervical and throat cancers, and the first preventative cancer vaccine
2006	The artist Stelarc had an ear grown in a vat and grafted onto his arm
2009	Global biotech crop acreage reaches 330 million acres
2010	U.S. District Court invalidates Myriad Genetics and University of Utah Research Foundation patents on the BRCA1 and BRCA2 genes, accepting the argument that genes are products of nature and cannot be patented. Decision partially reversed on July 29
2010	Scientists created malaria-resistant mosquitoes

Year	Genetics timeline 1859-2017
2011	Trachea derived from stem cells transplanted into human recipient
2011	Advances in 3-D printing technology lead to "skin-printing"
2012	For the last three billion years, life on Earth has relied on two information-storing molecules, DNA and RNA. Now there's a third: XNA, a polymer synthesized by molecular biologists Vitor Pinheiro and Philipp Holliger of the Medical Research Council in the United Kingdom. Just like DNA, XNA is capable of storing genetic information and then evolving through natural selection. Unlike DNA, it can be carefully manipulated
2012	Researchers at the University of Washington in Seattle announced the successful sequencing of a complete foetal genome using nothing more than snippets of DNA floating in its mother's blood
2013	Two research teams announced a fast and precise new method for editing snippets of the genetic code. The CRISPR system takes advantage of a defence strategy used by bacteria
2014	Researchers showed that blood from a young mouse can rejuvenate an old mouse's muscles and brain
2014	An international team of scientists reconstructed a synthetic and fully functional yeast chromosome. A breakthrough seven years in the making, the advance could eventually lead to custom-built organisms (human organisms included)
2015	CRISPR: Researchers in China reported modifying the DNA of a nonviable human embryo, a controversial move. Researchers at Harvard University inserted genes from a long-extinct woolly mammoth into the living cells — in a petri dish — of a modern elephant. Elsewhere, scientists reported using CRISPR to potentially modify pig organs for human transplant and modify mosquitoes to eradicate malaria
2015	A team of geneticists build the most comprehensive map of the human epigenome, after a decade of research. The team mapped more than 100 types of human cells, which aids understanding the links between DNA and diseases
2015	Using cells from human donors, doctors built a set of vocal cords from scratch. The cells were urged to form a tissue that mimics vocal fold mucosa, the vibrating flaps in the larynx that create the sounds of the human voice
2016	CRISPR took a major step forward when a team of Chinese scientists used it to treat a human patient
2016	Bioengineers created a completely 3D-printed 'heart on a chip'
2016	Stem Cells injected into stroke patients re-Enable patient to walk
2017	Scientists at the Salk Institute in La Jolla, CA, said they're one step closer to being able to grow human organs inside pigs. In their latest research, they grew human cells inside pig embryos, a small but promising step toward organ growth
2017	Blood stem cells grown in lab for the first time
2017	Researchers at Sahlgrenska Academy – part of the University of Gothenburg, Sweden – generated cartilage tissue by printing stem cells using a 3D-bioprinter

Alec Ross served as former Secretary of State Hillary Clinton's Senior Advisor for Innovation. He claims it gave him unique insights into the businesses of tomorrow. In his book, *"The Industries of the Future"*, he fleshes out his thoughts on some of the most dynamic structural shifts on the doorstep of the global economy.

According to Ross, *"Commercialization of genomics is going to change the lives of the vast majority of people on Earth. My kids will live longer, healthier lives because of the commercialization of genomics. Today, health care is delivered with a very small degree of customization but that is going to change as genetic screening becomes less and less expensive and we understand better and better what to look for. The last trillion-dollar industry was built on computer code. The next will be built on genetic code."*

The developments within the field of genetic engineering have been breathtaking, since Watson and Crick discovered the double helix formation of DNA in 1953. By 2003 a human genome had been sequenced. This involved mapping the 3 Billion base pairs that make up the 23 pairs of chromosomes within the nucleus of our cells. Each chromosome contains hundreds of thousands of genes. Today, developments seem to be emerging at light speed. The reality however, is that research unfolds slowly and then pivots before moving in a new direction. We have attempted to illustrated this with our Genetic timeline above. By way of example, the chemical protein alteration that causes sickle cell anaemia was discovered in

1956. As we discuss later in this article, CSL will launch a phase III human trial of a genetic therapy to correct this deadly blood disorder in 2019.

Two key developments from our timeline are highlighted below.

In 1972, the discovery of recombinant Deoxyribonucleic Acid (rDNA) technology was a turning point in science. It is used to combine unrelated genetic material into new sequences of base pairs that combine characteristics (genes) that are not seen in either paternal or maternal lines. This technology involves the insertion of DNA fragments from a variety of sources that have a desirable gene sequence. They are inserted via an appropriate vector. The new genes may introduce regulatory elements, or they might operate by decreasing or blocking the expression of an existing gene.

Creating new genetic sequences via rDNA has found significant success in industry. Today 60% of hard cheese produced in the USA is made with genetically engineered chymosin, an enzyme naturally occurring in rennet. Almost all human treatments of insulin dependent diabetic care come from a synthesised, rather than animal derived, source. CSL now produces recombinant products (Factor VIII) at scale to treat the bleeding disorder haemophilia, effectively eliminating the chance of blood borne infectious disease. The list of successful recombinants also includes breakthrough developments in HIV, Hepatitis B and human growth hormone.

In 2013 recombinant DNA technology was transformed by the CRISPR family of DNA found in bacteria. The CRISPR technology is the faster, more straightforward and affordable way for genome-editing in comparison to traditional approaches. This system can be used to target and destroy genes in human cells. It has also played a role in activation, suppression, addition, and deletion of genes in human's cells, mice, rats, zebrafish, bacteria, fruit flies, yeast, nematodes, and crops.

How CRISPR works

In short, the technology works like a pair of molecular scissors to cut and paste DNA. It is also the natural defence system that bacteria use to fend off harmful infections. This system has the ability to recognise invading virus DNA, cut it and integrate the spliced sequence into its own genome, allowing the bacterium to render itself immune to future infections of viruses

from similar DNA. It is this ability to recognise and cut DNA that has allowed scientists to use it to target and edit specific DNA regions.

Although usually shortened to just 'CRISPR', this gene-editing technology consists of three elements: a Cas protein, and two types of RNA. Some further explanation of the process is warranted.

In the 1980s, scientists noted an interesting pattern in some bacterial genomes. They saw a repeating DNA sequence, which reads the same forwards as it does backwards, it was palindromic. These Clustered Regularly Interspaced Short Palindromic Repeats were abbreviated to CRISPR.

Researchers discovered that there were unique, non-repeating sequences between the repeats. And these matched the DNA of viruses that prey on bacteria. When a virus invades, it injects its own DNA into the bacterial cell. If there is no immune response, this virus DNA hijacks the cell to produce new virus particles. When the new viruses are released, the bacteria host is eventually killed.

CRISPR prevents this by employing a neat defence mechanism. This is where Cas (which stands for CRISPR-associated) proteins come in. Cas is the 'cutting' part of the defence mechanism, and scientists have found that the genes that encode for Cas are always somewhere near the CRISPR sequences. There are several Cas enzymes, but the best known is Cas9. It comes from Streptococcus pyogenes, the bacteria that causes 'strep' throat.

When a new virus attacks, Cas breaks the virus's DNA and takes it into the CRISPR locus. These bits of virus DNA are the non-repeating sequences observed by scientists. Put simply, the bacterial cell keeps bits of the invading virus around so it can recognise it if the virus attacks again.

A colourful 3D CRISPR model

First, it copies the entire CRISPR locus containing the bits of viral DNA into a long RNA. The long RNA is then chopped up into smaller pieces called CRISPR RNAs. These are individually taken up by Cas proteins, together with another kind of RNA, known as trans-activating RNA. This combination can then survey the cell for invading viral DNA.

The next time a virus with DNA matching one of the non-repeating sequences in the CRISPR invades, the system recognises it. The RNA complex held by the Cas protein binds to the

matching viral DNA, so the RNA can instruct the Cas protein exactly where to cut. This snips both strands of the virus DNA, inactivating the gene and preventing the virus from infecting the cell.

The ease and accuracy of this process has been likened to using microscopic scissors to remove unwanted instructions from a micro map. This knowledge has revolutionised the way scientists can modify genes. As we discuss below the use of CRISPR is wide ranging and revolutionary.

In this article, we have combined material from several leading sources and publications. Each of the four sections that follow represent potential change. We are not experts in any of these fields, rather we are generalists. We have attempted to stitch this article together to further our own understanding of the potential structural changes at hand.

I. Animal

According to The Economist, 26 August 2017, the age old dirty business of leathermaking has just been disrupted, again.

In 18th Century London, leather production was banned from the City centre proper. The social outcry stemmed from the unbearable stench of a two - step tanning process. Hides were stripped of hair and gunk by soaking them in a concoction of lime and urine. Next, dog faeces where pounded into the skins to soften and preserve them. Not surprisingly the industry was literally sent packing. It was forced downwind and across the river from London, into Bermondsey.

Today the $100 billion global leather business is still *"on the nose"* of today's collective social conscience. The tanning process is now aided by chemicals, that are harmful to the environment. This, combined with the hostile attitude of animal welfare agencies concerned for creatures slaughtered in the process, is a toxic mix. Understandably, social opposition to the leather industry remains high.

The size of the leather industry and the prevailing social opposition, make it an ideal candidate for disruption.

Modern Meadow is a New York based biotech design lab. It employs 60 staff of whom 11 are PHD's. Their diverse backgrounds span fashion, textile design, cell biology and mechanical engineering. They recently raised more than US$50M from an investor list that includes Red Swan Ventures, Sequoia and Temasek Holdings.

Essentially Modern Meadow are growing leather without animals. They call it biofabrication, a term you may not have heard because they invented it. The biofabrication platform, or genetic engineering, is used to grow collagen in the laboratory.

Collagen is the main structural protein in animal bodies. It consists of amino acids that are wound together to form triple helices. The collagen helices form elongated structures called fibrils. In mammals, they will typically account for 25%-35% of the whole-body protein count.

While it is not disclosed for commercial reasons, it is most likely that a CRISPR procedure is employed to bring together the unrelated genetic material that is required to produce a strain of yeast * that can be engineered to grow collagen in the lab. (see timeline *2014)

The Modern Meadows team then adds two other genes for enzymes that help modify the molecular structure of the engineered collagen. Using another undisclosed process, Modern Meadow forms the collagen into sheets of rawhide. The rawhide can be tanned just like the leather that comes from cows.

The company recently released a new fashion brand called *"Zoa"* at the New York Museum of Modern Art's fall 2017 fashion exhibition. The T shirt pictured above is *"a first"* or a *"game changer"* according to company spin. Marketing videos associated with the launch ask the questions *"When was the last time you wore a revolution?"* and *"What if you could change entire industries?"*.

The leather itself can be manufactured in thin sheets, not available via traditional means. Modern Meadow describe it as *"liquid leather that can be poured"*. It can also be produced in sheets of varying sizes and with different topography across the product. Sheets that can be ordered in precise dimensions reduce waste and add efficiency to production runs. This provides the end user with enormous flexibility. For a high end (high margin) fashion house this is a unique proposition. Even so, mainstream acceptance in this space remains fickle and is not guaranteed.

Modern Meadow has been required to pivot its business model once before. They originally set out to engineer animal protein that would produce meat for human consumption, without growing the animal host. Similar science was implemented, but initial headwinds became impenetrable barriers. Modern Meadow quickly realised that the technology was ahead of its times, in commercial terms. The regulatory hurdles involved, coupled with reluctant consumers, meant that private equity funding could not be attracted for the business model.

Dominating the leather industry may also be a tall order. The key for us is that the Modern Meadow model has now attracted private funding, from successful private equity houses, and as a result this frontier science will be progressed. We applaud this because we are convinced that CRISPR based gene therapy will be a disrupter of the future. We believe the space is right. The question, for us, remains - How do we invest with a view to getting an adequate return, rather than simply playing a role in funding great science that might change the world at some future point?

II. Human

On 23 April 2015, as reported by the Telegraph (UK). In a world's first, researchers at the Sun Yat-sen University in Guangzhou confirmed they had engineered embryos to modify the gene responsible for the fatal blood disorder beta thalassaemia. (see timeline **2015)

The team headed by Junjiu Huang has used a gene-editing technique known as CRISPR/Cas9 which was discovered by scientists at Massachusetts Institute of Technology (MIT). Huang attempted to head off fears of eugenics (a population of superior genetic characteristics) by claiming the embryos were 'non-viable' and could never have become babies. The Chinese team used embryos from the fertility clinics that had been created for use in IVF but had an extra set of chromosomes, following fertilization by two sperm, which stops them resulting in a live birth.

They injected 86 embryos with the Cas9 protein and left them for two days to allow the gene-editing to take place. Of the 71 embryos that survived, 54 were genetically tested. This revealed that just 28 were successfully spliced, and only a fraction of those contained the replacement genetic material. They also found several unexpected mutations in genes which should not have been affected by the technique.

Thalassaemia is the most common inherited blood disorder in the world. This condition is caused by changes to the genes for haemoglobin. Haemoglobin is a protein in red blood cells that carries oxygen around the body. Changes affecting haemoglobin result in severe anaemia.

There is a concern when two carriers of alpha or beta thalassaemia wish to start a family. If two carriers conceive a child, the child has a:

- 25 per cent risk of developing thalassaemia major because they inherited the thalassaemia gene from both parents,
- 25 per cent chance of not inheriting the thalassaemia gene at all,
- 50 per cent chance of inheriting the gene from one parent and becoming a carrier.

Lack of haemoglobin results in a reduced oxygen supply to every cell in the body. Children with thalassaemia minor may not experience symptoms. However, children with thalassaemia major will experience the following symptoms which appear in early childhood include:

- severe anaemia – red blood cells are produced without sufficient haemoglobin to carry oxygen,
- paleness,
- sleep difficulties,
- poor appetite,
- failure to grow and thrive and
- enlargement of organs – such as the spleen and liver.

This Chinese study demonstrates the CRISPR technology is a major turning point in editing out unwanted genes. Today the technology remains cutting edge, however it is no longer new, and significant research has been undertaken since. Progress in this field continues at speed. This is highlighted by the U.S study discussed below.

Our aim is to understand the implications of potential structural change and disruption. This will no doubt present opportunities for future investment. Two of our portfolio investments have exposures that are related to this research space. Below, we discuss Virtus Health (VRT) and its related genetic testing and the growth of its new diagnostics division. We also discuss CSL Limited (CSL). CSL has a history of successfully development using recombinant DNA technology. This has recently been extended with the CAL-H phase III study for thalassaemia and sickle cell anaemia, a CRISPR derived technology.

On 2 August 2017, Scientists in the US released a paper showing that they had successfully edited human embryos to correct a mutation that causes an inherited heart condition. The findings where more significant than those reported by Huang and his team, because they demonstrate for the first time that the CRISPR technology may one day be used safely to edit out many devastating diseases.

The study, published in Nature, was carried out with viable human embryos and shows that genome editing can be carried out safely, without creating harmful mutations.

The team used CRISPR to correct a mutation in the gene MYBPC3, which accounts for approximately 40% of the myocardial disease - hypertrophic cardiomyopathy. This is a dominant (not recessive) disease, so an individual only needs one abnormal copy of the gene to be affected.

The researchers used sperm from a patient carrying one copy of the MYBPC3 mutation to create 54 embryos. They edited them using CRISPR-Cas9 to correct the mutation. Without genome editing, approximately 50% of the embryos would carry the patients' normal gene and 50% would carry his abnormal gene.

After genome editing, the aim would be for 100% of embryos to be normal. In the first round of the experiments, they found that 66.7% of embryos or 36 out of 54 were normal after being injected with CRIPSR. Of the remaining 18 embryos, five had remained unchanged, suggesting editing had not worked. In 13 embryos, only a portion of cells had been edited.

The level of efficiency is affected by the type of CRISPR machinery used and, critically, the timing in which it is put into the embryo. So, the researchers also tried injecting the sperm and the CRISPR-Cas9 complex into the egg at the same time, which resulted in more promising results.

This was done for 75 mature donated human eggs using a common IVF technique called intracytoplasmic sperm injection. This time, impressively, 72.4% of embryos were normal as a result. The approach also lowered the number of embryos containing a mixture of edited and unedited cells (these embryos are called mosaics). While achieving 100% normal embryos remains an elusive goal, the progress being made in this space is impressive.

When this technology is applied to *"germ cells"* – the sperm and eggs – or embryos, it changes the germline. That means that any alterations made would be permanent and passed down to future generations. This makes gene therapy more ethically complex, and there are strict regulations around human germline genome editing, which is predominantly illegal.

The UK received a licence in 2016 to carry out CRISPR on human embryos for research into early development. But edited embryos are not allowed to be inserted into the uterus and developed into a fetus in any country.

The problem remains, not all outcomes are understood. It is still not known for sure how a child with a genetically altered genome will develop over a lifetime. So, it remains unlikely that genome editing will be used to treat the majority of inherited conditions anytime soon.

The Gene therapy timeline included above adequately reflects the numerous advances in this field. Few setbacks are recorded. For a long time, the fledgling industry was able to claim that no harm had been done. This all changed in 1999. Even before this turning point there had been some problems with safety. A 1993 cystic fibrosis experiment was shut down when a patient was hospitalized with inflamed lungs.

Then, on 17 September 1999, Jesse Gelsinger's death was the first directly related to gene therapy. Jesse was not a sick 18-year-old before he died. He suffered from ornithine transcarbamylase (OTC) deficiency, a rare metabolic disorder, but it was controlled with a low-protein diet and drugs totalling 32 pills per day. The gene therapy experiment at the University of Pennsylvania that he signed up for was not designed to benefit him directly. Rather, the study was designed to test the safety of a treatment for babies with a fatal form of his disorder.

The official cause, as listed on the death certificate filed by the Pen University surgeon who infused the lethal dose of gene therapy, was adult respiratory distress syndrome.

The truth is more complicated. Jesse's therapy consisted of an infusion of corrective genes, encased in a dose of weakened cold virus. This is called adenovirus. It functioned as the vector and it is still used today. Vectors are like taxi's (or an UBER) that drive healthy DNA into cells. They are viruses, whose sole purpose is to get inside cells and infect them.

The University of Pennsylvania researchers had tested their vector, at the same dose level that Jesse received, in mice, monkeys, baboons and one human patient. As expected flu like side effects, along with some mild liver inflammation, were both manageable. When Jesse got the vector, he suffered a chain reaction that the testing had not predicted. This included, jaundice, a blood-clotting disorder, kidney failure, lung failure and brain death. Or in the words of the trials' lead investigator, ''multiple-organ-system failure.''

The failure rates in scientific trials remain high today, and they provide some balance to the grand statements made by technologists such as Alec Ross the senior advisor to former Secretary of State Hillary Clinton.

With that back drop we now look at two profitable ASX listed companies that are active in the field of genetics and are looking to change this space for the betterment of all their stake holders.

III. ASX Listed

Today, couples that are carrying a genetic disease are preplanning their families. Rather than adopting genome editing they are undertaking genetic tests – such as preimplantation testing, genetic diagnosis or prenatal diagnosis, where the embryos or the fetus are tested for genetic faults.

ASX listed Virtus Health Limited (VRT) undertakes genetic testing and screening in reproductive medicine alongside its Assisted Reproductive Services (ARS). While this is predominantly offered to its IVF patients to improve fertility success rates, it is increasingly being offered to new patient segments including same sex couples, who inevitably use either donor egg or donor sperm, and the wider fertile population alike.

The newly formed Virtus Diagnostic arm of VRT generated nearly $20M of Revenue in FY17. VRT grew this business unit by 9%. While they do not breakout diagnostic earnings before interest tax depreciation and amortisation (EBITDA) we assume it is slightly higher than the core Australian business margins of 30%. If we assumed a 40% margin, EBITDA would be $8M.

The advanced diagnostic (genetic testing) services offered by VRT include Preimplantation genetic diagnosis (PGD) and Embryo Screening (PGS).

Preimplantation genetic diagnosis (PGD) with Karyomapping tests embryos for the presence of a number of single gene disorders. This allows only embryos that are not affected by a specific disorder to be selected for embryo transfer during an IVF cycle, preventing the condition from being passed on to any future children.

Embryo Screening (PGS) involves screening of all 23 (normal) chromosome pairs in a developing embryo prior to implantation in an IVF cycle. It is an established treatment option to improve your chances of conceiving a healthy baby if you've experienced repeated IVF failure, recurrent miscarriage or have had a previous pregnancy with a chromosomal abnormality such as Down Syndrome (47 chromosomes rather than 23 pairs totalling 46).

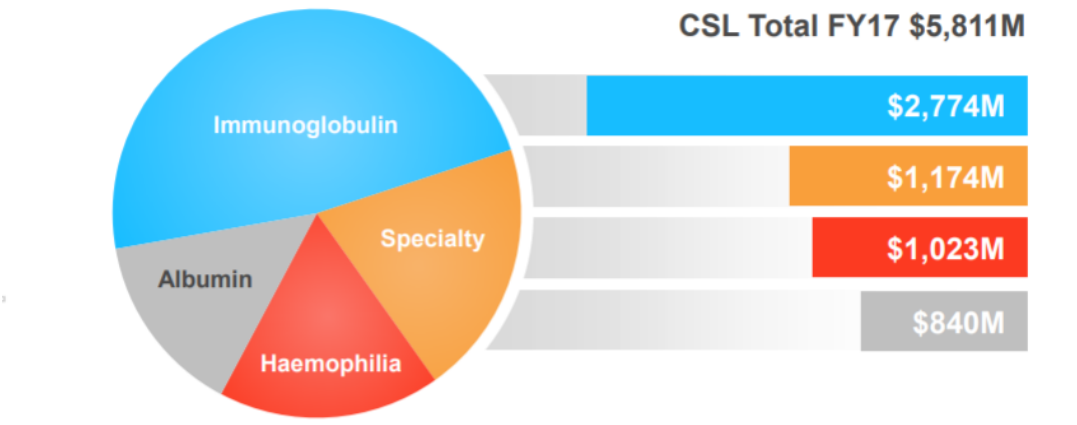
While EBITDA of $8M directly attributable to the Virtus Diagnostics division might seem trivial, this is a fast-growing space. Both PGD and PGS grew at greater than 35% in FY17.

More importantly Virtus Health is a profitable business run by competent management. It is a leader in its space, and has both a strong domestic presence and a growing international footprint. We are mindful that VRT has net debt of $126M. It also has a yield of 5.0% and is currently trading on a multiple of 14 times historic earnings.

CSL Limited is our second exposure to this attractive structural theme of genetic science. During the quarter, we attended the companies Research and Development (R&D) briefing.

In the Financial Year 2017, CSL generated revenue of AUD$8.8B. Approximately AUD$860M was committed to R&D of which a little over half is allocated to new product development, activities that focus on innovative therapies for life threatening diseases.

CSL Portfolio



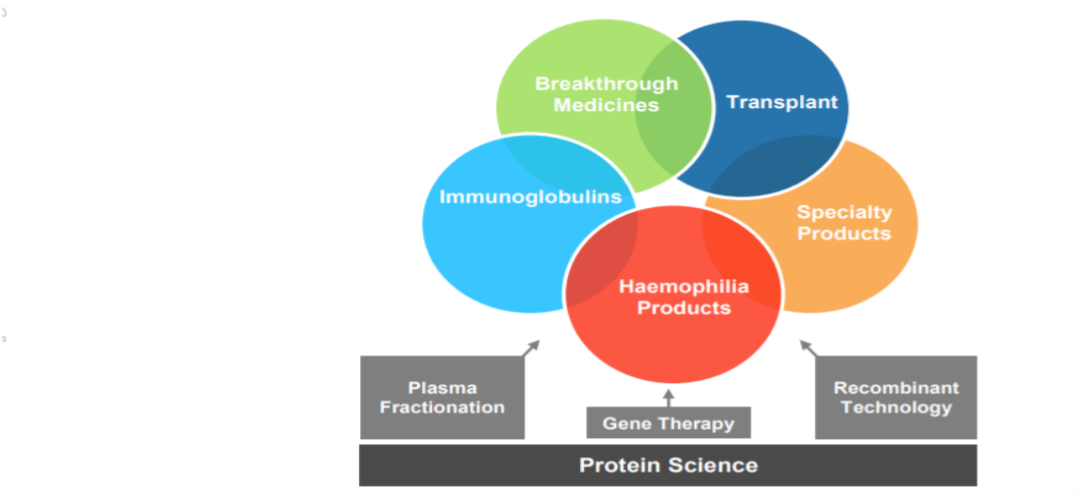
The focus of the R&D day was firmly on the announcement that CSL 112 is set to proceed to a full Phase III trial. This cholesterol efflux molecule for the prevention of subsequent Major Adverse Cardiovascular Events (MACE) will proceed to trial if agreements for a Special Protocol Assessment (SPA) can be reached with the US Food and Drug Administration (FDA). The cost of the trial is expected to be greater than US$500M and will fall within the current R&D financial envelope.

In a lower profile but interesting development, Chief Scientific Officer & Global R&D Director Professor Andrew Cuthbertson AO, also outlined the new Global CSL Behring Protein therapeutics platform. Historically this protein science platform has been used to develop or commercially deliver products derived from plasma fractionation and recombinant technology in the four pillars of:

- Immunoglobulins,
- Haemophilia Products,
- Specialty Products and

- Breakthrough Medicines.

Evolving Therapeutics Platform



This year a new look therapeutics platform was unveiled. CSL is clearly looking beyond plasma.

Two key changes have been made. Firstly, Transplant was added as a fifth pillar. Transplant consists of a series of existing products that form a neat distinguished module. These existing transplant products were augmented by the announcement of a strategic collaboration with Vitaeris Inc.

The second new development was the inclusion of Gene Therapy on the Protein Science platform highlighted above. As discussed Gene Therapy is the introduction of genetic material into cells to compensate for abnormal genes or to make a beneficial protein.

We will look at these two developments separately.

In relation to the transplant pillar, the most advanced clinical research target is in the transplant rejection space, an area of unmet medical need. CSL aims to increase graft survival, after organ transplant, by reducing antibody mediated rejection (AMR). AMR is one of the most challenging complications following renal transplantation. The strategic collaboration with Vitaeris will see its leading monoclonal antibody clazakizumab (anti-IL6 MAB) move into phase III clinical development. CSL have an option to acquire Vitaeris Inc, at a later date, based on data readouts from trials.

CSL 842 (C1 INH) is also known as Berinert. Berinert was launched in the USA in 2010 from CSL's Specialty Products portfolio to treat acute abdominal and facial attacks of Hereditary Angioedema. In 2016, it received additional approvals to treat Type I and Type II Hereditary Angioedema (HAE) in paediatric patients, expanding its use into all age groups. Berinert is now set to enter into phase III clinical development for AMR in addition to its current approvals.

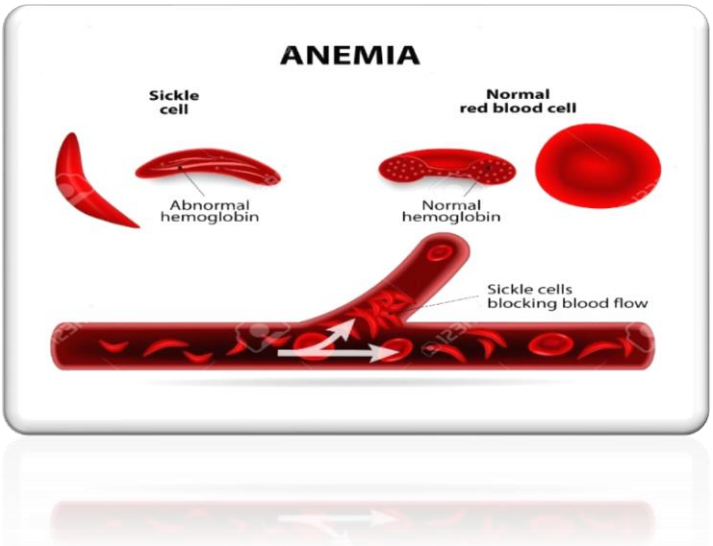
Transplantation is rounded out by CSL 964, currently approved as Zemaria in the USA. In 2018, it enters a phase II trial for Graft versus Host Disease (GvHD) another area of significant unmet medical need in this space.

It is important to note that these three new studies are each late stage trials. They will add significant value if approvals are achieved. They also come with increased risk. As investors, we are prepared to look out particularly when competent long serving management have a strong track record. In the fullness of time the new Transplant Pillar has the potential to stand alongside the other 4 pillars, and in doing so, potentially generate US revenues in excess of the Billion-dollar range.

As we have discussed above, gene therapy is an experimental technique that uses genes to treat or prevent disease. In the future, this technique may allow doctors to treat a disorder by inserting a gene into a patient's cells instead of using drugs or surgery.

CSL is aware this experimental science is moving at a rapid clip. At the R&D briefing CSL disclosed that they have had a watching brief on this space for some time. This space is both disruptive and full of tremendous promise for sufferers of rare and serious blood diseases. CSL currently has more than 11 recombinant Haemophilia products in development or in the market, so it is not a new comer to the space.

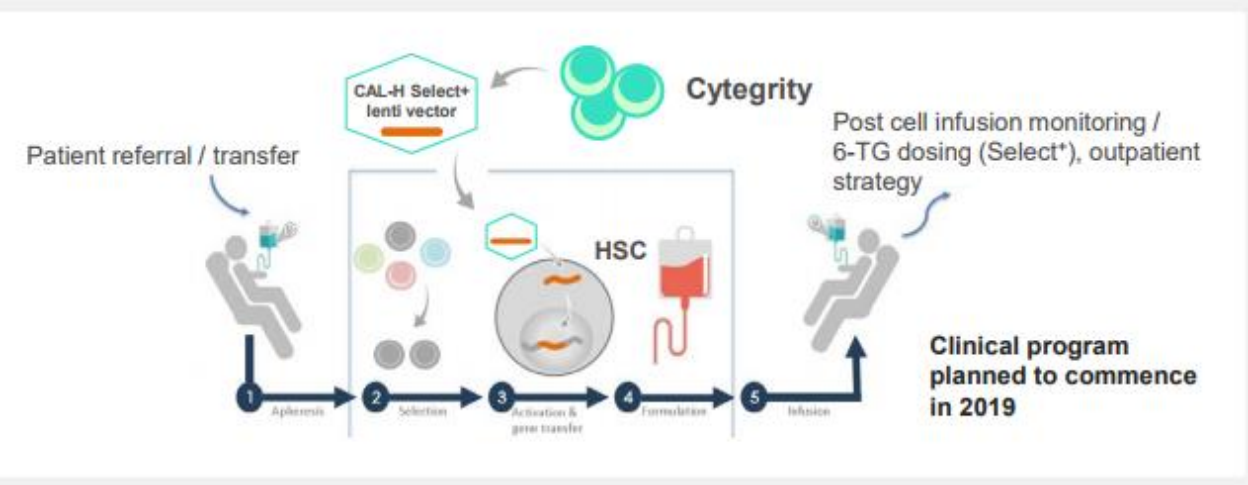
For CSL the inclusion of Gene Therapy on the protein platform contains elements of both a defensive and offensive strategy. Mark Dehring, VP of Investor relations, described Gene therapy as both *"exciting"* and *"a long time in coming"*. He noted that gene therapy has been a potential game changer for almost 25 years, *"the entire career span of Professor Andrew Cuthbertson CSL's Chief Scientist"*. We think our Genetic timeline demonstrates this balanced view. CSL are by no means dismissive, but they are acutely aware of the difficulties that any breakthrough gene therapy will encounter.



In August 2017 CSL Behring announced it had agreed to acquire Calimmune Inc., a US biotechnology company focused on ex vivo hematopoietic stem cell (HSC) gene therapy for US$91 million. This research is focused on diseases such as sickle cell anaemia (SCA) and beta thalassaemia, the same target as the researchers at the Sun Yat-sen University in Guangzhou in 2015. The average life expectancy of 155,000 SCA sufferers in the developed world is 40-60 Years.

Calimmune's approach for the treatment of sickle cell disease involves the introduction of the gamma-globin gene (known to have anti-sickling properties) into the patient's own hematopoietic stem cells (HSCs) via a self-inactivating lentiviral vector. Following introduction of the gamma-globin gene, Calimmune's Select+ technology will be used to positively select for the modified HSCs. This increases the population of modified versus unmodified cells in the patient's system. The approach involves isolating stem cells from samples of patients' blood. Scientists would use CRISPR to activate a genetic switch that would raise the levels of a foetal form of hemoglobin in red blood cells, turning them healthy. This fetal hemoglobin effectively counteracts the effects of the sickle mutation. The modified cells would then be infused back into the patients.

This is safer than injecting the gene-editing mechanism directly into the patient. That's risky because CRISPR can cause unintentional edits, meaning it may cut DNA it isn't supposed to. Editing cells outside the body will allow scientists to make sure the technique works before reintroducing the cells.



When the stem cells are reintroduced back into the patient, they should be able to ameliorate all symptoms of sickle-cell. These stem cells are able to travel to the bone marrow, where they make more healthy blood cells for the rest of the body. The healthy cells will proliferate, and eventually, should outnumber the sickled ones.

The Calimmune technology is a platform. The platform consists of *"Cytergrity"* and *"Select+"*. Cytergrity is the process for manufacturing stable and scalable amounts of the delivery vector, Lentivirus, required for infusion of HSC's into a SCA patient. This infusion (including the gene transfer) will be delivered as an outpatient procedure rather than a multi week work up via

Select +. This strategy combines the benefit of engraftment with lower intensity patient conditioning driving a significantly reduced patient burden.

The clinical program will commence in 2019 and has the potential to extend to a range of opportunities beyond sickle cell anaemia. This is clearly an investment with a multiyear, even decade long outlook. We applaud the entry into this space. Time will tell as to the whether the benefits generated are predominantly defensive or offensive.

According to CSL the key hurdles to be faced by gene therapies include regulatory approvals, social acceptance and reimbursement. If the first two can be overcome both pricing and insurance are likely to remain problematic. In our final section, we discuss the pricing challenges that face two gene therapy companies that have successfully gained U.S Food and Drug Administration approvals.

IV. Pricing

How does a business price or value intellectual property (IP) that generates a single dose delivery of a cure to a life threatening inherited condition? This may well be one of the challenges CSL faces in the years ahead.

In August 2017, Novartis AG's chimeric antigen receptor T-cell therapy (CAR-T) cell therapy was approved by the Food and Drug Administration making it the first gene therapy to be available in the U.S.

CAR-T uses a patient's immune T-cells and re-engineers them to fight cancer. Each dose of Kymriah is customized to the individual patient's T-cells through genetic modification.

The new therapy called Kymriah was approved for young people up to age 25 with a form of acute lymphoblastic leukemia (ALL). The list price is US$475,000 for a one-off treatment.

Novartis said that it plans to price Kymriah *"based on the clinical outcomes achieved,"* with a payment made when ALL patients *"respond to Kymriah by the end of the first month."* The company plans to work with the Centers for Medicare and Medicaid Services to implement the pricing strategy.

Spark Therapeutics has a market capitalisation of US$1.8B. In December 2017, the company's gene therapy Luxturna was approved by the Food and Drug Administration for a rare type of inherited vision loss caused by the biallelic RPE65 mutation-associated retinal dystrophy. This mutation forms part of a group of eye disorders that can cause complete blindness in some cases. It affects about 1,000 to 2,000 people in the U.S.

One administration of the therapy could treat the disease, making it a major scientific breakthrough. The approval had been widely expected after an FDA committee recommended it in October. It was heralded by FDA Commissioner Scott Gottlieb as "*another first in the field of gene therapy."*

Analysts have correctly projected the cost of treatment could come close to US$1 million. Spark Therapeutics is currently in pricing discussions with the Centers for Medicare and

Medicaid Services to implement its unique pricing strategy. This is likely to consist of a series of instalments over the patient's life and a subsequent series of clawbacks if the treatments does not persist in solving the retinal dystrophy.

These types of payment plans are revenue models we have not seen before. They may well create an annuity model of sorts for the med-tech sector. They do also carry a unique risk if payment creates the expectation of a one-off cure… something that to date has remained elusive.

SFM

Company visit diary December 2017 Quarter

October

Date	Company	Description
9-Oct	DMP	Domino Pizza Enterprise Investor Day
9-Oct	NWL	Netwealth Group UBS IPO Management Meeting
9-Oct	TNE	Technology One Trading Update Conference Call
13-Oct	GBT	GBST Holdings SMFL Conference Call
13-Oct	FLT	Flight Centre Travel SFML Conference Call
16-Oct	FPH	Fisher & Paykel Healthcare Investor Day
17-Oct	COH	Cochlear Annual General Meeting
17-Oct	IFL	IOOF Holdings ANZ Wealth Acquisition Conference Call
17-Oct	IFL	IOOF Holdings Morgan Stanley Management Meeting
17-Oct	SGM	Sims Metal Management SFML Management Meeting
18-Oct	CSL	CSL Annual General Meeting
18-Oct	RMD	ResMed SFML Remuneration Conference Call
19-Oct	ABC	Adelaide Brighton Taylor Collison Management Meeting
20-Oct	API	Australian Pharmaceutical Industries Morgan Stanley Management
20-Oct	ARB	Meeting ARB Annual General Meeting
20-Oct	APT	Afterpay Touch Group Macquarie Tech Investor Forum 2017
20-Oct	BUX	Bux Macquarie Tech Investor Forum 2017
20-Oct	Deputy	Deputy Macquarie Tech Investor Forum 2017
20-Oct	JobReady	JobReady Macquarie Tech Investor Forum 2017
23-Oct	RWC	Reliance Worldwide SFML Remuneration Conference Call
24-Oct	IFM	Infomedia Annual General Meeting
24-Oct	SRX	Sirtex Medical Annual General Meeting
24-Oct	IPD	Impedimed Q1 FY18 Results Conference Call
25-Oct	OSL	Oncosil Medical Annual General Meeting
25-Oct	JIN	Jumbo Interactive Annual General Meeting
26-Oct	BKL	Blackmores Q1 FY18 Results Conference Call
26-Oct	SGR	The Star Entertainment Annual General Meeting
26-Oct	GBT	GBST Holdings Annual General Meeting
26-Oct	REH	Reece Annual General Meeting
26-Oct	ARB	ARB Management Meeting
26-Oct	SEK	SEEK Management Meeting
27-Oct	BKL	Blackmores Annual General Meeting
27-Oct	RMD	ResMed Q1 FY18 Results Conference Call
27-Oct	CAR	Carsales.com Annual General Meeting
30-Oct	RWC	Reliance Worldwide Annual General Meeting
30-Oct	IPD	Impedimed SFML Management Meeting
30-Oct	RMD	ResMed Q1 FY18 Results UBS Management Meeting
30-Oct	BKL	Blackmores Q1 FY18 Results Management Meeting
31-Oct	RWC	Reliance Worldwide Investor Presentation

November

Date	Company	Description
1-Nov	OSH	Oil Search Alaska Acquisition Conference Call
1-Nov	NHF	NIB Holdings Annual General Meeting
2-Nov	BAP	Bapcor Annual General Meeting
3-Nov	NAN	Nanosonics Annual General Meeting
8-Nov	ALU	Altium Annual General Meeting
8-Nov	ACX	Aconex Annual General Meeting
8-Nov	SGM	Sims Metal Management Annual General Meeting
8-Nov	DMP	Domino Pizza Enterprise Annual General Meeting
8-Nov	ALU	Altium Technology Day
8-Nov	IPD	Impedimed SFML Management Meeting
8-Nov	WGN	Wagners Holding Company Morgans IPO Management Meeting
9-Nov	3PL	3P Learning Annual General Meeting
9-Nov	3PL	3P Learning Investor Session
9-Nov	FLT	Flight Centre Travel Group Annual General Meeting
9-Nov	JHX	James Hardie Industries Q2 FY18 Results Briefing
13-Nov	IRE	IRESS Trading Update Conference Call
13-Nov	BRG	Breville Annual General Meeting
13-Nov	CAR	Carsales.com UBS Management Meeting
13-Nov	OSH	Oil Search UBS Australasia Conference
13-Nov	QUB	Qube Holdings UBS Australasia Conference
13-Nov	A2M	The A2 Milk Company UBS Australasia Conference
13-Nov	CGC	COSTA HOLDINGS UBS Australasia Conference
13-Nov	SDA	Speedcast Int UBS Australasia Conference
13-Nov	XRO	Xero UBS Australasia Conference
13-Nov	SRX	Sirtex Medical UBS Australasia Conference
13-Nov	CAR	Carsales.com UBS Australasia Conference
14-Nov	CPU	Computershare Annual General Meeting
14-Nov	OFX	OFX Group HY18 Results Conference Call
14-Nov	OFX	OFX Group SFML Management Meeting
15-Nov	IPD	Impedimed Annual General Meeting
15-Nov	OFX	OFX Group GS HY18 Results Meeting
15-Nov	IPD	Impedimed SFML Management Meeting
16-Nov	MYO	MYOB Reckon Acquisition Conference Call
16-Nov	NTD	National Tyre and Wheel IPO Roadshow
16-Nov	SYD	Sydney Airport SFML Management Meeting
17-Nov	MYO	MYOB Investor Presentation Day
20-Nov	IPH	IPH Annual General Meeting
20-Nov	CAR	Carsales.com Trading Update Conference Call
21-Nov	FPH	Fisher & Paykel Healthcare HY18 Results Conference Call
21-Nov	ACX	Aconex Investor Day

Date	Company	Description
21-Nov	TNE	Technology One FY17 Results Management Meeting
22-Nov	VRT	Virtus Health Annual General Meeting
22-Nov	CAR	Carsales.com SFML Conference Call
23-Nov	FPH	Fisher & Paykel Healthcare Management Meeting
23-Nov	IFL	IOOF Holdings Annual General Meeting
24-Nov	REH	Reece Melbourne DC & Store Site Visit
24-Nov	ARB	ARB Corporation Melbourne Store Visit
28-Nov	AGI	Ainsworth Game Technology Annual General Meeting
28-Nov	WTC	Wisetech Global GS Emerging Tech Conference
28-Nov	OFX	OFX Group GS Emerging Tech Conference
28-Nov	OCL	Objective Corporation GS Emerging Tech Conference
28-Nov	ISU	iSelect GS Emerging Tech Conference
28-Nov	ELO	Elmo Software GS Emerging Tech Conference
28-Nov	AGI	Ainsworth Game Technology Annual General Meeting
29-Nov	BKL	Blackmores GS SMID Consumer Trip
29-Nov	AU8	Aumake International GS SMID Consumer Trip
29-Nov	ALL	Aristocrat Leisure GS SMID Consumer Trip
30-Nov	Wave	Wave Pool Raising Meeting

December

Date	Company	Description
1-Dec	IRE	IRESS Site visit & XPLAN demonstration
4-Dec	ALL	Aristocrat Leisure Citibank Management Meeting
5-Dec	CSL	CSL Annual Research & Development Briefing
5-Dec	IFM	Infomedia SFML Management Meeting
6-Dec	SRX	Sirtex Medical Management Meeting
11-Dec	MYO	MYOB Group Management Meeting
12-Dec	TNE	Technology One Site visit and Management Meeting
13-Dec	ALL	Aristocrat Leisure Site Visit
14-Dec	OSH	Oil Search Alaska Strategy Seminar
14-Dec	IFL	IOOF Holdings SFML Management Meeting
15-Dec	CSL	CSL SFML Conference Call
21-Dec	NAN	Nanosonics Management Meeting and Site Visit