Australian National University

ANU Student Managed Fund

Investment recommendation

CSL Limited

ASX code: CSL

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Notes:

All dollar amounts in this report are Australian dollars.

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Glossary

AAE – Active Australian Equities

AE – Australian equities

ANU – The Australian National University

CBE – ANU College of Business and Economics

CIDP – Chronic Inflammatory Demyelinating Polyneuropathy

CODB – Cost of doing business

CPL – Cost per litre

CSL – CSL Limited

DCF – Discounted cash flow

D/E – Debt to equity

EBITA – Earnings before interest, tax, and amortization

EBITDA – Earnings before interest, tax, depreciation, and amortization

ESG – Environmental, Social and Governance

ETF – Exchange traded funds

FY – Financial year

G&A – General and administrative

GICS – Global Industry Classification Standard

IAC – Investment Advisory Committee

IC – Invested capital

IE – International equities

IPS – Investment Policy Statement

IOZ – iShares Core S&P/ASX 200 ETF

IVIG - Intravenous immunoglobulins

mRNA – Messenger RNA

MoS – Margin of safety

NOPLAT – Net operating profit less adjusted tax

PP&E – Property plant and equipment

R&C – Risk and Compliance

R&D – Research and development

RBA – Reserve Bank of Australia

RSFAS – Research School of Finance, Actuarial Studies, and Statistics

RT – Relationship Team

S&M – Selling and marketing

SCIG – Subcutaneous Immunoglobulin

SMF – ANU Student Managed Fund

SRI – Socially responsible investment

US – United States

WACC – Weighted average cost of capital

YoY – Year on Year

Portfolio recommendation

We recommend that the Student Managed Fund (SMF) establish a **10% weighting** in CSL Limited (CSL) within the Active Australian equities (AAE) portfolio, funded by reducing holdings in the iShares Core S&P/ASX200 ETF (IOZ).

Investment thesis

CSL Limited is a global leader in the biotechnology industry and is the third largest company on the ASX by market capitalization. The company operates three business segments, ranging from the development and sale of specialised therapies for serious and rare diseases to the production and global export of seasonal and pandemic vaccines. CSL operates in over 40 international markets, with the largest being the United States (US). CSL's competitive advantage stems from its strong emphasis on maintaining an ongoing R&D pipeline to facilitate its differentiated product portfolio.

CSL is currently trading towards its 52-week low. Following a downgrade in FY23 profit guidance on June 14th, CSL's share price has fallen 18%. Management rationalised the downgrade as a result of larger than expected foreign exchange headwinds from an appreciating USD, with profit growth totalling 8% at constant currency and -3% in real terms for FY23. Our analysis suggests that business operations and fundamentals remain intact. As a long-term investor, we believe the strengthening of the USD is a transitory factor and view currency fluctuations as an uncertainty rather than a risk. We contend that the market has overreacted to this news, creating an appealing investment opportunity. Our DCF analysis produces a valuation of $305.74 per share, implying a MoS of 20.85%.

Our investment thesis is underpinned by the following considerations:

- Defensive and resilient cash flows from a diversified product portfolio, specialising in the production of drugs, therapies, infusions, and vaccines for a host of common and rare diseases.
- A strong R&D pipeline to develop and manufacture innovative, industry-leading high margin products.
- Investment in efficiency initiatives to reduce input costs, expected to contribute to margin improvements.

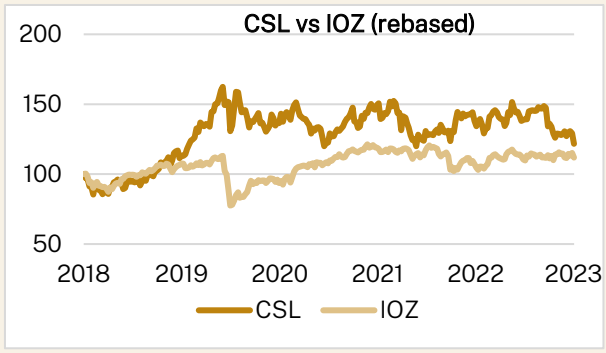
The key risks taken into consideration are:

- Increased competition from generic and alternative products.
- Margin compression from rising costs.

AUSTRALIA
ASX code: CSL

Price (at 22/09/2023)	$253.00
Valuation	$305.74
- inc. franking credits	$308.06
Margin of safety (MoS)	20.85%
- inc. franking credits	21.76%
Dividend yield (2023F)	1.22%
GICS	Healthcare
52-week range	$250.56 - $314.28
Recommendation	**Buy**
Key assumptions	
Required return on equity	7.18%
WACC	6.76%
Carbon intensity	
CSL	32.2
ASX200	236.1

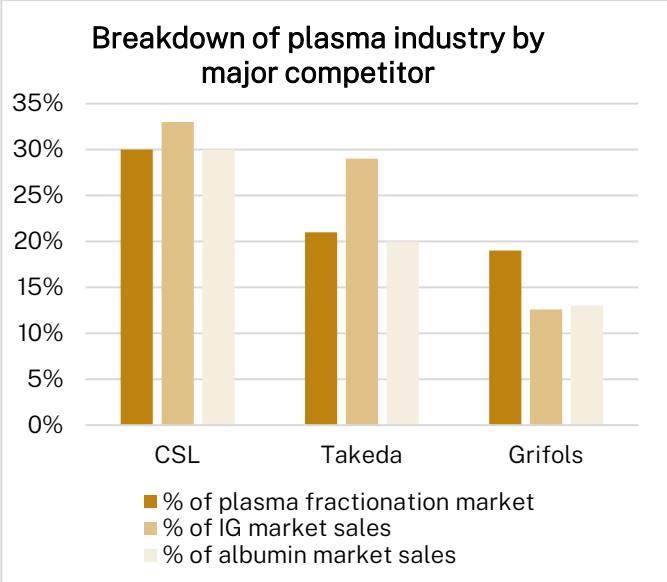
Five-year share price history



Key upsides

Diversified and resilient cash flows

CSL operates a diversified and resilient product portfolio, which has averaged 15% revenue growth over the last ten years. The geographical diversification of operating in over 40 countries provides protection from changes in domestic regulations and a greater ability to capture disease growth as a by-product of growing populations. CSL Behring is the largest operating segment, accounting for 69% of total revenue in FY23. Behring utilises plasma-based treatments for immunoglobulin (Ig), albumin and haematology products. For CSL, the collection of Ig samples is pivotal to producing treatments, influencing approximately 35% of CSL's revenue portfolio at constant currency. During the pandemic collections softened, but over FY23 plasma collections rose 36% YoY and were 10% above pre-pandemic levels. Supporting this growth, 12 collection centres were opened over FY23 with an additional 12 planned for FY24. CSL maintains the largest global market share within the plasma industry, accounting for approximately 33% of global collections. To consolidate its competitive advantage, CSL invested $1.37 billion into two fractionation centres in Australia and Germany over 2022.



These facilities are forecasted to yield an additional 9 million litres of plasma per year. Relative to competitors, CSL controls 30% of the global plasma fractionation industry, which Grand View Research forecasts to grow at 8.3% pa over the next ten years. The fractionation process allows for Ig and albumin to be extracted from plasma samples to facilitate the production of treatments. Relative to competitors, CSL holds the largest market share in albumin and Ig based medical treatment sales. This can be attributed to CSL's maturity in the industry, bringing about economies of scale and higher levels of efficiency. CSL's emphasis on expanding but also enhancing current operations has helped maintain their strong market position, highlighted by CSL Behring's competitive advantage of collecting on average 16,000 more litres per centre relative to Grifols. CSL's investments in plasma collection and fractionation should facilitate higher revenue growth over the medium term.

CSL Seqirus specialises in egg and cell-based manufacturing of vaccines. CSL's seasonal vaccines experienced greater success over FY23. The US Centre for Disease Control and Prevention officially recommending Seqirus' FLUAD product as the preferred seasonal vaccine for those aged over 65. On the back of 30% sales growth, seasonal vaccine FLUCELVAX successfully obtained approval to be administered for people aged 6+ months in over five countries. This provides optimism for sustainable cash flows over the medium term from the seasonal vaccine portfolio. In terms of pandemic vaccines, Seqirus secured a licensed agreement with Arcturus for their next generation self-amplifying mRNA COVID-19 product, which requires a shorter manufacturing time relative to other vaccines. The diversification of its vaccine portfolio provides hedging from industry specific headwinds. The newly acquired CSL Vifor produced 14% sales growth over FY23, in line with management and market expectations. Behring had its world first single dose HEMGENIX gene therapy for haemophilia B approved, with two additional products passing regulatory checks for use in America and China.

Looking long term, CSL has committed to a 20% increase in Ig yields by 2030 over a two-stage horizon, pending regulatory approval. Under the initiative, a pilot centre saw a double-digit lift in yield over the last year. JPMorgan estimates that a 5% increase in Ig yield at the next results reveal could lift the share price by 10%. In the next five years, the company hopes to bring to market more than 14 new or expanded therapies. The most promising is CSL112, which is in its last year of its stage three clinical trial. Preliminary results show promising signs in reducing cardiovascular events within its 17,000-person trial. If successful, management indicates CSL112 could become the industry standard method of care. With the top line results from the trial to be released in June 2024, there is potential for significant upside which has not yet been priced in by the market.

Strong research and development pipeline

CSL's research and development pipeline specialises in developing new drugs, arranging clinical trials, gaining regulatory approval and delivering products to market. With the expertise that CSL has acquired in these areas, efficient operations of these processes are essential in supporting sustainable cash flows.

History of the R&D portfolio

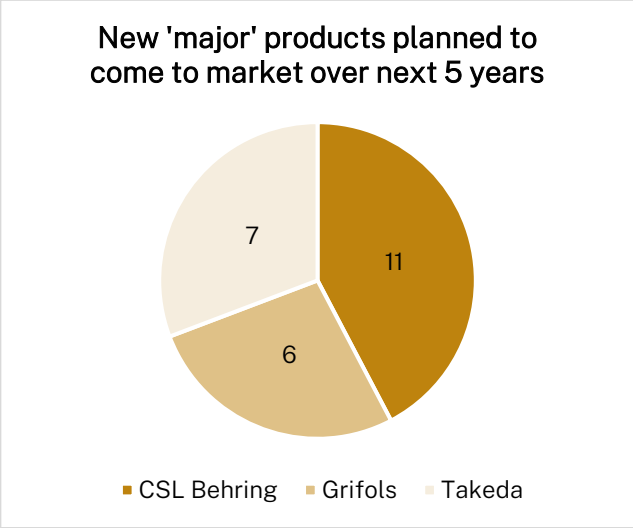
Over the past 5 years, CSL has invested US$5.146 billion in its research and development portfolio. Over the same period, CSL has seen 203 new product registrations indications (where products are approved for other medicines). Whilst this spending does not correlate strongly with new product approvals or indications, the accumulation of spending does. As such, CSL may experience significantly more new registrations, such as 98 in FY23 without a significant increase in R&D costs. Overall, CSL have demonstrated caution and discernment when investing in their R&D portfolio, with a 91% success rate of R&D projects progressing to the next clinical stage.

Current state of the R&D portfolio

CSL provided guidance that the research and development budget will remain within 10-11% of global revenue for the mid-term, with spending estimated to reach US$1.5 billion in FY24.
The acquisition of CSL Vifor and the merging of research and development portfolios has provided CSL with a more diversified portfolio with 37% more drugs in development. A major advantage of this acquisition is the adoption of several late-stage products into CSL's R&D pipeline, reducing expensive start-up funding and research, providing CSL with a portfolio of new products that are closer to delivering positive cash flows. The R&D pipeline has products spread across CSL therapeutic portfolios and stages of development from clinical trials to post-launch. There are currently 26 drugs at the clinical trial stage, with the majority of those in phase 3 trials and a further 21 products in the registration or post registration phase.

Growth opportunities for R&D

As patents expire, CSL requires new products to replace those which face pressure from generic competition. As such, a strong R&D portfolio provides CSL with a multitude of potential future revenue sources once drugs reach the market. Pending regulatory approval, these drugs receive patent protection, helping ensure the stability of their future cash flows., The rare nature of diseases that CSL's products target and the industry leading position of the R&D team creates opportunities to develop new, higher margin products. This was seen in FY23 with the release of Hemgenix, which is priced against the alternative course of action, including lifelong intravenous infusions which can cost up to $20m. There are several of these high margin products currently in CSL's R&D pipeline (CSL112, Garadacimab & Clazakizumab). As seen in the graph, CSL has an absolute advantage in terms of major products currently in the R&D pipeline, with 11 expected to come to market over the next 5 years. As indicated by management, this mix of new products into the total portfolio will be critical in returning margins to pre-COVID levels within 3-5 years.



Efficiency initiatives to reduce costs

CSL's management have released guidance surrounding cost-saving initiatives pertaining particularly to CSL Behring. Costs in this division have been especially high since the onset of COVID, principally due to the high cost of plasma (see Appendix I), which increased as donors became reluctant to leave their homes and visit donation centres. The closure of the US-Mexico border reduced donor mobility preventing cross-country donors. In order to maintain a reliable supply of plasma to facilitate research, incentives paid to donors were increased. Post-COVID, plasma prices are decreasing. CSL CFO Joy Linton highlighted that plasma collection fees were unlikely to return to pre-pandemic levels, and noted a focus on efficiency within the company which has aided in reducing the cost per litre of plasma procurement. The price dropped approximately 17% between September 2022 and June 2023. Labour and donor compensation costs make up approximately 65% of per litre plasma costs. The price mechanism is reducing the donor compensation naturally, and to combat the high cost of labour, CSL have increased the proportion of part

time staff in their plasma collection workforce. Increased automation in Australian and German manufacturing facilities has seen productivity increase, and as such the cost per unit has likely decreased. Finally, CSL are working on improving yields through their "Horizon" projects. Improved yields mean more immunoglobulin and albumin can be extracted per volume of plasma, reducing the number of litres CSL must procure, thereby decreasing their costs. Horizon One has brought about yield increases already, whilst Horizon Two, currently in a pilot plant, will bring about even larger yield improvements if granted approval, together totalling a 15-20% increase in Ig yields. Following the acquisition of Vifor, some roles were consolidated with eighty-five Vifor staff terminated. CFO Linton stated some roles "will be impacted by the integration", pointing to further consolidation which will place downward pressure on costs. Cost synergies are on track with US$75m expected over 3 years.

Risks to recommendation

Margin compression

Since the pandemic, CSL's margins have eroded, with the gross margin falling from above 56% pre-COVID to 48.3% in FY23. This was primarily due to high input costs, specifically the cost per litre (CPL) of plasma which peaked in September of 2022. Due to inventory lags, the inflated costs took 9-12 months to flow through to margins. A tight labour market and COVID restrictions increased both labour costs and donor fees contributing to higher plasma costs. Furthermore, the rollout of RIKA devices in plasma collection centres, which was initially meant to be complete by end of FY23 has seen supply chain issues, limiting the rollout to just 10 collection centres. The operational efficiency gains therefore came in lower than expected. CSL has indicated that Behring's gross margin, which is the main contributor to the groups' gross margin, will take 3-5 years to return to pre-covid levels. Whilst management are confident, there are potential issues that could arise.

Plasma costs not declining

In the US market, CSL sits in the middle to lower bracket with respect to donor compensation, however it does differ depending on location. Whilst management has indicated that donor fees will not return to pre covid levels, given CSL's relatively low donor compensation rates, they may be forced to increase their compensation for donors to acquire the plasma required to support future growth, which would hurt margin recovery. Furthermore, if a tight labour market in the US prevails into the mid-term, this will put upward pressure on CSL's CPL.

Yield improvements

CSL's Horizon One and Two projects are estimated to provide a 15-20% increase in immune globulin yields by the end of the decade. Horizon One is already underway, however Horizon Two, which will provide the majority of yield improvements, is currently only in a pilot plant and still requires regulatory approval before it can materialise yield improvements. With management indicating that yield improvements are critical for CSL's journey to margin recovery, regulatory headwinds in the rollout of Horizon Two, have the potential to further damage margin recovery.

RIKA rollout

As mentioned above, the rollout of RIKA devices in CSL plasma collection centres has been slow due to supply chain issues. These devices are central to management's plan to increase operational efficiency at the collection centre level, decreasing donation time for donors and improving both staff and donor experience. Both software and hardware updates are expected at the end of CY23, and the 1H24 update will be insightful into the success of the rollout. However, once a collection centre converts to the RIKA system, it cannot be converted back. As such, management have employed caution to ensure that there are no major disruptions. Given the past issues and complicated process, this rollout has the potential to cause further headaches and dampen margin recovery at the collection centre level, which will flow through to CPL.

Price Controls

The US has historically been a fruitful market for biotechnology companies as no price controls were present. The Biden administration have recently introduced the Inflation Reduction Act, setting a maximum allowable sale price for a company's products. At this stage only ten products are proposed subjects to the conditions of this legislation, and none are produced by CSL. The drugs which have been selected mass market drugs like blood thinners and insulin. CSL's therapies tend to target rare diseases and as such we

believe the probability of CSL being subject to the terms of the Inflation Reduction Act is low. Additionally, plasma-derived therapies are exempt from such controls under the Act, shielding much of CSL Behring's portfolio from price controls. Most OECD countries have price controls in place and companies operating in these markets have historically seen lower profits than in the United States. In Australia, firms only face price controls if they seek approval to be included in the Pharmaceutical Benefits Scheme (PBS), in which case the Pharmaceutical Benefits Advisory Committee (PBAC) set a maximum price. Whilst the prices are calculated case-by-case, a gross margin of 30% is generally seen to be fair and PBAC allow prices to be set accordingly. Vifor have 3 products covered by the PBS whilst Sequiris have two and Behring have none. As such, price controls imposed by the PBS represent only a minor issue for CSL as they tend not to seek PBS coverage. A number of Behring's products including Privigen and Albumex are provided to consumers by the National Blood Authority, a government funded body. The prices paid to CSL under this scheme are determined by the National Blood Authority.

Competition

Competition from generic drugs

CSL faces margin pressure once their patents expire as competitors are free to produce cheaper copies of the drug, without the need to design the product from scratch, lowering their R&D costs. Ferinject, CSL Vifor's largest revenue source, will see its patents expire in 2023 in Europe and 2028 in the United States. Generic drug producer Sandoz has already gained approval for its generic alternative in 15 European countries, reducing CSL Vifor's margins from its largest revenue source due to price competition. CSL's management has proactively structured a robust R&D pipeline and invested over US$4.6 billion in the last five years to help replace drugs losing patents protection with new products that are either superior or cheaper to produce. CSL generates revenue from over 1000 registered products, diversifying the margin eroding risk as the generic alternatives can only threaten revenue from a few products at a time. Furthermore, CSL Behring's plasma derived therapeutic products, which represented 62% of the division's revenue in 2023 are largely immune to patent cliffs due to the high barriers to entry and large amount of invested capital required to produce plasma derived products at scale.

Competition from alternative drugs

Alternate drugs can threaten CSL's market share by offering lower costs or superior quality. Argenx's product Vyvgart, which is tailored for CIDP patients, poses a threat to CSL's cash flows. CIDP treatments made up 8% of CSL's Behring's gross profit in FY23. With Argenx having released positive data following the phase IIb/III trial, with efficacy rates of 61% (CSL's Hizentra = 48%), it has the potential to develop a competitive advantage over CSL Behring and reduce its market share. UBS analysts have forecasted the worst-case scenario resulting in a 3% decrease in group revenue, caused by a 50% decrease in revenue from Hizentra. Although the threat of Vyvgart is uncertain, we expect the entry of Argenx will grow the CIDP treatment market rather than cannibalising CSL's market share, given that currently 20%-30% of correctly diagnosed CIDP patients are not, or are poorly treated with IVIG/SCIG. Australian biopharma Aegros, whose product HaemaFrac can produce approximately twice the therapeutic product from a given volume of plasma versus current market practices, could also threaten CSL business by undercutting their margins. However, CSL is protected under the National Blood Authority to be the only Australian fractionator of plasma until 2026, and this is an agreement which has always been renewed. The impact of a potentially superior process will depend upon the regulatory status of Aegros's manufacturing processes.

Model summary

Our forecasts are reasonably framed in assuming that revenue, margins and ROIC (including goodwill) settle to below historical averages. We forecast, ROIC (excluding goodwill) recovers to slightly above historical. Given the position of ROIC and margins oscillating towards the bottom of the historical range in FY23, we see room for recovery back towards historical averages. This view is based on management's strong track record of delivering successful products and their medium-term focus on improving internal operations rather than continuing aggressive expansion.

The revenue forecast employed a weighted average of four distinct methodologies. Macroeconomic indicators, including population and GDP growth in CSL's principal geographic markets were assigned a 10% weighting. This modest weighting accounts for CSL's concentration in developed regions, where population growth is subdued, and GDP growth is relatively stable. A 35% weighting was assigned to the industry growth drivers. Using market projections, this segment incorporates forecasts for industry growth within CSL's three main sectors: blood plasma, flu vaccine, and iron deficiency anaemia treatment markets.

We have assumed that CSL's market share in these industries remains constant. The third method utilized a 35% weighted multi-linear regression in each operating segment. Key performance indicators for each segment were sourced from IBISWorld to project future growth for each operating segment, using unique forecast drivers (see appendix C). Lastly, a 20% weighting was allocated to brokerage forecasts. The median of these forecasts for revenue growth over the explicit forecast period was incorporated into the model, helping to align our estimates with broader market expectations. Revenue oscillates between 9.79% and 8.62% over the explicit forecast period, before an assumed 7.20% perpetual growth rate, falling 8% below historical averages. This allows for potential market share losses to competitors but provides room for unexpected upside from CSL's resilient product portfolio and innovative R&D pipeline.

The EBITA margin forecast was underpinned by modelling the key cost drivers for CSL. These included COGS, SG&A and R&D which were modelled as a percentage of revenue in addition to wage growth. EBITA margins are forecasted to recover slower than initial market expectations, in line with revised management guidance of reaching pre-covid levels by FY27/FY28. Our assumption is underpinned by signs of easing industry headwinds, with plasma CPL falling 14% YoY and down 17% from its peak in March 2022. Further, our forecasts account for the 9–12-month lag from sales impacting margins, highlighted by the cycling of inventory from higher cost plasma collected over the pandemic. As such, we model FY27 margins reaching 29.34%, which is a 0.44% decrease from FY20. Over the long run, margins settle at 28.80%, which is in line with the historical average of 28.72% excluding outliers. We view forecasting margins back to the historical average as reasonable, with margins showing signs of recovering during 2H23.

Our model forecasts a gradual increase in revenue/IC, to reflect the realisation of revenue from current investments and managements guidance of reducing capex in the short term after the Vifor Acquisition. For this same reason, we project ROIC, inclusive of goodwill, to rise in the long-term forecast. This uptick in ROIC is premised on the successful integration of Vifor into CSL's operations and the realization of anticipated synergies, either from revenue enhancement or cost savings. So far, the integration process and cost synergies have tracked as expected over FY23. Additionally, the forecasted increase in ROIC suggests that the premium paid for Vifor is being justified by the returns generated post-acquisition meeting market expectations. We forecast ROIC, inclusive of goodwill, settling at 27.98% which is slightly above the historical average of 27.15% and ROIC, exclusive of goodwill, sloping upwards to reach 18.82% by FY39. This sits below the historical average of 19.13%.

Our model has used a WACC of 6.76%, using an after-tax cost of debt of 4.68% and a cost of equity of 7.18% in line with the SMF's endorsed target. We did not see any sufficient reasons to raise the cost of equity above target, due to the strong balance sheet and CSL's low market D/E ratio of 9.48%. We have high confidence in CSL to generate healthy future cash flows, given their proactive management of reducing exposure to industry headwinds by increasing internal efficiency and their strong historical success of developing innovative products. Management have indicated that they want to "reduce the group's cost of capital without adversely affecting the credit margins." We interpret this as guidance of CSL increasing their gearing, given their conservative market D/E. In accordance with Barrenjoey, we set the target capital structure to 20%, to align with management's aim of better utilising their tax shield to lower their cost structure. A mini scenario analysis was conducted, where setting our target D/E to 9.48%. The outcome saw WACC rise to 6.96% and our valuation falls to $289.98, still implying a healthy MoS of 14.62%.

SRI considerations

CSL is not considered a breach of the SMF SRI policy and has some elements of a preferable investment to the extent that the company promotes social benefit and has demonstrated a capacity to move away from business practices that cause social harm. We view the industries as ones which inherently create social benefit from the research and development of treatment for rare and serious diseases. The Fund sees CSL as unlikely to give rise to significant reputational risk. Minor issues were discovered relating to social risks, as outlined below. However, such risks do not breach SMF policy and do not prevent investment by the Fund.

CSL has made a commitment to promote diversity and inclusion a key priority, which is in line with the SMF's preference towards 'equity, diversity and inclusion.' In FY22, CSL achieved 46% female representation in people management and 31% female representation in senior executive with a working target of 40% by 2030. CSL's Board Charter has focused on including appropriate diversity of tenure represented amongst the non-executive directors to have a mix of perspectives.

CSL's environmental initiatives saw strong results in FY22. CSL's Rika Plasma Donation System will minimise end-to-end production of waste through removal, reduction, and recycling. This has already materialised with waste recycling rate increasing from 38% to 44% in FY22-23. Social risks associated with human capital and product liability have been investigated as a key consideration. CSL has developed a mature system to mitigate risks in human capital development, labour management and supply chain labour standards to combat minor concerns. Its 'Speak Up" policy and various training and hiring programs have become a project to lower its TRIFR and smooth operation of the firm. CSL has some potential concerns over its product safety and quality. The recent 3 years witnessed 6 major recall events though most recalls were voluntary. In addition, counterfeit products are worth noting, with a total of 28 cases (2 cases yet to be confirmed). CSL Behring has commenced working with health authorities to raise awareness and educate customers on identifying, handling, and reporting spurious counterfeit products. Finally, CSL was under the microscope for a plasma donation controversy of setting donor centres skewing to areas where the population was more economically vulnerable. These were all found to be legal practices according to US laws. From a conservative perspective, this is still a potential risk to be aware of. Key areas within the social pillar of ESG were investigated, with no concerns considered sufficiently serious to prevent investment. These matters are discussed in Appendix B.

Valuation summary and recommendation

Our discounted cash flow (DCF) model generates a base case valuation of $305.74 excluding franking credits (FC), and $308.06 including FC. This valuation provides a MoS of 20.85% and 21.76% excluding and including FC, respectively. Our scenario analysis is outlined in appendix D and forwards a bull case valuation of $337.47 with a MoS of 33.39% and a bear case valuation of $212.66 and a MoS of -15.95%. The bull case is underpinned by quicker margin recovery from the realisation of efficiency initiatives and sustained revenue growth from products developed by the R&D pipeline. The bear scenario is based on costs remaining elevated, further eroding margins, and the emergence of competitors reducing CSL's market share. As a sense check, a weighted multiples valuation was conducted (See appendix F). A valuation of $299.72 was produced, yielding a 18.47% MoS.

Valuation Summary	Bear case	Base case	Bull case
Share price (22/09/2023)	$253.00	$253.00	$253.00
Valuation, ex. FC	$212.66	**$305.74**	$337.47
Valuation, inc. FC	$214.98	$308.06	$339.79
Margin of safety, ex. FC	-15.95%	**20.85%**	33.39%
Margin of safety, inc. FC	-15.03%	21.76%	34.30%
Required return on equity	7.18%	7.18%	7.18%
Cost of debt (after tax)	4.68%	4.68%	4.68%
WACC	6.76%	6.76%	6.76%

Following management announcing a profit downgrade in June 2023, our analysis suggests that the market's apparent overreaction to this news has created an attractive investment opportunity for the SMF. In line with the fund's long-term nature, we see currency fluctuations as a volatility rather than a risk, where the underlying business fundamentals remain positive. Our analysis suggests that CSL is more resilient to industry headwinds than priced by the market, with initiatives in place to ease margin pressures through reducing the cost of plasma collection per litre and the easing of industry wide headwinds as input costs normalise in a post pandemic setting. Further, we see potential upside with the realisation of long-term revenue streams from initiatives such as CSL112 and the 2030 Ig yield program. We believe that the market is yet to price in the potential upside from these initiatives, as they enter their late stages of regulatory approval. CSL maintains a strong competitive advantage due to its diversified product portfolio, creating defensive cash flows which are supported by a strong and innovative R&D pipeline. The positive MoS indicates that CSL is attractively valued with room for the potential downside risks outlined in previous sections. In conclusion, we recommend that the SMF establish a 10% weighting in CSL within the AAE portfolio, funded by reducing holdings in the iShares Core S&P/ASX200 ETF (IOZ).

Appendix

Appendix A: Key financial summary

Financial year ($ million)	2021(A)	2022(A)	2023(A)	2024(E)	2025(E)	2026(E)	2027(E)
Total revenue	10265	10493	13174	14464	15792	17274	18798
Revenue growth	12.80	2.22	25.55	9.79	9.18	9.38	8.82
Adjusted EBITA	3057	2826	2894	3378	4187	4975	5516
Adjusted EBITA margins	29.78	26.93	21.97	23.36	26.52	28.80	29.34
NOPLAT	2568	2504	2782	3049	3547	4235	4824
NOPLAT margin	25.02	23.87	21.11	21.08	22.46	24.52	25.67
Invested capital (ex. goodwill)	9249	6898	12225	13071	13859	14870	15922
Invested capital (inc. goodwill)	12308	10022	29498	30558	31560	32786	34052
ROIC (ex. goodwill)	27.77	36.30	22.75	23.32	25.59	28.48	30.30
ROIC (inc. goodwill)	20.87	24.99	9.43	9.98	11.24	12.92	14.17
Free cash flow	2958	4790	-16695	1989	2545	3010	3558
IC turnover (ex. goodwill)	0.83	1.05	0.45	0.47	0.50	0.53	0.55
Financial year	2028(E)	2029(E)	2030(E)	2031(E)	2032(E)	2033(E)	2034(E)
Total revenue	20688	22177	23774	25486	27320	29288	31396
Revenue growth	10.05	7.20	7.20	7.20	7.20	7.20	7.20
Adjusted EBITA	6268	6387	6847	7340	7869	8435	9043
Adjusted EBITA margins	30.30	28.80	28.80	28.80	28.80	28.80	28.80
NOPLAT	5555	5438	5830	6250	6700	7182	7699
NOPLAT margin	26.85	24.52	24.52	24.52	24.52	24.52	24.52
Invested capital (ex. goodwill)	17004	18784	20136	21586	23140	24806	26592
Invested capital (inc. goodwill)	35349	37128	38481	39931	41485	43151	44937
ROIC (ex. goodwill)	32.67	28.95	28.95	28.95	28.95	28.95	28.95
ROIC (inc. goodwill)	15.71	14.65	15.15	15.65	16.15	16.64	17.13
Free cash flow	4258	4392	4708	5047	5410	5800	6217
IC turnover (ex. goodwill)	0.58	0.60	0.62	0.64	0.66	0.68	0.70

Appendix B: SRI review

Product Safety, Recalls and Counterfeits

Product recalls are inherent in the pharmaceutical and biotech industry for various reasons, such as quality control concerns, safety issues, product deficiencies and updated regulatory compliances. In the past several years, CSL has had more frequent however mostly voluntary product recalls. In 2021, CSL Behring initiated three voluntary safety-related product recalls, most notably of which was a batch of HIZENTRA called back due to an increase of injection site adverse events reported. In 2022, CSL recalled six lots of PRIVIGEN and four lots of HIZENTRA from the US and the Canadian market due to reported higher-than-expected rate of hypersensitivity amongst users, a known risk with immunoglobin products. In June 2023, CSL Behring in conjunction with the local authorities, recalled a batch of their product from the Czech and Saudi Arabian markets due to media fill failures (a microbiological test carried out to assess performance of aseptic manufacturing procedure). CSL also had issues with their 'Tiger Snake Antivenom' product in Australia, grading out slightly lower in potency compared to marketing specifications and recalled out of the market in June 2023.

CSL has been extremely proactive in terms of recalling their products off the markets as a precaution, to avoid reputational risk and patient harm. Product recalls are inevitable in this industry, but CSL's approach is a positive sign that this is unlikely to cause social harm to the company long-term. Counterfeit products have been a significant issue in the pharmaceutical industry, with manufacturers illegally making and advertising inferior drugs under the name of larger companies. These products typically exhibit lower quality, safety and efficacy compared to the original pharmaceuticals, posing not only a health risk to the public and users, but also eroding confidence in medicine and healthcare providers, despite the latter not being at fault. Over the reporting period in 2021, there were 17 cases of counterfeit products within this business sector, 5 of which were imitation of CSL products. In 2023, there were 11 counterfeit products reported and confirmed by CSL Behring. CSL has made active efforts and evaluated opportunities to increase security of packaging solutions to avoid counterfeiting, as well as working with local health authorities to raise awareness and educate consumers. With these strong initiatives in place, the Fund does not view CSL likely breaching SMF SRI policy in the future.

Worker Safety

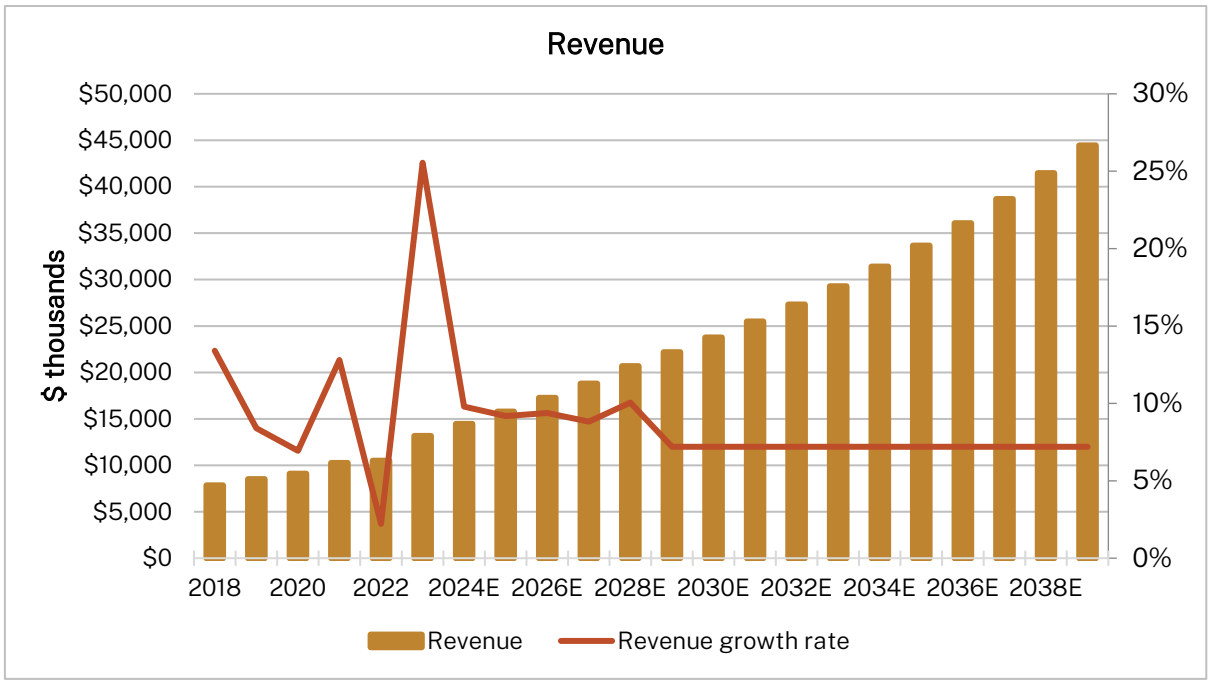
Total Recordable Injury Frequency Rate (TRIFR) (per million hours worked) of CSL plasma is 11.2, 10.67 and 12.1 for 2021, 2022 and 2023 respectively. All the rates are higher than the target rates. CSL explains the contributing factors include improved reporting via the deployment of the Enablon incident reporting system software, the continued growth of their plasma network, and the increased onboarding (due to turnover) of new employees. CSL's continual efforts in exposing and reducing safety incidents is shown through their newly initiated global health and wellness programs. With the help of external auditing, CSL is producing accurate measures to identify where appropriate actions are necessary in improving their current Environmental, Health and Safety (EHS) management system.

Plasma Donation Controversy

In 2020, CSL was the subject of a controversial report by Credit Suisse's ESG team. Report used census data to analyse where CSL had set up or planned to set up collections centres and showed "unequivocally" it was skewed to areas where the population was more economically vulnerable. The report also noted there was a greater risk of border donors transmitting diseases because of the prevalence of intravenous drug use and prostitution. CSL representatives claimed it has "no reliance" on migrant donors within its collection network and the vast majority of collection centres are not along US borders. CSL has sourced the lowest-cost plasma in a legal manner and obeyed US laws and regulations surrounding plasma collection. Legality extends to all marketing techniques and processes in which CSL conduct to attract plasma donors. Despite a media concern, diving deeper into this subject shows no real substance of CSL breaching the SMF's SRI policy.

Appendix C: Model inputs

Base case revenue forecasts



Base case revenue forecasts decomposed

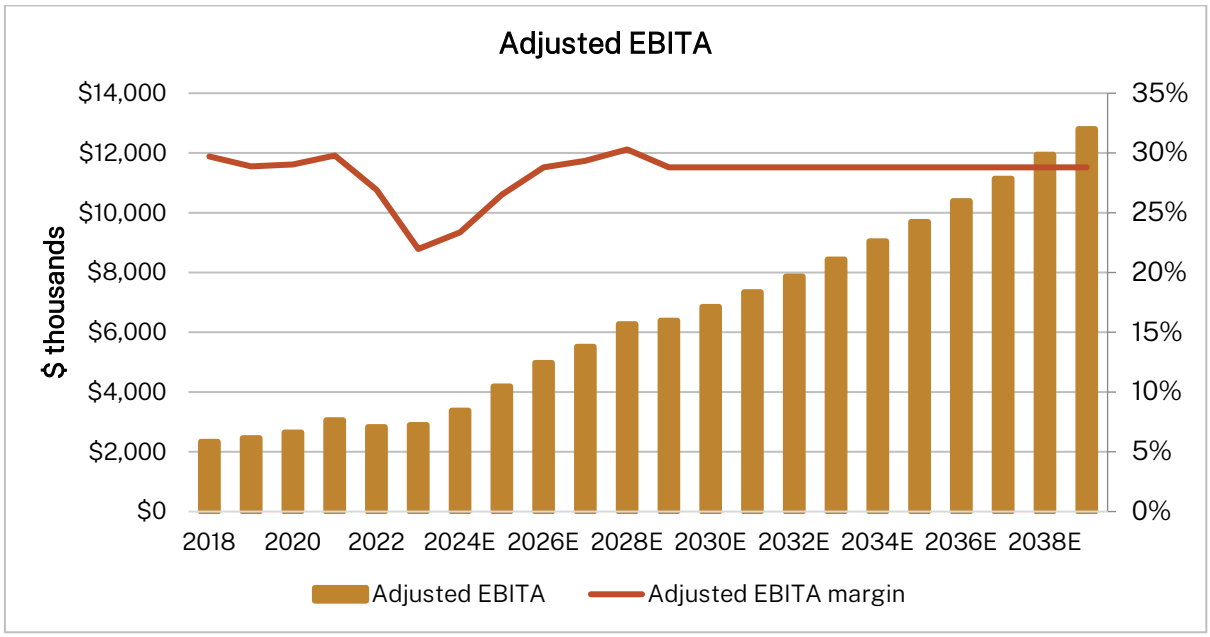
Key drivers	Weighting	FY24	FY25	FY26	FY27	FY28
Macro factors	10%	1.54%	1.91%	1.91%	1.90%	1.87%
Industry growth	35%	9.65%	8.19%	8.21%	8.22%	8.25%
MLR	35%	10.68%	12.51%	13.89%	13.44%	16.85%
Broker estimates	20%	12.68%	8.72%	7.29%	5.25%	5.43%

Revenue forecast drivers

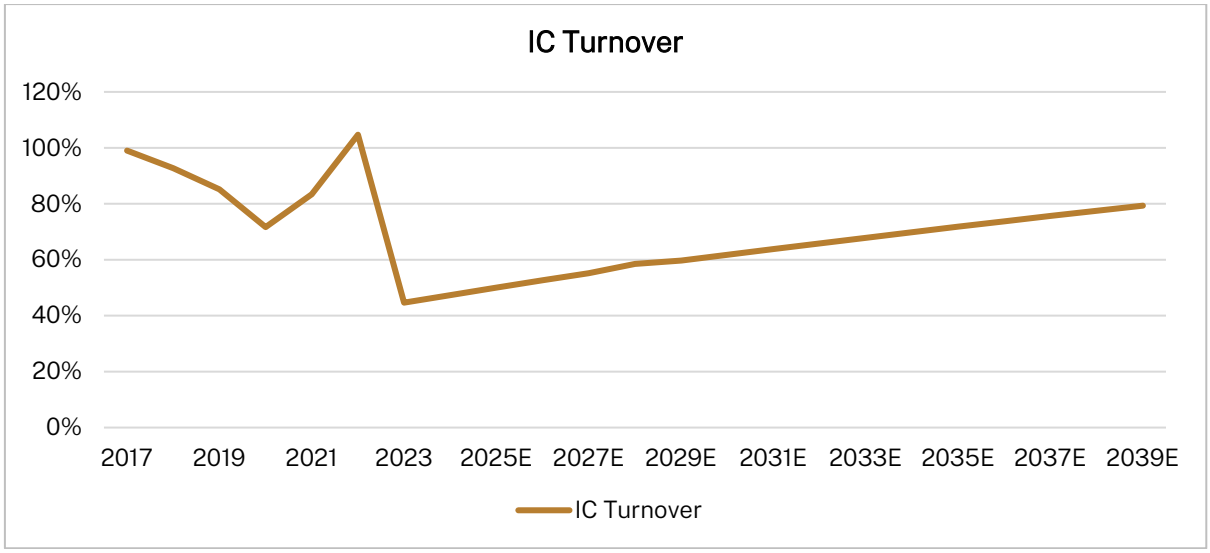
Industry growth drivers (method 2)

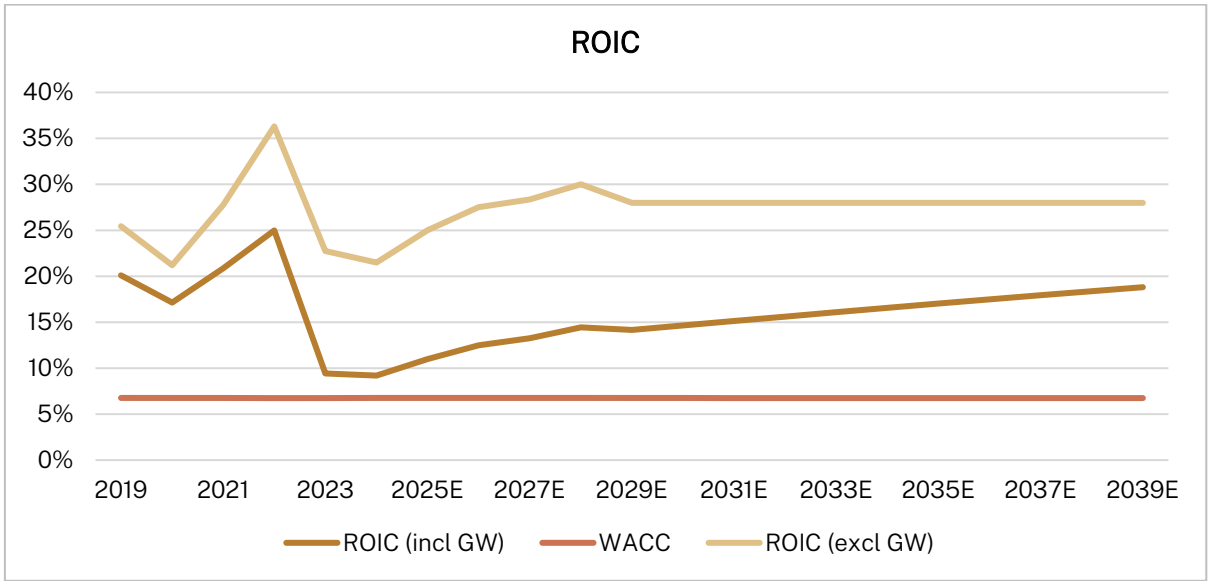
Behring	Sequiris	Vifor
% change in Australian population over 70 years old	Total health expenditure growth in Australia	Women aged 15-49
% change in US population over 65 years old	Biotech in Australia growth	Number of children under five years of age in high income countries
% change in EU population over 65 years old	Pharmaceutical product manufacturing in Australia	Number of children under five years of age in the US
% change in OECD population over 65 years old	Influenza vaccine growth rate in the US	Australian obesity growth rate
% change in UK population over 65 years old		
Immunoglobulin demand growth		
Albumin market growth		

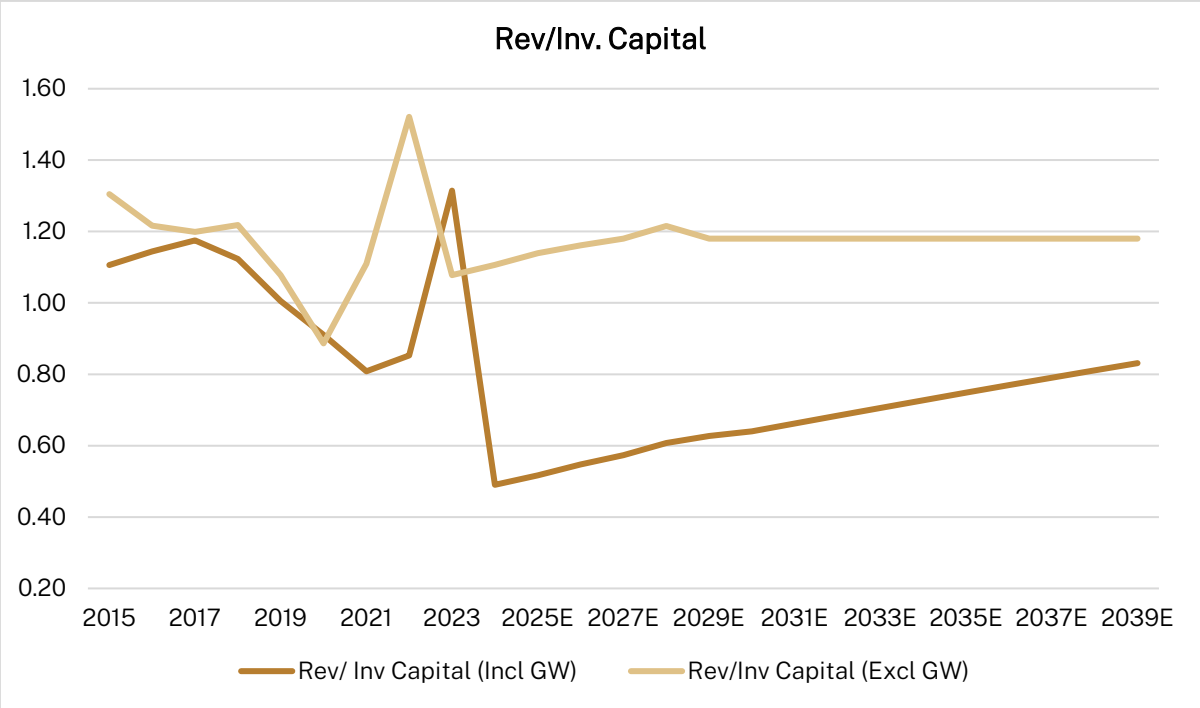
Base case EBITA margin forecasts



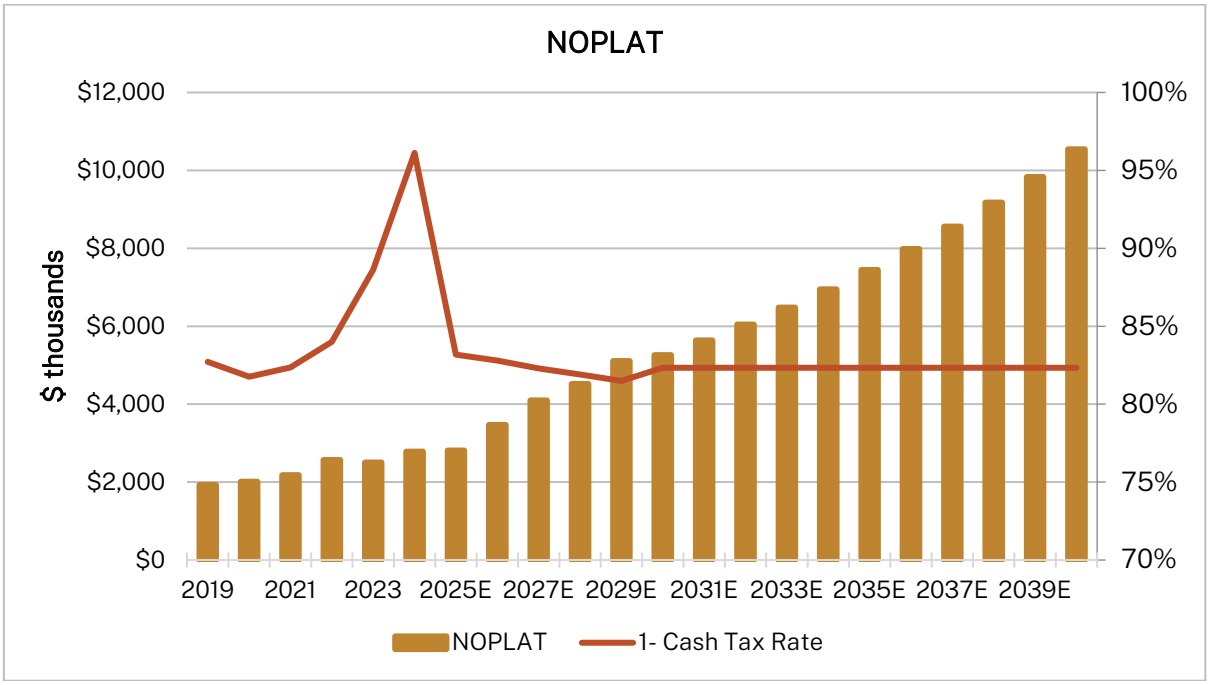
Base case invested capital turnover and ROIC







Base case NOPLAT



Appendix D: Scenario analysis

Bull case

In the best-case scenario, the recovery of margins is quicker than anticipated supported by strong revenue growth and simultaneous materialising of cost cutting and efficiency maximising initiatives. With revenue growth of 9.99% CAGR, and competitive threats (Argenx's Vyvgart product) to CSL's Behring plasma derived products not taking market share away from CSL but rather increasing the size of the plasma derived market, the CSL Behring gross margin returns to pre covid levels within the next 3 years, surpassing management's guidance of 3-5 years.

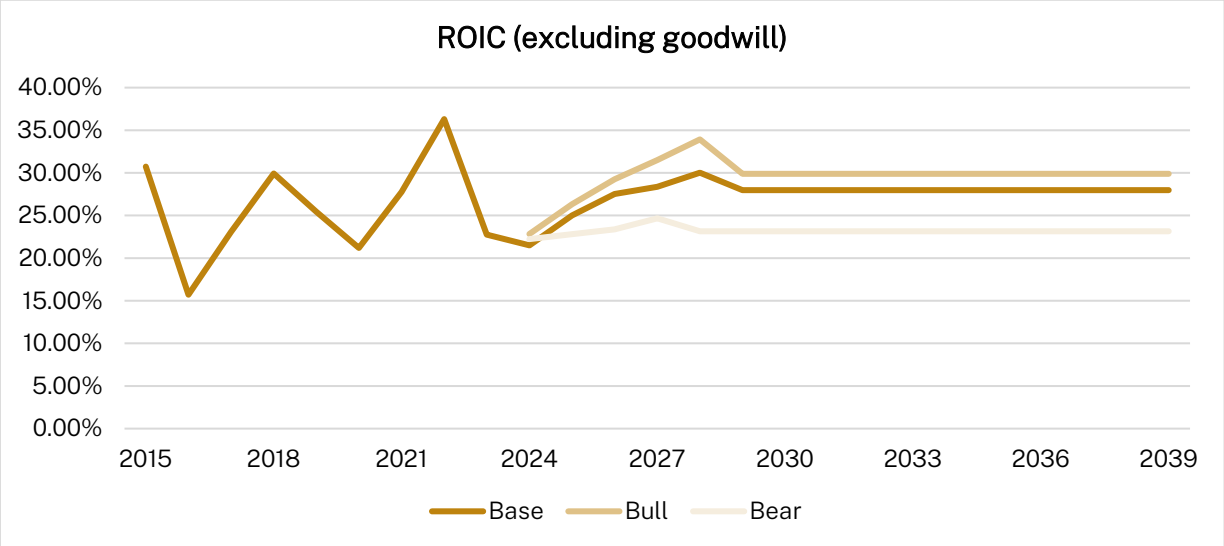
As efficiency maximising initiatives take shape, such as the rollout of RIKA devices and Horizon 1 and 2 projects, the cost of the main input into COGS, plasma, will fall, with plasma CPL returning to the pre-covid level, despite increasing inflation and donor costs. As such, COGS is forecasted to decline from 43.02% in FY24 to 38.78% in FY28. 38.78% at the end of the forecast period is lower than the pre covid measure,

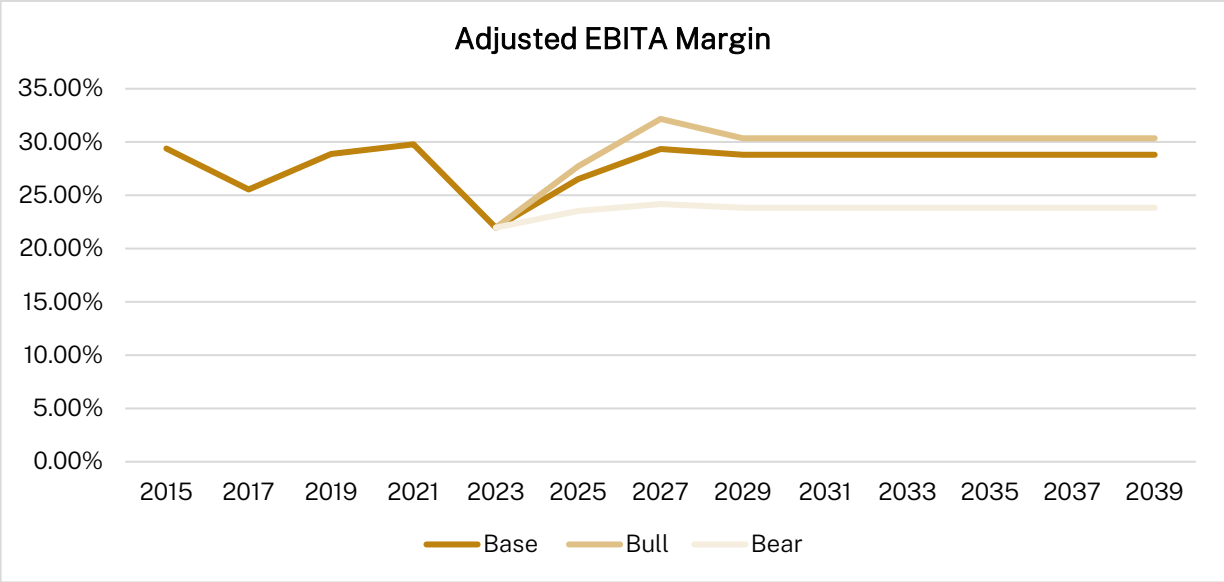
representing better than expected cost cutting reductions, aligning with gross margins recovering within the next 3 years. SG&A costs have been broken down into its respective components and too will see reductions across the breakdown. Research and development have been forecasted to be 10% of revenue, the lower bound of management target window of 10%-11%. We believe this to be the case as large-scale, capital-intensive projects such as CSL 112 move out of the R&D pipeline with no unexpected costs. Selling and marketing costs have been forecasted to fall from 9.97% of revenue to 7.57%, due to operating efficiencies and synergies between CSL and CSL Vifor materialising. This is a continuation of the trend of flat and falling S&M costs as a % of revenue that was experienced in 2022 & 2023, accounting for the acquisition. General and administrative will fall from 7.37% of revenue to 5.54%. Management has provided guidance of a 6% target; however, we again believe there are more gains possible in the bull scenario due to synergies between CSL and CSL Vifor.

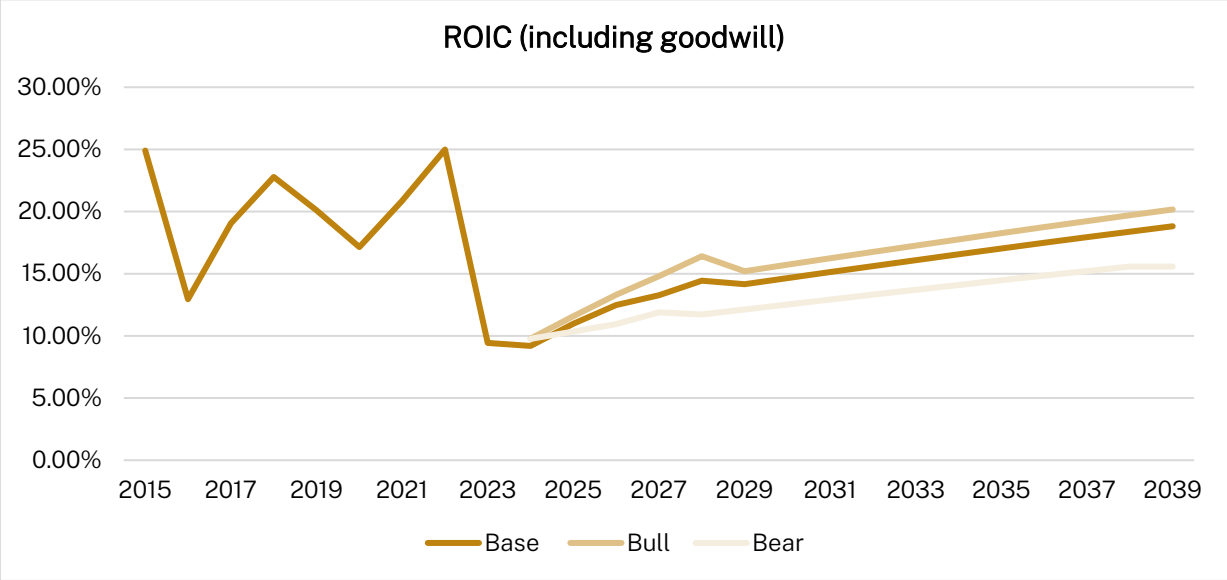
Bear case

In the bear case scenario, CSL struggles to recover its EBITA margin to pre-covid levels, largely due to the competitive threats taking market share away from CSL and their largest revenue source, plasma derived products. The revenue forecast incorporated a CAGR of 7.84%, lower than market expectation of revenue growth between 9-11% in constant currency. Argenx's Vyvgart product follows up its strong phase III trial results, reducing CSL's market share for plasma-derived products. Once it hits the market, the expectation is that it will dampen revenue by 3% (UBS). Furthermore, CSL Vifor experiences low revenue growth in 2023 and 2028, where its EU and US patents expire respectively. Seqirus's growth is also limited due to continually falling immunisation rates.

Cost of goods sold are forecasted to decrease as a percentage of revenue from 44.21% to 41.43%, representing a COGS that is 0.9% larger than the base case in FY28. Whilst the efficiency maximising initiatives of RIKA and Horizon projects do see improvements in plasma yields, they do not meet expectations. This is due to sticky inflation and a tight labour market prevailing in the mid-term in the US, which the main source of their plasma donations. This will maintain the inflated cost per litre of plasma, remaining higher than the pre-covid level. Research and development costs have been forecasted at 11% of revenue, the upper bound of management target window of 10%-11%, due to increased regulatory headwinds for products that are in the clinical stages of their development. Selling and marketing costs are forecasted to fall from 10.4% of revenue to 8.69% of revenue. Whilst CSL will still experience cost saving operating efficiencies in this scenario, the gains are not as much as expected. Furthermore, the removal of Ferinject's patents in FY28 in the US forces CSL to increase advertising spending to try and solidify market share. General and administrative costs will fall from 7.62% to 6.36% across the forecasted period, and whilst there are still gains, the integration of CSL Vifor does not produce as many synergies as forecasted by the management, resulting in CSL not meeting their guidance of G&A costs at 6% of revenue.







ROIC including goodwill, while less accurate than ROIC excluding goodwill, shows the realisation of returns following the large goodwill incurred in the Vifor acquisition.

Appendix E: Sensitivity analysis

2024 EBITDA margin	
Base - 1.5%	$ 305.05
Base - 1%	$ 305.23
Base -0.5%	$ 305.41
Base	$ 305.59
Base + 0.5%	$ 305.78
Base + 1%	$ 305.96
Base + 1.5%	$ 306.14

WACC	
Base - 1.5%	$ 437.88
Base - 1%	$ 385.60
Base -0.5%	$ 342.17
Base	$ 305.59
Base + 0.5%	$ 274.44
Base + 1%	$ 247.63
Base + 1.5%	$ 224.36

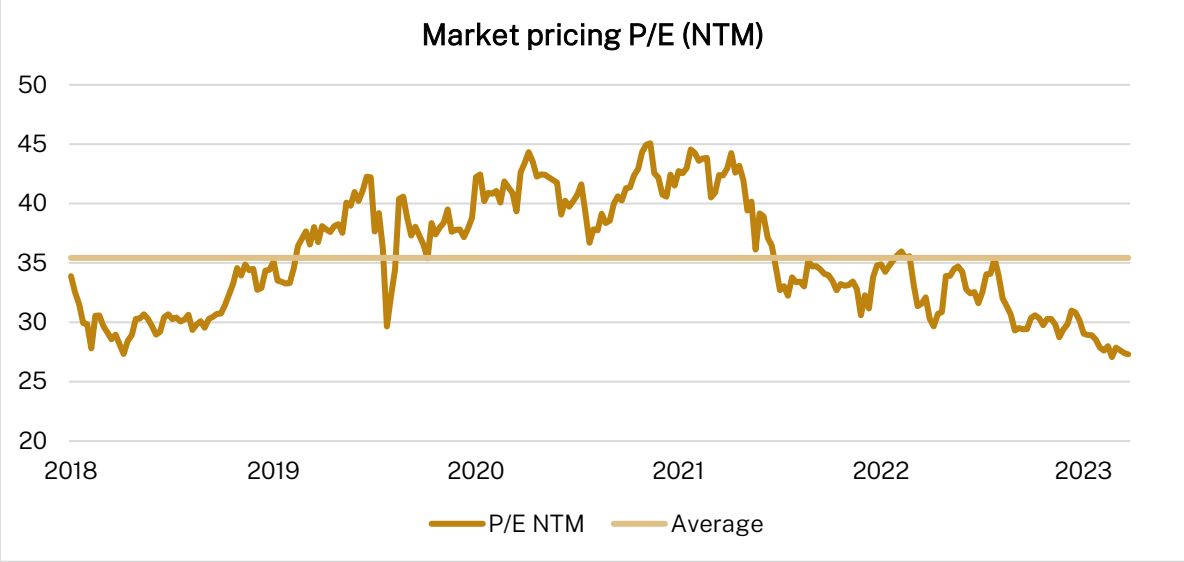
2024 Capex	
Base - 5%	$ 307.58
Base - 2.5%	$ 306.41
Base	$ 305.59
Base + 2.5%	$ 303.93
Base + 5%	$ 302.67

Appendix F: Multiples valuation

Valuation method	Target price ($AUD)	Weighting (%)
Next twelve months P/E	294.30	25
Relative P/E to industry	364.13	50
Average next twelve months P/E of competitors (market capitalisation weighted)	176.35	25
Total	**299.72**	**100**

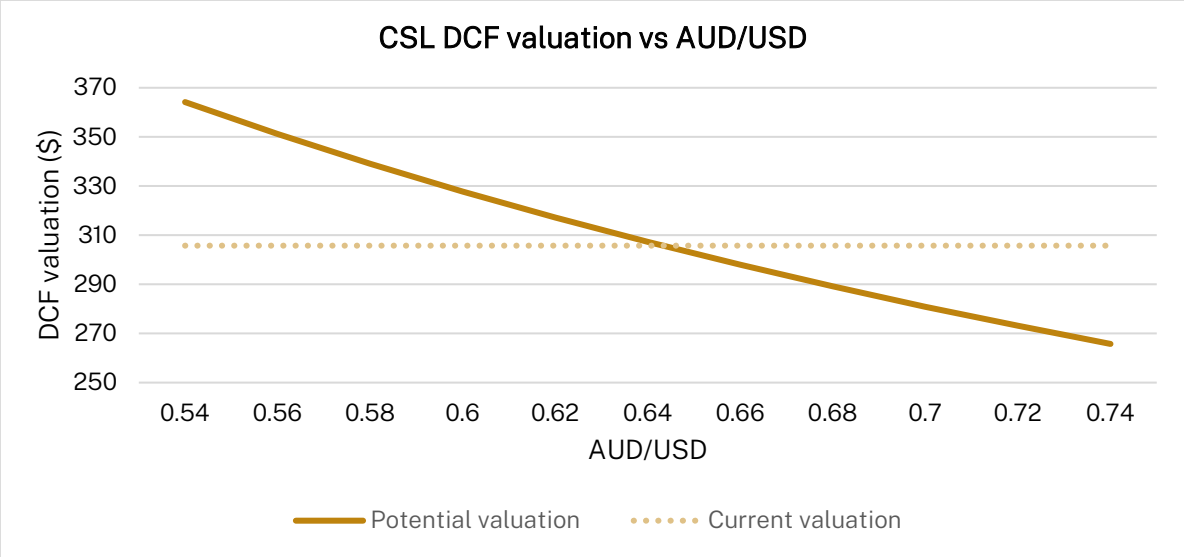
A multiples-based valuation serves as a supplementary verification for our primary DCF valuation. According to this secondary method, the target share price is $299.72, yielding an 18.86% MoS. This approach is employed as a complement due to its lack of granularity compared to a DCF analysis. While it relies on observable market data, it does not account for CSL's specific risk profile, growth prospects, or operational efficiencies.

Appendix G: Market pricing

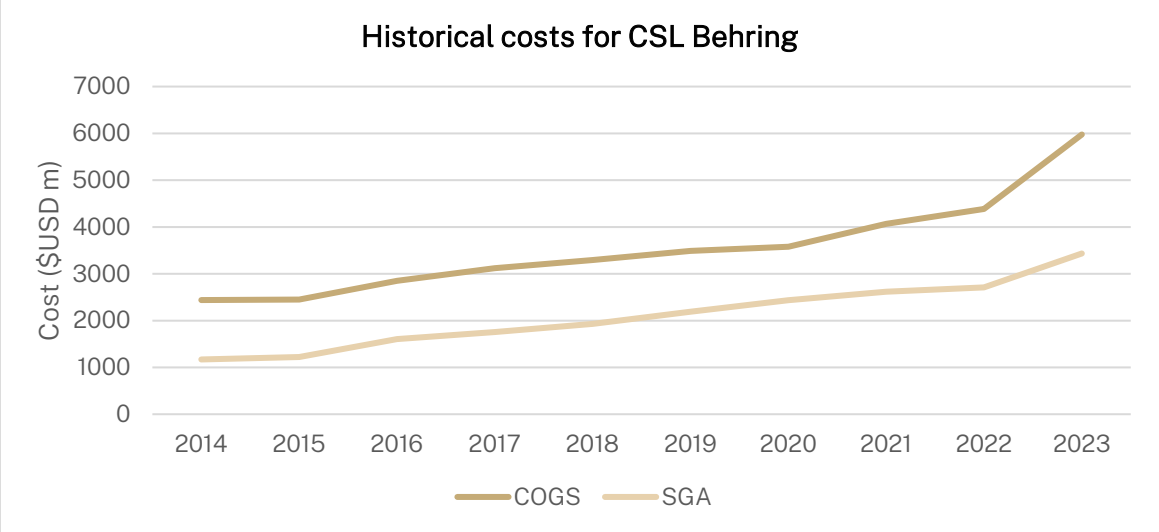


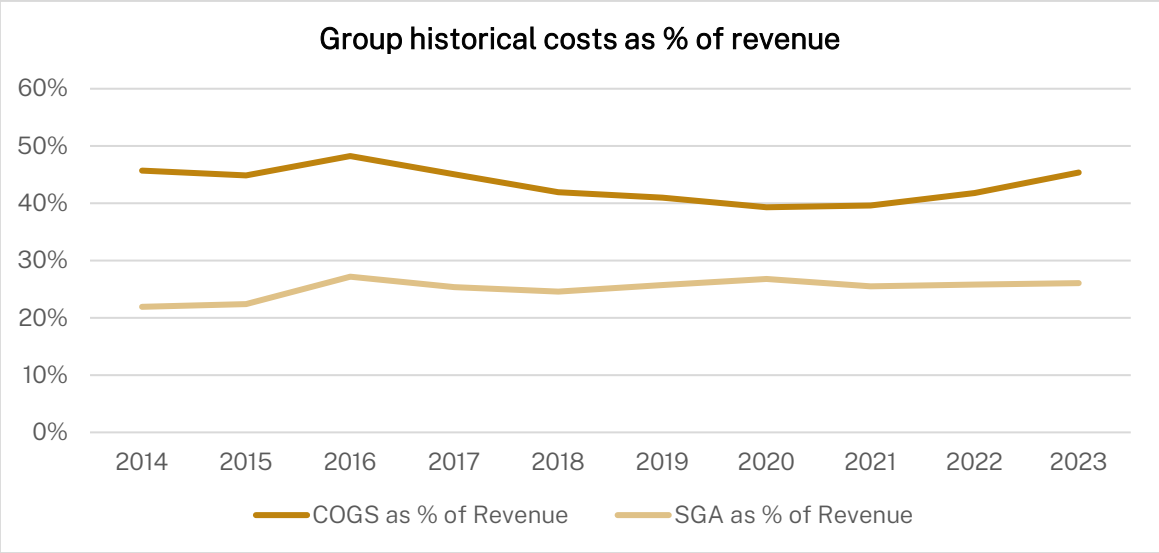
Appendix H: Foreign currency exposure

CSL reports all figures in USD, with approximately 49.3% of revenue coming from the United States in FY23. Prior to the release of FY23 results, management increase its guidance of foreign exchange losses from 175m up to 250m. As a result of the USD appreciating versus other currencies, net profit fell by 11%. We conducted a sensitivity analysis for a one cent change in the USD/AUD which on average impacts the valuation by 1.6%. The figure below outlines how currency influences our valuation. While we view foreign exchange rate movement as an uncertainty rather than a risk, it is important to understand how possible appreciations of the AUD/USD will provide tailwinds to our valuation.



Appendix I: Historical costs




Group historical costs as % of revenue
60%
50%
40%
30%
20%
10%
0%
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
COGS as % of Revenue
SGA as % of Revenue

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