STERN IAG

Board of Advisors Meeting

October 5th, 2023

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Letter from Portfolio Managers

Dear Board of Advisors,

We are so excited to have you for our very first oversight meeting of the semester. We have been very busy this summer working on potential positions for the portfolio, reviewing our current positions against our original investment theses, and thinking through some of the governance aspects about the club. As a result, we have quite a packed agenda for today, bringing a number of ideas for consideration and sale for our portfolio and looking to review a few additional points on our constitution.

From an outwards facing perspective, we have dedicated significant effort to promoting additional interest in investing at NYU. We have updated our website to include a list of investing resources for interested students, started a new semester-long pitch competition open to all general members, and looked to bring in a variety of interesting investment funds (i.e. Dodge and Cox, Abdiel Capital) to our weekly meetings. We believe that these initiatives will create compelling reasons for more students to pursue investing opportunities at the school in the years to come.

The markets have gone through an extremely interesting period since our last oversight meeting in May. Throughout June and July, the prevailing market themes of operational efficiency, financial conservatism, and cash flow that had defined the later half of 2022 and the first half of 2023 reversed themselves as the excitement surrounding artificial intelligence as well as a higher probability for a "soft" landing fueled a rally in the equities market, particularly within large-cap technology stocks (QQQ up 30%+ YTD). This exuberance was then muted across August and September as concerns regarding inflation, interest rates, as well as potential government shutdown have re-emerged, driving stock prices down as we start the school year, leaving the broader market relatively unchanged.

Since the last meeting in May, the IAG portfolio has gained 3%. However, our LTM spread with the S&P 500 decreased from 13% to 1% and the Russell 2000 from 18% to 15%. This brings our year-to-date performance in 2023 to 20%, still a hair above the S&P 500's return of 19% and the Russell's return of 6%. Our performance was driven by numerous positions across the portfolio, with some key outperformers being Camtek (up 173% YTD), Palo Alto Networks (up 71% YTD and 195% overall), and Flex (up 25% YTD and 43% overall). On the other hand, our top underperformers have been Methode Electronics (down 47% YTD), Rimini Street (down 48% YTD), and Thunderbird Entertainment (down 43% since purchase).

We plan to start off this meeting with a sell note for Methode Electronics (NYSE: MEI) before proposing the purchase of three positions:

1. Richardson Electronics (NASDAQ: RELL): A small-cap provider of industrial and medical engineered solutions with a rapidly-growing hidden gem in green energy.

2. East West Bancorp (NASDAQ:EWBC): A competitively advantaged, conservatively managed regional bank trading at a cheap valuation following the March banking crisis.

3. Showa Paxxs Corp (TYO: 3954): A Japanese packaging manufacturer trading at a steep discount to book value with corporate governance reforms serving as a catalyst for value realization.

If there are any questions or inquiries regarding any aspect of IAG, we are always more than happy to address those concerns. We hope that this school year will be a fruitful period of progression for the fund!

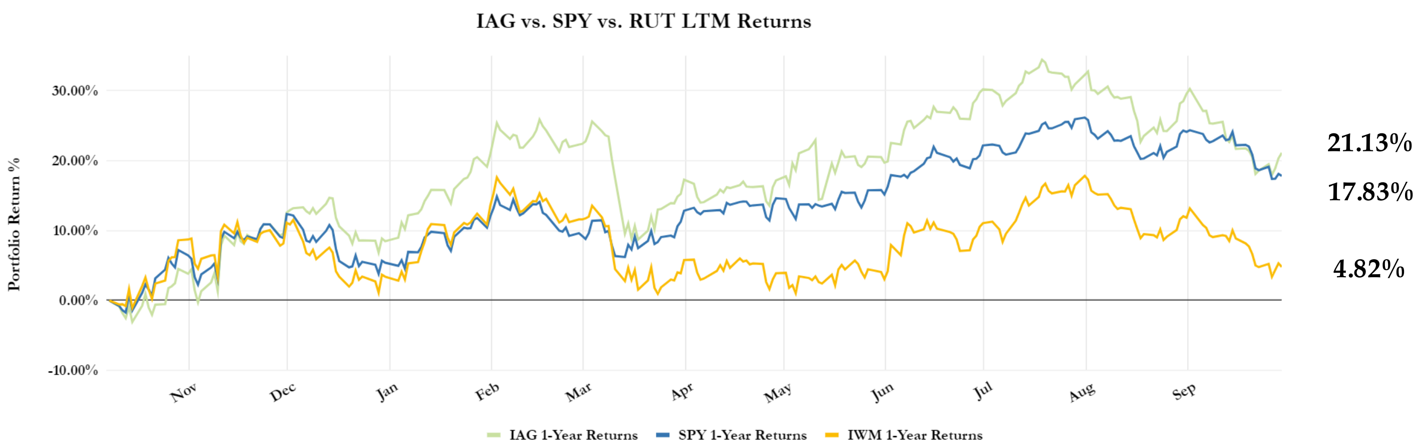
Best,

Nithin and Winston

II. Performance Analysis

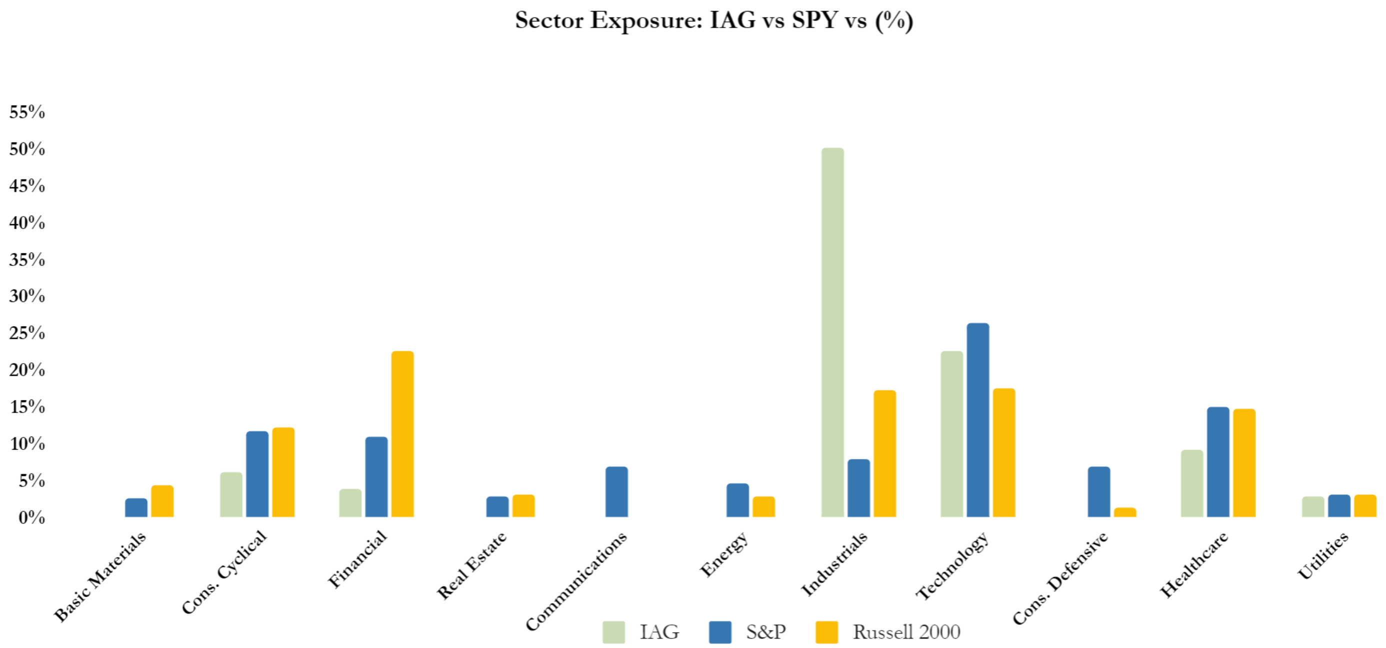
Holdings Summary *(as of October 2nd, 2023)*

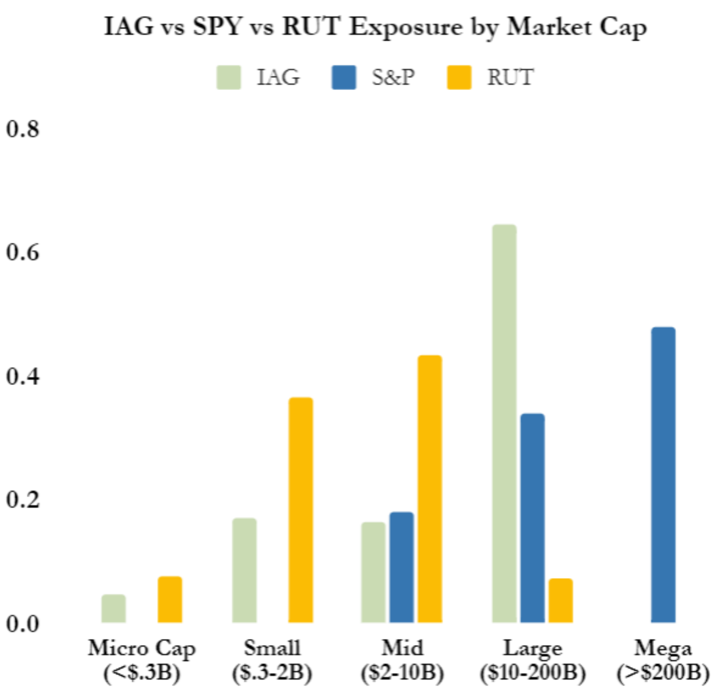
Current Holdings												
Company Name	**Ticker**	**Coverage**	**Date of Purchase**	**% of Portfolio**	**Share Count**	**Price At Purchase**	**Share Price**	**Current Return**	**Beta**	**Industry**	**Holding Type**
3U Holding AG	ETR: UUU	Nithin M.	3/13/2023	**1.45%**	540	2.23	2.62	17.16%	0.72	Industrials	**Oppt.**
APi Group Corp	NYSE: APG	Rahul P.	9/24/2020	**4.16%**	160	14.29	25.39	77.68%	1.50	Industrials	**Core**
Berry Global Group Inc	NYSE: BERY	Chirstina M.	12/2/2020	**3.03%**	50	54.60	59.06	8.17%	1.17	Industrials	**Core**
Builders FirstSource Inc	NYSE: BLDR	Rahul P.	10/5/2021	**9.60%**	80	52.20	117.09	124.31%	2.41	Industrials	**Core**
Camtek LTD	NASDAQ: CAMT	Nithin M.	10/7/2022	**5.52%**	90	22.07	59.83	171.09%	1.03	Technology	**Core**
Catapult Group Int. LTD	ASX: CAT	Rahul P.	3/11/2022	**1.54%**	2100	1.07	0.67	-37.00%	2.52	Technology	**Oppt.**
Conrete Pumping Holdings	NASDAQ: BBCP	Alex I.	3/26/2021	**2.60%**	300	7.07	8.44	19.38%	1.17	Industrials	**Core**
Credit Acceptance Corp.	NASDAQ:CACC	Alex I.	5/15/2023	**3.99%**	9	429.19	431.95	0.64%	1.33	Fianancials	**Core**
Embecta Corp	NASDAQ: EMBC	Rhys B.	10/7/2022	**2.05%**	150	28.05	13.33	-52.48%	1.53	Healthcare	**Core**
Exelon Corp	NASDAQ: EXC	Rhys B.	4/30/2021	**2.65%**	70	31.74	36.87	16.16%	0.57	Utilities	**Oppt.**
Flex Ltd	NASDAQ: FLEX	Rhys B.	10/5/2021	**9.04%**	335	18.58	26.33	41.71%	1.35	Industrials	**Core**
HCA Healthcare Inc	NYSE: HCA	Karen P.	9/26/2019	**4.74%**	19	119.99	243.44	102.88%	1.60	Healthcare	**Core**
JD.com Inc ADR	NASDAQ: JD	Nithin M.	4/30/2021	**1.17%**	40	77.55	28.46	-63.30%	1.16	Cons. Cyclical	**Core**
Joyce Corporation LTD	ASX: JYC	Nithin M.	12/20/2022	**1.44%**	730	2.27	1.92	-15.28%	1.20	Cons. Cyclical	**Core**
LNA Sante	EPA: LNA	Sean C.	4/24/2023	**1.88%**	70	31.42	26.15	-16.77%	0.77	Healthcare	**Core**
Methode Electronics Inc	NYSE: MEI	Carol S.	2/19/2021	**1.90%**	80	38.56	23.12	-40.04%	1.50	Technology	**Core**
Palo Alto Networks Inc	NASDAQ: PANW	Alex I.	9/24/2020	**7.09%**	30	80.17	230.64	187.70%	1.16	Technology	**Core**
Rimini Street	NASDAQ: RMNI	Winston Y.	11/11/2022	**1.09%**	515	4.29	2.06	-51.98%	1.20	Technology	**Oppt.**
Sea Ltd ADR	NYSE: SE	Niranjan N.	2/18/2022	**1.05%**	24	133.00	42.84	-67.79%	1.70	Technology	**Oppt.**
Sonic Automotive Inc	NYSE: SAH	Sean C.	5/5/2022	**3.22%**	70	48.00	44.93	-6.40%	1.85	Cons. Cyclical	**Core**
Thryv Holdings Inc	NASDAQ: THRY	Winston Y.	12/9/2022	**3.03%**	160	17.50	18.47	5.54%	1.04	Technology	**Oppt.**
Thunderbird Entertainment	OTCMKTS:THBRF	Carol S.	5/15/2023	**1.09%**	760	2.66	1.40	-47.37%	1.83	Media	**Core**
TransDigm Group Inc	NYSE: TDG	Raunakk J.	4/9/2020	**9.09%**	11	546.37	806.11	47.54%	1.40	Industrials	**Core**
United Rentals Inc	NYSE: URI	Carol S.	3/14/2019	**6.10%**	14	114.85	425.01	270.06%	2.00	Industrials	**Core**
Willis Towers Watson	NASDAQ: WTW	Mikhail T.	11/9/2021	**3.59%**	17	231.70	205.86	-11.15%	0.70	Financial	**Core**
ZTO Express	NYSE: ZTO	Niranjan N.	3/14/2019	**2.46%**	100	19.43	23.96	23.31%	0.60	Industrials	**Core**
Total Equity Holdings				**94.55%**	**$92,150**				1.35		
Cash				**5.45%**	**$5,312**						
Total Portfolio Holdings				**100.00%**	**$97,462**						



On a last twelve-month basis, **IAG's portfolio has returned 21.1%** while the S&P 500 returned 17.8%. Over the last twelve months, we are also significantly outperforming the Russell 2000, an index that follows much smaller companies in the US.

Portfolio Exposure vs. Benchmark





While historically we have felt that the SP500 provides an ample proxy to the market, because IAG is overexposed to smaller companies relative to the SP500 we have also added the Russell 2000 index as a benchmark for our returns.

IAG is still overexposed to micro and small cap stocks and underexposed to mega cap stocks compared to the SP500. IAG still believes that the best investment opportunities exist within the small cap space due to a variety of well researched factors.

Pitch Log Since May 2023 Meeting

Internal Pitches Since May Meeting				
	Company	Stage	Date	Analysts
1	Valhi Inc.	Initial Screen	9/7/2023	Christian Rosario
2	Richardson Electronics Ltd.	Initial Screen	9/7/2023	Sherry Hu
3	Tegna Inc.	Initial Screen	9/7/2023	Carol Sun
4	Cellebrite Ltd.	Initial Screen	9/7/2023	Pravar Jain
5	East West Bancorp Inc.	Initial Screen	9/14/2023	Nihir Addla
6	Showa Paxxs Corp.	Initial Screen	9/14/2023	Aryann Gupta
7	Varonis	Initial Screen	9/14/2023	Sean Chen
8	Frontier Communications	Initial Screen	9/18/2023	Claire Luo
9	Richardson Electronics Ltd.	First Update	9/18/2023	Sherry Hu
10	Tegna Inc.	First Update	9/18/2023	Carol Sun
11	East West Bancorp Inc.	First Update	9/28/2023	Nihir Addla
12	Frontier Communications	First Update	9/28/2023	Claire Luo
13	Surgepays	Initial Screen	9/28/2023	Aryann Gupta
14	Aritzia	Initial Screen	9/28/2023	Winston Yin

Active Pipeline				
	Company	Stage	Date	Analysts
1	Surgepays	Initial Screen	9/28/2023	Aryann Gupta

Oversight Meeting				
	Company	Stage	Date	Analysts
1	Richardson Electronics Ltd.	First Update	10/5/2023	Sherry Hu
2	East West Bancorp Inc.	First Update	10/5/2023	Nihir Addla
3	Showa Paxxs Corp.	First Update	10/5/2023	Aryann Gupta

III. Key Holdings Update

Portfolio Updates Since May 2023 Meeting

Company	Ticker	Update
3U Group **Share Price: $2.49** **PT: $2.96**	**UUU**	We suggest holding 3U with a price target of 2.83 euros representing upside of approximately 20%. At the time of the initial purchase in April of 2023, 3U was trading below what we thought liquidation and net asset value to be. The primary reason for this was likely because the market underappreciated management's ability to efficiently allocate their excess cash (at the time close to 190 million euros worth compared to a market capitalization of only 160 million). Soon after purchasing the company, management announced that they were planning to payout a dividend of close to 120 million euros. More recently management has announced a 10% share buyback at a valuation of 2.45 euros per share. We believe that these actions indicate that management fully understands that the shareholders own the company. In addition, each of their recent capital allocation follows a strong line of reasoning.
APi Group Corp **Share Price: $24.99** **PT: $31.20**	**APG**	We propose to hold our position in APi Group and maintain our PT of $31.20. Since our purchase in 2019, the stock has increased ~78%. Moreover, APi continues to stick to our updated thesis, with a shift towards recurring revenue in addition to their acquisition and integration of Chubb. APi's growth continues from Q1, reporting 9.7% QoQ sales growth for Q2 2023 driven by 12% QoQ organic growth in their safety services and inspection segment. Furthermore, APi reported improvements in EBIT margins to 6.2%, primarily from topline expansion and operational improvements as management continues their integration of Chubb. Accordingly, sales guidance for FY 2023 has been raised from ~$6.8 to $7.1b, with '23 adj. EBITDA expectations at 11% in line with their 13% goal by 2025. This growth has reinforced management's FY 2023 2-2.5x leverage guidance, with strong FCF and EBITDA growth driving a reduction in Net Debt/EBITDA from 3.2 to 2.8x. Our updated thesis on resuming M&A has begun to play out, with APi announcing a return to their prior M&A strategy through a $35mm bolt-on acquisition within their service segment in July. APi is to continue this strategy with two additional acquisitions announced for Q3 2023, expected to contribute $35mm in annualized sales (~2% inorg. growth) for 2024. In the long term, we expect management to allocate more capital for M&A per management's claims, with Chubb's integration and delevering strategy rapidly progressing. Moving forward, we will continue to monitor future earnings as the synergies from Chubb's acquisition play out, in addition to their ability to finance further acquisitions as M&A accelerates.
Berry Global Group Inc **Share Price: $61.48** **PT: $72.94**	**BERY**	We propose a hold on Berry Global, with our position up approximately 6% from the last oversight meeting. Berry's recent Q3 earnings report was less positive than expected, with the company missing EPS estimates by nearly 4%. Revenue as a whole declined 13.3% YoY, driven by a combination of lower volumes and lower prices, while EBIT declined by $69 million (or 20.5%). The earnings miss was partially due to weakness in the consumer and industrial end markets, and a decline in volumes was seen across all major business segments. Each business segment also experienced a slight EBIT margin decrease compared to Q2, although the engineered materials segment margin improved by 160 bps compared to Q3 2022. The health, hygiene, and specialties segment has experienced the relatively weakest performance out of the four segments, with the EBIT margin declining to 3.3% from 7.1% a year ago. The recent quarterly earnings reverses the positive trend we were seeing in the last quarter, which showed particular strength in the international consumer packaging, North America consumer packaging, and engineered materials segments. We will continue to monitor the company's performance in each business segment, although we believe that most of the issues are somewhat transitory and reflective only of broader economic fluctuations. It is important to consider that Berry's recent performance is compared relative to very strong results in 2022. Notably, the company has publicly announced that it is considering a potential strategic alternative for its health, hygiene, and specialties segment, and the newly named CEO, Kevin Kwilinski, is set to take over the role this week. The entrance of a new CEO with vast industry experience could be strategically positive for the company, and we will continue to monitor any new developments. Overall, we maintain conviction in Berry Global as a core holding within the portfolio, with an updated price target of $72.94.
Builders FirstSource Inc **Share Price: $123** **PT: $146**	**BLDR**	We propose a hold on our stake in Builders Firstsource. Since we met last semester, BLDR has returned an incremental ~10% to about $123.00 per share. In terms of news since then, BLDR has benefited from positive Q2 earnings that highlighted further 40 bps of GM expansion as a result of a higher mix of value-added products, including the pre-fabrication business and its turnkey services to end customers. This is in line with our thesis of BLDR continuing to shift its product mix away from commodity exposure. Going forward, the main strategy for the company will be continuing to execute organically, as well as expanding its strategic M&A portfolio in prefabricated assets to ultimately offer vertically integrated, comprehensive solutions to its customer base.

Portfolio Updates Since May 2023 Meeting

Company	Ticker	Update
Camtek Ltd. **Share Price: $26.11** **PT: $37.88**	**CAMT**	We still suggest a hold on our position in Camtek with a price target of $79 representing a potential upside of 37%. To quickly summarize Camtek's business, it provides semiconductor inspection equipment that is used by some of the largest semi fabs across the world (largest customers are in China). The main theses for the company are that the rapid need for metrology equipment and the increased regulation and competition between China and the US benefit Camtek. Camtek fits many of the qualities of a great business including strong growth, a large moat, and the ability to reinvest nearly all of their earnings back into the business. Since the last update in May of 2023, Camtek has risen nearly 120% to a share price of $60. This rise is off the back of approximately $100 million of orders over a span of two months (Camtek currently has $300 revenue per year) and a recent acquisition that Camtek did of a small German metrology business. This recent rise in the stock brings up the question of when it's a good time to sell a great business. We believe that as long as the business is not obviously overpriced and the fundamental business economics remain as strong as they were when we purchased the company, we could hold the business into perpetuity. We believe that Camtek at a current forward EV/EBIT multiple of 21x does not fit the criteria for a sale.
Catapult Group International Ltd. **Share Price: $0.70** **PT: $1.73**	**CAT**	We propose a hold on Catapult Sports. Since our last meeting, the stock price has remained relatively flat and the company presented its FY 2023 results at the end of June. The presentation was extremely positive and in line with our thesis, including a few highlights to call out. Financially, as a result of the continued switch of the business to its SAAS, video analytic solutions, the company reported positive EBITDA and operating cash flow in the back half of the year, with the expectation that this will improve moving forward. According to management, this is an inflection point in the company's transition as each half continues to present record topline, and the most recent year saw 20% higher SAAS mix as the year prior. Additionally, gross margins rebounded to 80+%, as vests have been more durable and the company has seen less replacements. Moving forward, we are looking forward to the business establishing and maintaining long term contracts and a positive market reaction.
Concrete Pumping Holdings Inc **Share Price: $6.68** **PT: $10.85**	**BBCP**	We propose to continue holding our position in BBCP. Our position is up 21.4% since our purchase at $7.08. Concrete Pumping Holdings reported strong financial results in the third quarter of fiscal year 2023, with revenue increasing 16% y/y to $120.7 million. Gross profit increased 18% y/y to $49.5 million. The company's growth was driven by strong performance across all segments, market share gains, and contributions from recent accretive acquisition, with ongoing growth in infrastructure and commercial end markets, as well as the acquisition of Coastal being highlighted. With one quarter left in 2023, the company has narrowed its guidance and expects fiscal year revenue of approximately $440 million, adjusted EBITDA of approximately $125 million, and free cash flow of approximately $70 million. Additionally, the company expects its net debt leverage ratio to be approximately 3 times by the fiscal year-end. With strong growth across all segments, market share gains, and proactive M&A strategy, BBCP looks well-positioned to continue delivering value to shareholders.
Credit Acceptance Corporation **Share Price: $28.88** **PT: $40**	**CACC**	We propose to continue holding our position in CACC. Our position is up 7.2% since entry in May. The company reported its Q2 2023 earnings on August 1, 2023. The company's revenue for the quarter was $477.9 million, up 4.5% compared to the same quarter last year. However, CACC missed analysts' consensus estimates of $10.81 earnings per share (EPS) by $0.12, reporting an EPS of $10.69. Despite the earnings miss, the company saw an increase in car loan volume by 13% and dealership count growth by 16%. In September 2023, Credit Acceptance announced the extension of the date on which its $200.0 million revolving secured warehouse facility to September 2026, with the interest rate increasing. This extension provides the company with additional financial flexibility and demonstrates its ability to secure favorable financing terms. With a strong market position, solid financial performance, and a favorable workplace reputation, we remain confident in CACC's ability to deliver value to shareholders.

Portfolio Updates Since April 2023 Meeting

Company	Ticker	Update
82 **JD.com** **Share Price: $41.70** **PT: $50.11**	**JD**	We still propose a hold on JD.com and maintain a price target of $79, compared to the current stock price of approximately $29.13. We believe that the investment sentiment on the Chinese equity markets has reached points of extreme pessimism with top companies in the space trading at book value. Since Chinese equities still trade on a fundamental basis, a notion that Fred Liu wrote about in his second quarter letter, we believe JD.com still poses a great opportunity. While, understandably, the Chinese economy is in a significantly more dire position than it was just 5 years ago, there still remains a large untapped potential within tier 3, 4, and 5 cities. Additionally, JD.com announced that they were introducing subsidies on their products which caused margins to slightly drop. Investors overreacted to these subsidies as the subsidies were likely put into place so that JD.com could achieve a user base in line with Pinduoduo and Alibaba. Overall, we believe that JD.com is still run exceptionally well and has very strong secular tailwinds. Its extremely large moat, close alignment with Chinese Communist Party values, and Cheap valuation make it a convincing investment.
Joyce Corporation **Share Price: $1.92** **PT: $3.06**	**JYC**	Joyce recently released their FY23 annual report where they again surpassed our highest expectations leading us to recommend holding the company. Joyce currently operates three main lines of business in Australia: a kitchen renovation business (KWB), a mattress franchisor (BedShed), and a home stager (Crave). To explain the attractiveness of this investment, let me give you the current financial position. The company has a market capitalization of A$85 million. However, they have a net cash position of A$26 million giving them an enterprise value of A$59 million. Their kitchen renovation business generates Joyce shareholders EBIT of $A12.5 and has grown their revenue, same store sales, store count, EBIT, and EBIT margins for 9 years in a row. We originally projected a decrease in same store sales for 2023 due to overearning in COVID but John Bourke once again proved us wrong by growing same store sales by 10%. The other two businesses combined generate A$5.5 million in EBIT per year putting the LTM EV/EBIT multiple at approximately 3.5x. Joyce also pays out a significant dividend as they do not have the ability to reinvest all their cash at a high rate of return. Recently, they have announced a share buyback plan. However, the specific number of shares that they intend to purchase is unclear. Assuming a semi-soft landing that will lead revenue to decrease by 15-20% across all businesses we get a per-share intrinsic value of $3.06 representing an upside of 62%.
LNA Sante **Share Price: $24.91** **PT: $52.82**	**LNA**	We recommend holding LNA with a price target of $52.82. Yet, we remain very optimistic given our findings over the summer, financials tracking in line with our projections, and a 16.7% drop in price that makes the risk to reward even more asymmetric. Over the summer, LNA reported H1 figures that are in-line with our expectations for 2023. EHPAD revenue grew 6.7% YoY (5.1% was drive by pricing and the rest occupancy rate normalization). SMR revenues were up 2.8% YoY (driven primarily by occupancy rate normalization). HAD experienced significant topline growth of 21.7% YoY (17.7% of which was organic). This was mainly driven by volume increases as the appeal of home-care in an extremely tight conventional hospice market. While we did not have a nuanced view on international growth, we were aware that the Polish and Belgian markets were attractive on a demographic basis. As such, 15.5% YoY growth in their international segment was a positive surprise. Management has guided for 6% growth YoY with EBIT and a reduction in debt, outcomes which track in line with our projections. Despite these positive developments, LNA is down just over 15% from our purchase price. The primary reason for this is inflation driven margin erosion to the tune of 90 bps which led to EBITDA increasing only 1.6% YoY. We view this as mostly transitory, and this doesn't influence our long-term view of the business as a best-in-class operator. Over the summer, we continued to look into the points brought up during oversight, namely the political climate surrounding regulation for LNA and wage inflation. No politician has proposed nationalization because of its sheer impracticality - half of the public EHPADs are due for renovations which are estimated to cost €40B over the next 5 years and nationalization would add an estimated €12B just to accommodate the new patients. Bear in mind that the French government have not allowed for the construction of new EHPADs since 2012 because they could not afford to subsidize indicating that the public EHPAD budget is already strained. Even though there is a structural shortage of qualified staff, LNA's glassdoor rating is 23% higher than their peer group on average. This means that LNA should have a slightly easier time hiring workers than Orpea and Korian do for instance. Moreover, wage inflation is accounted for in the tariffs that the French Government gives LNA.

Portfolio Updates Since May 2023 Meeting

Company	Ticker	Update
Embecta Corp. **Share Price: $14.69** **PT: $30.00**	**EMBC**	We propose a hold on Embecta with a PT of $30. Since the last update, Embecta's stock has fallen substantially. In the last quarterly call, EMBC beat earnings and outperformed in terms of revenues; they have been performing decently operationally over the last few months. There have been no major internal events that have justified this drastic a fall in the stock price. However, positive developments and approvals surrounding alternative diabetes treatments, especially GLP-1 medications including Ozempic, Wegovy and Mounjaro which have been found to suppress appetites and induce substantial weight loss have led to poor investor sentiment with EMBC. Additionally, margin pressures relating to the spin-off falling under other expenses remain elevated. Even though EMBC's core market remains strong, we may be seeing a case of multiple compression due to competition. We feel that although Embecta is clearly not as strong of a play as when we bought it, the magnitude of the drop is unjustified given the still substantial future earnings potential of EMBC. We await company-specific comments regarding diabetes alternatives and the patch pump in the next earnings call.
Exelon Corp. **Share Price: $36.61** **PT: $45.00**	**EXC**	We propose holding our position in Exelon with a PT of $45. Since the last update, Exelon is slightly down, but has performed very well compared to other utilities which have dropped between 10-30%. In the past earnings call, EXC slightly outperformed expectations. As a whole, elevated rates and persistent inflation have taken a toll on the utilities sector. Higher rates have made government and corporate bonds a much more attractive investment than in prior years. Exelon's plants remain in the top quartile among utilities in the nation, both operationally and financially. They also have substantially lower pricing than the average rate across large cities in the US. We remain confident in Exelon's fundamentals and leading operational metrics to continue to drive growth and profitability.
Flex. Ltd **Share Price: $26.69** **PT: $31.50**	**FLEX**	We propose a hold on Flex with a PT of $31.50. Since our last update, Flex's stock price is up 25% and represents 9% of the portfolio. Flex had another solid Q1 with revenues similar to the incredible Q1 last year. Flex is continuing to execute on their mix shift toward the higher margin reliability segment and now have a 53/47 mix split. Flex continues to benefit from strong secular trends driven by next gen mobility (automotive), renewables, and cloud critical power. Flex recently completed another follow-on offering regarding NEXTracker and retains 51% ownership. Flex has proved to be able to weather supply chain and inflation difficulties and we remain confident in their ability to improve margins through focusing on their higher growth and higher margin segments.
HCA Healthcare Inc **Share Price: $247** **PT: $289**	**HCA**	We propose a hold on HCA with a price target of $289. While the stock has experienced a slight drawdown with the recent uptick in physician subsidy costs impacting public hospital results in Q2, for HCA this impact is concentrated in anesthesiology, rather than ER and radiology, and the 10% cost increase only impacts less than 1% of the total cost base. We believe HCA will continue to manage through upward pressure on physician subsidy costs and utilization trends remain supportive. With this adjustment, we also view our original investment theses are still in-tact. HCA continues to dominate with utilization strength, driven by strong local market demographics, and the firm maintains its labor talent pipeline from nursing colleges. The strong volumes from Q2 and going into Q3 have been driven by positive trends in inpatient and outpatient volumes and the system continues to use outpatient beds to free up inpatient capacity. We will continue to monitor workstreams focused on increasing capacity within hospitals as data points for industry level utilization and volume trends.

Portfolio Updates Since May 2023 Meeting

Company	Ticker	Update
Methode Electronics	**MEI**	Sell note in packet
Palo Alto Networks Inc. **Share Price: $237** **PT: $271**	**PANW**	We propose a hold on Palo Alto Networks (PANW). Since our purchase at $80.17 per share, our position has grown 192.44%. The company has released new financial results in July, with Palo Alto Networks reporting earnings of $0.8 per share in Q3, beating expectations by 48%. Total revenue grew 24% y/y in the quarter to 1.7B, with third quarter billings growing 26% year over year to $2.3 billion. Recent highlights include the expansion of Unit 42's Digital Forensics and Incident Response Service the introduction of the Cloud Next-Generation Firewall for Microsoft Azure customers, and the expansion of its cloud infrastructure in Taiwan. Management has successfully executed on strategy and stayed on the leading edge. Overall, we remain confident in our initial thesis and look forward to the upcoming Q1 2024 earnings release, estimated to be on November 16th, 2023.
Rimini Street **Share Price: $2.12** **PT: $4.97**	**RMNI**	We propose a hold on Rimini Street, but are revising our price target downwards to $4.97. The summer has been a tough time for Rimini, as it was the subject of an unfortunate court ruling that restricted it from copying Oracle PeopleSoft software onto its computers to make maintenance fixes. We believe that this change will likely cause some margin contraction for the business, as its maintenance services (which are not charged on a "cost plus" basis) for PeopleSoft customers will now be conducted much more efficiently than before. However, we consider the market's response to this ruling (down ~45% following the announcement) to be a significant overreaction. In our eyes, PeopleSoft represents only a small percentage of the company's revenue, meaning that the margin hit will stay in the low single digits on a consolidated basis, with no theoretical impact to revenue. We also believe that this court ruling is an anomaly (Oracle lost all cases of violations that it brought to court alongside the Peoplesoft case), as it goes against essentially every precedent ruling throughout Rimini I and II. We see a road to a potential successful appeal for this case and think that the overall value proposition of the company remains the same. However, we will acknowledge that this is a much tougher company to invest in than we initially thought when we initiated this position in November of 2022. Oracle is far from a rational actor when it comes to crushing its competition, and it will dedicate its effort and money far beyond what is profitable to ensure that no companies can compete with it. Further litigation and appeals will only result in more litigation fees for Rimini as well as bad press that will dissuade sales. We have slashed sales growth and profitability in our model, and now would be much more happy to exit at a point close to our original cost basis.
Sea Ltd. **Share Price: $43** **PT: $140**	**SE**	Extended hold note on page 15.

Portfolio Updates Since May 2023 Meeting

Company	Ticker	Update
Sonic Automotive **Share Price: $45.00** **PT: $70.00**	**SAH**	We cautiously hold onto Sonic, the auto cycle has been unpredictable, to say the least. The limited supply of stock throughout COVID and, consequently the boom in used car prices and demand for used cars has all but passed. The down cycle and path to normalization is progressing. Therefore, despite Sonic hitting record top-line revenues and growing at GDP levels, gross profit per unit has contracted, leading to cost-cutting and operational restructuring efforts. We originally invested in the position because we felt like the franchise dealership made up the majority of the value and the Echopark segment could be played as a call option. We still believe there is significant value within the franchise dealership segment and is one of the highest-quality car dealerships in the US, however, we will think about selling the position if management decides to shut down EchoPark completely. With a target price of $70, we still believe the business is capable of generating $10 of FCF per share with a 7x multiple.
Thryv Holdings Inc. **Share Price: $18.33** **PT: $37.00**	**THRY**	We continue to recommend holding Thryv with the target price of $37. Despite only returning 4% in the last year, below the S&P, we believe Thryv is a multiyear story and the SaaS transformation is still in the early innings. Results released continue to be positive and play out the way we like. In the last quarter, SaaS revenues grew double digits, customer adds grew double digits, and Adj EBITDA reached double digits. Factors that make us believe in the quality of the ERP for small to medium businesses. On the marketing side, Thryv continues to generate >30% margins on the business with a near 70% FCF conversion rate. We believe that in the future, we could see strategic action with the division when Thryv has completely built out the SaaS infrastructure.
Thunderbird Entertainment **Share Price: $1.50** **PT: $2.78**	**THBRF**	We propose a hold on Thunderbird Entertainment Group with a price target of $2.78. With the tumultuous industry-wide concerns surrounding the Writers Guild of America strike that began in May 2023, THBRF has traded down nearly 40% since our original pitch. While the widespread media coverage regarding the writers' strike is certainly encouraging the Canadian film and television entertainment company's volatile market performance, we will continue to monitor changes as the strike recently ended last week. The company's main drivers remain performance in its animated and unscripted segments, which are not as directly impacted by the recent strike activities. Industry peers Boat Rocker Media and WildBrain have experienced similar downward movement, notwithstanding maintaining a strong pipeline of ongoing projects. In April, THBRF announced the purchase of options rights to a premium scripted show, called Mad Honey, which was likely halted if it made it to the writing stage, but otherwise, the firm continues to deliver on its media projects, with the firm working on 10 owned-IP productions at year-end. THBRF's mix of service and IP productions continue to position the company well to capitalize on extensive opportunities in the animation and unscripted genres. In September, the company announced the debut for a brand-new animated original movie from its Kids & Family label Atomic Cartoons, which will launch on PBS KIDS in December, as well as inked sales for the first season of Windy Isle Entertainment's live-action preschool series across 34 international territories.
TransDigm Group Inc. **Share Price: $824** **PT: $1050**	**TDG**	New PT: $1050. We propose a hold on TDG after it posted Q3'23 revenue. Revenue was up 21% organically TDG once again beat numbers in Q3 by a wide margin. Commercial aftermarket was up 32% yoy (up 38% last quarter), commercial OEM was up 25% (up 25% last quarter) and defense was up 17% (up 5% last quarter). Within that, commercial transport AM/OE were up 35% and up 21% and bizjet/heli AM/OE were up 20%/30%. EBITDA was at a 52.5% margin. We raise our estimates and price target on the back of results. TDG has strength in its end markets, long-term secular growth, pricing power, operational excellence, strong cash flow and capital deployment. Concerns about the pace of new order bookings is unwarranted because it is not a backlog business. It is clearly inevitable that TDG aerospace aftermarket will not grow 30-40% for multiple years. That end-market will eventually settle back in to its historical 2X GDP + price growth rate post pandemic normalization. TDG has always created value from several avenues - end-market units being only one of them - and will continue to do so into the long-term. TDG raised FY23 guidance. The outlook includes a revenue range of $6.525-$6.585bn (consensus is $6.46bn), EBITDA as defined of $3.350-$3.380bn (3% above consensus at midpoint), and adjusted EPS of $24.94-$25.36 (5% above consensus at midpoint).

Portfolio Updates Since May 2023 Meeting

Company	Ticker	Update
United Rentals **Share Price: $446** **PT: $527**	**URI**	We would like to propose holding our stake in United Rentals (URI) at $444.57. The updated price target is $526.93, representing a targeted upside of 19%. Since our last update, United Rentals reported a record Q2'23 earnings, beating consensus estimates for EPS by 10.46% and estimates for revenue by 2.94%, subsequently raising its full year 2023 guidance. This reflects management's confidence in infrastructure, manufacturing, and energy tailwinds it sees for the years to come. Rental revenue increased 21.2% year-over-year to $2.981B, a second quarter record. Average original equipment at cost increased 25.5% while fleet productivity declined 2.0%. Management cites, however, that financial results were buoyed by the appearance of the successful performance of Ahern Rentals in the financials, which URI had acquired in late-2022 for approximately $2B in cash, adding 60,000 rental assets and 106 locations to URI. This reinforces the theme from the last few updates as well: that URI's acquisition strategy is shifting towards the increasing prioritization of specialty rental solutions, expanding the customer footprint. On a pro forma basis, rental revenue increased 12.4% year-over-year, which was supported by a 12.5% increase in average OEC and 2.1% increase in fleet productivity. Used equipment sales in the quarter increased 132.9% yoy, specialty rentals increased 17.3% yoy, and general rentals increased 22.5% yoy. Adjusted EBITDA increased 29.3% yoy while margin increased 40 bps to 47.7%. We continue to see deleveraging, with net leverage at 1.8x in June (1.9x at the last update), and URI trading at a significant discount compared to Caterpillar on a multiple basis. We continue to believe that the market views the equipment rental business as inferior to the OEM business, and thus there is still upside potential.
Willis Towers Watson **Share Price: $208** **PT: $320**	**WTW**	Since our last update, there are no significant changes to our investment thesis for WTW. However, there are some minor updates and incremental information provided by the company's most recent quarterly report. On September 26th, 2023, WTW announced that they plan to boost their share buyback program by $1bn as they remain committed to returning capital to shareholders consistently. WTW continues to benefit from growing harder commercial insurance pricing; YoY organic growth for the insurance brokerage business was around 6%. Their consulting business has only shown modest 5% YoY organic growth. Despite solid organic growth, margins have compressed a bit largely due to inflationary cost pressures. Adjusted operating margins declined to 14.6% from 15.5% and WTW has lowered EPS guidance materially as a result. The main drivers of EPS decline, however, has been lower-than-expected pension income, which is not overly concerning for us. As such, we believe that our core thesis points have held and maintain WTW's current price target.
ZTO Express **Share Price: $24.00** **PT: $37.00**	**ZTO**	We propose a hold in ZTO Express. Since our last update, shares have declined by ~15% as macro conditions in China have worsened. Fears of a debt collapse in the property sector have re-ignited while the country experienced deflationary economic conditions. Since our last update, the company held earnings calls for both Q1 and Q2 2023, both of which revealed strong results. In Q1, revenue grew 14% YoY on the back of 20.5% YoY parcel volume growth. This nearly doubled the rest of the market which grew parcel volumes at 11% YoY, allowing ZTO to increase its market share by 180bps. ASP declined 3.7% YoY but Unit Net Income still expanded by 55% YoY as unit network transit costs decreased by 11% YoY. Another positive development was that ZTO was able to obtain a >30% market share on Douyin (TikTok) which previously refused to partner with the Tongdas for 3PL services. In Q2, ZTO delivered 13% YoY revenue growth driven by 24% parcel volume growth, both beating street expectations. However, as macro conditions worsened in China, ASPs sunk by 7.8%. The company has continued to react to falling ASPs through disciplined cost-cutting measures, with unit network transit costs falling by 16% YoY and unit sorting costs falling by 17% YoY. We shall continue to monitor this position closely, especially as the Chinese economy may have room to worsen further, however we feel that ZTO is still structurally the best player in this space and is built to whether economic headwinds better than its competitors.

Hold Note: Sea LTD (NYSE: SE)

Dear Board of Advisors,

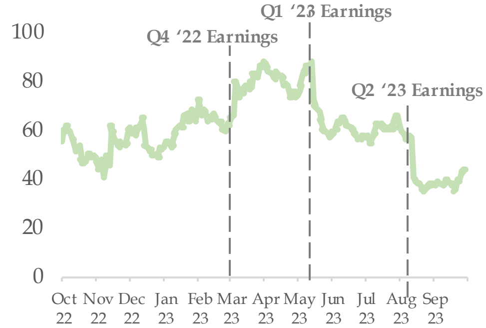
We recommend holding our position in Sea Limited with a price target of $140. Since our last oversight meeting, the stock has declined roughly 50% and is now down 67% from our cost basis at a current price of $43. Given these declines, we wanted to write a longer update to go over what has been happening with the company and to provide more color into our view that these share declines have been largely unwarranted and are an overaction by the market.

In the last update, we highlighted Sea's Q4 earnings call where management revealed that Shopee was able to generate $195m in EBITDA compared to street expectations of a $400m loss, with Shopee reaching positive EBITDA a full year before the company's initial guidance. This was due to Shopee's ability to reduce S&M spend while increasing take rates and maintaining market share leads in core geographies, validating our main thesis in Shopee being a long-term winner in this space. Shares traded as high as $88 on May 15th, representing a 70% YTD gain. However, investors have reacted quite negatively to the last two earnings calls, as shares declined ~35% in the months after 2023 Q1 earnings and an additional ~22% since 2023 Q2 earnings. In both instances, we believe the market has strongly overreacted to what we see as actually mixed to slightly positive updates.

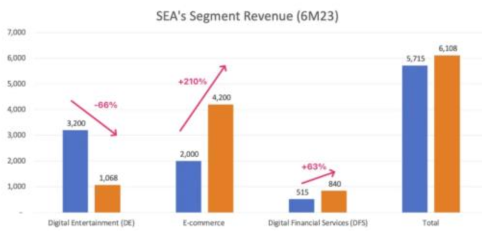
Starting with Q1, investors seem hung up on slightly weak EBITDA numbers from Shopee ($208m vs ~$235m expected) despite Garena and SeaMoney beating EBITDA expectations. Investors seem to be attributing weaker Shopee EBITDA numbers on slower take rate increases than expected (40bps expansion QoQ in Q1 '23 vs 160bps expansion QoQ in Q4 '22). However, this 40bps of overall marketplace take rate expansion includes logistics VAS revenues, which can be softer if AOVs increase, and raw parcel order numbers fall. Rising AOVs is a positive sign, and if we exclude those effects, core marketplace take-rate expanded 90bps QoQ for Q1 according to JPM ER. This number should be focused on more by investors rather than the headline take rate number. We see the resulting ~35% share price decline to this news as being an overaction by the market to relatively minor earnings misses, especially since we see our theses continue to be validated.

Quarter 2 results similarly seemed to slightly lag estimates, especially with Garena performing slightly poorer than expectations despite slowdowns in MAU declines. However, the big concern from investors came from comments from CEO Forrest Li, in which he stated "We have started and will continue to ramp up our investments in growing the e-commerce business across our markets. Such investments will have impact on our bottom line and may result in losses for Shopee and our group as a whole in certain periods." We believe that these statements alarmed many of the profit-oriented investors that have taken positions in Sea as a result of the company's remarkable profitability pivot over the last year. As a result, shares declined by as much as 40% in the aftermath of these remarks, with the company now trading 20% below where it was a year ago. We think that this reaction is unfounded and that the business is significantly better than it was a year ago, when we still felt it was being unfairly punished by broader tech selloffs. Additionally, this reaction clouded many positive results from the earnings call. While Garena did miss expectations on top line revenue, bookings decline improved from 15% Q/Q in Q1 to just 4% in Q2 while QAU actually increased 11% and QPUs as a % of QAUs increased to 8%. The segment still generates $600m in operating cash flow and general reliance on top line Garena numbers has halved, with the company only making up 17% of revenues compared to 31% a year ago.

Sea LTD Share 1-Year Share Performance

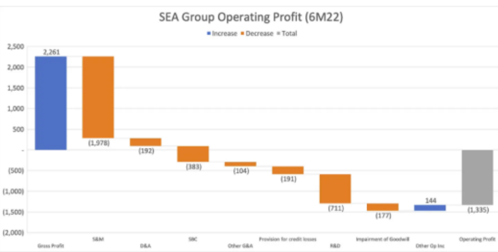


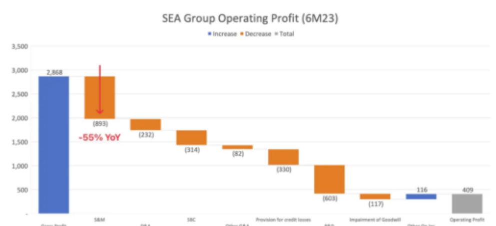
Segment Revenue Growth H1 '22 vs H1 '23



Source: Aaron Pek Sea LTD 2Q Deep Dive

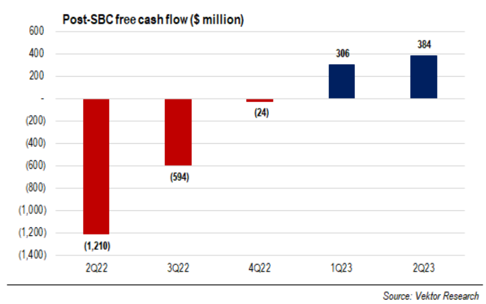
Group Operating Profit H1 '22 vs H1 '23





Source: Aaron Pek Sea LTD 2Q Deep Dive

Post-SBC FCF from Q2 '22 to Q2 '23



Hold Note: Sea LTD (NYSE: SE)

We disagree with general investor sentiment that reaccelerating growth investments is bad for the company. In fact, we view these investments as necessary to continue to grow the overall e-commerce pie in SE Asia (only ~15% ecommerce penetration) and to stave off growing competition from TikTok, which appears to be another major concern for investors. As pointed out by Hayden Capital, increases in S&M right now could allow Shopee to steal price sensitive TikTok users and starve TikTok's 3P logistics (3PLs) providers from order volume. This prevents 3PLs from being able to reduce prices which could in-turn boost TikTok's unit economics to a point where previously unprofitable customers become profitable. To avoid this, Shopee can re-ramp the discount offerings ahead of holiday season (10.10, 11.11, 12.12 are the major holiday shopping days left) while continuing to grow its own live-streaming shopping platform. For context, Shopee ramped up S&M spend this quarter to 21% of revenue compared to 16% in Q1 (still significantly down from 39% of revenues a year ago). Much of this spending went towards the 7.7 and 8.8 holiday shopping days were Sea saw 12x growth in transaction volume and a 10x increase in the number of buyers compared to a normal day. On 8.8, Shopee's new livestream shopping feature allowed it to temporarily displace TikTok as the largest live streaming e-commerce platform in Indonesia.

Recently, TikTok has seen significant GMV slowdowns, going from 10% m/m last quarter to just 3% this quarter. Given Bytedance's history of wanting to see relatively quick profitability from new launches along with worsening macro conditions in China, we feel that there is little risk of the company slashing take rates and competing irrationally in the region. In fact, TikTok along with the other major e-commerce players have all increased take rates despite still significantly lagging Shopee's market share. As a result, we feel that while TikTok does present a new and legitimate competitive threat to Shopee, the concern from investors may be a little overblown. According to Similarweb data collected over the last three months, Shopee still holds 50% of online traffic share with the next highest competitor being Lazada at 10%. A Snapcart Indonesia Survey revealed that Shopee leads competitors in four categories: brand used most often (61%), Top of Mind (70%), Transaction Volume Market Share (51%), Transaction Value Market Share (46%). In any case, the correct response from Shopee to TikTok should be to leverage its profitability and dry powder to defend its competitive position, not to restrict growth investments to continue to appease short-term thinking profit-motivated investors. Ultimately, we believe that management has done more than enough to prove that it can turn on the profit levers when it wants and needs to. In a one year, the company went from generating annual operating losses of $2.6B (H1 2022 annualized) to generating annual profits of $800m (H1 2023 annualized) and from burning $1.2B in cash quarterly (Q2 '22 post-SBC FCF) to making 384m in cash quarterly (Q2 '23 post-SBC FCF) in an environment with secular headwinds, rising interest rates, and increasing macroeconomic uncertainty. At the same time, pivoting to profitability by just having to lower S&M spend is a much easier task than completely pulling out of non-core markets, which is what Sea management had to do to drive cost savings last year in addition to lowering S&M spend. Given these structural improvements to the business, the 20% discount the stock currently trades to where it was a year ago when every segment was burning cash and there was a real tail-risk of bankruptcy is unwarranted.

IV. Sell Note

Sell Note: Methode Electronics Inc. (NYSE: MEI)

Dear Board of Advisors,

We would like to sell our position on **Methode Electronics Inc. (MEI), realizing a loss of 39%.** MEI is a global manufacturer and supplier of mechatronic technologies for the automotive and broader industrial markets. The company operates in four segments: Automotive (electronic devices related to automobiles), Industrial (various technologies including lighting solutions), Interface, and Medical. Originally, we had invested in this company due to our belief in the **strength of the automotive segment**. While our original model predicted margin expansion this segment, what we have seen instead is EBIT margin deterioration from 14% in FY'21 to 9% in FY'23. While part of this was unforeseen macroeconomic conditions, we have become more concerned about the following company-specific issues: (1) the company has reported three fiscal years in a row of "lower gross profit and higher SG&A," some of it attributed to higher compensation expenses for its workers, professional fees, and travel expenses, which we believe represents lack of operational control by management. (2) The company has been a major supplier to GM's legacy internal combustion engine-based platforms but is now shifting towards EV applications. This greater diversification into other customers was noted as a positive in our original thesis but has since left legacy product roll-off overhangs on results. Even if the Industrial segment has been strong, deterioration in the company's automotive business has caused overall margin erosion for the company. We believe these factors led to a LTM EBITDA margin of 12.6%, which is now lower than the industry mean of 12.8%.

Ultimately, we would like to sell due to lack of faith in the operating abilities of management. In the recent Q1'24 earnings, MEI's automotive segment saw a loss from operations of $2.8M, down from income from operations of $14.7M year-over-year. MEI saw a domino effect with its auto operations due to salary personnel turnover and vendor/operational issues which led to inventory shortages, unreimbursed spot purchases, and premium freight shipments to avoid delays. This mainly came out of the Monterrey operation, a factory that shifted manufacturing from low mix/high volume strategy to a high mix/low volume one. In addition, they have shifted to a new supplier. This transition led to unforeseen delays. CEO Donald Duda said that the first half of this quarter was completely normal, and the magnitude of inbound and outbound freight did not become apparent until July. The problem with even slight delays in noticing these patterns is that costs will increase dramatically, as operational delays lead to air freighting products. We believe this undermines our faith in this investment because: (1) Management has run into severe execution issues with no clear answers for any of them, only stating that they are bringing in a "seasoned operations leader." It also does not give us comfort that Duda announced he is planning to step down as CEO on August 31, and that the COO was put on leave in July, providing us no read on the future of management. (2) There is no timeline on how these operational issues are going to be fixed, and thus this severely limits our visibility into the future performance of the business. And (3) There has now been an instance of a significant downside risk that we had not seen in the business prior, that could cause a severe margin erosion with basically no warning signs, increasing the risk of holding this business.

The Portfolio Managers and I agree that even if the position is slightly undervalued, this cash can be better allocated to a new position with more upside potential and greater visibility.

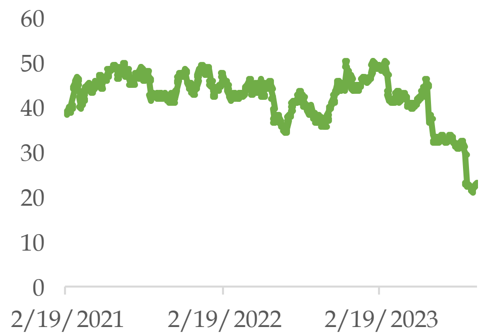
Best,

Carol Sun

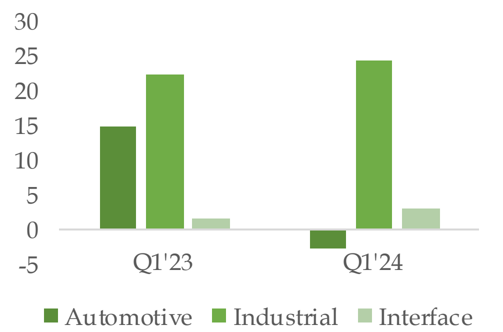
Stock Overview (LTM Figures)

	At Purchase:	Current:
Share Price:	$38.56	$23.49
G. Margin:	27.6%	22.4%
EBIT Margin:	14.4%	7.7%
EV/Rev:	1.17x	1.39x
EV/EBITDA:	8.44x	8.12x

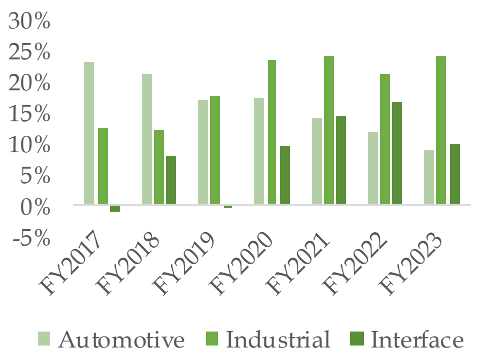
Performance Since Purchase on 02/19/21



Operating Income (Loss) Q1'23 v. Q1'24



EBIT Margin By Segment (2017-2023)



IV. New Position Proposals

Richardson Electronics, Ltd. (NASDAQ: RELL)

Under-covered engineered solutions provider with a hidden gem in green energy

Sherry Hu
Junior Analyst
sh7058@stern.nyu.edu

Price Target: $17.67

October 2nd , 2023

Company Summary:

RELL is a provider of engineered solutions focused on power management, electron tubes, and digital displays. RELL's products are often custom-designed for their customers over multi-year periods with exclusive supply agreements. The small size of RELL's markets and long-term customer relationships limits competition from larger OEMs, while its global distribution and service network provides an advantage over smaller competitors. Currently, RELL operates four segments (Figure 1):

1. **Power and microwave technologies - PMT** (63%): The PMT segment has two sub-segments. The Power and Microwave Group (PMG) provides electron tubes and radiofrequency, microwave, and power components for use in semiconductor wafer fab equipment. The Electron Devices Group (EDG) distributes electron tubes and capacitors used to store, generate, control, switch, and amplify electrical power signals. While electron tubes have largely been replaced by solid-state devices, they are still used in niche applications such as CO2 laser cutting, 5G infrastructure, high-frequency radio-frequency transmitters, and diagnostic imaging. The EDG market is declining at 6%/year, although RELL has maintained stable revenues and margins.
2. **Canvys - visual technology solutions** (15%): Canvys provides custom digital displays for medical and industrial OEMs. RELL's low volume commitment, which allows them to meet specific design requirements, and willingness to white-label their products gives them an advantage over larger competitors; their certified global distribution network protects them from smaller competitors. This segment is another stable business growing at 3%/year.
3. **Healthcare** (4%): The Healthcare segment manufactures, repairs, refurbishes and distributes replacement parts for CT and MRI diagnostic imaging systems. Healthcare is RELL's only FCF negative segment and is a drag of $0.25 on EPS.
4. **Green energy solutions - GES** (18%): The GES segment provides ultracapacitors for wind turbines and cell towers, lithium-iron-phosphate batteries for electric locomotives, and microwave tubes for synthetic diamonds manufacturing. GES sales used to be reported as a part of the PMT segment but was broken out starting Q1 2023 after RELL began selling products to a major operator of General Electric (GE) wind turbines.

History and Investment Setup:

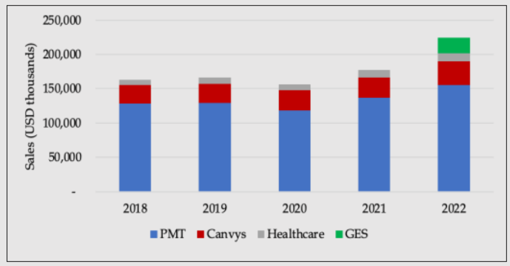
RELL was founded in 1947 as a distributor of electronic components and began manufacturing its own products in 1981. The company went public in 1983, and the CEO, Ed Richardson, is the son of the founder (15% share ownership). Since its IPO, however, RELL has been barely breaking even due to the low margins in its distribution segment, so RELL underwent a series of divestitures to improve profitability and pay down debt: in 2007, RELL divested its security systems distribution business to Honeywell (NASDAQ: HON) for $75M, and in 2011, RELL divested its semi cap distribution segment to Arrow Electronics (NYSE: ARW) for $210M. However, RELL retained its factories and distribution facilities following the divestiture to grow its 30% gross margin engineered solutions business, which accounted for 20% of revenue at the time and now accounts for 60%.

After the divestitures, RELL went from a $530M revenue business to a $140M

Key Ratios and Statistics ($M):

Price Target	**$17.67**
Upside	**63.19%**
Share Price (10/02)	$10.83
Market Cap	$159
Enterprise Value	$135
52-Week Low	$27.24
52-Week High	$10.75

Figure 1 – RELL Revenue by Segment



History and Investment Setup (cont'd):

revenue business. Although RELL has since then raised its gross margins from 20% to 30%, it has only managed to grow sales at a 2% CAGR. Over the past 3 years, however, sales have been growing at a CAGR of 15%. Since RELL did not break out GES sub-segment sales from the PMT segment until Q1 2023, investors have been attributing the recent growth in PMT sales to growth in the PMG sub-segment. This is because the only other known sub-segment in PMT, which is EDG, is secularly declining and flat at best. Growth in PMG sales would be concerning for investors because it is driven by semi cap spendings, which suggests RELL's sales growth is simply caused by the recent growth in semi-cap spendings and not sustainable going forward. Moreover, the semi cap industry is projected to decline until H2 2024. Combined with RELL's small-cap status and the lack of sell-side coverage, this prompted a sell-off after RELL's July 2023 earnings call where management guided a 50% decline in PMG revenues in FY2024.

In an investor conference held in November 2022, RELL broke out sales in the EDG sub-segment for the first time since the EDG sub-segment was merged into the PMT segment in 2016. The breakdown revealed that PMG only made up around 17% of total sales in 2022, as compared to 70% prior to the divestiture to ARW in 2011. The breakdown of EDG vs PMG sales also allowed us to roughly back into EDG, PMG, and GES sales over the past few years (Figure 2). Based on our approximations, GES accounted for 40% of the growth in PMT sales in 2022 and 20% of the growth in 2021. On the other hand, semi cap sales actually decreased YoY in 2022, dismissing investor concerns about semi cap over-earning. Due to the recent sell-off, our SOTP DCF shows that RELL's current share price does not account for any upside potential from GES. Therefore, our theses revolve around showing the recent growth in GES sales is sustainable going forward, because any incremental value generated from GES would create upside in RELL's valuation.

Investment Theses:

The GES segment is gaining traction amongst major customers and rapidly expanding into adjacent end markets.

Overview: GES leverages RELL's 75+ year history in power management, production capacity, global distribution network to serve major operators in the renewable energy industry. RELL's products are quickly gaining traction amongst major customers and are protected by its IP, strong customer relationships, and exclusive supply contracts.

GES's growth over the past few years is driven by four products: ultracapacitors for wind turbines (Figure 4), lithium-iron phosphate batteries (Figure 5), and microwave tubes for synthetic diamond production. The segment began in 2019 when Tesla acquired Maxwell Technologies, one of RELL's suppliers for ultracapacitors, and shut down Maxwell's commercial segment. Therefore, RELL had to look for alternative sources of ultracapacitor supply and came across LS Materials, a division of LG in Korea, who they entered an exclusive supply contract with. At the same time, NextEra (NYSE: NEE), the largest operator of GE wind turbines in the U.S., had been working with Maxwell to source ultracapacitors and went to LS Materials to find a new supplier. LS Materials referred NEE to RELL due to RELL's 75+ years history in power management and high production capacity unmatched by smaller green energy competitors, which would allow RELL to quickly ramp up production. Over the next two years, RELL met with NEE's engineers weekly to design ultracapacitor modules with the goal of replacing the lead acid batteries in NEE's wind turbines. NEE operates 10,000 wind turbines in the U.S. and adds 1,000 a year. Each wind turbine has 18 lead acid batteries, one of which can be replaced with ultracapacitors at $10,000/ultracapacitor (Figure 3). Over the past 1.5 years, RELL has shipped $10M worth of modules to NEE; there is an additional $100M revenue opportunity for RELL, as well as $10M of recurring revenue opportunity from new turbines being added.

Figure 2 – PMT Sales by Sub-Segment

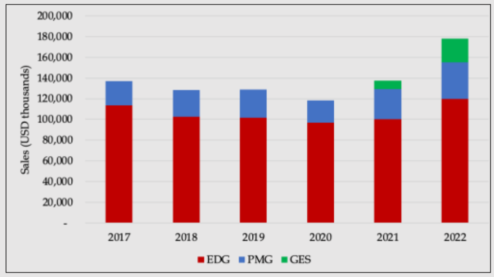


Figure 3 – Ultracapacitor Unit Economics

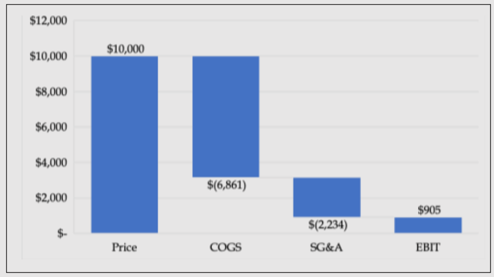
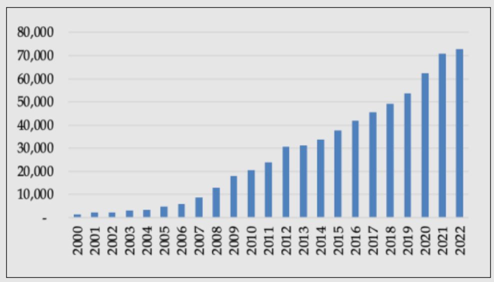


Figure 4 – U.S. Wind Turbine Installed Base



The GES segment is gaining traction amongst major customers and rapidly expanding into adjacent end markets (cont'd).

RELL also signed exclusive supply contracts with the next three largest GE wind turbine operators in the U.S. (Invenergy, Enel, and RWE), and has 17 different owner-operators of GE turbines buying the product who together operate 35,000 turbines. Moreover, RELL recently launched versions of the ultracapacitor for Siemens wind turbines, which has an installed base of 10,000 turbines. RELL also started beta-testing the ultracapacitors with European suppliers in Q2 2023, where there are 70,500 wind turbines, of which 65% are GE and Siemens.

The value proposition of ultracapacitors is to serve as a replacement option for lead acid batteries, over which ultracapacitors have longer life spans, improved performance, and lower service costs. RELL's ultracapacitors are protected by 3 patents which interact closely with GE's design. There is no public competitor, and the RELL's product strength is testified by its sole source contracts with the top wind turbine operators in North America. In January 2023, GE began covering for RELL's ultracapacitors in their service contracts, further testifying to RELL's ultracapacitors, and in July 2023, GE selected RELL's ultracapacitors as the exclusive pitch energy module in the GE Marketplace, further testifying to the strength of RELL's product.

In addition to ultracapacitors, another promising product in GES is lithium-iron-phosphate batteries. RELL's engineers have been working with Progress Rail, a subsidiary of Caterpillar, for 2 years to design batteries for the replacement of diesel engines in its locomotives. Progress Rail has contracts with rail operators like Union Pacific to fulfill quotas for electric locomotives as part of the industry's commitment to convert all diesel locomotives to electric by 2030 and has been working with RELL's engineers to fulfill these orders. RELL received its first $18M order for a power management module used in electric locomotives from Progress Rail in Q4 2022, which was fulfilled in Q3 2023. In Q3 2023, RELL also received additional quotes for $91M worth of products going into Progress Rail's locomotives and expects the module to enter full production in 1H 2024. Each locomotive provides $18M of revenue; there are about 25,000 locomotives in the U.S., with about 40% of them produced by Progress Rail. Progress Rail expects the conversion of 50 locomotives over the next 3-5 years, with exponential growth in conversions thereafter, creating a $900M near-term revenue opportunity. In terms of competition, the market for electric locomotives is much smaller than electric vehicles and also relatively consolidated. RELL's engineers showed Progress Rail a variety of other technologies such as ultracapacitors/supercapacitors and other batteries, and they together decided on lithium-iron-phosphate batteries as the best option.

The GES segment has two additional products that we view as call options on the valuation because they're still in the beta-testing stage. For example, telecom companies such as T-mobile, Verizon, and AT&T have approached RELL to develop ultracapacitors to replace lead acid batteries used for power generation in cell towers (Figure 6). RELL has received orders for 12 cell towers from T-Mobile, which have recently completed beta-testing and will begin production in the next quarter. Cell towers for these three companies represent a $250M revenue opportunity in the aftermarket. RELL has also been selling magnetrons for the production of synthetic diamonds, which accounted for $15M of orders in 2022. Figure 7 shows a summary of the GES TAM opportunity.

As of Q4 2023, the GES segment has a $43M backlog, a 48% increase from $29M a year ago. Based on our SOTP DCF, RELL's current share price does not reflect any of the value of GES, so the entire GES segment is a free call option on RELL's valuation. Therefore, the remaining thesis points revolve around showing the stability of RELL's non-GES segments that make up the entirety of its share price.

Figure 5 – U.S. Diesel Locomotive Installed Base

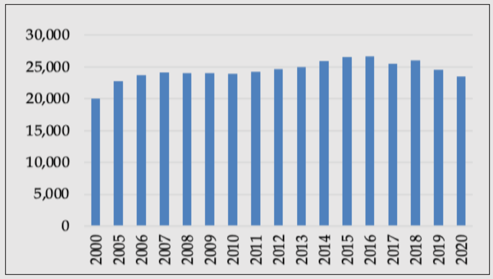


Figure 6 – U.S. Cell Tower Installed Base

Figure 7 – Summary of GES TAM

	GE	Siemens	Locomotives	Total
# U.S.	35,000	10,000	50	45,050
Price U.S. ($M)	0.010	0.010	18.000	18.020
U.S. TAM	**$350**	**$100**	**$900**	**$1,350**
# Europe	987	47,940	-	48,927
Price Europe ($M)	0.010	0.010	-	0.020
Europe TAM	**$10**	**$479**	**$0**	**$489**
Total TAM	**$360**	**$579**	**$900**	**$1,839**

The EDG segment generates stable FCF to support the growth of GES.

EDG is RELL's largest segment and sells power grid tubes, magnetrons, klystrons, thyratrons, traveling wave tubes, high voltage capacitors, waveguides, microwave generators, and cathode ray tubes, which are used in equipment that require high-power amplification, high-frequency generation, or specialized performance characteristics. The overall electron tube market is declining at 6%/year due to replacement by solid-state devices, which have been in the market since the 1960's. However, we view this segment as an attractive, FCF generative business for RELL given its stable revenues, stable margins, and sticky customer relationships. Currently, RELL has 50% of the commercial market and 20,000 customers all over the world, competing only against local mom-and-pop distributors. RELL's high market share, combined with the high degree of product customization and the low cost of these products as a % of total machine costs provides RELL with high pricing power to offset any volume declines. Moreover, 80% of EDG sales are in the aftermarket, providing recurring revenue streams.

Figure 8 shows the revenue and gross margins in EDG prior to the segment being merged into the PMG segment in 2016, which shows that gross margins have been historically sticky around 32%-33%. The gross margin declined to 26% in CY 2008 due to inventory write-downs in the great financial crisis, and over the past five years, EDG sales actually increased at a 2% CAGR. Even compared to 2012 (after the divestiture to ARW), sales in EDG has been growing at a 1% CAGR, showing the resiliency of customer demand. Management also commented that even in their worst years, decline rates in EDG never exceed the single digits, and even in COVID-19, sales only declined 5%. In our model, however, we underwrote a deterioration in pricing power for RELL as well as a 6% terminal decline rate on this segment for the sake of conservatism.

Figure 8 – EDG Sales & Gross Margins

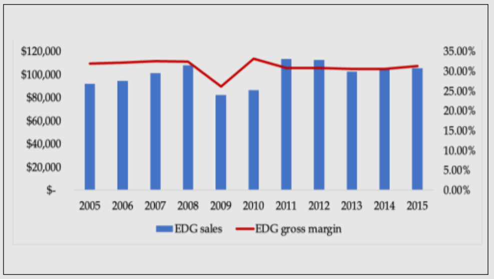
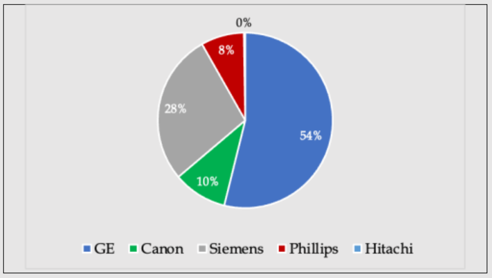


Figure 9 – C.T. Tube Market Share by OEM



Healthcare break-even/divestiture is an additional lever for upside.

The Healthcare segment was launched in 2014 to produce aftermarket CT and MRI tubes for hospitals as a cheaper alternative to OEM replacement options. The rationale behind this segment is to grow toplines by tapping into the $7B CT and MRI tube aftermarket. However, RELL has since then faced price competition from OEMs (Canon) as well as difficulties in getting hospitals to switch off of OEM contracts. The Healthcare was also outside management's circle of competence and RELL had to hire a VP from a medical devices company to manage the segment, who was later replaced by RELL's COO.

Going forward, Healthcare should not be a further drag on earnings than it already is as management has already completed the capex necessary to set up the segment. The current factory has the capacity for 1,000 tubes/year while RELL produced 300 tubes in 2022. In quarters with higher production, gross margin improves significantly from 25% to 30% due to operating leverage. Moreover, RELL has already developed additional tube models for Siemens, a tube OEM with higher market share (Figure 9). The rationale for these new products was that many hospitals owned tubes from multiple OEMs and did not want to come off their OEM service contracts until they were sure RELL could cover all the models. New tube development is not very cash-flow intensive for RELL since its quarterly SG&A expense was relatively flat at $50M throughout development. The new VP has been guiding for 3 years that Healthcare would break even by May 2024, which implies a production of 500 tubes/year. Management should be able to reach this goal if they can drive Siemens adoption at the same 8% incremental penetration that they have been driving in the Canon end market. Given historical execution issues, we did not model Healthcare ever reaching break even. Conversations with analysts who have spoken to the new VP indicate that she would likely divest the segment if it does not break even by FY2024 as most of her compensation is tied to the company' FCF, which would provide a $0.25 EPS uplift for RELL.

Risk and Catalysts:

Risks:

1. Semi cap downturn in the industry results in a greater PMG revenue decline than 50%
2. RELL is unable to maintain its pricing power in EDG to offset industry-wide volume declines
3. GES adoption plateaus and RELL is unable to launch new products to offset declining adoption

Catalysts:

1. New customers or products launched in GES, leading to GES sales growth
2. Margin expansion in the Healthcare and GES segment from economies of scale of increased production
3. New product launches in Healthcare lead to the segment breaking even by Q4 2024, or the segment is divested

Valuation:

Revenue & Gross Profit Build	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E
PMT sales	$129	$118	$129	$155	$164	$141	$141	$143	$144	$140
% growth	0.5%	-8.1%	8.9%	20.5%	5.7%	-14.3%	0.1%	1.7%	0.6%	-2.7%
EDG sales	102	97	100	120	120	118	116	112	107	102
EDG volume	42,848	38,498	37,453	42,400	40,000	37,600	35,344	33,223	31,230	29,356
% growth	-6.4%	-10.2%	-2.7%	13.2%	-5.7%	-6.0%	-6.0%	-6.0%	-6.0%	-6.0%
EDG price	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
% growth	6.0%	6.0%	6.0%	6.0%	6.0%	5.0%	4.0%	3.0%	2.0%	1.0%
EDG gross profit	34	32	33	40	40	39	38	37	35	34
EDG gross margin	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%	33.0%
% growth	-0.8%	-4.8%	3.1%	20.0%	0.0%	-1.3%	-2.2%	-3.2%	-4.1%	-5.1%
PMG sales	27	22	29	35	44	22	25	31	37	38
PMG volume	29,315	22,826	30,451	35,757	43,956	21,978	24,176	29,494	33,919	34,597
% growth	3.6%	-22.1%	33.4%	17.4%	22.9%	-50.0%	10.0%	22.0%	15.0%	2.0%
PMG price	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
% growth	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
PMG gross profit	7	6	11	11	14	7	8	9	11	11
PMG gross margin	24.6%	29.2%	36.0%	32.0%	33.0%	30.0%	30.0%	30.0%	30.0%	30.0%
% growth	5.7%	-20.6%	36.1%	19.8%	25.4%	-49.0%	12.2%	24.4%	17.3%	4.0%
% growth	3.6%	-22.1%	33.4%	17.4%	22.9%	-50.0%	10.0%	22.0%	15.0%	2.0%
PMT gross profit	40	38	44	51	54	46	46	46	46	45
PMT gross margin	31.2%	32.3%	33.8%	32.7%	32.9%	32.5%	32.5%	32.3%	32.2%	32.2%
Canvys sales	$28	$29	$29	$35	$39	$41	$43	$46	$48	$50
Canvys volume	3,784	3,837	3,813	4,486	4,916	5,064	5,216	5,372	5,533	5,699
% growth	2.8%	1.4%	-0.6%	17.7%	9.6%	3.0%	3.0%	3.0%	3.0%	3.0%
Canvys price	0.007	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.009	0.009
% growth	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
% growth	4.8%	3.4%	1.4%	20.0%	11.8%	5.1%	5.1%	5.1%	5.1%	5.1%
Canvys gross profit	9	9	10	11	12	13	14	15	16	16
Canvys gross margin	32.5%	32.2%	35.0%	32.0%	31.5%	32.4%	32.4%	32.4%	32.4%	32.4%
Healthcare sales	$10	$8	$10	$11	$11	$12	$13	$13	$14	$15
Parts sales	0	0	0	0	0	0	0	0	0	0
% growth	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Parts gross profit	0	0	0	0	0	0	0	0	0	0
Parts gross margin	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Tube sales	10	8	10	11	11	12	12	13	14	14
Tube volume	119	99	121	133	133	140	147	154	162	170
% growth	25%	-17%	23%	10%	0%	5.0%	5.0%	5.0%	5.0%	5.0%
Addressable installed base	1,410	1,410	1,410	1,410	1,410	5,360	5,360	5,360	5,360	5,360
% penetration	15.3%	22.3%	30.8%	40.3%	49.7%	15.7%	18.4%	21.3%	24.3%	27.5%
Tube price	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085
% growth	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Tube gross profit	2	2	3	2	3	4	4	4	4	4
Tube gross margin	23%	24%	25%	21%	31%	30.0%	30.0%	30.0%	30.0%	30.0%
% growth	19%	-13%	22%	10%	0%	5%	5%	5%	5%	5%
% growth	18.8%	-13.2%	22.3%	9.5%	0.5%	5.0%	5.0%	5.0%	5.0%	5.0%
Healthcare gross profit	2	2	3	2	4	4	4	4	4	4
Healthcare gross margin	24%	24%	25%	21%	31%	30%	30%	30%	30%	30%
GES sales			$8	$23	$48	$68	$79	$103	$106	$127
Wind turbine sales			8	23	30	32	43	49	52	55
Wind turbine volume			801	2,300	3,000	3,174	4,275	4,850	5,150	5,450
% growth				187.1%	30.4%	5.8%	34.7%	13.5%	6.2%	5.8%
GE installed base			33,000	34,000	35,000	36,000	37,000	38,000	39,000	40,000
% penetration			2.4%	9.1%	17.4%	25.0%	35.0%	45.0%	55.0%	65.0%
Siemens installed base					10,000	11,000	12,000	13,000	14,000	15,000
% penetration					0.0%	2.5%	5.0%	10.0%	15.0%	20.0%
Wind turbine price			0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
% growth				0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wind turbine gross profit			2	7	9	10	13	15	16	17
Wind turbine gross margin			30.0%	31.4%	31.4%	31.4%	31.4%	31.4%	31.4%	31.4%
% growth				187.1%	30.4%	5.8%	34.7%	13.5%	6.2%	5.8%
Electric locomotive sales					18	36	36	54	54	72
Electric locomotive volume					1	2	2	3	3	4
Progress Rail installed base					10,000	10,000	10,000	10,000	10,000	10,000
% penetration					0.0%	0.0%	0.1%	0.1%	0.1%	0.2%
Electric locomotive price					18	18	18	18	18	18
% growth						0.0%	0.0%	0.0%	0.0%	0.0%
Electric locomotive gross profit					4	10	11	16	16	22
Electric locomotive gross margin					24%	27.5%	30.0%	30.0%	30.0%	30.0%
% growth						100.0%	0.0%	50.0%	0.0%	33.3%
% growth				187.1%	108.7%	41.1%	16.3%	30.2%	2.9%	19.9%
GES gross profit			2	7	14	20	24	31	32	39
GES gross margin			29.0%	32.0%	28.8%	29.3%	30.8%	30.7%	30.7%	30.6%

Valuation (cont'd):

Net sales	$167	$156	$169	$225	$263	$262	$276	$305	$311	$332
% growth	*2.1%*	*-6.5%*	*8.2%*	*33.2%*	*16.9%*	*-0.3%*	*5.3%*	*10.5%*	*2.2%*	*6.5%*
Cost of goods sold	(115)	(106)	(110)	(153)	(179)	(179)	(188)	(208)	(213)	(227)
Gross profit	52	50	59	72	84	83	88	97	99	105
Gross margin	*31.0%*	*31.9%*	*34.9%*	*31.9%*	*31.9%*	*31.6%*	*31.9%*	*31.7%*	*31.7%*	*31.5%*

Operating Build	**2019**	**2020**	**2021**	**2022**	**2023**	2024E	2025E	2026E	2027E	2028E
Net sales	$167	$156	$169	$225	$263	$262	$276	$305	$311	$332
Cost of goods sold	(115)	(106)	(110)	(153)	(179)	(179)	(188)	(208)	(213)	(227)
Gross profit	52	50	59	72	84	83	88	97	99	105
Gross margin	*31.0%*	*31.9%*	*34.9%*	*31.9%*	*31.9%*	*31.6%*	*31.9%*	*31.7%*	*31.7%*	*31.5%*
Selling, general and administrative expenses	($52)	($51)	($56)	($56)	($59)	($59)	($60)	($60)	($61)	($62)
% growth	*0.8%*	*-1.6%*	*9.0%*	*-0.4%*	*5.3%*	*1.0%*	*1.0%*	*1.0%*	*1.0%*	*1.0%*
Depreciation & amortization	3	3	3	3	4	4	4	4	4	4
% of net sales	*1.9%*	*2.2%*	*2.0%*	*1.5%*	*1.4%*	*1.6%*	*1.5%*	*1.4%*	*1.3%*	*1.3%*
EBIT	($0)	($2)	$ 3	$ 16	$ 25	$ 23	$ 28	$ 36	$ 38	$ 43
EBIT margin	*-0.3%*	*-1.1%*	*1.7%*	*7.1%*	*9.5%*	*8.9%*	*10.2%*	*11.9%*	*12.0%*	*12.9%*
EBITDA	$ 3	$ 2	$ 6	$ 19	$ 29	$ 28	$ 32	$ 40	$ 42	$ 47
EBITDA margin	*1.7%*	*1.1%*	*3.7%*	*8.6%*	*10.9%*	*10.5%*	*11.7%*	*13.2%*	*13.4%*	*14.2%*

SOTP Operating Build	**2019**	**2020**	**2021**	**2022**	**2023**	2024E	2025E	2026E	2027E	2028E
EDG sales	$102	$97	$100	$120	$120	$118	$116	$112	$107	$102
% growth		*-5%*	*3%*	*20%*	*0%*	*-1%*	*-2%*	*-3%*	*-4%*	*-5%*
EDG gross profit	34	32	33	40	40	39	38	37	35	34
EDG gross margin	*33%*	*33%*	*33%*	*33%*	*33%*	*33%*	*33%*	*33%*	*33%*	*33%*
SG&A	(29)	(28)	(27)	(26)	(22)	(27)	(25)	(22)	(21)	(19)
% of total	*55%*	*55%*	*48%*	*46%*	*38%*	*45%*	*42%*	*37%*	*35%*	*31%*
D&A	2	2	2	2	2	2	2	2	1	1
% of total	*61%*	*62%*	*54%*	*53%*	*46%*	*45%*	*42%*	*37%*	*35%*	*31%*
EBIT	3	1	4	12	16	12	13	15	14	15
EBITDA	5	4	6	14	17	14	15	16	16	16
% of total	*184%*	*206%*	*95%*	*71%*	*61%*	*51%*	*46%*	*40%*	*38%*	*34%*
PMG sales	$27	$22	$29	$35	$44	$22	$25	$31	$37	$38
% growth		*-21%*	*36%*	*20%*	*25%*	*-49%*	*12%*	*24%*	*17%*	*4%*
PMG gross profit	7	6	11	11	14	7	8	9	11	11
PMG gross margin	*25%*	*29%*	*36%*	*32%*	*33%*	*30%*	*30%*	*30%*	*30%*	*30%*
SG&A	(8)	(7)	(10)	(9)	(10)	(5)	(5)	(6)	(7)	(7)
% of total	*16%*	*14%*	*17%*	*16%*	*17%*	*9%*	*9%*	*10%*	*12%*	*12%*
D&A	1	0	1	1	1	0	0	0	0	0
% of total	*16%*	*14%*	*17%*	*16%*	*17%*	*9%*	*9%*	*10%*	*12%*	*12%*
EBIT	(2)	(1)	0	2	4	2	2	3	4	4
EBITDA	(2)	(1)	1	3	5	2	2	4	4	5
% of total	*-66%*	*-46%*	*13%*	*13%*	*16%*	*7%*	*8%*	*9%*	*10%*	*10%*
Canvys sales	$28	$29	$29	$35	$39	$41	$43	$46	$48	$50
% growth		*3%*	*1%*	*20%*	*12%*	*5%*	*5%*	*5%*	*5%*	*5%*
Canvys gross profit	9	9	10	11	12	13	14	15	16	16
Canvys gross margin	*32%*	*32%*	*35%*	*32%*	*31%*	*32%*	*32%*	*32%*	*32%*	*32%*
SG&A	(9)	(10)	(10)	(9)	(9)	(9)	(9)	(9)	(9)	(9)
% of total	*17%*	*19%*	*17%*	*16%*	*15%*	*16%*	*16%*	*15%*	*15%*	*15%*
D&A	1	1	1	1	1	1	1	1	1	1
% of total	*17%*	*19%*	*17%*	*16%*	*15%*	*16%*	*16%*	*15%*	*15%*	*15%*
EBIT	(0)	(1)	(0)	2	3	4	5	6	6	7
EBITDA	0	(0)	1	3	4	5	5	6	7	8
% of total	*12%*	*-12%*	*9%*	*13%*	*12%*	*17%*	*17%*	*16%*	*16%*	*16%*
Healthcare sales	$10	$8	$10	$11	$11	$12	$13	$13	$14	$15
% growth		*-13%*	*22%*	*10%*	*0%*	*5%*	*5%*	*5%*	*5%*	*5%*
Healthcare gross profit	2	2	3	2	4	4	4	4	4	4
Healthcare gross margin	*24%*	*24%*	*25%*	*21%*	*31%*	*30%*	*30%*	*30%*	*30%*	*30%*
SG&A	(6)	(6)	(7)	(7)	(7)	(7)	(7)	(7)	(7)	(7)
% of total	*12%*	*12%*	*12%*	*12%*	*12%*	*12%*	*12%*	*12%*	*12%*	*12%*
D&A	0	0	0	0	0	0	0	0	0	0
% of total	*6%*	*5%*	*6%*	*5%*	*4%*	*12%*	*12%*	*12%*	*12%*	*12%*
EBIT	(4)	(4)	(4)	(5)	(4)	(3)	(3)	(3)	(3)	(3)
EBITDA	(4)	(4)	(4)	(4)	(4)	(3)	(3)	(3)	(3)	(2)
% of total	*-145%*	*-243%*	*-67%*	*-23%*	*-12%*	*-11%*	*-9%*	*-7%*	*-6%*	*-5%*
GES sales			$8	$23	$48	$68	$79	$103	$106	$127
% growth				*187%*	*109%*	*41%*	*16%*	*30%*	*3%*	*20%*
GES gross profit			2	7	14	20	24	31	32	39
GES gross margin			*30%*	*31%*	*29%*	*29%*	*31%*	*31%*	*31%*	*31%*
SG&A			(3)	(6)	(11)	(15)	(17)	(20)	(21)	(24)
% of total			*5%*	*10%*	*18%*	*26%*	*29%*	*34%*	*34%*	*38%*
D&A			0	0	1	1	1	1	1	2
% of total			*5%*	*10%*	*18%*	*26%*	*29%*	*34%*	*34%*	*38%*
EBIT			(0)	2	3	5	7	11	12	15
EBITDA			(0)	2	4	6	8	12	13	17
% of total			*-1%*	*10%*	*13%*	*20%*	*26%*	*31%*	*31%*	*36%*

Valuation (cont'd):

DCF	2024E	2025E	2026E	2027E	2028E
FCFF from EDG	$11	$9	$4	$10	$7
FCFF from PMG	$2	$1	$1	$3	$2
FCFF from Canvys	$4	$3	$2	$4	$3
FCFF from Healthcare	(2)	(2)	(1)	(2)	(1)
FCFF from GES	4	5	3	8	8
Free Cash Flow (Firm)	$21	$19	$11	$26	$22
Period	1	2	3	4	5
Calculated Discount Factor	1.1x	1.2x	1.3x	1.4x	1.5x
Discount Factor for GES	1.1x	1.2x	1.3x	1.4x	1.5x
PV of FCFF from EDG	$10	$8	$4	$7	$5
PV of FCFF from PMG	$1	$1	$1	$2	$2
PV of FCFF from Canvys	$3	$3	$1	$3	$2
PV of FCFF from Healthcare	($2)	($1)	($1)	($1)	($1)
PV of FCFF from GES	$4	$4	$3	$6	$5
PV of FCFF	$17	$14	$8	$17	$13

Discount Rate	
Tax Rate	21.0%
Risk Free Rate	4.4%
Relevered Beta	0.78
Market Risk Premium	4.6%
Cost of Equity	7.8%
Equity %	100.0%
Cost of Debt	
Debt %	0.0%
Calculated WACC	7.8%
GES WACC	9.0%

GES Valuation	
Cum. Value of Stage 1 FCF	$22
Terminal growth rate	2%
Stage 2 FCF	112
PV of Stage 2 FCF	77
Enterprise value	99
(+) Cash	5
(-) Debt	-
Equity Value	104
DSO	15
Value per Share	**$7.03**
Implied Terminal Multiple ('28E EBITDA)	5.9x

Healthcare Valuation	
Cum. Value of Stage 1 FCF	($6)
Terminal growth rate	2%
Stage 2 FCF	(20)
PV of Stage 2 FCF	(14)
Enterprise value	(20)
(+) Cash	5
(-) Debt	-
Equity Value	(15)
DSO	15
Value per Share	**($1.03)**

EDG Valuation	
Cum. Value of Stage 1 FCF	$34
Terminal growth rate	-6%
Stage 2 FCF	50
PV of Stage 2 FCF	34
Enterprise value	68
(+) Cash	5
(-) Debt	-
Equity Value	73
DSO	15
Value per Share	**$4.95**
Implied Terminal Multiple ('28E EBITDA)	4.3x

PMG Valuation	
Cum. Value of Stage 1 FCF	$7
Terminal growth rate	2%
Stage 2 FCF	39
PV of Stage 2 FCF	27
Enterprise value	34
(+) Cash	5
(-) Debt	-
Equity Value	39
DSO	15
Value per Share	**$2.63**
Implied Terminal Multiple ('28E EBITDA)	7.0x

Canvys Valuation	
Cum. Value of Stage 1 FCF	$13
Terminal growth rate	2%
Stage 2 FCF	61
PV of Stage 2 FCF	42
Enterprise value	55
(+) Cash	5
(-) Debt	-
Equity Value	60
DSO	15
Value per Share	**$4.08**
Implied Terminal Multiple ('28E EBITDA)	7.3x

Summary Valuation	
EDG EV	$68
PMG EV	34
Canvys EV	55
Healthcare EV	(20)
GES EV	99
EV excl. GES	137
EV incl. GES	235
(+) Cash	25
(-) Debt	-
Equity Value excl. GES	$162
Equity Value incl. GES	260
DSO	15
Value per Share excl. GES	**$10.97**
Value per Share incl. GES	**$17.67**
Current Stock Price	$10.83
Implied Upside (Downside) excl. GES	**1.3%**
Implied Upside (Downside) incl. GES	**63.2%**
Implied Terminal Multiple ('28E EBITDA)	5.5x

East West Bancorp (NASDAQ: EWBC)

Oversold, high-quality regional bank.

Nihir Addla
Junior Analyst
naa9456@stern.nyu.edu

Price Target: $102.91

October 2nd, 2023

Company Overview and History:

East West Bancorp is a $67B asset, $7.2B market cap bank holding company incorporated in 1998 after a friendly management backed buyout from the current, and then, CEO Dominic Ng that serves clients in China, Hong Kong and the US making it unique amongst regional banks. 90% of their net income is net interest income; the other 10% is from fee related services like forex fees and advisory fees. Loans make up 75% of their interest earning assets. 40% of their loans are CRE loans (10% MFR, 8% Retail, 8% Industrial, 4% Office, 4% Hotel, 2% Healthcare), 31% of their loans are C&I loans (no strong concentration), and 29% of their loans are Residential Mortgage and other consumer loans. 14% of their interest earning assets are securities (67% of which are AFS and 33% of which are HTM). Cash and repos cumulatively account for 11% of their interest earning assets. 90% of liabilities are deposits (of which 30% are demand deposits, 30% are time deposits, 21% money market, and 19% checking and savings accounts). 28% of these deposits are of those domiciled outside the US. 7% of liabilities are short term notes and repos and 1% is long-term debt.

East West started as an S&L in 1973 with the aim of providing banking services to East Asians whose needs were not being met at the time. In 1991, the Nursalim family purchased East West and appointed Dominic Ng, a CPA at Deloitte, as the CEO. Dominic's vision for East West was to expand beyond LA's Chinese immigrant community and become a global bank that had ties to China and the US. They converted their S&L charter to a commercial banking charter in 1995. In 1998 the Nursalim family wanted to exit the banking business. So, with their blessing, Dominic led an MBO to take over the bank with other private investors. The Bank went public in the same year and have since become one of the largest 50 banks in the US by asset size through 14 acquisitions and incredible organic loan and deposit growth. Dominic has been the CEO for over 30 years and is the largest non-institutional shareholder, owning ~$50mm worth of East West stock. It is rare for the CEO of a public company to be around for this long and East West's success has been in large part a product of Dominic's sound capital allocation. East West has been able to produce outsized returns relative to their peers as evidenced by their higher ROE (fig 2) since the GFC and their ability to grow EPS and BV per share at 25.7% per year and 8.3% per year respectively since 2009.

Industry and Situation Overview:

Banking is for the most part a commoditized business. What banks sell is capital and the only means by which many banks compete on is the rates they are willing to accept deposits at and underwrite loans at. Two key forces that are necessary to understand banking are regulation and consolidation. Banking regulation determines the amount of capital and high-quality liquid assets a bank must hold as well as caps bank mergers. Post GFC, Dodd-Frank increased regulatory capital requirements and collared terminal bank sizes by not allowing any one bank to hold more than 10% of total national deposits. Increased regulatory requirements decreases the probability that a bank fails

Key Ratios and Statistics:

Price Target	**$102.91**
IRR	**14.3%**
Share Price (8/15)	$51.12
Market Cap ($B)	$7.23
52-Week Range	$33.86-$80.98
P/E	5.73x
P/BV	1.12x

5 Year Price Action

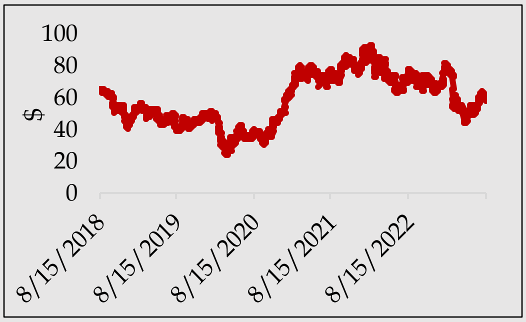


Fig 1. Loan and Deposit make-up

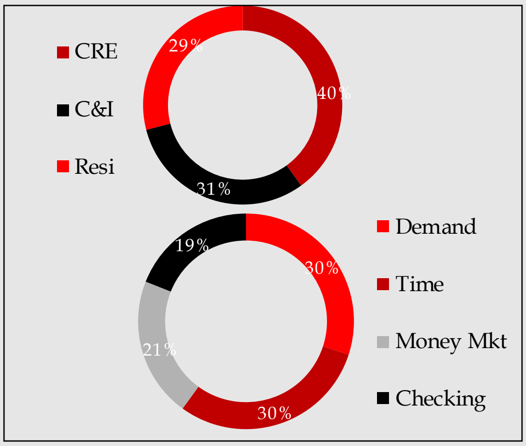
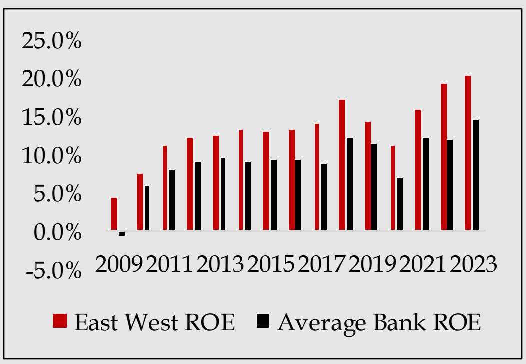


Fig 2. ROE since GFC vs industry



Industry and Situation Overview Continued:

but hinders growth as the capital that is used to absorb unexpected losses could have been used to underwrite loans or buy securities. Consolidation within the industry has driven the number of banks from ~14,000 in the 1980s to ~4000 today. Majority of the mergers that have happened in this time have been unassisted. Banks share very similar technical infrastructure nowadays which presents the opportunity for cost savings when acquiring other banks. Moreover, being a larger bank allows one to make loans that it previously could not without a partner bank.

The Chinese Banking industry has a few defining characteristics that separate it from the US Banking industry. It is more concentrated – the 6 largest state-owned banks controlling 40.4% of overall assets. It is more centralized – the purpose of these banks is mainly focused on supporting the government's economic goals. There is comparatively less conservatism – the focus of the US banking regulation is safety and prevention of financial crisis, whereas the focus of the Chinese Banking Regulation is to facilitate the growth of the country. To this end, the largest Chinese banks have consistently lower CET1 ratios than the largest banks in the G7 or even the EM7 (fig 3).

From March 8th to March 13th Silvergate Capital Corp voluntarily liquidated, Silicon Valley Bank and Signature bank were seized and placed under FDIC receivership, and First Republic announced that they received $30B infusion from JPM, GS, and MS. East West's stock price fell by 28.9% ($72.9 to $51.82), the KRE (regional banking ETF) similarly fell by 22.9% (fig 4). Since then, fears of weakness in commercial real estate has led to the stock trading as low as $41. This has led to East West trading at trough multiples (fig 5 and fig 6) and presents us with an attractive entry point .

Investment Theses:

I. March's bank collapses and broader CRE bearishness have unnecessarily weighed on the stock. There are two broad reasons why SVB collapsed – a lack of deposit stickiness and poorly managed interest rate risk. By comparing East West to SVB and other regional banks in key metrics that indicate deposit stickiness and low interest rate risk, we may determine whether the discount that has been placed on East West is warranted.

SVB vs East West: 93.8% of SVB's deposits were uninsured; these deposits are less sticky because if depositors know there is a chance their deposits could disappear, they will most likely withdraw in the event of a scare. Less than 1% of deposits were time deposits, a stickier type of deposit since interest is only receivable after a lock-up period. Moreover, SVB's deposit base was highly concentrated with the top ten depositors alone accounting for 7.5% of deposits. To add on to this, SVB's deposit base consisted of virally connected VC funds and tech startups who would flee together. By comparison, 40.4% of East West's total deposits are uninsured (excluding secured collateralized deposits and affiliate deposits) which is marginally below the Q1 industry average of 42.2%. Moreover, 30% of their deposits are time deposits, which indicate a greater degree of stickiness than SVB (we weren't able to find industry wide data on this). With regards to interest rate risk, by the end of 2022, SVB held ~57% of its assets in treasuries and MBSs, 43% of their total assets were HTM which don't need to be marked to market unless they're sold. If you adjusted for unrealized security losses in Q4 of 2022 for SVB, their CET1 ratio would have been 0.9%, for East West if you do the same calculation for Q2 of this year their CET1 would be 10.55% - two times above the well capitalized ratio.

Fig 3. Chinese banks CET1 vs G7 and EM7

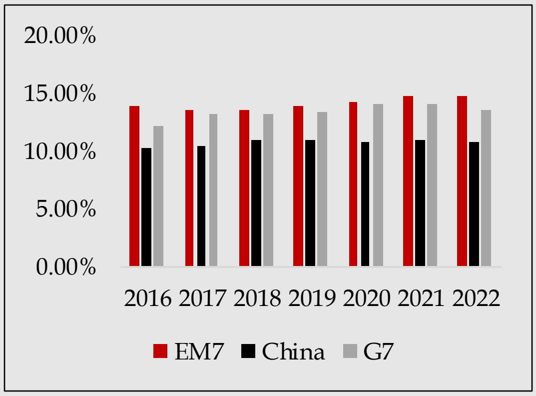


Fig 4. East West stock price vs KRE YTD

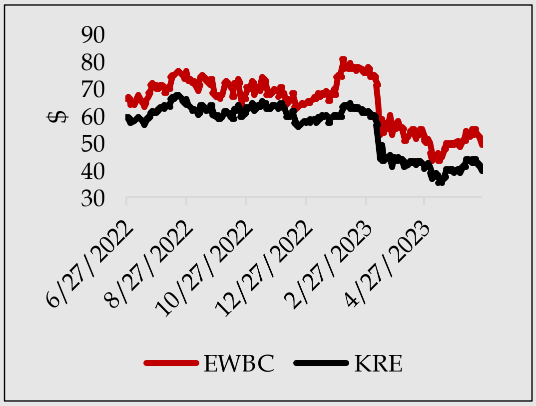


Fig 5. Historical P/E movement

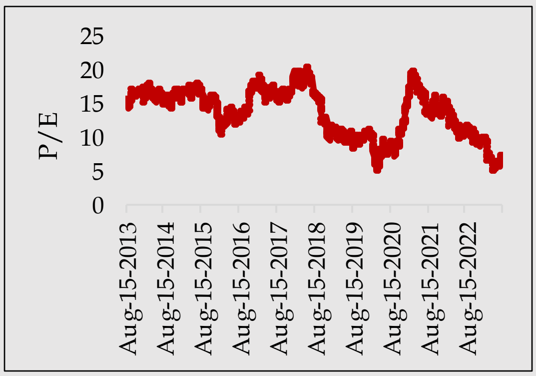
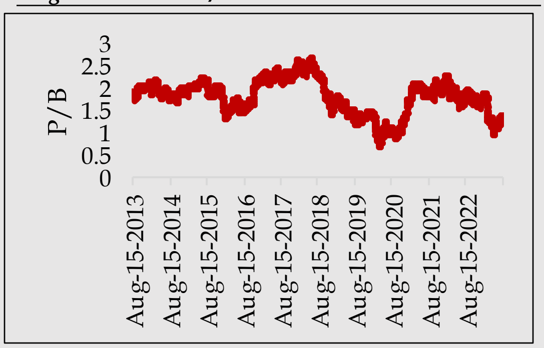


Fig 6. Historical P/BV movement



Theses Continued:

What this tells us is that East West's deposit base is far more stable by comparison and the unrealized losses from their securities book does not mean they have inadequate reserve capital - it is unlikely East West fails even in the event of mass withdrawals which we don't see happening as they only saw 1% of deposits get withdrawn from the collapse of SVB to the end of Q1.

Overblown Office CRE concerns: Higher office vacancy rates (16.1% in Q1) (fig 7) (even higher in large cities, fig 8) and cap rates, which were driven by work from home trends persisting and the Fed raising rates by 350 bps in 2022, pushed the price of office space down by 8% YoY. In addition to this, 44.5% of office loans are maturing in 2023 and 2024, 48% of this debt is variable rate, the average LTV of these loans is above 65% (fig 9), and banks have been reported to have tightened CRE lending standards. This confluence of high interest rates, lowered property value, and tightening lending standards have led to significant refinancing risk for office landlords. This so far has led to CRE delinquency rates rising by 12 bps QoQ to 0.77% at the end of Q1. East West is optically vulnerable to this risk as 40% of their loans are CRE loans. Among banks with over $10B in deposits this is the second most exposure.

After digging into East West's CRE loan book, however, the case is very different to what one would initially think. Only 1.12% of their CRE loans are office loans in metropolitan areas (11.75% of CRE loans are office loans), only 3% of their CRE loans mature in 2023 and only 7% mature in 2024. When rates were near zero, East West utilized swaps and caps and collars to ensure that 65% of their CRE borrowers had fixed or synthetically fixed rates. LTV ratios for their office loans are 52% compared to the industry average of 65% and criticized CRE loans to total CRE loans decreased from 2.4% in Q1 to 1.8% in Q2. Historically, when comparing East West's CRE NCO rates in stressed environments over the last 30 years (as per Fed stress test guidelines) are only 25 bps to the industry average of 75 bps, indicating that East West has higher underwriting standards than its peers. East West's lack of concentration in metropolitan areas, lack of borrower strain in terms of refinancing risk, more secured loans (lower LTV), and historically higher underwriting standards lead me to the conclusion that losses realized on CRE won't have a substantial impact on the strength of East West's balance sheet. I believe East West has already accounted for any potential CRE losses for the year. They guide for ~$120mm in full year loan losses, implying a provision of $77mm for H2. Assuming loan volume grows at 8% a year this implies an NCO rate of 16 bps. I think this is fair given NCOs have been 1 bp and 6 bps in Q1 and Q2 respectively.

Comparing East West with another high-quality regional player should serve to establish East West's resiliency in the current macro environment. M&T is an extremely high-quality regional player that has been able to compound at LDD for 40 years. Buffett also owned M&T for 16+ years. **Insured deposits to total deposits:** 65% of M&T's deposits are insured or collateralized. 60% for East West. **Deposit Distribution:** M&T has 40% of deposits in NY State, average account size of $3mm for commercial deposits and $12k for retail, 7% of deposits are brokered, core deposits/total deposits are 90%. Fair to assume East West has a heavy concentration in California, average commercial deposit is 366k, retail deposit 38k, 6% of deposits are brokered, core deposits to total deposits is 81%.

Fig 7. Office Vacancy rates over time

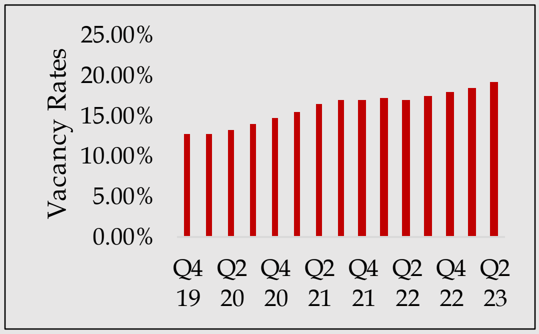


Fig 8. Metro areas Office Vacancy rates

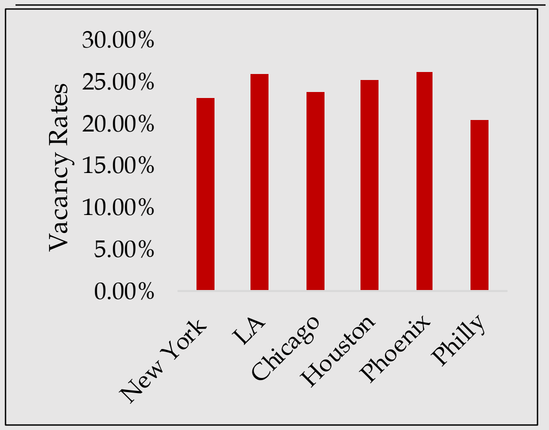
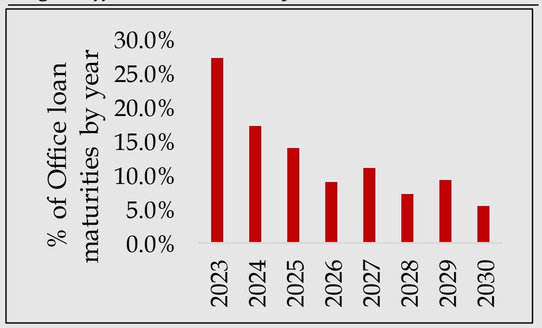


Fig 9. Office loans maturity schedule



Theses Continued:

Liquidity: M&T's un-tapped borrowing capacity is 136% of uninsured deposits. East West's is 148%. **Securities Risk:** M&T's adj. (HTM + AFS losses) CET1 is 9.71%, HTM is 57% of securities. East West's is 10.55%, HTM is 33% of securities. **Office Loans:** 4% of M&T's book is office, 30% CRE, 25% mature in '23 and '24, 70% of these loans are fixed, average LTV is 57%, 28% of office loans in NYC, Boston and Baltimore. 5% of East West's book is office, 10% mature in '23 and '24, average LTV is 52%, 65% fixed, 24% of loans in Downtown LA, SF, Houston, Dallas, and NYC. **Historical NCO rates:** From 1990 to date, the industry average NCO rate is 81 bps, M&T's is 34 bps, East West's is 40 bps. From 2013 to 2023, East West's NCO rate has been 10 bps, M&T's has been 20 bps.

II. East West's unique market position confers it a competitive advantage that should allow it to produce outsized returns on equity.

Post GFC, East West has generated a 4.1% higher ROE than the average bank. The drivers of a higher ROE could either be higher NIM, a lower efficiency ratio, a lower amount of equity, or luck. Superior operations would be indicated by a higher NIM and a lower efficiency ratio. Whereas, getting lucky or lower equity would be indicated by a fluctuating NPA ratio and lower regulatory capital. As figures 10,11,12, and 13 indicate, East West has been able to earn a higher ROE (and ROA) due to operational superiority. A higher NIM could either be driven by higher loan yield or a lower deposit cost. East West pays marginally below industry rates for its deposits but charges above industry rates for loans to borrowers who should be charged a lower interest rate based on their credit risk profile; this has driven their NIM to above industry average levels (fig 13). The qualitative reason East West has this pricing power is due to their unique competitive position when it comes to servicing Chinese Americans. East West being the only regional bank that has a Chinese Banking License means that smaller, Asian focused banks cannot compete since they cannot offer the same products and services that East West does. For example, if a client has a business in China and they want to collect RMB and withdraw in dollars in the US, they cannot do that with another Asian focused bank. Moreover, if a client wants to invest in China, they can do so through just one account at East West rather than sending it to another bank in China and investing there (the financial products East West offers related to China are in the appendix). East West is also by far the smallest American bank that has a Chinese Banking License. While East West does not offer any unique products compared to these larger banks, East West goes the extra mile to cultivate a better level of service. Every email sent out has a Mandarin translation at the bottom, a Mandarin toggle is available on the website, when visiting both East West branches in Manhattan the tellers and the customer service agents were able to converse in Mandarin and English, special promotions are pushed on auspicious days, the app has a Mandarin toggle feature, and all promotional material in branches is also in Mandarin. There are many more such examples, but the core idea here is East West distinguishes itself from larger banks by having a service that is more geared to the needs and wants of American Asians. The core group they loan to, Asian Americans, has been shown to default less than every other racial cohort in the US. This is partially what allows them to earn higher risk adjusted yields on their loans. The other side of this higher ROE is their efficiency ratio. Management do not target an efficiency ratio as they know they do not have full insight into what revenues will be in future operating periods. They describe their approach as more focused on making the correct expenditures rather than penny pinching. The CEO mentioned that even before they went public, the efficiency ratio was in the 30-40% range.

Fig 10. Tier1 Ratio vs Industry avg

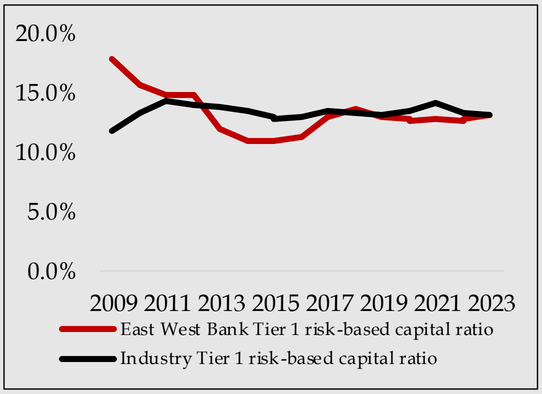


Fig 11. NPA rates vs Industry avg

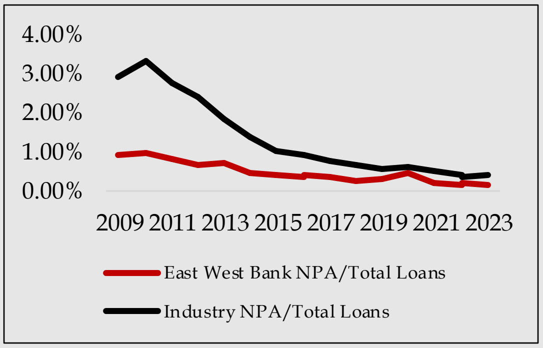


Fig 12. Efficiency ratio vs Industry avg

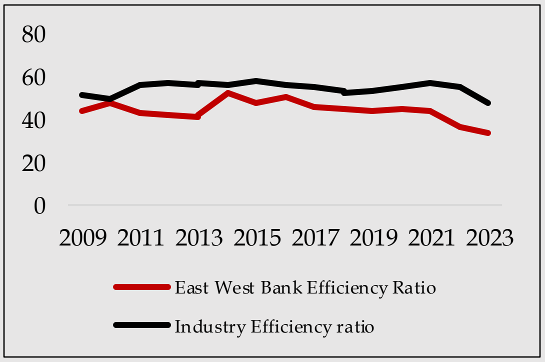
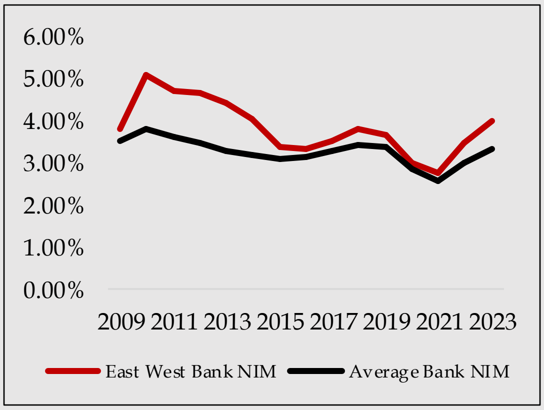


Fig 13. NIM vs Industry avg



Theses Continued:

Given the lack of true insight we have into any bank's future financial performance through their financials, conservative, high quality management is a prerequisite to investing in any bank. I believe East West has one of the best capital allocators in the industry - Dominic Ng. Prior to 2008, Dominic spoke at the 2004 Milken Institute Conference and was booed by the audience for talking about how 'the American dream would become an American nightmare,' in context to the housing bubble he saw forming. In the 2007 and 2008 earnings calls, Dominic mentions that most of their NCOs were due to individual loans that were criticized, the reason they lost money was the surprise write-down of Fannie Mae and Freddie Mac preferred stock of ~$45mm, 2008 was the first year they lost money since 1981, and even then, NCOs were only 164 bps. The US-China trade war presents another time of crisis to examine. East West is optically very tied to China-US relations and after the Trump administration announced the 25% tariffs East West's stock price fell 40.75% in 6 months. While the trade war is ongoing, East West has navigated the situation well and it has had minimal impact on East West's success. East West has achieved this by keeping China and Hong Kong a small part of their loan book, with China + HK only constituting 5% of total assets. It is likely to remain this way as the foreign offices are more strategically important and management doesn't expect to drive massive loan volume there. East West also focused on niche growth markets like entertainment, healthcare and aviation as opposed to commodities. This allowed them to mostly sidestep the tariffs as only 3% of their total loans outstanding were to borrowers who may have been negatively impacted by tariffs. Focusing on these niche growth industries has allowed China + HK loan book to grow at a CAGR of 12.5% from 2015 to 2022. Management purposefully maintained flexibility, knowing that there were unknown unknowns and managed to double the loan book while maintaining extremely high credit quality (near 0% gross charge off). East West chooses to not participate in the less attractive retail market in China and the holding company (East West Bancorp) hedges out RMB risk that the China subsidiary (East West Bank China Ltd.) exposes them to. History shows us that East West is a conservatively managed bank that has managed to weather macroeconomic downturns and produce high returns. Executives are also well-aligned with driving shareholder value with 75% of their pay (RSUs and cash bonuses) tied to a weighted 3 year rolling average of TSR, ROA, and ROE relative to other banks in the KRX (Nasdaq Regional Banking ETF).

For businesses as opaque and commoditized as banks, there is rarely one specific factor that leads to sustained outperformance. This is the case with East West as their superior returns are driven by the factors that constitute their higher level of service, the low-cost culture that has been ingrained into the business over decades, their superior offerings compared to other regional banks, and their conservative but opportunistic management. In other words, they do many things just slightly better than everyone else. This is a more sustainable source of outperformance as it is unlikely that these factors will disappear or be eroded by competition very quickly. This is why I believe East West will continue to outperform.

Risks:

1.) **The PBOC could revoke East West's Chinese banking license.** I view this as something that realistically won't happen as the PBOC have only ever revoked a foreign bank's Chinese Banking license twice (Bank of East Asia in 2015 and NatWest, in 2016). These are both poorly managed banks that engaged in fraudulent activity (falsifying loans, inflating collateral value, etc.).

2.) **Oversight with regards to true quality of loan book.** This is the risk we take investing in any bank. The true quality of East West's loan book is in only revealed once those loans are fully paid (or default). The nature of bank financial reporting is such that we as analysts don't know as much as we'd like to know about the true quality of a bank's assets. The only way to compensate for that is by demanding a large margin of safety and demanding a history of strong performance in terms of crisis.

Catalysts:

1.) **Low CRE NCO rates in following quarters.** If East West continues to report low NCO rates for their CRE loans (as they have in Q2) then the market will realize that East West's CRE loan book is of high quality.

Approach to valuation:

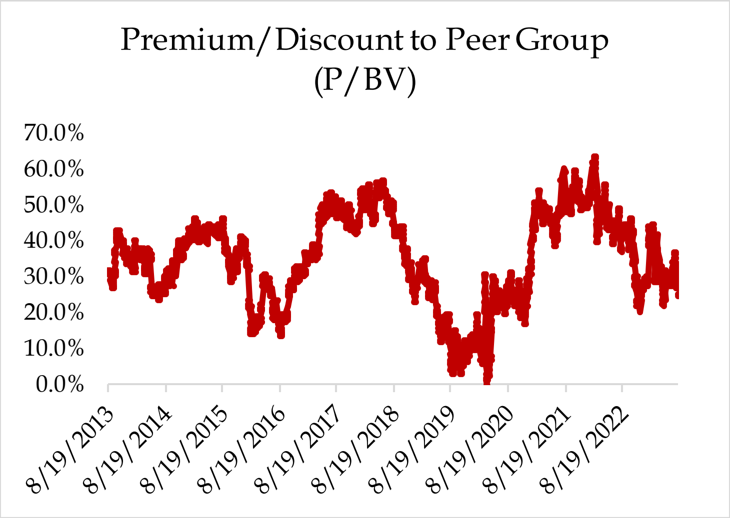
Banks cannot be valued on a FCF basis. The way sell-side models banks is to project out key drivers (NIM, loan growth, LTD ratio, efficiency ratio, provision for credit losses as a percentage of total assets) and apply a multiple on next years earnings. I have created a more granular model by projecting out the yield and cost of individual line items but ultimately it is extremely difficult to have insight into what the respective yields/costs on these assets/liabilities are going to be so in truth I have modelled it in largely a similar way. The only difference is the length of time I am projecting out financials for. I don't believe the model is indicative of the true return we can earn holding this bank, but it shows that even with ~50bps of NIM compression from Q2 levels, ~2.5% loan growth per year (which leads to a no net income growth on an annualized basis), an NCO rate that is 2x higher than the 10-year average NCO rate, and multiple normalization, we make a decent return.

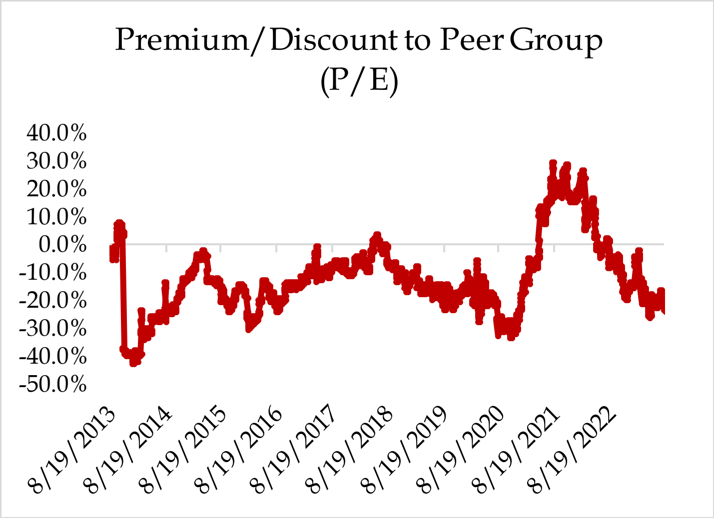
Operating Build + Valuation:

East West Bancorp Net Income Build ($m)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Average FFR	*1.83%*	*2.16%*	*0.38%*	*0.08%*	*1.68%*	*5.08%*	*4.88%*	*4.18%*	*3.38%*	*2.50%*
Cash and Cash with Banks	$ 2,609,463	$ 3,050,954	$ 4,236,430	$ 6,071,896	$ 3,127,234	4,490,746	4,013,604	3,890,109	4,084,614	4,227,576
Growth	*16.4%*	*16.9%*	*38.9%*	*43.3%*	*-48.5%*	*43.6%*	*-10.6%*	*-3.1%*	*5.0%*	*3.5%*
Yield	*2.10%*	*2.19%*	*0.59%*	*0.26%*	*1.31%*	*4.8%*	*5.20%*	*4.58%*	*3.22%*	*2.59%*
Delta to FFR	*0.27%*	*0.03%*	*0.21%*	*0.18%*	*-0.37%*	*-0.25%*	*0.32%*	*0.40%*	*-0.16%*	*0.09%*
% of IEA	*7.11%*	*7.57%*	*9.16%*	*10.79%*	*5.27%*	*7.0%*	*6.50%*	*6.00%*	*6.00%*	*6.00%*
Cash Interest Earned (+)	54,799	66,816	24,995	15,787	40,967	216,903	208,707	178,075	131,525	109,489
Repos	1,020,822	969,384	1,101,434	2,107,157	1,398,080	641,535	617,478	2,593,406	2,723,076	2,818,384
Growth	*-29.0%*	*-5.0%*	*13.6%*	*91.3%*	*-33.7%*	*-54.1%*	*-3.8%*	*320.0%*	*5.0%*	*3.5%*
Yield	*2.87%*	*2.87%*	*1.94%*	*1.53%*	*2.13%*	*2.6%*	*2.75%*	*2.53%*	*2.08%*	*1.81%*
Delta to FFR	*1.04%*	*0.71%*	*1.56%*	*1.45%*	*0.45%*	*-2.50%*	*-2.13%*	*-1.65%*	*-1.30%*	*-0.69%*
% of IEA	*2.8%*	*2.4%*	*2.4%*	*3.7%*	*2.4%*	*1.0%*	*1.00%*	*4.00%*	*4.00%*	*4.00%*
Repo Interest Earned (+)	29,298	27,821	21,368	32,240	29,779	16,552	16,981	65,628	56,640	50,974
Loans	30,230,014	33,373,136	36,799,017	39,716,697	45,319,458	49,398,209	49,398,209	51,868,120	54,461,526	56,367,679
Growth	*10.9%*	*10.4%*	*10.3%*	*7.9%*	*14.1%*	*9.0%*	*0.0%*	*5.0%*	*5.0%*	*3.5%*
Yield	*4.97%*	*5.15%*	*3.98%*	*3.59%*	*4.52%*	*6.53%*	*6.50%*	*6.27%*	*5.68%*	*5.23%*
Delta to FFR	*3.14%*	*2.99%*	*3.60%*	*3.51%*	*2.84%*	*1.45%*	*1.62%*	*2.09%*	*2.30%*	*2.73%*
% of IEA	*82.4%*	*82.8%*	*79.6%*	*70.6%*	*76.4%*	*77.0%*	*80.00%*	*80.00%*	*80.00%*	*80.00%*
Loan Interest Earned (+)	1,502,432	1,718,717	1,464,601	1,425,829	2,048,440	3,225,703	3,210,884	3,253,959	3,093,415	2,948,030
Securities	2,846,843	2,927,330	4,102,828	8,360,638	9,464,290	9,623,028	7,718,470	6,483,515	6,807,691	7,045,960
Growth	*-8.2%*	*2.8%*	*40.2%*	*103.8%*	*13.2%*	*1.7%*	*-19.8%*	*-16.0%*	*5.0%*	*3.5%*
Yield	*2.25%*	*2.40%*	*2.05%*	*1.75%*	*2.13%*	*3.08%*	*3.25%*	*2.99%*	*2.65%*	*2.30%*
Delta to FFR	*0.42%*	*0.24%*	*1.67%*	*1.67%*	*0.45%*	*-2.00%*	*-1.63%*	*-1.19%*	*-0.73%*	*-0.20%*
% of IEA	*7.8%*	*7.3%*	*8.9%*	*14.9%*	*16.0%*	*15.0%*	*12.50%*	*10.00%*	*10.00%*	*10.00%*
Securities Interest Earned (+)	64,057	70,306	84,108	146,064	202,050	296,389	250,850	193,901	180,289	162,254
Total Interest Income	**1,650,585**	**1,883,660**	**1,595,072**	**1,619,920**	**2,321,235**	**3,755,547**	**3,687,422**	**3,691,563**	**3,461,868**	**3,270,747**
LTD Ratio	91.0%	92.6%	90.3%	77.1%	83.5%	90.0%	90.0%	90.0%	90.0%	90.0%
Deposits	33,230,249	36,047,070	40,762,891	51,483,696	54,299,579	54,886,899	54,886,899	57,631,244	60,512,806	62,630,755
Deposit Growth	*7.8%*	*8.5%*	*13.1%*	*26.3%*	*5.5%*	*1.1%*	*0.0%*	*5.0%*	*5.0%*	*3.5%*
NIB Deposits	11,089,537	10,502,618	13,823,152	21,271,410	22,784,258	16,466,070	17,838,242	20,170,935	24,205,123	25,052,302
NIB % of Deposits	*33.4%*	*29.1%*	*33.9%*	*41.3%*	*42.0%*	*30.0%*	*32.5%*	*35.0%*	*40.0%*	*40.0%*
IB Deposits	22,140,712	25,544,452	26,939,739	30,212,286	31,515,321	38,420,829	37,048,657	37,460,309	36,307,684	37,578,453
IB % of Deposits	*66.6%*	*70.9%*	*66.1%*	*58.7%*	*58.0%*	*70.0%*	*67.5%*	*65.0%*	*60.0%*	*60.0%*
Cost of IB	*1.06%*	*1.47%*	*0.69%*	*0.23%*	*0.80%*	*3.0%*	*4.0%*	*3.8%*	*3.1%*	*2.6%*
Delta to FFR	*-0.77%*	*-0.69%*	*0.31%*	*0.15%*	*-0.88%*	*-2.06%*	*-0.88%*	*-0.41%*	*-0.26%*	*0.08%*
Blended Cost of Deposits	*0.71%*	*1.04%*	*0.45%*	*0.13%*	*0.46%*	*2.11%*	*2.70%*	*2.45%*	*1.87%*	*1.55%*
% of IBL	*97.50%*	*96.73%*	*93.55%*	*97.22%*	*97.50%*	*89.0%*	*92.0%*	*95.0%*	*97.5%*	*97.5%*
Deposit Interest Expense (-)	234,752	375,802	184,742	69,159	251,838	1,160,309	1,481,946	1,412,726	1,134,126	969,524
LT Borrowing	159,185	152,445	734,921	151,955	152,325	215,847	201,351	197,160	186,193	192,710
Growth	*-11.0%*	*-4.2%*	*382.1%*	*-79.3%*	*0.2%*	*41.7%*	*-6.7%*	*-2.1%*	*-5.6%*	*3.5%*
Cost	*4.08%*	*4.36%*	*0.82%*	*2.03%*	*3.67%*	*7.0%*	*7.0%*	*5.9%*	*5.2%*	*4.8%*
Delta to FFR	*2.25%*	*2.20%*	*0.44%*	*1.95%*	*1.99%*	*1.93%*	*2.12%*	*1.70%*	*1.80%*	*2.25%*
% of IBL	*0.70%*	*0.58%*	*2.55%*	*0.49%*	*0.47%*	*0.5%*	*0.5%*	*0.5%*	*0.5%*	*0.5%*
LT Borrowing Interest Expense (-)	6,495	6,647	6,026	3,085	5,590	15,131	14,095	11,593	9,645	9,154
ST Borrowing	409,657	712,064	1,123,617	713,218	655,098	4,532,794	3,020,271	1,774,436	744,773	770,840
Growth	*-27.6%*	*73.8%*	*57.8%*	*-36.5%*	*-8.1%*	*591.9%*	*-33.4%*	*-41.2%*	*-58.0%*	*3.5%*
Cost	*5.85%*	*4.50%*	*2.41%*	*2.09%*	*2.74%*	*4.5%*	*4.5%*	*4.4%*	*4.2%*	*4.0%*
Delta to FFR	*4.02%*	*2.34%*	*2.03%*	*2.01%*	*1.06%*	*-0.56%*	*-0.38%*	*0.26%*	*0.85%*	*1.46%*
% of IBL	*1.80%*	*2.70%*	*3.90%*	*2.29%*	*2.03%*	*10.5%*	*7.5%*	*4.5%*	*2.0%*	*2.0%*
ST Borrowing Interest Expense (-)	23,955	32,042	27,062	14,922	17,917	204,882	135,912	78,802	31,494	30,516
Provision for Credit Losses (-)	64,255	98,685	210,653	(35,000)	73,500	384,921	246,991	226,923	204,231	176,149
% of IEAs	*0.18%*	*0.24%*	*0.46%*	*-0.06%*	*0.12%*	*0.60%*	*0.40%*	*0.35%*	*0.30%*	*0.25%*
Implied NIM	*3.77%*	*3.64%*	*2.98%*	*2.72%*	*3.45%*	*3.70%*	*3.33%*	*3.38%*	*3.36%*	*3.21%*
Net Interest Income	**1,321,128**	**1,370,484**	**1,166,588**	**1,567,754**	**1,972,390**	**1,990,304**	**1,808,478**	**1,961,520**	**2,082,372**	**2,085,404**
Deposit Account Fees (+)	39,176	38,648	48,148	71,261	88,435	87,819	87,819	92,210	96,820	100,209
% of Deposits	*0.12%*	*0.11%*	*0.12%*	*0.14%*	*0.16%*	*0.16%*	*0.16%*	*0.16%*	*0.16%*	*0.16%*
Wealth Management Fees (+)	13,785	16,668	17,494	25,751	27,565	27,443	27,443	28,816	30,256	31,315
% of Deposits	*0.04%*	*0.05%*	*0.04%*	*0.05%*	*0.05%*	*0.05%*	*0.05%*	*0.05%*	*0.05%*	*0.05%*
Lending Fees (+)	59,758	63,670	74,842	77,704	79,208	98,796	98,796	103,736	108,923	112,735
% of Loans	*0.20%*	*0.19%*	*0.20%*	*0.20%*	*0.17%*	*0.20%*	*0.20%*	*0.20%*	*0.20%*	*0.20%*
Forex Income (+)	21,259	26,398	22,370	48,977	48,158	49,398	49,398	51,868	54,462	56,368
% of Loans	*0.07%*	*0.08%*	*0.06%*	*0.12%*	*0.11%*	*0.10%*	*0.10%*	*0.10%*	*0.10%*	*0.10%*
Other (+)	76,931	63,993	72,693	62,202	55,300	128,307	123,496	129,670	136,154	140,919
% of IEAs	*0.21%*	*0.16%*	*0.16%*	*0.11%*	*0.09%*	*0.20%*	*0.20%*	*0.20%*	*0.20%*	*0.20%*
Non-interest expenses (-)	714,466	734,588	716,322	796,089	859,393	1,034,657	1,243,900	1,258,056	1,197,382	1,149,247
% Efficiency Ratio	*39.8%*	*36.8%*	*44.2%*	*41.0%*	*33.7%*	*27.50%*	*32.50%*	*32.50%*	*32.50%*	*32.50%*
Tax Expense (-)	114,995	169,882	117,968	183,396	283,571	282,956	199,821	233,051	275,437	289,318
Tax %	*14.3%*	*20.5%*	*17.7%*	*17.8%*	*20.5%*	*21.00%*	*21.00%*	*21.00%*	*21.00%*	*21.00%*
Net Income	**$ 702,576**	**$ 675,391**	**$ 567,845**	**$ 874,164**	**$ 1,128,092**	**$ 1,064,454**	**$ 751,709**	**$ 876,714**	**$ 1,036,168**	**$ 1,088,386**

Multiple Method	
FY27 Earnings	$1,088,386
Multiple	13.0x
Equity Value	**$14,149,017**
Diluted Shares Outstanding	141,876
Fair Price	**$99.73**
Current Stock Price	$51.12
Margin of Safety	**95.1%**
IRR	**14.3%**

Relative Valuation Comparison:





The peer group used in the multiples graphs are the largest 20 banks in the KRE (Cullen/Frost Bankers Inc., New York Community Bancorp Inc., Webster Financial Corp, Wintrust Financial Corp, Associated Banc-Corp, PacWest Bancorp, Western Alliance Bancorp, Pinnacle West Capital Corp, Zions Bancorporation NA, Valley National Bancorp, First Horizon Corp, Regions Financial Corp, Huntington Bancshares Inc., Bank of Hawaii Corp, Citizens Financial Group Inc., Synovus Financial Corp, SouthState Corp, Bank Ozk, Popular Inc., and M&T Bank Corp). The historical average P/B premium to the peer group is 34.8%, the current premium is 24.2%. The historical average P/E premium to the peer group is -12.1%, the current premium is -24.1% (negative premium is a discount). This implies that East West is trading at a discount to how it has traded historically with its peers.

Appendix:

East West's Chinese Offerings:

International Banking constitutes personal international banking and business international banking.

Personal international banking refers to the anything you or I may need had we immigrated from China or wanted to visit China on an individual level.

Foreign Currency -> If you're traveling to a country where your credit card isn't accepted then you need to purchase some local currency before leaving (this is especially the case for China). East West has 60+ currencies at better than airport rates.

Foreign Currency Accounts -> If you want to invest in another country or receive/pay in another currency foreign currency demand accounts and foreign currency CDs allow you to do so.

Wire transfers + remittance -> Useful to transfer money in a safe way with 40+ currency options. Unless a bank has a Chinese banking license it's not possible for them to individually send RMB to China.

Business International Banking refers to anything a business might want if it operated internationally.

Wire transfers -> Same as for personal banking.

Risk Advisory Services -> If a company receives or pays in a foreign currency, they're exposed to FX fluctuations. East West offers spot contracts, forward contracts, window forwards, non-deliverable forwards, forex swaps, and forex options.

Foreign Currency Accounts -> Same as with personal banking but for businesses.

Greater China Global Services -> Everything mentioned above was for a lot of the other countries that East West offers their services in. For China specifically, unless a bank has a Chinese banking license it's impossible to perform the following services:

NRAs -> Non-resident accounts are used if one has business activities in mainland China and you need to collect/settle payments in RMB without having a physical presence there.

On-shore collateral, off-shore loan program -> This is basically a program that provides credit facilities to FIEs. This credit is backed by SBLCs since the FIEs have no operating or credit history in China.

Trade finance & services is split up into trade finance and trade services. Trade finance is further divided into solutions for importers and exporters.

The solutions for importers are:

Lines of credit.

Import letter of credit and trust receipt loan -> These are short term loans that allow importers to take possession of goods and shipping documents on trust.

Bankers' Acceptance -> Sort of like insurance for importers, this guarantees exporters get paid at a promised future date. It allows importers immediate cashflow by having the opportunity to sell goods before payment is due.

D/A and D/P financing -> Short-term financing that allows importers to facilitate the release of goods at customs with the use of a negotiable instrument.

Local/Foreign Purchase agreement -> Short-term financing where East West advances money to importers by making payments directly to suppliers so buyers can fulfil large orders in a timely manner.

For exporters:

Pre-export financing-> Short-term financing to cover the purchase, consolidation, packing and shipping of raw materials or finished goods based on proven orders.

Export Bill Purchased -> If an exporter wants to realize their receivables, they receive a discounted version of their receivables amount and the bank collect the full receivables amount.

East West provides export financing to US manufacturers through government export credit agencies.

Trade services:

Letters of credit -> A commitment by a bank on behalf of the buyer tat payment will be made to the beneficiary

Documentary Collections -> A transaction wherein the exporter entrusts the collection of payment to its bank, which sends documents to the importer's bank for payment.

Standby letter of Credit (SBLC) -> Like letters of credit but more complicated in that they are used to guarantee performance of a contractual commitment.

Insider Buying:

Date	Name	Position	Buy/Sell	Price at Purchase	Quantity Purchased	Owned	% Change Owned	Value of Purchase
5/11/2023	Alvarez Manuel Pham	Dir	P - Purchase	$43.60	1,250	4,445	39%	$54,505
5/8/2023	Deskus Archana	Dir	P - Purchase	$44.44	1,000	9,193	12%	$44,440
5/8/2023	Alvarez Manuel Pham	Dir	P - Purchase	$45.19	500	3,195	19%	$22,595
5/9/2023	Kay Sabrina	Dir	P - Purchase	$43.88	6,840	8,846	341%	$300,105
5/8/2023	Campbell Molly	Dir	P - Purchase	$45.15	650	13,843	5%	$29,348
5/5/2023	Sussman Lester	Dir	P - Purchase	$44.19	1,000	20,577	5%	$44,194
5/5/2023	Ng Dominic	CEO	P - Purchase	$43.94	5,700	902,452	1%	$250,437
5/4/2023	Shi Parker	COO	P - Purchase	$41.94	4,780	4,780	New	$200,473
5/4/2023	Ng Dominic	CEO	P - Purchase	$42.09	11,900	896,752	1%	$500,889
5/4/2023	Oh Irene H	CFO	P - Purchase	$43.00	1,000	128,215	1%	$43,000
5/4/2023	Teo Gary	EVP	P - Purchase	$43.00	3,450	14,855	30%	$148,350
3/13/2023	Oh Irene H	CFO	P - Purchase	$49.51	10,000	127,215	9%	$495,130

There was one case of selling in this time (on the 29th of Aug at $55.96) and all of these purchases are outright purchases, not the exercising of options.

Balance Sheet:

East West Bancorp Balance Sheet	June 30, 2023	December 31, 2022
ASSETS		
Cash and due from banks	$ 614,053	$ 534,980
Interest-bearing cash with banks	5,763,834	2,946,804
Cash and cash equivalents	6,377,887	3,481,784
Interest-bearing deposits with banks	17,169	139,021
Assets purchased under resale agreements ("resale agreements")	635,000	792,192
Securities:		
Available-for-sale ("AFS") debt securities, at fair value (amortized cost of $6,820,569 and $6,879,225)	5,987,258	6,034,993
Held-to-maturity ("HTM") debt securities, at amortized cost (fair value of $2,440,484 and $2,455,171)	2,975,933	3,001,868
Loans held-for-sale	2,830	25,644
Loans held-for-investment (net of allowance for loan losses of $635,400 and $595,645)	49,192,964	47,606,785
Investments in qualified affordable housing partnerships, tax credit and other investments, net	815,471	763,256
Premises and equipment (net of accumulated depreciation of $153,079 and $148,126)	88,966	89,191
Goodwill	465,697	465,697
Operating lease right-of-use assets	100,500	103,681
Other assets	1,873,006	1,608,038
TOTAL	**$ 68,532,681**	**$ 64,112,150**
LIABILITIES		
Deposits:		
Noninterest-bearing	$ 16,741,099	$ 21,051,090
Interest-bearing	38,917,687	34,916,759
Total deposits	55,658,786	55,967,849
Short-term borrowings	4,500,000	-
Assets sold under repurchase agreements ("repurchase agreements")	-	300,000
Long-term debt and finance lease liabilities	152,951	152,400
Operating lease liabilities	110,383	111,931
Accrued expenses and other liabilities	1,648,864	1,595,358
Total liabilities	62,070,984	58,127,538
STOCKHOLDERS' EQUITY		
Common stock, $0.001 par value, 200,000,000 shares authorized; 169,310,864 and 168,459,045 shares issued	169	168
Additional paid-in capital	1,959,615	1,936,389
Retained earnings	6,075,735	5,582,546
Treasury stock, at cost 27,827,196 and 27,511,199 shares	(791,890)	(768,862)
Accumulated other comprehensive loss ("AOCI"), net of tax	(781,932)	(765,629)
Total stockholders' equity	6,461,697	5,984,612
TOTAL	**$ 68,532,681**	**$ 64,112,150**

Securities Book:

East West Bancorp Securities Book	June 30, 2023	
($ in thousands)	**Amortized Cost**	**Fair Value**
AFS DEBT SECURITIES:		
U.S. Treasury securities	$ 779,973	$ 711,706
U.S. government agency and U.S. government-sponsored enterprise debt securities	514,594	460,084
U.S. government agency and U.S. government-sponsored enterprise mortgage-backed securities:		
Commercial mortgage-backed securities	552,859	478,777
Residential mortgage-backed securities	1,966,906	1,721,237
Municipal securities	304,204	263,873
Non-agency mortgage-backed securities:		
Commercial mortgage-backed securities	432,782	384,051
Residential mortgage-backed securities	715,775	608,574
Corporate debt securities	653,502	485,750
Foreign government bonds	236,392	224,766
Asset-backed securities	46,332	44,875
CLOs	617,250	603,565
Total AFS debt securities	**6,820,569**	**5,987,258**
HTM DEBT SECURITIES:		
U.S. Treasury securities	526,794	474,137
U.S. government agency and U.S. government-sponsored enterprise debt securities	1,000,415	797,871
U.S. government agency and U.S. government-sponsored enterprise mortgage-backed securities:		
Commercial mortgage-backed securities	496,852	403,738
Residential mortgage-backed securities	762,573	615,288
Municipal securities	189,299	149,450
Total HTM debt securities	**2,975,933**	**2,440,484**
TOTAL	**$ 9,796,502**	**$ 8,427,742**

Showa Paxxs Corp. (3954:JP)

Positive EBITDA business (8x P/E); growing BV at 8%+ CAGR but trading at <39% of BV

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Price Target: ¥3475

October 3rd, 2023

Executive Summary:

Showa Paxxs is a Japanese net-net that trades at 38.5% of book value. Using the net-current asset value framework of Graham and Dodd, we valued Showa Paxxs on a liquidation basis at ¥15,464m. This value derives primarily from their large cash position and equity portfolio. Including PP&E discounted by 50% the liquidation value would be ¥18,047m. Alongside the significant margin of safety, there are catalysts for value realization in the short term driven primarily by corporate governance reforms which have increased pressure to return capital to shareholders.

Company Overview:

Showa Paxxs is the domestic leader in kraft paper bags for synthetic resin products, chemical products, rice, and barley. Established in 1935 under the name of Showa Seitai Kogyo, it leverages advanced technical expertise and high value-added products to differentiate from others and is gradually increasing its market share in kraft paper bags as a result of the acquisitions of regional companies in the same business. Showa also has strengths in sales to the petrochemical industry for the use in export packing materials. Produces kraft paper bags at its subsidiary in Thailand, which is positioned as an export base to China and Asia, in addition to Thailand's domestic market. Packaging bags centering on kraft paper bags account for a majority of the total sales and profits. The company also engages in the manufacture of film products for agricultural and industrial use.

Product Description:

Heavy-Duty Packing Bag:

- Domestic leader in kraft paper bags for synthetic resin products, chemical products, rice, and barley
- Produces kraft paper bags at its subsidiary in Thailand, which is positioned as an export base to China and Asia, in addition to Thailand enjoying growing demand
- Different bags produced include sewn bottom bag, bag in bag, easy open bag, pinch bottom bag, pasted bottom bag, valve bag and bag + box (bax)
- Financial performance highlighted in Figure 2

Film Products:

- They offer both industrial and agricultural use films
- Industrial-Use Films: Estite, Eslap and Pallet Cover
- Agricultural-Use Films: Kiriyoke Bernal, Super Burnal, High Clear Fruit, and Agricultural Sakubi
- Financial performance highlighted in Figure 3

Containers:

- Widely used in a range of fields from transporting powders and liquids
- Type of container required varies by the contents being transported and thus Showa Paxxs offers them in various types
- Financial performance highlighted in Figure 4

Packaging Machine Equipment:

- Simple packing and automatic packing machines

Key Ratios and Statistics (€M):

Price Target	**¥3475**
Upside	**92%**
Share Price (10/3)	¥1810
Market Cap (mm)	¥8036
Enterprise Value	¥1390
52-Week Low	¥1484
52-Week High	¥1924

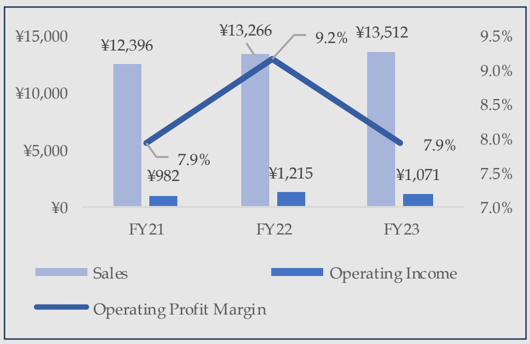
Historical Financials

(¥M)	2021A	2022A	2023A	2024E
Revenue	19,938	21,599	22,277	21,163
Gross Profit	3,650	3,983	3,738	3,492
EBIT	1,170	1,404	1,116	847

Figure 1. Shareholding Structure

Investor Name	% Outstanding
Sun A. Kaken Co Ltd	19.01%
Shinsei Pulp & Paper Co., Ltd.	18.81%
MUFG Bank, Ltd.	3.03%
Tokushu Tokai Paper Co Ltd	2.92%
Morofuji (Shuhei)	1.84%
Mizuho Bank, Ltd.	1.80%
Showa Paxxs Corp. Employees	1.62%

Figure 2. Heavy-duty Packing Bags Overview



Situation Overview:

Historically Japanese management of public companies have not aligned their interests with shareholders. Often, they have viewed them as an opposing force to their interests. Unlike in the US, management in Japan has been very slow to unlock value for shareholders. This is primarily driven by complex shareholding structures and a lack of activist investing. The revolution in corporate governance took place in the US close to 3 decades ago but is still yet to take place in Japan. This has led many Japanese companies to trade at significant discounts to tangible book value with unlevered asset-rich balance sheets.

Additionally, unlike in the US where the board tends to be quasi-independent from management, Japanese boards tend to be made up solely of management. This means that it tends to be harder to use the board's fiduciary responsibility as a lever to enact change.

Investment Thesis

Discount to Book Value Shrinking

Showa currently trades at approximately 1810 yen/share. With 4,4410,000 shares outstanding. This translates into a market cap of Yen 8.15 billion (approx. USD 55 million). For FY2023 they reported net income of Yen 947 million and book value of Yen 21,255 million. This equates to a trailing P/E ratio of 8.6x and a Price/Book Value of 0.38. The company has a net cash balance of Yen 930 million.

To further demonstrate how cheap the business is we can look at it on an EV/EBIT basis. Showa for FY2023 reported EBIT of Yen 1,116 million against an Enterprise Value of Yen 507 million. This results in an EV/EBIT multiple of 0.45.

a) Core Business is Value Accretive

The company has historically traded below a Price/Book Value of 1, as shown in Figure 5, which is indicative of the fact that the market effectively expects them to deliver a rate of return less than the cost of capital, destroying value for shareholders in the long run. However, this has not been the case. In 2014, the company only had net cash of Yen 108 million yen compared to Yen 930 million today. Book value increased from Yen 6,664 million in FY2010 to Yen 21,255 million in FY2023, which represents a 7% CAGR. This is not the typical growth profile of a company that is trading at 35% of book value. If we were to go ahead and also include the Yen 1,060 million of dividends that have been paid out since FY2010 then the CAGR for book value + dividends would be 8%+. The low capex demands and above-average return on equity profile mean that this business is likely to get cheaper over time as IAG holds it in its books.

To further validate this thesis, we calculated an adjusted ROE metric where all non-core assets have been removed from SE. This results in an adjusted ROE of 15.6% as opposed to an unadjusted ROE of 5.6%. Showa Paxxs' ROE is artificially lowered because of their asset-heavy balance sheet, which obfuscates the true quality of the business. This can be seen in Figure 6.

We also built a ROIC build, which inherently excludes all non-operating assets. This can be seen in Figure 7. Showa Paxxs' 5-year average ROIC is 11.7% and conveys a similar story as our adjusted ROE calculation. This gives us further confidence in the core business and is also reflective of management who while may not have been the most efficient capital allocators in the past have certainly not destroyed value in the last 20 years.

Figure 3. Film Products Overview

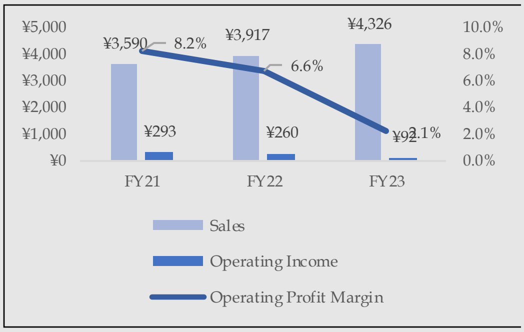


Figure 4. Containers Overview

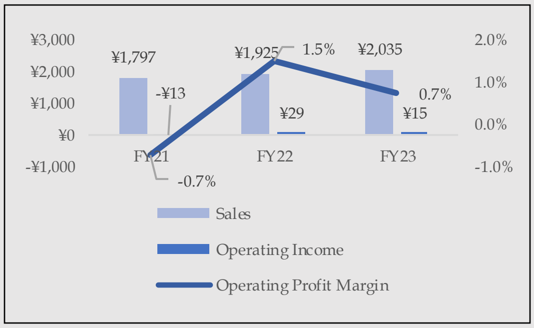


Figure 5. Discount to Tangible Book Value

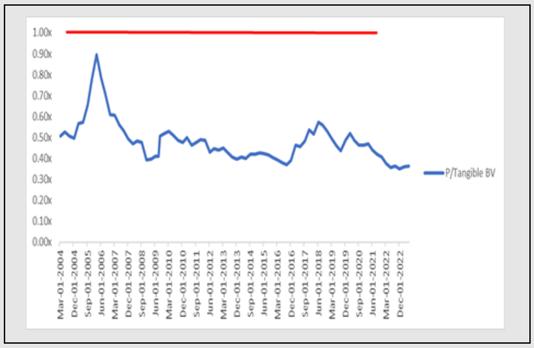


Figure 6. Adjusted ROE Build

For the Fiscal Period Ending	31-Mar-18	31-Mar-19	31-Mar-20	31-Mar-21	31-Mar-22	31-Mar-23	5yr Avg
Currency (in millions)	*JPY*	*JPY*	*JPY*	*JPY*	*JPY*	*JPY*	*JPY*
Net Income	873	1,000	894	741	942	797	875
SE	15,770	16,142	16,899	19,058	20,075	21,255	18,686
Non Operating Assets (-)							
Cash & Cash Equivalents	6,114	7,023	7,235	7,575	8,047	8,152	7,606
Short Term Investments	0	0	0	0	0	0	0
Long Term Investments	5,877	5,089	4,687	6,763	6,839	6,837	6,043
Adjusted SE	3,779	4,030	4,977	4,720	5,189	6,266	5,036
Normal ROE	5.53%	6.19%	5.29%	3.89%	4.69%	3.75%	4.76%
Adjusted ROE	23.10%	24.81%	17.95%	15.70%	18.14%	12.72%	17.87%

Figure 7. ROIC Build

IC Calculation	31-Mar-19	31-Mar-20	31-Mar-21	31-Mar-22	31-Mar-23
Operating Current Assets	9,774	9,102	8,630	9,409	9,878
(-) Non-interest bearing current liabiliti	6,640	5,481	5,168	5,952	5,589
Net Working Capital	3,134	3,621	3,462	3,457	4,289
(+) Net PPE	4,268	4,299	4,747	4,894	5,165
(+) Acquired Intangibles	19	26	52	146	261
(+) Goodwill	0	0	0	0	0
(+) Other	0	0	0	0	0
Invested Capital	7,421	7,946	8,261	8,497	9,715

NOPAT Calculation	31-Mar-19	31-Mar-20	31-Mar-21	31-Mar-22	31-Mar-23
EBIT	1,523	1,361	1,170	1,403	1,116
Effective Tax Rate	26.82%	27.02%	27.41%	26.32%	25.06%
NOPAT	1,114	993	849	1,034	836

ROIC Calculation	31-Mar-19	31-Mar-20	31-Mar-21	31-Mar-22	31-Mar-23
ROIC Calculation	15.02%	12.50%	10.28%	12.17%	8.61%

5yr Avg
11.71%

Thesis Points Continued:

b) Regulatory Changes in Japan

Unlike in the US, the corporate governance revolution has yet to take place in Japan. This is primarily driven by complex shareholding structures and a lack of activist investing in Japanese companies. This revolution took place in the US close to 3 decades ago, with companies no longer trading at significant discounts to tangible book value with unlevered asset-rich balance sheets.

The Tokyo Exchange Group recently finalized its market restructuring rules. There have been rumors about changes coming to these rules since January of last year, but they have finally been confirmed and finalized in early June of 2023. Prior to the reform, the Tokyo Stock Exchange had four market divisions: 1st Section, 2nd Section, Mothers, and JASDAQ (Standard and Growth). The reason for this was that when TSE and Osaka Securities Exchange integrated their equity markets in 2013, TSE maintained the existing market divisions of each one to avoid an impact on listed companies and investors. This created a multitude of issues. The first and minor one is that the concept of each market division is ambiguous, which reduces convenience for many investors. There is overlap between the intended uses of the 2nd section, Mothers, and JASDAQ markets, and the concept of the 1st Section is unclear. Furthermore, the prior market divisions were not providing sufficient incentives for listed companies to sustainably increase corporate value. For example, since delisting criteria were significantly less strict than the initial listing criteria, the delisting criteria did not incentivize listed companies to continue to satisfy after listing the level of quality required at the time of initial listing.

Thus, the TSE has introduced a broad range of new measures to revamp the Japanese stock market. The official exchange documentation is detailed in Figures 9 and 10. Among the latest measures was one that directed listed companies to "comply or explain" if they are trading below a price-to-book ratio of one. The TSE warned that such companies could face the prospect of delisting as soon as 2026. There is a strong case to be made that this will press Japanese companies' notoriously resistant management (which has historically not cooperated with shareholders) for greater capital efficiency and profitability. There has been a historic case of companies and managers not proactively listening to shareholder proposals. Furthermore, rules will also require companies to publish public disclosures in English, alongside the currently provided statements in Japanese.

The impact of these reforms has been felt abruptly. After we went through the last 18 years of Showa Paxxs' earnings management has not once mentioned the word 'shareholders'. However, this changed in Q1 of FY2024 with management stating "The group is committed to management based on the belief that it is necessary to strike a balance between customer satisfaction, securing profits, and returns to shareholders, while simultaneously fulfilling these three objectives". They also stated "returning profits to shareholders is one of its most important management policies".

We also had the opportunity to talk to an expert on Japan who also runs an IR business in Japan. He similarly echoed our view of immense pressure on management. He also cited the reforms in the Company Act which has increased corporate governance pressure, which in combination with the likely introduction of a tax on retained earnings leads to strong catalysts for value realization.

Figure 8. JPX Market Segment Reforms

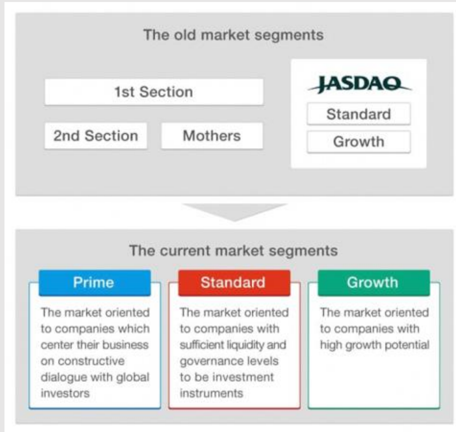


Figure 9. JPX Market Reform Requests

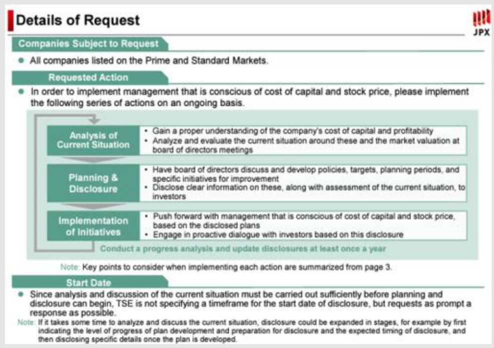
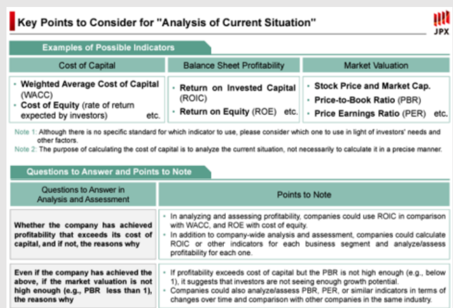


Figure 10. JPX Cost of Capital Reforms



Thesis Points Continued:

c) Pressure from Activist Investors

In 2022, activist investors sent a record total of 293 shareholder proposals to a record number of 77 Japanese publicly listed companies with demands on changing the capital structure, management pay, and overall transparency in disclosures. Highlights from 2022's proxy season include the following:

- 816 directors failed to attain majority support (104 more than in 2021)
- Support levels for say-on-pay proposals dropped to 85% on average, the lowest level in five years
- Greater number of retail shareholders, but their voting participation remains relatively low compared to that of institutional shareholders

Surprisingly, a large portion of such proposals were approved. And even those proposals that were not approved put companies' management on notice that the change is required, and pressure will likely persist. Historically, Japanese companies have been known for their large cross-holdings, especially between companies that cooperate with each other. This has led to unnecessary capital tie-ups that would sit on companies' balance sheets for years.

Investor activism does not necessarily originate from foreign institutions. Japan's Government Pension Fund, which is one of the largest owners of Japanese equities is also pushing for significant. In their mandate, if a particular company is not able to achieve at least 8% ROE in the medium term, the fund will pressure the company for a management change.

Typically, cross-shareholdings are seen as a significant disadvantage by activist investors or to unlock value more generally. Showa owns approx. 11.5% of Sun A. Kaken and conversely Sun A. Kaken owns approx. 20% of Showa. Sun A. Kaken has been running its own share-buyback program given pressure from Shinsei Pulp & Trading which is also a common shareholder of both companies. Shinei Pulp & Trading is putting similar pressure on Showa Paxxs. The added cross-shareholding and similar industry serve as indicators that Showa Paxxs is likely to follow suit. This was also further confirmed in our discussion with the expert on Japan as he said that typically companies tend to set dividends and capital return targets based on proxy peer groups historically.

Investment Summary:

In no way are we trying to argue that management is outstanding, excellent at capital allocation, or that this is a high-quality business.

We believe that at current prices, we are offered an incommensurate reward to risk profile by Showa Paxxs. The margin of safety is immense, and the downside risk is significantly minimized due to the fact that the operating business accounts for such a small proportion of the value hidden within Showa Paxxs.

Furthermore, our belief is that the timeline for value realization will be expedited given both extrinsic and intrinsic factors related to corporate governance reforms and activist involvement.

Valuation:

Revenue Build Base Case								
For the Fiscal Period Ending								
	31-Mar-23	**31-Mar-24**	**31-Mar-25**	**31-Mar-26**	**31-Mar-27**	**31-Mar-28**	**31-Mar-29**	**31-Mar-30**
Currency (in millions)	***JPY***	***JPY***	***JPY***	***JPY***	***JPY***	***JPY***	***JPY***	***JPY***
Revenues								
Heavy Packaging Bag	13,830	13,139	12,482	11,857	11,265	10,701	10,166	9,658
% YoY growth	*4.25%*	-5%	-5%	-5%	-5%	-5%	-5%	-5%
Film products	3,842	3,650	3,467	3,294	3,129	2,973	2,824	2,683
% YoY growth	*-1.94%*	-5%	-5%	-5%	-5%	-5%	-5%	-5%
Other	2,492	2,367	2,249	2,137	2,030	1,928	1,832	1,740
% YoY growth	*11.61%*	-5%	-5%	-5%	-5%	-5%	-5%	-5%
Real Estate Rental	250	237	225	214	203	193	183	174
% YoY growth	*-2.63%*	-5%	-5%	-5%	-5%	-5%	-5%	-5%
Container	1,863	1,770	1,682	1,598	1,518	1,442	1,370	1,301
% YoY growth	*-3.21%*	-5%	-5%	-5%	-5%	-5%	-5%	-5%
Corporate	0	0	0	0	0	0	0	0
% YoY growth		0%	0%	0%	0%	0%	0%	0%
Total Revenues	**22,277**	**21,163**	**20,105**	**19,100**	**18,145**	**17,238**	**16,376**	**15,557**
% YoY growth	*3.14%*	*-5.00%*	*-5.00%*	*-5.00%*	*-5.00%*	*-5.00%*	*-5.00%*	*-5.00%*
(less) COGS	18,539	17,671	16,788	15,948	15,151	14,393	13,674	12,990
% rev	83.22%	84%	84%	84%	84%	84%	84%	84%
Gross Profit	**3,738**	**3,492**	**3,317**	**3,151**	**2,994**	**2,844**	**2,702**	**2,567**
% Gross Margin	*16.78%*	*16.50%*	*16.50%*	*16.50%*	*16.50%*	*16.50%*	*16.50%*	*16.50%*
(less) SG&A	2,622	2,645	2,513	2,387	2,268	2,155	2,047	1,945
% rev	11.77%	13%	13%	13%	13%	13%	13%	13%
EBIT	**1,116**	**847**	**804**	**764**	**726**	**690**	**655**	**622**
% Blended EBIT Margin	*5.01%*	*4.00%*	*4.00%*	*4.00%*	*4.00%*	*4.00%*	*4.00%*	*4.00%*

3954 DCF Base Case							
As of 7/19/2023							
Year	2024e	2025e	2026e	2027e	2028e	2029e	2030e
Period	1	2	3	4	5	6	7
EBIT	847	804	764	726	690	655	622
Corporate Tax Rate	30.62%	30.62%	30.62%	30.62%	30.62%	30.62%	30.62%
EBIAT	587	558	530	504	478	454	432
D&A	500	500	500	500	500	500	500
Change in Net Working Capital	(666)	(208)	(202)	(189)	(157)	(164)	(138)
Capex	(500)	(500)	(500)	(500)	(500)	(500)	(500)
Unlevered Free Cash Flows	(79)	350	328	315	321	291	294
Discount Rate	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%
PV of FCF	(71)	284	240	207	191	155	142
Sum of I (stage 1) **851**							

3954 Value Base Case		
Perp. Rate		0.00%
Implied EV/FCF		7.28x
Discount Rate Used		11.00%
Free Cash Flow in 1+t		293.92
Terminal Value		2,671.98
PV of Terminal Value		**1,286.98**
Enterprise Value		2,138.45
less Debt		(1,874.00)
plus Cash and Cash Equivalent		14,989.00
Equity Value		15,253.45
Diluted Shares Outstanding		4,400,000
Equity Value per Share	**¥**	**3,466.69**
Upside		**92%**
Current Share Price	**¥**	**1,810.00**

FX Analysis:

Showa Paxxs' financial statements are all in terms of Japanese Yen. For the year ended March 31st, 2023, revenue denominated in US dollars accounted for 0% of total revenue. All revenue earned was in Japanese Yen.

USD/JPY is currently trading at 149.91, which is the highest level in 11 months. The Japanese Yen is likely to continue to depreciate against the dollar in the short to medium term due to higher inflation and rates taking time to catch up. If the BOJ does lift off through the ending of the YCC program, we could see upside potential in the Yen through fixed-income buying. Chances of this are low as Ueda recently clarified that a recent comment regarding a quiet exit from monetary easing was misinterpreted. Elevated Treasury yields have also been providing strong support to the dollar.