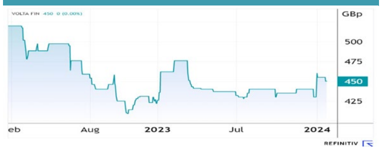
24 January 2024

HARDMAN&CO.

Closed End Investments



Source: Refinitiv

Market data

EPIC/TKR	**VTA.NA, VTA.LN VTAS LN**
Price (€)	**5.08/5.13/450p**
12m high (€)	6.10/6.08/512p
12m low (€)	4.55/4.60/400p
Shares (m)	36.6
Mkt cap (€m)	186
2024E div. yield	10.4%
Latest NAV (Dec'23, €)	6.70
Discount to NAV	-24%
Country of listing	NL/UK
Currency of listing	€/€/GBP
Market	AEX, LSE

Description

Volta is a closed-ended, limited liability investment company that aims to provide a steady stream of quarterly dividends, pursuing exposure, predominantly, to Collateralised Loan Obligations (CLOs) and similar asset classes.

Company information

Ind. Chair	Dagmar Kent Kershaw
Ind. NEDs	Stephen Le Page, Yedau Ogundele Joanne Peacegood,
Fund Manager	AXA IM
Co. sec./ Administrator	BNP Paribas Securities Services SCA, Guernsey
BNP:	+44 (0)1481 750853
Website:	www.voltafinance.com

Key shareholders

AXA SA Bank	21.75%
BNP Paribas	15.28%
AXA Framlington IM	8.23%
BNP Wealth Mgt.	5.50%

Diary

Mid-Feb	Jan estimated NAV

Analyst

Mark Thomas
mt@hardmanandco.com

THIS DOCUMENT IS NOT AVAILABLE TO 'U.S. PERSONS', NOR TO PARTIES WHO ARE NOT CONSIDERED 'RELEVANT PERSONS' IN THE UNITED KINGDOM, NOR SHOULD IT BE TAKEN, TRANSMITTED OR DISTRIBUTED, DIRECTLY OR INDIRECTLY, TO EITHER OF THESE CATEGORIES. SEE P2 FOR FURTHER DETAILS.

VOLTA FINANCE LIMITED

Insights from the Report and Accounts

In this note, we review the key information and messages investors should take from the recent *Report and Accounts*. In particular, we note the detailed explanations as to how Volta is delivering strong returns. This performance reflects the sound fundamentals of the CLO investment market and the value specifically added by the manager (reaffirming the issues we identified in our note, *The benefits of having AXA IM as the manager)*. In terms of outlook, the expected relative resilience of the portfolio was also noted. By way of example, the CLO managers in which Volta invests, are expected to mitigate the impact of anticipated market-wide lower recoveries through investing in better-quality underlying assets.

- **Strong current position:** Volta's current cash receipts are over 20% of NAV, reflecting low defaults (strong corporate cashflows and profitability, ability to pass on inflation to date), low locked-in CLO borrowing costs, CLOs being floating-rate investments and Volta's portfolio positioning in recent years into CLO equity.
- **Resilience:** The rating agency's/Volta's/our confidence in a relatively low expected level of defaults reflects i) a strong starting position, including high cash cushions in CLO structures, ii) a preponderance of private equity (PE), iii) inflation still being friend, not foe, iv) covenant-lite documentation, and v) diversification.
- **Valuation:** Volta trades at a double discount: its share price is at a 24% discount to NAV, and we believe its mark-to-market (MTM) NAV still includes a further sentiment-driven discount to the present value of expected cashflows. Volta targets an 8% of NAV dividend (10.4% 2024E yield on current share price).
- **Risks:** Credit risk is a key sensitivity. We examined the valuation of assets, highlighting the multiple controls to ensure its validity, in our initiation note, in September 2018. The NAV is exposed to sentiment towards its own and underlying markets. Volta's long $ position is only partially hedged.
- **Investment summary:** Volta is an investment for sophisticated investors, as both the NAV and the discount to NAV may be volatile over time. We note the closest competitor to Volta has had a more stable NAV valuation due to a different asset valuation approach. Fundamental long-term returns have been robust: 8.0% p.a. (dividend reinvested basis) since inception. Volta's performance relative to that of its peers has been strong, and returns for investments made after the financial crisis were double those in prior years.

Financial summary and valuation (Hardman & Co adjusted basis)

Year-end Jul (€m)	2020	2021	2022	2023	2024E	2025E
Coupons & dividends	39.4	41.8	42.9	47.0	39.7	43.0
Operating income	31.5	44.5	41.6	44.1	36.7	40.1
Total inv. manager fees (stat.)	(3.9)	(14.2)	(3.9)	(5.6)	(6.5)	(7.1)
Other expenses	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)
Total comp. inc.	25.8	35.2	33.4	35.2	29.3	32.0
Statutory PTP	(63.0)	76.8	(17.8)	27.0	30.6	33.3
Underlying EPS (€)	0.7	1.0	0.9	1.0	0.8	0.9
NAV per share (€)	5.69	7.28	6.22	6.45	6.76	7.12
S/P prem./disc. (-) to NAV*	-23%	-17%	-16%	-21%	-25%	-29%
Gearing	0%	0%	0%	0%	0%	0%
Dividend (€)	0.52	0.52	0.61	0.51	0.53	0.55
Dividend yield	10.4%	10.0%	11.2%	10.0%	10.4%	10.8%

**2020-23 actual NAV and s/p, 2024-25E NAV to current s/p; Source: Hardman & Co Research*

IMPORTANT INFORMATION

Due to legal restrictions, the information in this document is not available to any person who is a "U.S. person" (as defined below) or to any person who is physically present in the United States, and it is available only to persons who are "relevant persons" (as defined below) for U.K. regulatory purposes.

A "U.S. person" is:

- any natural person resident in the United States;
- any partnership or corporation organised or incorporated under the laws of the United States;
- any estate of which any executor or administrator is a "U.S. person";
- any trust of which any trustee is a "U.S. person";
- any agency or branch of a foreign entity located in the United States;
- any non-discretionary account or similar account (other than an estate or trust) held by a dealer or other fiduciary for the benefit or account of a "U.S. person";
- any discretionary account or similar account (other than an estate or trust) held by a dealer or other fiduciary organised, incorporated, or (if an individual) resident in the United States; and
- any partnership or corporation if:
  - organised or incorporated under the laws of any foreign jurisdiction; and
  - formed by a "U.S. person" principally for the purpose of investing in securities not registered under the U.S. Securities Act, unless it is organised or incorporated, and owned, by accredited investors (as defined in the rules of the U.S. Securities and Exchange Commission) who are not natural persons, estates or trusts.

"Relevant persons" are (i) persons who are outside the United Kingdom or (ii) investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the "Order") or (iii) high net worth companies, and other persons to whom it may lawfully be communicated, falling within Article 49(2) (a) to (d) of the Order. The securities of the Company are only available to, and any invitation, offer or agreement to subscribe, purchase or otherwise acquire such securities will be engaged in only with relevant persons. Any person who is not a relevant person should not access, or seek to act or rely on, this report or any of its contents.

This document should not be taken, transmitted or distributed, directly or indirectly, to "U.S. persons" as defined above nor to parties that are not "relevant persons" as defined above. In reading this document the readers also acknowledge that they have read and understood the notices set forth above and the disclaimers contained in the document.

If you are not a "relevant person" or you are a "U.S. person", you should not have received or accessed this document and accordingly should return this document as soon as possible and take no further action. Any investment or investment activity to which this document relates is only available to "relevant persons". By accepting receipt of this document, each recipient is deemed to confirm, represent and warrant to Hardman & Co that it is a "relevant person" and that it is not a "US person", and accordingly a person to whom this document can be lawfully communicated.

Key points from Chair's statement

In our view, the key takeaways from the Chair's statement are:

Chair's comment: "Through these uncertain times, Volta's portfolio has remained resilient"

We highlighted in our recent note, The benefits of having AXA IM as the manager (published 7 December 2023), that one advantage of having a scale manager like AXA IM is that it can invest in risk and control functions to a degree unavailable to smaller participants, and that this helps limit downside risk. By way of an extreme stress scenario, in April 2020, after the first quarter of the pandemic being widespread, in the previous five years, Volta has had only 4% of its portfolio with a test failed (no deal where Volta was involved at the CLO Equity level). By comparison, market data indicates that a peak of around a third of US CLOs failed their equivalent tests. The AXA IM team has also added value in risk management via the active management of the allocation between asset classes.

Chair observes *"a high discount is also paradoxical"*

Volta's CLO assets are valued using specialist, external market pricing providers. In our view, this marking to market captures sentiment risk, as Volta's assets fall in value in periods of uncertainty and, in the past, the actual cashflows have been materially better than those reflected in the price of Volta's assets at such times. For Volta's share price discount to widen further at such times, this creates a double-sentiment discounting effect. We note the environment has been challenging for all investment trusts, as even many holding liquid, listed assets have also seen their discounts widen; for Volta, however, there is a clear double discount effect.

"CLO portfolios are as yet showing few signs of stress"

"*Whilst defaults have increased slightly from their artificially low, COVID-19 -liquidity era days, CLO portfolios are as yet showing few signs of stress and are largely in compliance*." In all our recent notes, we have advised of i) low current defaults, ii) what we saw as an inevitable rise from those levels, but that iii) critically, any increase would be manageable. This continues to be our view. The Chair also noted "*CLOs are a sophisticated asset class with a number of moving parts, but history of over 20 years of CLO investing shows that in challenging markets, the structures function in the manner that they are planned to do….. the payment priorities and structural protections embedded in these funds hold firm and good fundamental credit investments will continue to perform*."

"AXA IM Alts is one of the longest-established, most experienced and high-quality teams in the CLO market globally"

"*After 16 years with AXA IM, Senior Portfolio Manager and Head of CLO Investments Serge Demay has decided to leave the firm and retire at the end of October 2023. ….AXA IM Alts is one of the longest-established, most experienced and high-quality teams in the CLO market globally, and we are confident that Francois, The Duy and their team will continue to identify some of the best opportunities for Volta to create value in the years ahead*." Our recent note, The benefits of having AXA IM as the manager, detailed what the team as a whole brings, including i) greater resourcing, allowing specialist expertise to identify mis-priced opportunities and manage risk, ii) a network with informational advantages, allowing early identification of trends, and iii) business introduction and portfolio opportunities unavailable to smaller players. Good governance means potential conflicts of interest appear well managed. The bottom line is that AXA IM has consistently outperformed benchmarks, especially in challenging conditions, including the pandemic and GFC, and this was not dependent on any one individual.

Conclusion *"I remain excited about the strong cashflows that Volta generates"*

The summary comment was "*In closing, I remain excited about the strong cashflows that Volta generates and the high cash dividends that it pays, the inherent structure and strength of the CLO asset class, and the diversification and asset picking skill that our manager brings. In an economic environment where most mainstream asset classes are under pressure, our belief in Volta as an access vehicle to this alternative asset class remains robust*."

Key points from the Investment Manager's report

In its market review comments, the manager noted:

"Over the financial year, the macro picture has been more constructive than most market participants views."

- A year ago, both the manager, and we, were of the opinion that credit conditions would worsen (given the macroeconomic uncertainties, including rising interest rates, geopolitical risk, and quantitative tightening) but that any deterioration would be modest, and this has proved to be the case.

- Within the year, there was volatility in loan markets, not helped by banking failures. The manager noted "*US loan prices started the year at 93.47%, moved down to 91.7% at the end of September before rallying to 94.14% at the end of our financial year. The same holds true for Europe, which moved from 91.95% down to 88.13% on October 13th and ended the year at 95.27%. Forward yield on leverage loans went from 8% up to c.9-10% fuelled by higher rates with 1st lien loan discount margin kept around 500bps. Primary loan issuance activity kept on being thin with little M&A and refinancings to energize market activity*."

Maturity wall much less of an issue than in past

- The risk of loans being difficult to refinance, as they come to their contractual maturity (sometimes called the maturity wall) and the resulting corporate distress, is modest. In recent years, loans have been extended well in advance of their maturity. The manager noted "*only $24Bn of loans are still due to mature in 2024 (€4Bn in Europe) compared to $143Bn in YE 2021*". In part, we attribute this to the specialist treasury skills and access that PE backers bring over and above those of standalone entities, and as PE backers account for an increasing proportion of debt, the maturity wall risk has reduced.

"All-in, based on the above, we still expect loan default rates to reach 2.5-3% at the end of this year and to increase slightly over 2024"

- "*All-in, based on the above, we still expect loan default rates to reach 2.5-3% at the end of this year and to increase slightly over 2024 as a result of the combined impact of minimal GDP growth, higher cost of capital and some maturities coming due.*" This compares with a rolling past 12-month default rate in the US of 1.55% and 1.27% in Europe, at the time the Report and Accounts was written. By way of comparison, it was more than 10% at the peak of the GFC. Our view is similar to that of the key message, and as it was last year, being one of steady decline from unusually low levels but in a controlled and manageable manner. This view has been formulated from a consideration of corporate borrower profitability and cashflow generation, the macro outlook, and, as noted above, the increasing prevalence of borrowers backed by liquid PE fund owners.

Market-wide weaker loan recovery rates mitigated by manager's asset selection

- Additionally, in our view, an important factor in the low level of defaults is the increased prevalence of covenant-lite facilities. This trend defers default events but carries the risk of increased losses in the event of default. Evidence of the trend is already being seen, with the manager noting "*recovery rates were put under pressure compared to historical norms: according to BofA, "the average recovery rate for 2023 bankruptcy related defaults has declined meaningfully to ~25% on average"*[1] *while long-term historical 1st lien recovery rate has been in the 60-70% context*".[2] For Volta, the risk is mitigated as its chosen CLO managers, typically, make better credit decisions and they largely avoid "zombie companies," which may be filing for bankruptcy for the second or third time (60% of 2023 bankruptcy filings).[3] Volta believes these factors, and well-

[1] Source: BofA, CLO Weekly: CLO Returns: such a cute BB; Loan/CLOs Performance update – Global, 8 September 2023
[2] Source: S&P Global LossStats, Pitchbook LCD – data from 1987 to 31 December 2022
[3] Source: BofA, CLO Weekly: CLO Returns: such a cute BB; Loan/CLOs Performance update – Global, 8 September 2023

financed PE backers mean "*a long-term average of 50-60% recovery rate should be the norm when running prospective scenarios*". The manager has better visibility than we ever could, but the logic of covenant-lite being mitigated by CLO managers managing their exposures appears robust.

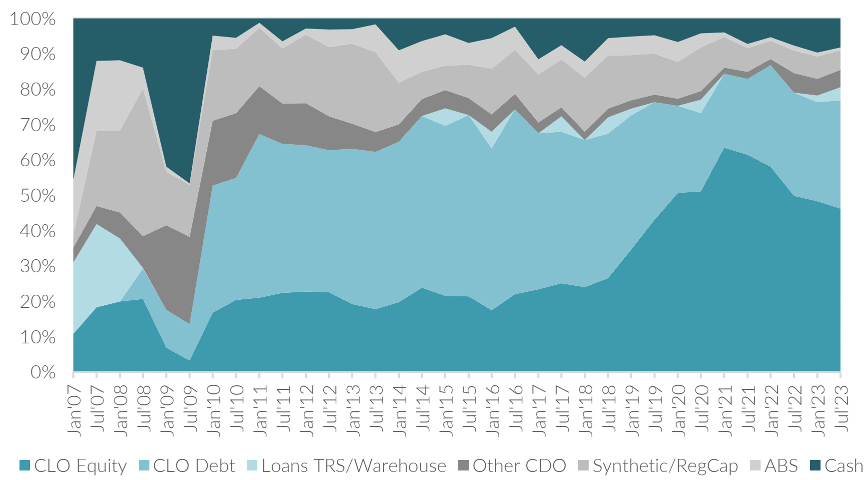
- The manager reviewed some of the more technical aspects of the CLO market (such as the factors driving the 40% fall in CLO primary issuance, the impact this has on CLO arbitrage opportunities, an increased number of CLO coming out of their reinvestment period with its impact on returning cash to investors, the one-month/three-month Libor basis impact, and the recent rally in AAA tranches). In our view, in every year, there will be (different) issues for the manager to manage, and our recent note, *The benefits of having AXA IM as the manager,* highlighted the competitive advantages AXA IM brings to this process.

From the portfolio section of the review, we note:

Year saw some allocation from CLO equity to debt

- There was some re-allocation away from CLO equity and into CLO debt and warehouse lines. As can be seen from the chart below, Volta has an actively managed portfolio, with AXA IM seeking to exploit the best risk/reward opportunities at any given time.

Asset allocation since January 2007



Note: cash adjusted for managers fee due, Source: Volta monthly reports, Hardman & Co Research,

21.5% of opening NAV in annualised cash generation driven by floating rate debt and CLO equity allocation

- The manager also stated the 21.5% of opening NAV annualised cash generation, noting it is "*not only coming from our exposure to one third of CLO debt tranches that are offering a floating rate exposure with a 16.8% target yield based on 31 July 2023 valuations but also from the two-third of our portfolio that are still providing very strong cashflow distributions.*" The asset allocation between CLO debt and equity is thus important. The factors driving the strong equity distributions that we identified in our note, *Cash is king and the king is rocking and rolling* (published 16 September 2022), remain pertinent, with the key issues being low defaults (strong corporate cashflows and profitability, ability to pass on inflation to date), CLOs having reduced borrowing costs, CLO floating rate investments, and Volta's portfolio positioning in recent years into CLO equity.

Hedging carefully managed given risk of margin calls

- In terms of currency exposure (55% of assets in $), the manager "*Through the year, in line with last year expectations, we increased our hedges on USD investments, moving residual exposure to USD assets from c.30% down to c.23% as EUR appreciated. We are conscious being fully hedged (having no more USD exposure) would be too costly in terms of cash to be kept covering potential margin calls. We believe that we were right to accept some volatility coming from the remaining currency exposure instead of suffering from the cash drag on a long-term basis*.". We have seen other investment companies face serious cashflow issues because of needing to allocate cash to hedging margin calls (for example, Princess Private Equity, which suspended its second interim dividend on 2 November 2022, with the share price falling from €9.55 to €8.0 on the day). Given the margin calls are totally outside the manager's control, they can have dramatic impacts on cash holdings, and Volta not wanting to be a distressed seller of assets to meet such calls, this approach appears eminently sensible.

Stress tests show base case 22% projected yield and ca.10% even in worse scenario than GFC

- The manager provided the results of its portfolio stress tests, which indicate a 21.8% projected yield in the base case and a near 10% CLO IRR in the worst of its two stress tests. The latter reflects an instantaneous 6% increase in CCC bucket (all CLOs will then exceed the classic 7.5% authorised CCC bucket) and defaults to materialise in relation with such CCC bucket and current WARF. Looking through the technicalities, it means it would cause an average 5.9% default rate every year for the next three years, roughly double the current expectation and, in aggregate, greater than the GFC. We note i) in all scenarios, a positive yield is expected, ii) the sensitivity of the equity positions is, as expected, materially higher than the debt, iii) the latest numbers cannot be compared with ones provided in previous reports due to changes in assumptions (current assumptions more conservative than previous ones), and iv) bearing in mind the discount to the share price, the yield to shareholders is roughly a quarter higher than the NAV.

Projected yield (from NAV value)

	2001	2002	2003
USD equity	20.6%	6.0%	4.1%
Euro equity	29.6%	13.7%	9.0%
USD debt	19.0%	18.2%	14.7%
Euro debt	14.2%	14.2%	13.9%
Average for CLOs	21.8%	12.5%	9.7%

Source: Volta Report and Accounts, Hardman & Co Research

Other issues/FAQ by investors

Buybacks

Buyback policy in place but not used given yield on assets

Volta, at each AGM, seeks authority to buy back 14.99% of its issued shares but has not, to date, activated a programme. Bearing in mind the current discount is well below the yield shareholders are expected to earn from the assets, such a decision is not surprising. We understand all options for returning capital to shareholders are under regular review.

Sensitivity to rising rates

21.5% cash generation in higher-rate environment and outlook robust

We believe sensitivity to rising rate environment is a key issue for all investors in debt investment companies. As noted above, Volta, to date, has performed exceptionally well through a combination of asset class allocation, variable rate debt positions, and CLO equity positions, benefitting from CLO debt refinancing –see our notes, *Re-Set, Re-Fi, Re-Light my Fire* (published 5 May 2021) and *R&A shining light on 20%+ IRR base-case scenarios* (published 11 January 2023) – and the low default rates. As noted above, the outlook base case remains very robust.

Valuation approach

Vast majority of assets valued off market prices, either directly or indirectly

We believe there has been increased focus on the valuation methodologies of investment trusts investing in what may be perceived as illiquid, complex assets. Volta's approach is detailed on pages 49-51 of the 2023 Report and Accounts. We note i) 82% of the fair value is taken directly from JP Morgan PricingDirect or other market participants. ii) a range of the residual assets also uses market-price-driven methodologies, including CLO_CMV (5% fair value, which is valued under a sum-of-the-parts method with all CLO equities investments valued based on JP Morgan PricingDirect) and the CLO Warehouse (3% fair value, which is valued at the lower of: (a) the principal amount invested plus accrued income net of financing costs; and (b) the mark-to-market value of the relevant proportion of the underlying portfolio).

Fees and shareholder alignment

Directors aligned through shareholding and fees paid in shares

Manager's performance fee based off 8% hurdle rate with high water mark

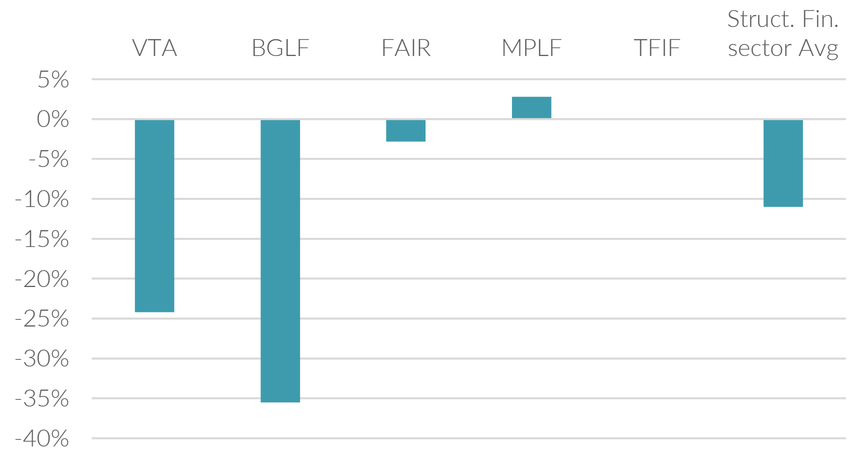
We note the shareholder alignment with directors as each Director continues to receive 30% of their fee in the form of shares and their combined holding (at 9 November 2023) was nearly 100k shares. In terms of manager alignment, investors will note the €2.9m performance fee earned in FY'23 (1% NAV) when investors saw a total return (post fee) of 12.7%. The unchanged policy, as outlined in the Report and Accounts p76, is "*The Investment Manager is entitled to receive a performance fee of 20% of any NAV outperformance over an 8% hurdle on an annualised basis, subject to a high-water mark and adjustments for dividends paid, share issuances, redemptions and buybacks. The performance fee will be calculated and paid annually in respect of each twelve-month month period ending on 31 July (each an "Incentive Period"). Notwithstanding the foregoing, performance fees payable to AXA IM in respect of any Incentive Period shall not exceed 4.99% of the NAV at the end of such Incentive Period*". In the four months from the year-end, the performance (above 5%) has again been strong, and, if it continues at the current rate, will be well above the hurdle rate, thus generating further performance fees.

Valuation and financials

Valuation

Given the historical performance, risk profile and portfolio mixes identified in previous reports, Volta's discount to NAV appears anomalous.

Current share price discount to latest NAV for Volta and peers



Source: Hardman & Co Research, Monthly reports for Volta (VTA), TwentyFour Income Fund (TFIF), Fair Oaks Income Fund (FAIR), Blackstone/GCO Loan Financing Ltd (BGLF) and Marble Point Loan Financing (MPLF); priced at23 January 2023

Financials

Our estimates are unchanged

To derive our adjusted profit and loss, we strip out the capital movements, including i) unrealised gains/losses, ii) FX movements, and iii) net gains of IR derivatives. We have left in realised gains, which, although volatile, have been converted into cash, and some capital gains may be expected to form part of the normal course of business. We have also backdated the current management fee structure, and adjusted it to the new level of profitability.

Hardman & Co adjusted profit and loss account

Year-end Jul (€m)	2017	2018	2019	2020	2021	2022	2023	2024E	2025E
Coupons and dividends received	33.2	38.5	42.0	39.4	41.8	42.9	47.0	39.7	43.0
Net gains on sales	3.1	0.0	0.5	(7.0)	2.7	(1.3)	(3.4)	(3.4)	(3.4)
Net gain on fin. assets at FV through P/L	**36.2**	**38.5**	**42.5**	**32.4**	**44.5**	**41.7**	**43.6**	**36.2**	**39.6**
Interest expense on repo	(1.1)	(1.4)	(1.6)	(0.8)	-	-	-	-	-
Net bank interest & charges	(0.1)	(0.1)	0.1	0.0	(0.0)	(0.0)	0.5	0.5	0.5
Operating income	**35.0**	**37.0**	**41.0**	**31.5**	**44.5**	**41.6**	**44.1**	**36.7**	**40.1**
Inv. manager fees	(4.6)	(4.6)	(4.4)	(3.6)	(3.3)	(3.9)	(3.3)	(3.5)	(3.7)
Inv. manager performance fees	(1.2)	(1.3)	(2.1)	(0.6)	(4.6)	(3.0)	(4.3)	(2.6)	(3.1)
Directors' remuneration & expenses	(0.5)	(0.5)	(0.5)	(0.5)	(0.3)	(0.4)	(0.3)	(0.3)	(0.3)
Other expenses	(0.8)	(0.9)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)
Total expenses	(7.0)	(7.3)	(8.0)	(5.7)	(9.3)	(8.3)	(8.9)	(7.5)	(8.1)
Profit and total comp. income	**28.0**	**29.7**	**32.9**	**25.8**	**35.2**	**33.4**	**35.2**	**29.3**	**32.0**
Adjusted EPS (€)	**0.77**	**0.81**	**0.90**	**0.71**	**0.96**	**0.91**	**0.96**	**0.80**	**0.87**
Dividend cover (x)	**1.24**	**1.31**	**1.45**	**1.36**	**1.85**	**1.49**	**1.89**	**1.51**	**1.59**

Source: Volta, Hardman & Co Research

Glossary

When looking at Volta, investors are likely to come across a number of technical terms summarised below.

Glossary	
Term	**Meaning**
ABS	Asset-backed securities.
ABS residual positions	Residual income positions, which are a sub-classification of ABS, being backed by any of the following: residential mortgage loans; commercial mortgage loans; automobile loans; student loans; credit card receivables; or leases.
Bank Balance Sheet Transactions (BBST)	Synthetic transactions that permit banks to transfer part of their exposures, such as exposures to corporate loans, mortgage loans, counterparty risks, trade finance loans, or any classic and recurrent risks that banks take in conducting their core business.
Cash Corporate Credit (CCC)	Deal-structured credit positions, exposed predominantly to corporate credit risks by direct investments in cash instruments (loans and/or bonds).
Cash diversion	In periods of stress (typically measured by a specific deterioration in the proportion of the portfolio with worse-quality ratings), cash is diverted from being distributed to equity holders, and is retained to provide additional protection for bond holders.
Cash waterfall	The clear priority in which income from the SPV is allocated to stakeholders.
CLOs or CLO	A collateralised loan obligation (CLO) is a single security backed by a pool of debt. CLOs are often corporate loans with low credit ratings, or loans taken out by PE firms to conduct leveraged buyouts.
CLO 1.0	The first vintage of modern CLOs (issued from mid- to late 1990s). It included some high-yield bonds, as well as loans, and was the standard CLO structure until the financial crisis struck in 2008. Now under 1% of CLOs in issue.
CLO 2.0	Issued 2010-14, in response to the financial crisis, by strengthening credit support and shortening the period in which loan interest and proceeds could be re-invested into additional loans.
CLO 3.0	Began in 2014, and aimed to further reduce risk by eliminating high-yield bonds and adhering to the post-GFC regulatory changes. Currently, few CLOs allow for investments into high-yield bonds, and those that do generally limit the exposure to 5%-10%. To compensate for the exposure to high-yield bonds, these CLOs have increased levels of subordination to better protect debt tranches.
Capitalised Manager Vehicle (CMV)	A CMV is a long-term, closed-ended structure, which is established to act as a CLO manager and to also provide capital in order to meet risk retention obligations when issuing a CLO, and also to provide warehousing capabilities.
CPR	Constant prepayment rate.
Refi	Consists in refinancing part, or all, of the debt tranches of a CLO, while operating very modest changes in the CLO documentation.
Reset	Consists in calling all the debt tranches of a CLO, re-marketing a full new debt package, with new CLO documentation, almost as if it were a new CLO.
Synthetic Corporate Credit (SCC)	Structured credit positions predominantly exposed to corporate credit risks by synthetic contracts.
Underlying assets	The assets in which the company may invest, either directly or indirectly, include, but are not limited to, corporate credits, sovereign and quasi-sovereign debt, residential mortgage loans, commercial mortgage loans, automobile loans, student loans, credit card receivables, leases, and debt and equity interests in infrastructure projects.
Warehouse	A warehouse is a short-term structure put in place before a CLO happens in order to accumulate assets, in order, in turn, to facilitate the issue of the CLO. A warehouse is leveraged, and can be marked to market.
Weighted average life of the loans (WAL);	The average length of time that each dollar of unpaid principal on a loan or an amortising bond remains outstanding.
Weighted average risk factor (WARF)	The WARF measure aggregates the credit ratings of the portfolio's holdings into a single rating. The credit rating letter rating corresponds to a numerical rating factor, which, in turn, corresponds to the 10-year probability of default. The WARF is determined by calculating the weighted average of these numerical factors.
Weighted average spreads (WAS)	A percentage equal to i) the Aggregate Funded Spread, divided by ii) the Aggregate Eligible Collateral Obligation Amount (excluding any interest that has been deferred and capitalised on any Deferrable Collateral Obligation).

Source: Hardman & Co Research

Disclaimer

Hardman & Co provides professional independent research services and all information used in the publication of this report has been compiled from publicly available sources that are believed to be reliable. However, no guarantee, warranty or representation, express or implied, can be given by Hardman & Co as to the accuracy, adequacy or completeness of the information contained in this research and they are not responsible for any errors or omissions or results obtained from use of such information. Neither Hardman & Co, nor any affiliates, officers, directors or employees accept any liability or responsibility in respect of the information which is subject to change without notice and may only be correct at the stated date of their issue, except in the case of gross negligence, fraud or wilful misconduct. In no event will Hardman & Co, its affiliates or any such parties be liable to you for any direct, special, indirect, consequential, incidental damages or any other damages of any kind even if Hardman & Co has been advised of the possibility thereof.

This research has been prepared purely for information purposes, and nothing in this report should be construed as an offer, or the solicitation of an offer, to buy or sell any security, product, service or investment. The research reflects the objective views of the analyst(s) named on the front page and does not constitute investment advice. However, the companies or legal entities covered in this research may pay us a fixed fee in order for this research to be made available. A full list of companies or legal entities that have paid us for coverage within the past 12 months can be viewed at http://www.hardmanandco.com/legals/research-disclosures. Hardman may provide other investment banking services to the companies or legal entities mentioned in this report.

Hardman & Co has a personal dealing policy which restricts staff and consultants' dealing in shares, bonds or other related instruments of companies or legal entities which pay Hardman & Co for any services, including research. No Hardman & Co staff, consultants or officers are employed or engaged by the companies or legal entities covered by this document in any capacity other than through Hardman & Co.

Hardman & Co does not buy or sell shares, either for their own account or for other parties and neither do they undertake investment business. We may provide investment banking services to corporate clients. Hardman & Co does not make recommendations. Accordingly, they do not publish records of their past recommendations. Where a Fair Value price is given in a research note, such as a DCF or peer comparison, this is the theoretical result of a study of a range of possible outcomes, and not a forecast of a likely share price. Hardman & Co may publish further notes on these securities, companies and legal entities but has no scheduled commitment and may cease to follow these securities, companies and legal entities without notice.

The information provided in this document is not intended for distribution to, or use by, any person or entity in any jurisdiction or country where such distribution or use would be contrary to law or regulation or which would subject Hardman & Co or its affiliates to any registration requirement within such jurisdiction or country.

Some or all alternative investments may not be suitable for certain investors. Investments in small and mid-cap corporations and foreign entities are speculative and involve a high degree of risk. An investor could lose all or a substantial amount of his or her investment. Investments may be leveraged and performance may be volatile; they may have high fees and expenses that reduce returns. Securities or legal entities mentioned in this document may not be suitable or appropriate for all investors. Where this document refers to a particular tax treatment, the tax treatment will depend on each investor's particular circumstances and may be subject to future change. Each investor's particular needs, investment objectives and financial situation were not taken into account in the preparation of this document and the material contained herein. Each investor must make his or her own independent decisions and obtain their own independent advice regarding any information, projects, securities, tax treatment or financial instruments mentioned herein. The fact that Hardman & Co has made available through this document various information constitutes neither a recommendation to enter into a particular transaction nor a representation that any financial instrument is suitable or appropriate for you. Each investor should consider whether an investment strategy of the purchase or sale of any product or security is appropriate for them in the light of their investment needs, objectives and financial circumstances.

This document constitutes a 'financial promotion' for the purposes of section 21 Financial Services and Markets Act 2000 (United Kingdom) ('FSMA') and accordingly has been approved by Capital Markets Strategy Ltd which is authorised and regulated by the Financial Conduct Authority (FCA).

(Disclaimer Version 8 – Effective from August 2018)

Status of Hardman & Co's research under MiFID II

Some professional investors, who are subject to the new MiFID II rules from 3rd January 2018, may be unclear about the status of Hardman & Co research and, specifically, whether it can be accepted without a commercial arrangement. Hardman & Co's research is paid for by the companies, legal entities and issuers about which we write and, as such, falls within the scope of 'minor non-monetary benefits', as defined in the Markets in Financial Instruments Directive II.

In particular, Article 12(3) of the Directive states: 'The following benefits shall qualify as acceptable minor non-monetary benefits only if they are: (b) 'written material from a third party that is commissioned and paid for by a corporate issuer or potential issuer to promote a new issuance by the company, or where the third party firm is contractually engaged and paid by the issuer to produce such material on an ongoing basis, provided that the relationship is clearly disclosed in the material and that the material is made available at the same time to any investment firms wishing to receive it or to the general public…'

The fact that Hardman & Co is commissioned to write the research is disclosed in the disclaimer, and the research is widely available.

The full detail is on page 26 of the full directive, which can be accessed here: https://ec.europa.eu/transparency/regdoc/rep/3/2016/EN/3-2016-2031-EN-F1-1.PDF

In addition, it should be noted that MiFID II's main aim is to ensure transparency in the relationship between fund managers and brokers/suppliers, and eliminate what is termed 'inducement', whereby free research is provided to fund managers to encourage them to deal with the broker. Hardman & Co is not inducing the reader of our research to trade through us, since we do not deal in any security or legal entity.

research@hardmanandco.com

9 Bonhill Street
London
EC2A 4DJ

www.hardmanandco.com