

# Panama Canal Authority

## Strong, efficient & profitable – who wouldn't want to own the Panama Canal?

Company Update

### But it's not for sale; only Panama owns/controls the Canal.

Since Panama assumed full control of the Canal in 1999, the Panama Canal Authority (PCA) has doubled the capacity with a US\$5.25bn expansion launched in 2008 and completed when Neo Panamax locks were inaugurated in 2016. In 2024, PCA registered the largest container ship of 17,640 TEUs. Investments have totaled US\$15bn over the past 25 years including US\$10bn in capital expenditures and US\$5bn in operational and maintenance expenses. PCA has also contributed close to US\$20bn to the National Treasury since 2014 in the form of transit fees, public service fees, and earnings distributions. It also employs over 8,700 Panamanians.

### No - the Chinese do not run the Canal.

Dr. Vasquez, CEO & Canal Administrator, updated the market last week on PCA's operational track record and responded to many questions recently raised by the new U.S. Govt. on ownership & control. He reminded investors that the PCA is an Autonomous apolitical authority and given its legal structure it operates at an arm's length basis from the Panamanian govt. Its objective is to provide reliable, safe, efficient and uninterrupted transit for international trade. No foreign country, Chinese or other, has control over the Canal. Because of this and other factors, PCA currently has a higher credit rating than the Republic of Panama. (A3/BBB+/WD vs. Baa3/BBB-/BB+).

### PCA's fees are market based & not based on nationality.

PCA emphasized that it does not bill clients on country of origin or flag on the ship. Pricing is market based on industrial segment and the type of vessel. The average fee on U.S. govt. warships and submarines is US\$30k per transit, well below the average of US\$150k per transit. Avg. annual revenues for the past 5 years from these vessels has been about US\$600k. These vessels also receive priority for transits, in accordance with the Neutrality Treaty negotiated between the U.S. and Panama. Auxiliary ships from the U.S. govt, which account for about 35-40 transits per year have average fees of \$150,000, in line with other vessels and represent about US\$5mm in annual revenues. All pricing is market based on supply & demand.

### Water situation is back to normal & transits growing.

After a tough FY 2024 (ended 30-Sept-24), when Panama hit by drought conditions and lower water levels, PCA's situation is back to normal with normal water levels and lakes at full capacity as of Dec-24. Daily transits have recovered to 36 transits from a trough of 24 transits daily in Nov-23 to March '24 to 36 by YE24. Currently, LPG transits are surging, dry-bulk is recovering and LNG is lagging. Strategic projects on West Bank are under evaluation and in the pipeline.

### Maintain on MW on '35 bonds on valuation and liquidity.

Bond prices have actually moved up since YE24 and now yield 5.3%, vs 7.4% for the Republic of Panama's '35 bonds, and a spread differential of nearly 200bps (tighter).

10 February 2025

Global Emerging Markets | Corporate Credit  
LatAm | Panama  
Transportation

**Anne Milne**  
Research Analyst  
BofAS  
+1 646 855 4096  
anne.milne@bofa.com

**Jorge Ordonez**  
Research Analyst  
BofAS  
jorge.ordonez@bofa.com

**Isabella Pacheco**  
Research Analyst  
Merrill Lynch (Brazil)  
isabella.pacheco@bofa.com

[Panama Canal Authority: Strategic asset in the eye of a political storm](#)  
23 December 2024

TEU = twenty-foot equivalent unit – a unit of measure to describe the capacity of a container ship or the volume of containers stored at a terminal

LPG = Liquefied Petroleum Gas

LNG = Liquefied Natural Gas

Trading ideas and investment strategies discussed herein may give rise to significant risk and are not suitable for all investors. Investors should have experience in relevant markets and the financial resources to absorb any losses arising from applying these ideas or strategies.

**BofA Securities does and seeks to do business with issuers covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.**

**Refer to important disclosures on page 6 to 8. Analyst Certification on page 5. Valuation & Risk on page 5.**

12793174

Timestamp: 10 February 2025 10:46AM EST

# Financial Review

## Water Management is an ongoing challenge

Following severe drought conditions in 2024, water levels have fully recovered as of Dec-24 and PCA successfully restored operational capacity. Strategic momentum of Gatun and Alhajuela lakes has played a critical role in stabilizing operations, ensuring a 20% YoY increase in daily transits, now reaching 36 per day. The return of dry bulk shipments provides a temporary boost, especially in light of the Mississippi River's drought related disruptions. While LPG transits have recovered, the LNG segment remains below previous levels, prompting efforts to develop new strategies to attract shippers. Neopanamax vessels, which provide economies of scale, are seeing increased utilization as the canal optimizes capacity for larger ships.

## Financial performance on an improving track for 1QFY25

Although transit volumes and tonnage grew by 20% and 13%, respectively, net income declined from \$969mn to \$917mn YoY, largely due to a drop in auction revenues that had temporarily surged in early 2024 during transit restrictions. While cost per ton has normalized at \$10.38, operating expenses have risen by 3%, reflecting ongoing investments in technology, infrastructure and new businesses initiatives.

## PCA modified toll fee structure as a result of the drought.

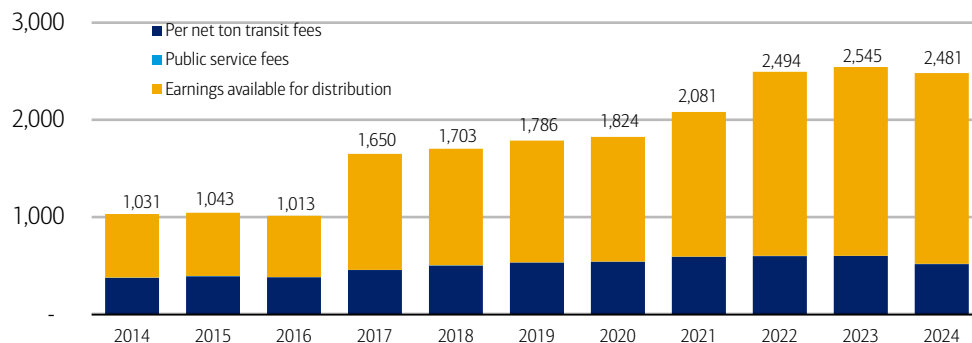
The drop in the number of transits led the PCA to reevaluate and modify its fee structure. In addition to a fresh-water surcharge, PCA implemented a system of reservations, auctions and a new toll structure for the 2023-2025 period. A policy of "full booking" was implemented, with reservations required for specific dates and time slots, and customers can book throughout the year and up to a year in advance. This moved bookings from a "reliability" system to "certainty" in this market. Currently, waiting times to transit the canal have dropped from 5-7 days to just 2-3 days.

## Water security projects move forward

To safeguard against future water shortages, the Indio River project is advancing with expectations that it will match Alhajuela Lake in capacity. This initiative is part broader effort to restore and optimize the Panama Canal watershed, providing a more sustainable approach to water management. A community census is currently underway to assess resettlement needs, and the relocation process is expected to begin by the end of 2025. Infrastructure improvements, such as road construction, are also in progress to facilitate better access to the project site.

### Exhibit 1: Distribution of profits to Panama's National Treasury (US\$mm)

Since 2014, distributions have reached nearly US\$20bn



Source: BofA Global Research estimates, company report

BofA GLOBAL RESEARCH

Distributions to govt. down slightly to US\$2.478bn. FY 2.478 bn in 2024 distributions and this year slightly above that. Distributions since 2014 are near US\$20bn.



# Strategic importance & China's role

## How important is the Panama Canal?

The role of Panama Canal is very strategic as it allows for maritime transport between the Pacific and Atlantic Oceans. It is estimated that 5% of global trade passes through the Canal every year. Currently, U.S. vessels accounts for nearly 50% of 2024 tonnage, followed by Asia and Latin America. Main routes are Asia-US East Coast, West Coast South America – East Coast USA, West Coast C. America – East Coast USA and West Coast South America – Europe.

## Key concerns appear to be potential Chinese influence.

Looking deeper into the multiple communications between the U.S. and Panama as well as multiple news articles (the Economist, FT, Wall Street Journal), the crux of the dispute seems to be concerns of the new U.S. Administration that China could exert undue influence over a strategically important route for U.S. military as well as commercial vessels in times of geopolitical tension or stress. The issues surrounding the Panama Canal and the two Hong Kong owned ports at its entrances is just one of areas of concern. Other concerns include: 1) Chinese construction of a Bridge over the Panama Canal, 2) Panama's signatory of China's Belt & Road Initiative, 3) multiple agreements signed between China and Panama after establishing diplomatic relations in 2017 once Panama stopped recognizing Taiwan as the Government of China.

## What is the role of a Port Operator?

Essentially, a port operator helps to manage the loading and unloading of ships and the management of cargo through the port. There are five ports at each entrance to the Panama Canal.

## What about Chinese owning Panama based ports?

Two of the five ports are owned/managed by a subsidiary of a well-known Hong Kong based global port operator – Hutchinson Whampoa, also known as CK Hutchinson Holdings. They operate the **Balboa Port** on the Pacific entrance to the Canal and the **Cristobal Port** on the Atlantic Side. They operate under the name "Panama Ports Company" (PPC). The initial concessions granted to PPC were signed by the U.S. Administration prior to the transfer to Panama of PCA in 1997 and prior to Hong Kong being returned to the PRC (People's Republic of China). In the last two weeks, the Chinese Foreign Ministry said that "*China does not participate in the management and operation of the canal and has never interfered in the affairs of the Canal*", according to *The Guardian Newspaper*. Separately, PPC said that it is the only canal port operator where the Panamanian state is a shareholder. More than 99% of its workforce is Panamanian.

## Rep. of Panama, not PCA holds the Port contracts.

The Panama Canal Authority does not have responsibility over Port concessions and port operators in Panama. These concessions are signed by the Republic of Panama. The only responsibility is operational because they are located in Panama Canal waters and PCA pilots must lead vessels from the ports in and out of the Canal. There is no ownership participation by any of the ports in PCA or vice versa. The other three port concessions in Panama have been granted to

**Port of Colon:** Located in North Coco Solo, Province of Colon. It is operated by **Evergreen Marine Corp:** It is a Taiwan based shipping company that purchased a 100% interest in the Panamanian Colon Container Terminal from its affiliates in 2022 for US\$268mm. This was previously the site of a US Navy base but was converted into a container handling facility.

**Port of Singapore Authority (PSA):** This is the world's largest transshipment hub according to its website. It is owned by Temasek Holdings, a Singaporean state-owned multinational investment firm with a portfolio of US\$389bn of assets. PSA operates 70 deep-sea, rail and inland terminals in more than 45 countries. In Panama it manages the PSA Panama International Terminal.



**Manzanillo International Terminal (MIT) is located East of the opening of the Panama Canal on the Atlantic coast.** The project was originally a US Navy seaplane base during World War II. Today it is primarily owned by Carrix, Inc. the parent company of SSA Marine, a global container terminal operator.

### **Military vessels are given priority.**

The Panama Canal provides priority transit to military vessels for transiting through the Canal. The original size of military vessels was made to be able to pass through the Panama Canal (Panamex vessels). As highlighted previously, the number of military vessels has been relatively limited to date and represents a very small share of the PCA's revenue base (much less than 1%).

### **Contracts under review by Panama Maritime Author.**

News reports indicate that Panama is analyzing whether to cancel its contracts with PPC near the canal, but no decision has been made. The reports indicate that the government would proceed in a way intended to avoid lawsuits and follow due process. The initial concession, first signed in 1997 was extended in 2021 until 2047. Auditors are currently reviewing PPC's situation with a goal of guaranteeing the efficient and transparent use of public resources and to make sure there are no irregularities. PPC is cooperating with the auditors.

### **Bridge over the canal awarded to a Chinese consortium.**

Another cause of concern for the U.S. is that a Chinese consortium backed by China Harbour Engineering and China Communications Construction Company have been awarded a US\$1.4bn highway bridge over the canal to ease traffic in Panama City as per a news report from CNN (07-Feb-25). It is a construction contract and in the very early stages. The Panamanian govt. tendered for that contract, and PCA has little to do with it except confirm specifications required by PCA. The contract is granted by Ministry of Public Works.

### **Canal fees less than 1% of transported merchandise**

PCA has estimated that Canal fees are less than 1% of the value of merchandise transiting the canal. In its 3QFY24 Market Call, PCA Administrator, Ricaurte Vasquez indicated that it had estimated that total transit fees are less than 1% of the value transiting the canal estimated at US\$581bn p.a.

### **Change of control in 2035 bonds**

Although we do not expect any change of control on current discussions, we note that the bonds have a Change of Control clause that can be exercised by investors at \$100 plus accrued interest. According to the bond's Offering Memorandum, the definition of a change of control is defined below

*"Change of Control" means either (i) the Issuer ceases to be a public autonomous entity of the Republic of Panama as currently contemplated by Article 316 of Title XIV of the Constitution of the Republic of Panama and Article 2 of the Organic Law or (ii) the occurrence of any amendment of either Chapter 1 of the Organic Law or 97 Sections First through Third or Chapter III of the Organic Law that has the effect of modifying in a material and adverse manner the prohibition on the ability of the Government of Panama to impose taxes or charge expenses to the Issuer, borrow from the Issuer or encumber or dispose of the assets and revenues of the Issuer." For more information, please see Page. 96 of the Offering Memorandum*

## Valuation & risk

### Panama Canal Aut. (AUTOPA)

AUTOPA is a strategic gateway in global shipping, representing 5% in global maritime commerce and is a leader (+50% market share) in the NE Asia-US East Coast container cargo market. AUTOPA is a positive free cash flow generator, even during periods of transit declines, due to pricing power, for example with AUTOPA's fresh water surcharge. AUTOPA also has low gross leverage and a large net cash position. We are Marketweight the bonds since they trade nearly 200bps tighter than Panama sovereign which we feel is fair given its higher credit ratings. Yields are currently around 5.735%

Downside risks: (1) downgrades to Panama sovereign and/or AUTOPA although we expect AUTOPA to maintain Investment Grade (IG) given its higher rating than the sovereign by several notches, (2) weaker maritime trade growth and lower volumes, (3) competition from other transportation means, (4) longer than expected lower water levels forcing draft restrictions and/or reduced transits through the Canal, (5) greater capex related to future water management system megaproject, and (6) intervention from the U.S. government who has indicated it wants to take over the Panama Canal.

Upside risks: (1) more vessels transiting the Canal at higher fees (2) greater than expected rainfall in lake Gatun, (3) decrease in U.S.-China trade tensions, leaving China's position in the global supply chain intact, (6) new and/or higher fees driving higher revenues.

## Analyst Certification

We, Anne Milne and Isabella Pacheco, hereby certify that the views each of us has expressed in this research report accurately reflect each of our respective personal views about the subject securities and issuers. We also certify that no part of our respective compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

## Special Disclosures

Some of the securities discussed herein should only be considered for inclusion in accounts qualified for high risk investment.



## Security/Loan pricing

## Panama Canal Authority / AUTOPA

	Amt		Ratings			Yield	Spread
Security		Maturity date	Moody's/S&P/Fitch	Price	Price date	(%)	(bps)
4.95, Senior, USD, 2035:B	450	29-JUL-2035	A3/BBB+/WD	95.10	07-Feb-2025	5.61	114

For pricing information refer to "Other Important Disclosures" below.

B=Bond; L=Loan; CS=Capital Security (Not including Equity Preferred); CDS=Credit Default Swap; EP=Equity Preferred

## Disclosures

### Important Disclosures

## Credit opinion history

## Panama Canal Authority / AUTOPA

Security	Date <sup>R1</sup>	Action	Recommendation	Price
4.95, Senior, USD, 2035:B	31-Jan-2024		Overweight	
	04-Mar-2024	Downgrade	Marketweight	89.25

Table reflects credit opinion history as of previous business day's close.<sup>R1</sup> First date of recommendation within the last 36 months, if for an issuer or within the last 12 months, if for a security or loan. The investment opinion system is contained at the end of the report under the heading "BofA Global Research Credit Opinion Key."

Pricing information in the table is provided for each action where available. In the case of bonds, loans, capital securities and equity preferreds, the price shown reflects the nominal cash price for the security; and in the case of CDS, the price shown reflects the spread, on the date of the relevant action.

B=Bond; L=Loan; CS=Capital Security (Not including Equity Preferred); EP=Equity Preferred; CDS=Credit Default Swap

### BofA Global Research Credit Opinion Key

BofA Global Research provides recommendations on an issuer's bonds (including corporate and sovereign external debt securities), loans, capital securities, equity preferreds and CDS as described below. Convertible securities are not rated. An issuer level recommendation may also be provided for an issuer as explained below. BofA Global Research credit recommendations are assigned using a three-month time horizon.

**Issuer Recommendations:** If an issuer credit recommendation is provided, it is applicable to bonds and capital securities of the issuer except bonds and capital securities specifically referenced in the report with a different credit recommendation. Where there is no issuer credit recommendation, only individual bonds and capital securities with specific recommendations are covered. Loans, CDS and equity preferreds are rated separately and issuer recommendations do not apply to them.

BofA Global Research credit recommendations are assigned using a three-month time horizon:

**Overweight:** Spreads and /or excess returns are likely to outperform the relevant and comparable market over the next three months.

**Marketweight:** Spreads and/or excess returns are likely to perform in-line with the relevant and comparable market over the next three months.

**Underweight:** Spreads and/or excess returns are likely to underperform the relevant and comparable market over the next three months.

BofA Global Research uses the following rating system with respect to **Credit Default Swaps (CDS)**:

**Buy Protection:** Buy CDS, therefore going short credit risk.

**Neutral:** No purchase or sale of CDS is recommended.

**Sell Protection:** Sell CDS, therefore going long credit risk.

### Corporate Credit Issuer Investment Rating Distribution: Global Group (as of 31 Dec 2024)

Coverage Universe	Count	Percent	Inv. Banking Relationships <sup>R2</sup>	Count	Percent
Buy	135	37.82%	Buy	105	77.78%
Hold	169	47.34%	Hold	143	84.62%
Sell	53	14.85%	Sell	47	88.68%

<sup>R2</sup> Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only corporate credit issuer recommendations. A corporate credit issuer rated Overweight is included as a Buy, a corporate credit issuer rated Marketweight is included as a Hold, and a corporate credit issuer rated Underweight is included as a Sell.

Credit Opinion History Tables for the securities referenced in this research report are available on the [Price Charts and Credit Opinion History Tables website](#), or call 1-800-MERRILL to have them mailed.

The issuer is or was, within the last 12 months, an investment banking client of BofAS and/or one or more of its affiliates: Panama Canal Aut.

BofAS or an affiliate has received compensation from the issuer for non-investment banking services or products within the past 12 months: Panama Canal Aut.

The issuer is or was, within the last 12 months, a non-securities business client of BofAS and/or one or more of its affiliates: Panama Canal Aut.

BofAS or an affiliate has received compensation for investment banking services from this issuer within the past 12 months: Panama Canal Aut.

BofAS or an affiliate expects to receive or intends to seek compensation for investment banking services from this issuer or an affiliate of the issuer within the next three months: Panama Canal Aut.

BofAS or one of its affiliates has a significant financial interest in the fixed income instruments of the issuer. If this report was issued on or after the 15th day of the month, it reflects a significant financial interest on the last day of the previous month. Reports issued before the 15th day of the month reflect a significant financial interest at the end of the second month preceding the report: Panama Canal Aut.

BofAS or one of its affiliates trades or may trade as principal in the debt securities (or in related derivatives) that are the subject of this research report: Panama Canal Aut.

The issuer is or was, within the last 12 months, a securities business client (non-investment banking) of BofAS and/or one or more of its affiliates: Panama Canal Aut.

BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.





BofA Securities fixed income analysts regularly interact with sales and trading desk personnel in connection with their research, including to ascertain pricing and liquidity in the fixed income markets.

## Other Important Disclosures

From time to time research analysts conduct site visits of covered issuers. BofA Global Research policies prohibit research analysts from accepting payment or reimbursement for travel expenses from the issuer for such visits.

Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.

The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

This report may refer to fixed income securities or other financial instruments that may not be offered or sold in one or more states or jurisdictions, or to certain categories of investors, including retail investors. Readers of this report are advised that any discussion, recommendation or other mention of such instruments is not a solicitation or offer to transact in such instruments. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor for information relating to such instruments.

Rule 144A securities may be offered or sold only to persons in the U.S. who are Qualified Institutional Buyers within the meaning of Rule 144A under the Securities Act of 1933, as amended. SECURITIES OR OTHER FINANCIAL INSTRUMENTS DISCUSSED HEREIN MAY BE RATED BELOW INVESTMENT GRADE AND SHOULD THEREFORE ONLY BE CONSIDERED FOR INCLUSION IN ACCOUNTS QUALIFIED FOR SPECULATIVE INVESTMENT.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.

The securities or other financial instruments discussed in this report may be traded over-the-counter. Retail sales and/or distribution of this report may be made only in states where these instruments are exempt from registration or have been qualified for sale.

Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.

This report, and the securities or other financial instruments discussed herein, may not be eligible for distribution or sale in all countries or to certain categories of investors, including retail investors.

### Information relating to Affiliates of BofAS, MLPF&S and Distribution of Affiliate Research Reports:

Refer to [BofA Global Research policies relating to conflicts of interest](#).

**"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.**

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at [www.bofam.com/BofASEdisclaimer](http://www.bofam.com/BofASEdisclaimer); BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSF); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Canadian Investment Regulatory Organization; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority. This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSF; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the [Electronic Communications Disclaimers](#) for further information.

This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

### General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities.

This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion

expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

This report may contain a trading idea or recommendation which highlights a specific identified near-term catalyst or event impacting a security, issuer, industry sector or the market generally that presents a transaction opportunity, but does not have any impact on the analyst's particular "Overweight" or "Underweight" rating (which is based on a three month trade horizon). Trading ideas and recommendations may differ directionally from the analyst's rating on a security or issuer because they reflect the impact of a near-term catalyst or event.

Certain investment strategies and financial instruments discussed herein may only be appropriate for consideration in accounts qualified for high risk investment.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned in this report. Investors in such securities and instruments effectively assume currency risk.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.

In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

#### Copyright and General Information:

Copyright 2025 Bank of America Corporation. All rights reserved. iQDatabase® is a registered service mark of Bank of America Corporation. This information is prepared for the use of BofA Securities clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BofA Securities. This document and its content is provided solely for informational purposes and cannot be used for training or developing artificial intelligence (AI) models or as an input in any AI application (collectively, an AI tool). Any attempt to utilize this document or any of its content in connection with an AI tool without explicit written permission from BofA Global Research is strictly prohibited. BofA Global Research information is distributed simultaneously to internal and client websites and other portals by BofA Securities and is not publicly-available material. Any unauthorized use or disclosure is prohibited. Receipt and review of this information constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein (including any investment recommendations, estimates or price targets) without first obtaining express permission from an authorized officer of BofA Securities.

Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to sustainability in this material is limited as discussed herein and is not intended to provide a comprehensive view on any sustainability claim with respect to any issuer or security.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.

Subject to the quiet period applicable under laws of the various jurisdictions in which we distribute research reports and other legal and BofA Securities policy-related restrictions on the publication of research reports, fundamental equity reports are produced on a regular basis as necessary to keep the investment recommendation current.

Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofAS or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies.

Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this information.

