

India Watch

Consumption expenditure survey: share of food still high

Household consumption expenditure survey: methodology

Results of the latest household consumption expenditure survey (HCES) 2022-23 were released over the weekend. The NSSO and MOSPI together conducted this survey during Aug'22 to Jul'23. The key objective of this survey is to generate estimates of monthly per capita consumption expenditure (MPCE) of a household in both rural and urban areas. The distribution is separate for states, union territories and for different socio-economic groups. The survey collects information on consumption of goods and services by the households and demographic particulars of the households. As for its relevance for financial markets, this data is used for preparation of the weighting diagram for compilation of CPI. Information in the survey has been collected from 8,723 villages and 6,115 urban blocks, covering 2,61,746 households (1,55,014 in rural areas and 1,06,732 in urban areas). The consumption basket was divided into food items, consumables & services items and durable goods. A total of 405 items were covered in this survey. As during the duration of the survey a large part of total population was receiving free food grains (under the PM-JAY), a separate provision for collection of information on the quantity of consumption for a number of items, received and consumed by the households free of cost through various social welfare programs was made.

Per capita expenditure up for both rural & urban India

Prior to Jul'23 round of HCES, the last HCES was conducted during Jul'11- Jun'12. Over the last 11 years, MPCE for urban areas is up by 35% and for rural areas by 44%. As per the latest round of HCES, MPCE for rural areas stands at INR 3860 and for urban areas at INR6521 (Exhibit 2). As for share of spends in this total: 48% of MPCE in rural areas still goes to food (though down from 53% seen in last survey. For urban areas, 40% of MPCE goes to food, down from 42.6% seen in the last survey (Exhibit 3). Exhibit 4 shows sub-component wise share in MPCE for urban and rural areas. Processed foods have the highest share in the total food spends for both rural and urban areas. In the non-food total, conveyance has the single largest share.

Fractile data shows that the bottom 5% of India's rural population, ranked by MPCE, has an average MPCE of Rs 1441 while it is Rs 2087 in the urban areas. The top 5% of India's rural and urban population, has an average MPCE of Rs 10581 and Rs 20846, respectively

Implications for CPI: Weight of food to fall modestly

Exhibits 5 and 6 show change in % share of sub-components in MPCE for rural and urban areas over the last few HCES. For rural areas, the decline in share of food int total spends his largely driven by falling spends on cereals (this is adjusted for free-food grain program). The increase in non-food spends is led by higher spend share going to conveyance. As for urban areas, while the fall in spend share on cereal has driven the softening of total spend on food, the increase in non-food emanates from higher rent and conveyance spends, almost equally. In Exhibit 7, we assess what could weights for headline CPI look like when base year revision takes place. While all comparable data is not available, it is likely that weight of food in revised CPI could fall modestly to 42% from current 46%.

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 8 to 9.

Timestamp: 25 February 2024 10:46PM EST

26 February 2024

GEM Economics Asia | India

Aastha Gudwani

India Economist BofAS India +91 22 6632 8648 aastha.gudwani@bofa.com

See Team Page for List of Analysts

Glossary

CPI: Consumer Price Index NSSO: National Sample Survey Office MOSPI: Ministry of Statistics & Program Implementation

PM JAY: Pradhan Mantri Jan Arogya Yojana



Consumption expenditure survey: share of food still high

Exhibit 1: Average MPCE (Rs.) and share of food and non-food

Rural India spends 47% of its monthly per capital expenditure on food vs 40% seen in urban India

	Rural India		Urban India	
	Average	Share in total	Average	Share in total
Item Group	MPCE (Rs.)	MPCE (%)	MPCE (Rs.)	MPCE (%)
Food	1,832	47	2,589	40
Non-food	2,028	53	3,932	60

Source: MOSPI

BofA GLOBAL RESEARCH

Exhibit 2: Average MPCE (Rs.) over different period

Nominally, monthly per capita expenditure in both rural & urban India has increased vs previous surveys, the gap b/w the 2 has narrowed too

			2009-10 NSS (66th round)	2011-12 NSS (68th round)	2022-23
Rural	486	579	1,054	1,430	3,860
Urban	855	1,105	1,984	2,630	6,521
Differenc e as % of Rural MPCE	75.9	90.8	88.2	83.9	68.9

Source: MOSPI

BofA GLOBAL RESEARCH

Exhibit 3: Trend in share of consumption of cereals and food items

Over time, share of food in MPCE has steadily reduced for both rural & urban India

	Rural		Urban	
	% share of cereals in avg.	% share of food in avg.	% share of cereals in avg.	% share of food in avg.
Period	MPCE.	MPCE	MPCE	MPCE
1999-00	22.23	59.4	12.39	48.06
2004-05	17.45	53.11	9.63	40.51
2009-10	13.77	56.98	8.16	44.39
2011-12	10.75	52.9	6.66	42.62
2022-23	6.92	47.47	4.51	39.7

Source: MOSPI

BofA GLOBAL RESEARCH

Exhibit 4: Absolute & % break-up of MPCE by item group in 2022-23

Processed food now has the highest share in total food expenditure by rural & urban India

	MPCE (Rs.)		% share in total MPCE		
Item group	Rural	Urban	Rural	Urban	
cereals & cereal substitutes	267	294	6.92	4.51	
pulses & their products*	76	90	1.97	1.38	
sugar & salt	35	39	0.92	0.6	
milk & milk products	314	466	8.14	7.15	
vegetables	203	245	5.26	3.76	
fruits	140	246	3.63	3.77	
egg, fish & meat	185	231	4.8	3.54	
edible oil	136	153	3.52	2.35	
spices	113	138	2.92	2.11	
beverages, refreshments,					
processed food#	363	687	9.41	10.53	
food total	1,832	2,589	47.47	39.7	
pan, tobacco & intoxicants	143	157	3.7	2.41	
fuel and light	251	404	6.51	6.2	
education	125	374	3.23	5.73	
medical	269	382	6.96	5.85	
conveyance	285	555	7.38	8.51	
consumer services excluding					
conveyance	192	382	4.96	5.86	
misc. goods, entertainment	234	424	6.07	6.5	
rent	30	423	0.76	6.49	
taxes and cesses	5	16	0.12	0.24	
clothing, bedding &					
footwear	233	351	6.03	5.38	
durable goods	262	465	6.79	7.13	
non-food total	2,028	3,932	52.53	60.3	
all items	3,860	6,521	100	100	
5 NAOSDI		'-	:		

Source: MOSPI

BofA GLOBAL RESEARCH



Exhibit 5: Trend in percentage composition of MPCE since 1999-'00: Rural India (% share in total MPCE)

A sharp fall in share of cereals in total food expenditure is visible on one hand, a jump in conveyance expenditure increase in non-food total on the other

	1999-00 2004-05 2009-10 2011 NSS (55th NSS (61st NSS (66th NSS (NSS (68th		
	round)	round)	round)	round	2022-23
ereal	22.16	17.38	13.71	10.69	6.9
ereal substitutes	0.07	0.07	0.06	0.06	0.02
gram	0.13	0.13	0.13	0.14	0.24
oulses and pulse products*	3.81	2.97	3.19	2.76	1.73
sugar & salt	2.6	2.48	2.34	1.83	0.92
milk and milk products	8.75	8.17	7.64	8.04	8.14
vegetables	6.17	5.88	8.29	6.62	5.26
ruits (fresh)	1.42	1.46	1.93	2.25	2.48
ruits (dry)	0.3	0.34	0.49	0.58	1.15
egg, fish & meat	3.32	3.21	4.74	4.79	4.8
edible oil	3.74	4.44	3.69	3.74	3.52
pices	2.74	2.21	3.36	3.5	2.92
peverages, processed food#,					
etc.	4.19	4.38	7.4	7.9	9.41
ood: total	59.4	53.11	56.98	52.9	47.47
oan, tobacco & intoxicants	2.87	2.6	2.95	3.21	3.7
uel and light	7.52	9.81	8.03	7.98	6.51
oilet articles & other					
nousehold consumables	4.73	4.83	4.02	4.01	5.01
education	1.93	3.12	3.59	3.49	3.23
nedical (hospitalization)	1.37	1.62	1.65	2.15	2.31
nedical (non-hospitalization)	4.72	4.65	3.75	4.5	4.66
onveyance	2.94	3.63	3.45	4.2	7.38
consumer services					
excluding conveyance	2.98	3.66	4.21	3.99	4.96
entertainment	0.42	0.6	0.79	0.99	1.06
ent	0.39	0.48	0.46	0.45	0.76
other taxes & cesses	0.16	0.19	0.21	0.25	0.12
lothing & bedding	6.85	6.74	5.3	5.99	5.18
ootwear	1.1	1.01	0.92	1.02	0.85
durable goods	2.62	3.95	3.69	4.85	6.79
on-food: total	40.6	46.89	43.02	47.1	52.53
otal expenditure	100	100	100	100	100

Source: MOSPI

BofA GLOBAL RESEARCH

Exhibit 6: Trend in percentage composition of MPCE since 1999-'00: Urban India (% share in total MPCE)

Fall in spend share of cereals drove the overall decline in food spend. Increase in rent & conveyance pushed up non-food spend share

	1999-00 NSS (55th round)	2004-05 NSS (61st round)	2009-10 NSS (66th round)	2011-12 NSS (68th round	2022-23
cereal	12.35	9.58	8.12	6.61	4.49
cereal substitutes	0.04	0.05	0.04	0.05	0.02
gram	0.11	0.1	0.1	0.11	0.18
oulses and pulse products*	2.84	2.04	2.37	1.93	1.2
ugar & salt	1.8	1.57	1.49	1.15	0.6
nilk and milk products	8.68	7.54	6.9	7.01	7.15
egetables	5.13	4.24	5.67	4.63	3.76
ruits (fresh)	1.95	1.68	2.54	2.64	2.48
ruits (dry)	0.47	0.46	0.63	0.78	1.29
gg, fish & meat	3.13	2.58	3.63	3.65	3.54
dible oil	3.14	3.29	2.66	2.66	2.35
pices	2.07	1.47	2.21	2.42	2.11
everages, processed food#,					
tc.	6.35	5.91	8.03	8.98	10.53
ood: total	48.06	40.51	44.39	42.62	39.7
an, tobacco & intoxicants	1.9	1.54	1.53	1.61	2.41
uel and light	7.75	9.47	6.94	6.69	6.2
oilet articles & other					
ousehold consumables	5.5	4.65	3.88	3.88	4.93
ducation	4.33	6.67	8.09	6.9	5.73
nedical (hospitalization)	1.44	1.44	1.83	1.96	1.89
nedical (non-hospitalization)	3.62	3.76	3.16	3.58	3.96
onveyance	5.52	6.21	5.63	6.52	8.51
onsumer services					
xcluding conveyance	4.73	6.71	6.25	5.6	5.86
ntertainment	1.16	1.79	1.6	1.61	1.57
ent	4.46	5.38	5.79	6.24	6.49
ther taxes & cesses	0.69	0.77	0.79	0.82	0.24
othing & bedding	6.05	5.6	4.85	5.37	4.62
ootwear	1.18	1.03	0.96	1	0.76
urable goods	3.61	4.46	4.31	5.6	7.13
on-food: total	51.94	59.49	55.61	57.38	60.3
otal expenditure	100	100	100	100	100
1.10501					

Source: MOSPI

BofA GLOBAL RESEARCH

Exhibit 7: Sub-component wise share in MPCE as per latest HCES vs current weights in rural and urban CPI

While comparable weights for all sub-components of CPI is not available, the weight of food in headline CPI could potentially go lower with base year revision

	Current weight in CPI (2012=100)		Share in MPCE (2022-23 HCES)	
	Rural	Urban	Rural	Urban
Cereals and products	12.35	6.59	6.92	4.51
Egg, Meat and fish	4.87	3.09	4.8	3.5
Milk and products	7.72	5.33	8.14	7.15
Oils and fats	4.21	2.81	3.52	2.35
Fruits	2.88	2.9	3.63	3.77
Vegetables	7.46	4.41	5.26	3.76
Pulses and products	2.95	1.73	1.97	1.38
Sugar and confectionery	1.7	0.97	0.92	0.6
Spices	3.11	1.79	2.92	2.11
Beverages, refreshments	6.93	6.67	9.41	10.53
Food and beverages	54.18	36.29	47.47	39.7
Pan, tobacco and intoxicants	3.26	1.36	3.7	2.4
Clothing	6.32	4.72		
Footwear	1.04	0.85		
Clothing and footwear	7.36	5.57	6.03	5.38
Housing		21.67	0.76	6.49
Fuel and light	7.94	5.58	6.51	6.2
Household goods and services	3.75	3.87		
Health	6.83	4.81	6.96	5.85
Transport and communication	7.6	9.73	7.38	8.51



Exhibit 7: Sub-component wise share in MPCE as per latest HCES vs current weights in rural and urban CPI

While comparable weights for all sub-components of CPI is not available, the weight of food in headline CPI could potentially go lower with base year revision

	Current weight in CPI (2012=100)		Share in MPCE (2022-23 HCES)	
Recreation and amusement	1.37	2.04		
Education	3.46	5.62	3.23	5.73
Personal care and effects	4.25	3.47		
Miscellaneous	27.26	29.53		
General Index (All Groups)	100	100		

Source: MOSPI

BofA GLOBAL RESEARCH

Special Disclosures

In accordance with the SEBI (Foreign Portfolio Investors) Regulations, 2019 and with guidelines issued by the Securities and Exchange Board of India (SEBI), foreign investors (individuals as well as institutional) that wish to transact the common stock of Indian companies must have applied to, and have been approved as per SEBI (Foreign Portfolio Investors) Regulations, 2019. Each investor who proposes to transact common stock of Indian companies will be required to obtain Foreign Portfolio Investor (FPI) registration as per SEBI (Foreign Portfolio Investors) Regulations, 2019. Certain other entities are also entitled to transact common stock of Indian companies under the Indian laws relating to investment by foreigners. BofA Securities reserves the right to refuse to provide a copy of research on common stock of Indian companies to a person not resident in India. American Depositary Receipts (ADR) representing such common stock are not subject to these Indian law restrictions and may be transacted by investors in accordance with the applicable laws of the relevant jurisdiction. Global Depository Receipts (GDR) and the Global Depository Shares (GDS) of Indian companies, Indian limited liability corporations, have not been registered under the U.S. Securities Act of 1933, as amended, and may only be transacted by persons in the United States who are Qualified Institutional Buyers (QIBs) within the meaning of Rule 144A under the Securities Act. Accordingly, no copy of any research report on Indian companies' GDRs or GDSs will be made available to persons who are not QIBs.

BofA Securities India Limited (BofAS India) is regulated by the Securities and Exchange Board of India (SEBI) and provides the following services in India: Research, Equity Sales & Trading, Futures & Options, Electronic Trading, Equity Capital Markets, Debt Capital Markets and M&A. SEBI Registration Nos. Research Analyst: INH000000503, Stock Broking: INZ000217333 (Trading and Clearing Member of NSE and BSE – Capital Markets and Equity Derivatives), Merchant Banker: INM000011625, CIN U74140MH1975PLC018618. Registration granted by SEBI and certification from National Institute of Securities Markets (NISM) in no way guarantee performance of the intermediary or provide any assurance of returns to investors. BofAS India's registered office is at Ground Floor, A Wing, One BKC, G Block, Bandra Kurla Complex, Bandra (East), Mumbai 400 051, India, Tel: +91 22 6632 8000 and the contact details of its Compliance Officer (Shervin Purohit) are:



Tel: (91-22) 6632 8853, Email: shervin.purohit@bofa.com. For specific grievances, if any, please contact the Grievance Officer (Amish Shah) and contact details are: Tel: (91-22) 6632 8000, Email: dg.rsch_in_complaint@bofa.com. Investment in securities market are subject to market risks. Read all the related documents carefully before investing.



Disclosures

Important Disclosures

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.

Other Important Disclosures

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.

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.

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. Individuals identified as economists do not function as research analysts under U.S. law and reports prepared by them are not research reports under applicable U.S. rules and regulations. Macroeconomic analysis is considered investment research for purposes of distribution in the U.K. under the rules of the Financial Conduct Authority. 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.

Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:

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.bofaml.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 (Australia): Merrill Lynch (Hong Kong): Merr (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSFC); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch (Canada): Merrill Lynch (Canada): Merrill Lynch (Mexico): Merrill Mexico): Merrill Lynch (Mexico): Merrill Lynch (Mexico): Merrill Lynch (Mexico): Merrill Lynch (Me de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional 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 (I 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 HKSFC; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); 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 in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Securities group. You may b

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.

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 2024 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. 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 inform

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 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.

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.



Research Analysts

Asia Economics

China, Hong Kong, Taiwan

Helen Qiao

China & Asia Economist Merrill Lynch (Hong Kong) +852 3508 3961 helen.giao@bofa.com

Miao Ouyang

China & Asia Economist Merrill Lynch (Hong Kong) miao.ouyang@bofa.com

Benson Wu

China & Korea Economist Merrill Lynch (Hong Kong) benson.wu@bofa.com

Xiaoqing Pi

China Economist Merrill Lynch (Hong Kong) xiaoqing.pi@bofa.com

North Asia

Ting Him Ho, CFA

Asia Economist Merrill Lynch (Hong Kong) +852 3508 8744 tinghim.ho@bofa.com

India

Aastha Gudwani

India Economist BofAS India aastha.gudwani@bofa.com

The Philippines

Jojo Gonzales ^/

Research Analyst Philippine Equity Partners jojo.gonzales@pep.com.ph

Thailand

Pipat Luengnaruemitchai

Emerging Asia Economist Kiatnakin Phatra Securities pipat.luen@kkpfg.com

Australia

Micaela Fuchila

Economist Merrill Lynch (Australia) micaela.fuchila@bofa.com

Indonesia, Malaysia, Singapore

Kai Wei Ang Asia & ASEAN Economist Merrill Lynch (Singapore) kaiwei.ang@bofa.com

Japan

Izumi Devalier

Japan and Asia Economist BofAS Japan izumi.devalier@bofa.com

Takayasu Kudo

Japan and Asia Economist BofAS Japan takayasu.kudo@bofa.com

Global FX and Rates Strategy

Claudio Piron Emerging Asia FI/FX Strategist Merrill Lynch (Singapore) claudio.piron@bofa.com

Adarsh Sinha

FX Strategist Merrill Lynch (Hong Kong) adarsh.sinha@bofa.com

Abhay Gupta

Emerging Asia FI/FX Strategist Merrill Lynch (Singapore) abhay.gupta2@bofa.com

Chun Him Cheung, CFA

Emerging Asia FI/FX Strategist Merrill Lynch (Hong Kong) chunhim.cheung@bofa.com

Janice Xue

Emerging Asia FI/FX Strategist Merrill Lynch (Hong Kong) janice.xue@bofa.com

Equity and Credit Strategy

Nigel Tupper >> Quant Strategist Merrill Lynch (Australia) nigel.tupper@bofa.com

BofA Securities participated in the preparation of this report, in part, based on information provided by Philippine Equity Partners, Inc. (Philippine Equity Partners). ^^Philippine Equity Partners employees are not registered/qualified as research analysts under FINRA rules.

>> Employed by a non-US affiliate of BofAS and is not registered/qualified as a research analyst under the FINRA rules

Refer to "Other Important Disclosures" for information on certain BofA Securities entities that take responsibility for the information herein in particular jurisdictions.

