

Tourism - China

China Tourism monthly (Feb) – Expansion of IVS scheme; solid domestic RevPAR

Industry Overview

HK/Macau IVS expansion: See room to expand further

On 23 Feb, the Central government announced that it will expand the scope of the HK/Macau IVS scheme by adding 2 more cities (Xi'an and Qingdao) to the existing 49 cities coverage, effective from 6 March. The 49 cities coverage has not been revised since the last relaxation in 2007. The relaxation could be a response to the request by HK government due to slower than expected macro recovery in HK. We estimate +LSD impact to HK/Macau visitations/spending. We expect scope for IVS coverage to further expand in the future. Other potential cities to be included could be capital cities of the provinces not yet covered and the remaining Tier 2-3 cities with high GDP.

China Hotels: Jan'24 RevPAR +16% YoY

According to STR, Jan'24 China RevPAR was up 16% YoY driven by 12pps YoY increase in OCC partly offset by 7% YoY decline in ADR. Weekly RevPAR recovery level was +8% YoY in the last week of Jan (28 Jan - 3 Feb), -16% YoY in the first week of Feb (4 Feb - 10 Feb), +55% YoY in the second week (11 Feb - 17 Feb) and -25% YoY in the third week (18 Feb - 24 Feb). RevPAR of trailing 28 days until Feb 24 was up 5.4% YoY. As such, we estimate RevPAR growth for leading branded operators in China remains positive in Jan-Feb combined.

DF: Jan sales at RMB3.6bn (-43% YoY)

According to Haikou customs, Hainan DF sales was down 43% YoY to RMB3.6bn in Jan'24, driven by 21% YoY decline in purchasers and 28% decline in average spend per purchaser to RMB5,829. In terms of product category breakdown, sales of watches/handbags and suitcases/C&P products underperformed with 54%/49%/44% YoY decline while jewellery outperformed with 35% decline in Jan'24. The highest sales mix remains C&P at 40%, followed by 17% for jewellery and 10% for clothing in Jan'24.

Macau back to 84% vs. '19; HK back to 60% vs. '18

Macau: Total visitation/mainland visitation was 2.86mn/2.06mn in Jan'24, recovering to 84%/82% of the 2019 level (vs. 96%/94% in Dec'23). FY23 total visitation/mainland visitation was 28.2mn/19mn, recovering to 72%/68% of the 2019 level. **Hong Kong:** Total visitation/mainland visitation was 3.93mn/2.94mn in Dec'23, recovering to 60%/57% of the 2018 level (vs. 55%/52% in Nov'23). FY23 total visitation/mainland visitation was 34mn/26.8mn, recovering to 52%/52% of the 2018 level.

Outbound: See improvement for short-haul destinations

We have seen recovery for both absolute visitations and recovery rate vs. 2019 for several short-haul outbound destinations in Dec'23/Jan'24, including Taiwan/Japan/Philippines/Vietnam/Singapore.

>> 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.

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 10 to 12.

12666159

01 March 2024

Equity China Leisure

Ronald Leung, CFA >> Research Analyst Merrill Lynch (Hong Kong) +852 3508 3728 ronald.leung@bofa.com

Candice Zhang >> Research Analyst Merrill Lynch (Hong Kong) +852 3508 7399 candice.zhang@bofa.com

Yoyo Pang >> Research Analyst Merrill Lynch (Hong Kong) +852 3508 7607 yoyo.pang@bofa.com

DF: Duty free

CNY: Chinese New Year

GW: Golden week

IVS: Individual Visit Scheme

OCC: Occupancy

ADR: Average Daily Rate

C&P: Cosmetics and perfumes

Expansion of IVS scheme

On 23 Feb, the Central government announced that it will expand the scope of HK/Macau IVS scheme by adding 2 more cities (Xi'an and Qingdao) to the existing 49 cities coverage, effective from 6 March. The 49 cities coverage has not been revised since the last relaxation in 2007. The relaxation could be a response to the request by HK government due to slower than expected macro recovery in HK. We estimate +LSD impact on HK/Macau visitations/spending. We see scope for IVS coverage to further expand in the future. Other potential cities to be included could be capital cities of the provinces not yet covered and the remaining Tier 2-3 cities with high GDP.

So far, IVS has been introduced to all 4 municipalities, 18 provinces (a total of 23 provinces in China) and 1 autonomous region (a total of 5 autonomous regions in China). All four Tier 1 cities and fifteen new Tier 1 cities are covered after the recent inclusion of Xi'an and Qingdao. Only 18 of the total 30 Tier 2 cities have been covered. We expect scope for IVS coverage to further increase. Other potential cities to be included could be capital cities of the provinces not yet covered eg. Harbin, Taiyuan, Lanzhou, Xining, and the remaining Tier 2 and Tier 3 cities with high GDP eg. Nantong, Changzhou, Yantai, Tangshan, Xuzhou, Wenzhou etc. (see Exhibit 4 and 5 for more details).

Exhibit 1: Timeline of IVS cities introduction

Xi'an and Qingdao are newly introduced since last batch of cities were introduced in 2007

IVS cities introduced

	1V5 cides indiodaced
Jul 2003	Dongguan, Foshan, Zhongshan, Jiangmen
Aug 2003	Guangzhou, Shenzhen, Zhuhai, Huizhou
Sep 2003	Shanghai, Beijing
Jan 2004	Shantou, Chaozhou, Meizhou, Zhaoqing, Qingyuan, Yunfu
May 2004	Shanwei, Maoming, Zhanjiang, Shaoguan, Jieyang, Heyuan, Yangjiang
Jul 2004	Nanjing, Suzhou, Wuxi, Hangzhou, Ningbo, Taizhou, Fuzhou, Xiamen, Quanzhou
Mar 2005	Tianjin, Chongqing
Nov 2005	Chengdu, Jinan, Dalian, Shenyang
May 2006	Nanchang, Changsha, Nanning, Haikou, Guiyang, Kunming
Jan 2007	Shijiazhuang, Zhengzhou, Changchun, Hefei, Wuhan
Mar 2024	Xi'an, Qingdao
	<u> </u>

Source: Government data

BofA GLOBAL RESEARCH

Exhibit 2: IVS cities introduced by provinces

Cities in 4 municipalities, 18 provinces and 1 autonomous region have been covered

Province	Cities introduced	#citis introduced
Guangdong	All 21 cities	21
Municipality	Beijing, Shanghai, Tianjin, Chongqing	4
Jiangsu	Nanjing, Suzhou, Wuxi	3
Zhejiang	Hangzhou, Ningbo, Taizhou (台州)	3
Fujian	Fuzhou, Xiamen, Quanzhou	3
Liaoning	Dalian, Shenyang	2
Shandong	Jinan, Qingdao	2
Sichuan	Chengdu	1
Jiangxi	Nanchang	1
Hunan	Changsha	1
Guangxi	Nanning	1
Hainan	Haikou	1
Guizhou	Guiyang	1
Yunnan	Kunming	1
Hebei	Shijiazhuang	1
Henan	Zhengzhou	1
Jilin	Changchun	1
Anhui	Hefei	1
Hubei	Wuhan	1
Shaanxi	Xi'an	1
Source: Governme	ent data, BofA Global Research	



Exhibit 3: IVS cities by city tier

All 19 Tier 1/New Tier 1 cities and 18 of the total 30 Tier 2 cities have been covered

	IVS cities	#cities
Tier 1	Beijing, Shanghai, Guangzhou, Shenzhen	4
New Tier 1	Chengdu, Shenyang, Tianjin, Chongqing, Changsha, Kunming, Zhengzhou, Wuhan, Nanjing, Hangzhou, Ningbo, Dongguan, Suzhou, Xi'an, Qingdao	15
Tier 2	Wuxi, Jinan, Dalian, Nanchang, Nanning, Haikou, Guiyang, Shijiazhuang, Changchun, Hefei, Fuzhou, Xiamen, Zhuhai, Huizhou, Quanzhou, Foshan, Zhongshan, Taizhou (台州)	18
Tier 3	Shantou, Chaozhou, Meizhou, Zhaoqing, Qingyuan, Zhanjiang, Jieyang, Jiangmen	8
Tier 4	Shanwei, Maoming, Shaoguan, Heyuan, Yangjiang	5
Tier 5 Total	Yunfu	1 51

Source: Government data, Yicai, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 4: Provinces where IVS visa not introduced

Capital cities of the provinces not yet covered could be candidates for future IVS expansion eg. Harbin, Taiyuan, Lanzhou, Xining

Provinces not yet covered	Capital city
Shanxi (山西)	Taiyuan
Heilongjiang	Harbin
Gansu	Lanzhou
Qinghai	Xining
Source: Government data, BofA Global Resea	arch

BofA GLOBAL RESEARCH

Exhibit 5: IVS visa coverage in TOP50 GDP cities (highlighted cities are not covered)The remaining Tier 2 and Tier 3 cities with high GDP could be candidates for future IVS expansion eg. Nantong, Changzhou, Yantai, Tangshan, Xuzhou, Wenzhou and etc.

GDP ranking in 2022	City	Tier 2 city	Tier 3 city	Below Tier 3
1	Shanghai			
2	Beijing			
3	Shenzhen			
4	Chongqing			
5	Guangzhou			
6	Suzhou			
7	Chengdu			
8	Wuhan			
9	Hangzhou			
10	Nanjing			
11	Tianjin			
12	Ningbo			
13	Qingdao			
14	Wuxi			
15	Changsha			
16	Zhengzhou			
17	Foshan			
18	Fuzhou			
19	Quanzhou			
20	Jinan			
21	Hefei			
22	Xi'an			
23	Nantong	Υ		
24	Dongguan			
25	Changzhou	Υ		
26	Yantai	Υ		
27	Tangshan		Υ	
28	Xuzhou	Υ		
29	Dalian			
30	Wenzhou	Υ		
31	Xiamen			



Exhibit 5: IVS visa coverage in TOP50 GDP cities (highlighted cities are not covered)

The remaining Tier 2 and Tier 3 cities with high GDP could be candidates for future IVS expansion eg. Nantong, Changzhou, Yantai, Tangshan, Xuzhou, Wenzhou and etc.

GDP ranking in 2022	City	Tier 2 city	Tier 3 city	Below Tier 3
32	Shenyang			
33	Kunming			
34	Shaoxing	Υ		
35	Weifang		Υ	
36	Nanchang			
37	Yangzhou	Υ		
38	Shijiazhuang			
39	Yancheng		Υ	
40	Changchun			
41	Jiaxing	Υ		
42	Yulin			Υ
43	Taizhou (泰州)		Υ	
44	Taizhou (台州)			
45	Xiangyang		Υ	
46	Linyi		Υ	
47	Zhangzhou		Υ	
48	Luoyang		Υ	
49	Ordos			Υ
50	Taiyuan	Υ		

Source: Government data, Yicai, BofA Global Research

BofA GLOBAL RESEARCH

China RevPAR: Jan'24 RevPAR +16% YoY

According to STR, Jan'24 China RevPAR was up 16% YoY driven by 12pps YoY increase in OCC partly offset by 7% YoY decline in ADR. Weekly RevPAR recovery level was +8% YoY in the last week of Jan (28 Jan - 3 Feb), -16% YoY in the first week of Feb (4 Feb - 10 Feb), +55% YoY in the second week (11 Feb - 17 Feb) and -25% YoY in the third week (18 Feb - 24 Feb). RevPAR of trailing 28 days until Feb 24 was up 5.4% YoY. As such, we estimate RevPAR growth for leading branded operators in China remains positive in Jan-Feb combined.

Exhibit 6: China monthly RevPAR change YoY (%)

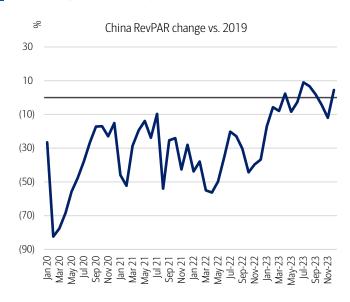
China monthly RevPAR increase by 16% YoY in Jan'24



Source: STR Global, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 7: China monthly RevPAR change vs. 2019 level (%) China monthly RevPAR was up by 4.5% vs. 2019 level in Dec'23

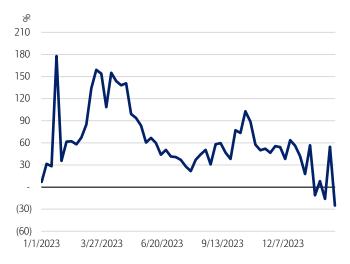


Source: STR Global, BofA Global Research



Exhibit 8: China weekly RevPAR change YoY (%)

China weekly RevPAR declined by 25% YoY in the week beginning on 18 Feb, 2024

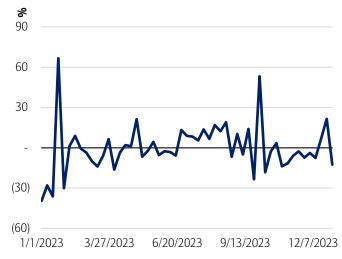


Source: STR Global, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 9: China weekly RevPAR change vs. 2019 level (%)

China weekly RevPAR declined by 13% vs. the 2019 level in the week beginning on 31 Dec, 2023



Source: STR Global, BofA Global Research

BofA GLOBAL RESEARCH

Hainan DF: Jan'24 sales at RMB3.6bn

According to Haikou customs, Hainan DF sales was down 43% YoY to RMB3.6bn in Jan'24, driven by 21% YoY decline in purchasers and 28% decline in average spend per purchaser to RMB5,829.

Exhibit 10: Hainan monthly DF sales (RMB mn)

Hainan DF sales was RMB3.6bn in Jan'24



Exhibit 11: Hainan monthly DF purchasers ('000)

Hainan monthly DF purchasers were 619k in Jan'24



Source: Haikou customs



Exhibit 12: Hainan monthly DF sales per purchaser (RMB)

Hainan monthly DF sales per purchaser was RMB5,829 in Jan'24

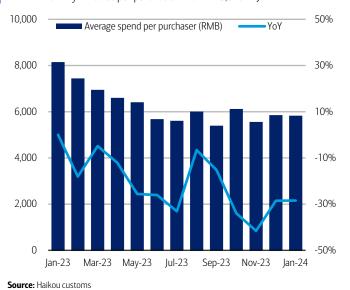
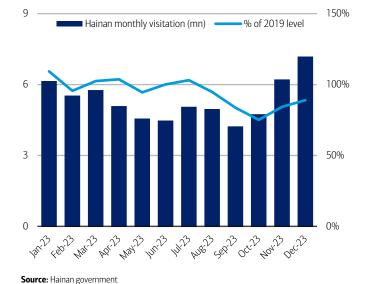


Exhibit 13: Hainan monthly visitation (overnight)

Hainan recorded 7.19mn monthly overnight visitation in Dec'23, recovering to 89% of the 2019 level



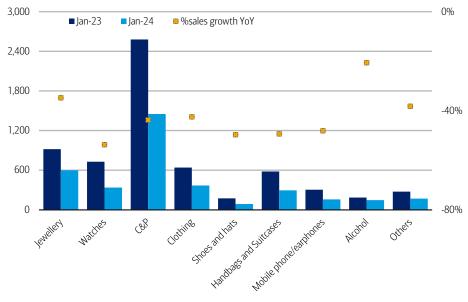
BofA GLOBAL RESEARCH

In terms of product category breakdown, watches/handbags and suitcases/C&P products led the decline with sales down by 54%/49%/44% YoY, while jewellery/alcohol outperformed with sales down by 35%/21% YoY. C&P, jewellery, clothing and watches remain the top four product categories in terms of sales mix. Sales mix from C&P products and clothing remained flat YoY at 40% and 10% in Jan'24, respectively. Sales mix from jewellery/alcohol was up by 3pps/1pps YoY to 17%/4% while watches/handbags and suitcases declined by 2pps/1pps YoY to 9%/8% respectively.

BofA GLOBAL RESEARCH

Exhibit 14: Hainan duty free sales by product category in Jan'24 (RMB mn)

DF sales of jewellery and alcohol outperformed in Jan'24



Source: Haikou customs

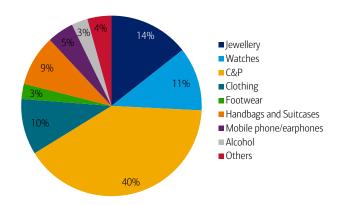


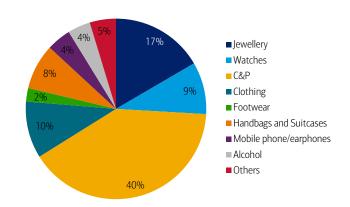
Exhibit 15: Hainan duty free sales mix in Jan'23

C&P products accounted for 40% if total DF sales in Jan'23

Exhibit 16: Hainan duty free sales mix in Jan'24

C&P products accounted for 40% if total DF sales in Jan'24, flat YoY





Source: Haikou customs Source: Haikou customs

BofA GLOBAL RESEARCH

BofA GLOBAL RESEARCH

Hainan DF sales stood at RMB2.49bn during the 8-day CNY holiday with daily average of RMB311mn. The daily sales exceeded 2023 May and Oct GW levels on both higher purchaser numbers and average spend per purchaser.

Exhibit 17: DF sales during key holiday seasons

Daily sales during CNY'24 exceeded 2023 May and Oct GW levels on both higher purchaser numbers and average spend per purchaser

GW	Date	DF sales (RMB mn)	Ave. daily DF sales (RMB mn)	DF shoppers	Ave. spend per capita (RMB)
2022 CNY	1/31/2022 - 2/6/2022	1,473	210	143,366	10,277
2023 CNY	1/21/2023 - 1/27/2023	1,560	223	157,000	9,936
2023 May GW	4/29/2023 - 5/3/2023	883	177	109,000	8,101
2023 Oct GW	9/29/2023 - 10/6/2023	1,330	166	170,000	7,824
2024 CNY	2/10/2024 - 2/17/2024	2,489	311	297,700	8,358
Daily breakdown	2/10/2024		245		
	2/11/2024 - 2/12/2024		318		
	2/13/2024		336		
	2/14/2024		368		
	2/15/2024		315		
	2/16/2024		314		
	2/17/2024		275		

 $\textbf{Source:} \ \mathsf{Haikou} \ \mathsf{customs}, \ \mathsf{BofA} \ \mathsf{Global} \ \mathsf{Research}$

BofA GLOBAL RESEARCH

Outbound visitations summary

Macau: Total visitation/mainland visitation was 2.86mn/2.06mn in Jan'24, recovering to 84%/82% of the 2019 level (vs. 96%/94% in Dec'23). FY23 total visitation/mainland visitation was 28.2mn/19mn, recovering to 72%/68% of the 2019 level. **Hong Kong:** Total visitation/mainland visitation was 3.93mn/2.94mn in Dec'23, recovering to 60%/57% of the 2018 level (vs. 55%/52% in Nov'23). FY23 total visitation/mainland visitation was 34mn/26.8mn, recovering to 52%/52% of the 2018 level.

In FY23, there is a wide range of recovery level of 15-70% vs. 2019 for different popular destinations for the Chinese. Visitations recovery picked up quickly in 1H23 post reopening but remained fluctuated post summer holidays. We have seen recovery in both absolute visitations and recovery rate vs. 2019 for several short-haul outbound destinations in Dec'23/Jan'24, including Taiwan/Japan/Philippines/Vietnam/Singapore.



Exhibit 18: Chinese visitation recovery

There is a wide range of recovery level of 15-70% vs. 2019 for different popular destinations for the Chinese in FY23.

		FY18	FY23	% recovery
Greater China	Hong Kong	51,038,230	26,760,453	52%
		FY19	FY23	% recovery
Greater China	Macau	27,923,219	19,049,147	68%
Uleater Cillia	Taiwan	2,683,093	218,017	8%
	Japan	9,594,394	2,425,040	25%
	Thailand	11,138,658	3,521,095	32%
APAC.	Philippines	1,743,309	263,836	15%
APAC	Vietnam	5,806,425	1,743,204	30%
	Singapore	3,618,705	1,363,920	38%
	Australia	1,438,700	535,790	37%
Nouth Amouica	US	2,829,970	1,078,056	38%
North America	Canada	749,944	224,963	30%

Source: Hong Kong C&SD, Macau DSEC, Taiwan MOTC, JTB, Philippines Department of Tourism, Vietnam Tourism, Stan, Tourism Australia, US International Trade Administration, Statistics Canada

BofA GLOBAL RESEARCH

Exhibit 19: Monthly Chinese visitations summary

Visitations recovery to major destinations improved sequentially in Dec'23 and Jan'24

		Jan'23	Feb'23	Mar'23	Apr'23	May'23	Jun'23	Jul'23	Aug'23	Sep'23	Oct'23	Nov'23	Dec'23	Jan'24
	Hong Kong	280,525	1,109,885	1,970,777	2,308,561	2,285,859	2,155,143	2,975,846	3,435,296	2,163,389	2,703,066	2,427,471	2,944,635	
	% recovery (vs. 2018)	7%	25%	54%	57%	60%	59%	68%	71%	58%	58%	52%	57%	
Greater China	Macau	991,641	1,003,999	1,242,358	1,386,944	1,474,304	1,444,933	1,910,371	2,322,580	1,589,423	1,949,510	1,770,861	1,962,223	2,056,133
Greater Crima	% recovery (vs. 2019)	40%	39%	52%	59%	61%	69%	74%	88%	83%	83%	87%	94%	82%
	Taiwan	9,336	9,103	10,208	14,013	13,073	14,371	26,011	24,777	22,057	22,146	21,374	31,548	
	% recovery (vs. 2019)	4%	3%	4%	5%	4%	6%	8%	9%	19%	20%	23%	31%	
	Japan	31,291	36,285	75,814	108,295	134,510	208,573	313,328	364,228	325,645	256,371	258,300	312,400	
	% recovery (vs. 2019)	4%	5%	11%	15%	18%	24%	30%	36%	40%	35%	34%	44%	
	Philippines	9,648	14,904	19,281	25,076	18,071	21,818	33,874	31,656	25,355	23,728	21,440	18,985	33,389
	% recovery (vs. 2019)	7%	9%	12%	18%	14%	16%	20%	19%	17%	17%	17%	16%	25%
APAC	Vietnam	15,875	55,029	69,329	111,903	146,755	158,260	180,426	212,301	172,694	184,370	202,009	234,253	242,181
APAC	% recovery (vs. 2019)	4%	11%	18%	26%	34%	46%	44%	44%	29%	31%	30%	42%	65%
	Singapore	28,360	35,310	60,890	90,720	95,610	113,290	231,330	215,400	135,680	122,770	104,350	130,210	211,190
	% recovery (vs. 2019)	9%	11%	20%	30%	34%	43%	59%	54%	55%	48%	42%	48%	66%
	Australia	14,630	40,430	26,810	32,000	32,210	37,330	79,040	58,790	59,080	43,060	45,880	66,530	
	% recovery (vs. 2019)	10%	20%	22%	33%	34%	46%	53%	46%	60%	42%	45%	60%	
North America	US	63,386	40,829	67,440	64,637	87,622	86,392	110,533	174,032	118,969	84,640	77,020	102,556	153,532
	% recovery (vs. 2019)	19%	20%	35%	35%	34%	35%	36%	47%	48%	50%	58%	58%	45%
	Canada	10,143	8,700	10,632	11,977	19,389	23,822	27,642	23,527	25,422	29,373	15,468	18,868	
	% recovery (vs. 2019)	18%	19%	31%	28%	31%	31%	26%	22%	28%	50%	52%	46%	

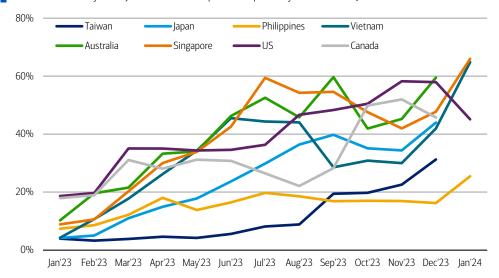
Source: Hong Kong C&SD, Macau DSEC, Taiwan MOTC, JTB, Philippines Department of Tourism, Vietnam Tourism, Stan, Tourism Australia, US International Trade Administration, Statistics



^{*}We use 2018 for comparison for Hong Kong as mainland visitations to HK was negatively affected by social events in 2H19.

Exhibit 20: Recovery of monthly Chinese visitations to key destinations

Visitations recovery to major destinations improved sequentially in Dec'23 and Jan'24



Source: Hong Kong C&SD, Macau DSEC, Taiwan MOTC, JTB, Philippines Department of Tourism, Vietnam Tourism, Stan, Tourism Australia, US International Trade Administration, Statistics Canada



Disclosures

Important Disclosures

FUNDAMENTAL EQUITY OPINION KEY: Opinions include a Volatility Risk Rating, an Investment Rating and an Income Rating. VOLATILITY RISK RATINGS, indicators of potential price fluctuation, are: A - Low, B - Medium and C - High. INVESTMENT RATINGS reflect the analyst's assessment of both a stock's absolute total return potential as well as its attractiveness for investment relative to other stocks within its Coverage Cluster (defined below). Our investment ratings are: 1 - Buy stocks are expected to have a total return of at least 10% and are the most attractive stocks in the coverage cluster; 2 - Neutral stocks are expected to remain flat or increase in value and are less attractive than Buy rated stocks and 3 - Underperform stocks are the least attractive stocks in a coverage cluster. An investment rating of 6 (No Rating) indicates that a stock is no longer trading on the basis of fundamentals. Analysts assign investment ratings considering, among other things, the 0-12 month total return expectation for a stock and the firm's guidelines for ratings dispersions (shown in the table below). The current price objective for a stock should be referenced to better understand the total return expectation at any given time. The price objective reflects the analyst's view of the potential price appreciation (depreciation).

Investment rating Total return expectation (within 12-month period of date of initial rating) Buy Total return expectation (within 12-month period of date of initial rating) ≥ 10% Ratings dispersion guidelines for coverage cluster®1 ≤ 70%

Buy ≥ 10% ≤ 70% Neutral ≥ 0% ≤ 30% Underperform N/A ≥ 20%

INCOME RATINGS, indicators of potential cash dividends, are: 7 - same/higher (dividend considered to be secure), 8 - same/lower (dividend not considered to be secure) and 9 - pays no cash dividend. Coverage Cluster is comprised of stocks covered by a single analyst or two or more analysts sharing a common industry, sector, region or other classification(s). A stock's coverage cluster is included in the most recent BofA Global Research report referencing the stock.

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

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.

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. 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 (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 Mexico): Merrill Lynch (Mexico): Merrill Mexico): Merrill Mexico (Mexico): Merril de Bolsa, regulated by the Comisión Nacional Bancaría 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 (Brazil): Merrill Lynch (Brazil): Merrill Lynch (SA 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 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



R1 Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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.

This report may contain a short-term trading idea or recommendation, which highlights a specific near-term catalyst or event impacting the issuer or the market that is anticipated to have a short-term price impact on the equity securities of the issuer. Short-term trading ideas and recommendations are different from and do not affect a stock's fundamental equity rating, which reflects both a longer term total return expectation and attractiveness for investment relative to other stocks within its Coverage Cluster. Short-term trading ideas and recommendations may be more or less positive than a stock's fundamental equity rating.

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.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned herein. Investors in such securities and instruments, including ADRs, 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.

