



Live more,
Bank less

China Food & Agricultural Sector: Decoding Spending Behaviours

Group Research

November 2024



Introduction & Summary

We have conducted proprietary consumer surveys in Oct 2024 that garnered responses from over 1,000 respondents across various cities of Mainland China. By gauging spending trends over the next 12+ months, with an emphasis on the food & beverage (F&B) sector, the surveys predominantly capture consumer preferences of middle-class individuals that represent a majority of China's private consumption, providing insights on their evolving spending behaviours.

Aside from analysing consumption patterns according to age, location, and income, the research also delves into other aspects, such as offline channel preferences, online spending propensity, brand desirability by key product category, shifts in packaging sizes, as well as the pet food landscape. All the multifaceted findings could empower businesses to comprehend the latest consumption preferences across Mainland China, and align their strategies on marketing efforts and product offerings more smoothly to optimise returns from the Chinese market.

In our research, we also include projections on medium-term growth trajectories as well as the impending input cost trends to highlight and compare the outlook of various F&B pillars. Together with our findings on the current transformative forces that shape China's food and agricultural sector, driven by technological advancements and rising focus on environmental and social sustainability, they should give a more comprehensive picture on where we currently are - initiatives could span from sustainable farming, water conservation and waste reduction, to renewable energy and social responsibility programs.

Table of Content

Introduction & Summary **P. 2**

Our China Survey:

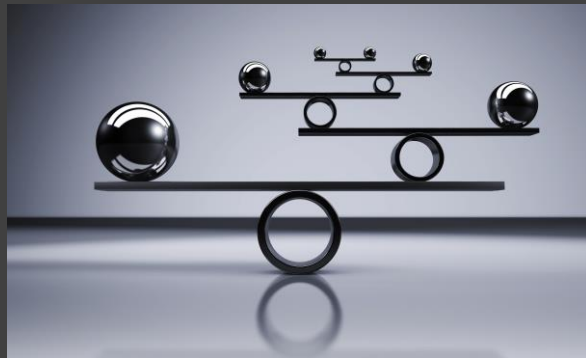
① Latest Consumption Preferences **P. 4**

Industry trends:

① China Growth Prospects by Industry **P. 22**

② Agri-commodities: Where Prices Are Heading **p. 26**

③ Environment, Social & Governance **P. 30**



Our China Survey

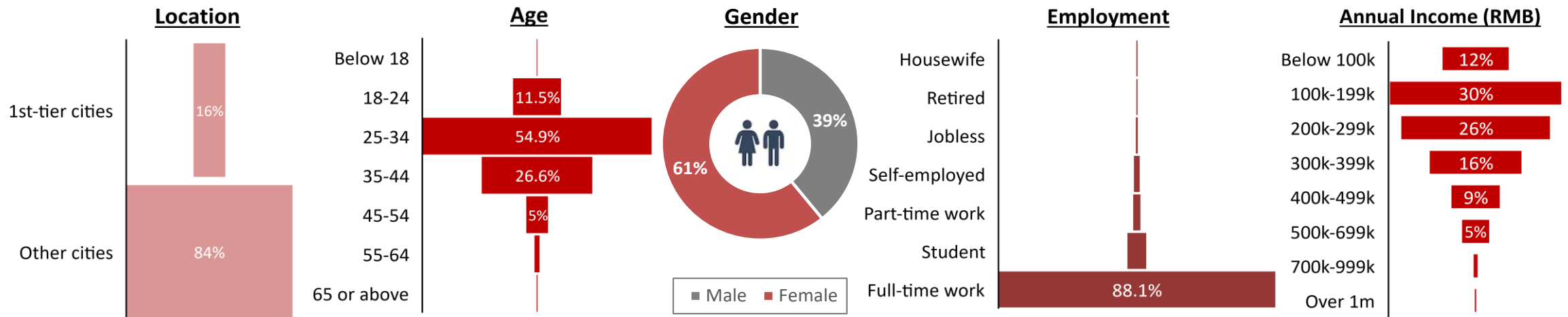
– Latest Consumption Trends



Proprietary consumer surveys

- We conducted consumer surveys across multiple regions in Mainland China during Oct 2024, receiving over 1,000 respondents with the following profile:
 - 16% were from the 1st-tier cities and 84% from new 1st-tier, 2nd-tier and lower-tier cities;
 - 98% were aged 18-54;
 - 61% female and 39% male;
 - 88% were in full-time jobs, and
 - 81% were middle class consumers (i.e., RMB100,000 - 500,000 annual household income) – providing good indicators particularly for the food & beverage sector.

Respondent profile:



Source: DBS HK

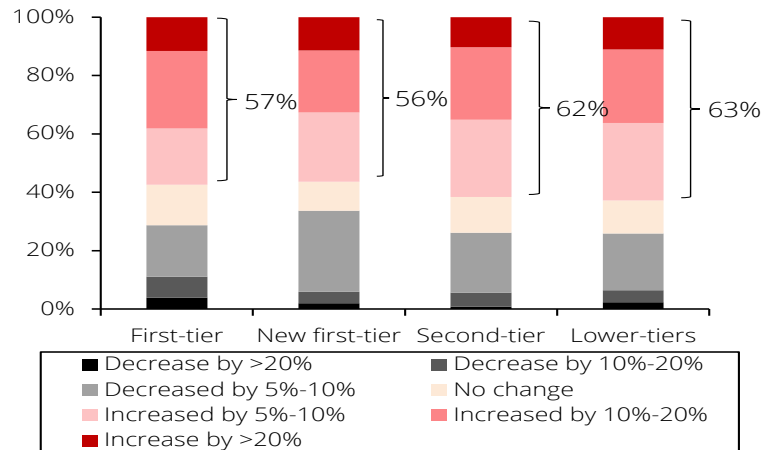


Expenditure plans over the next 12 months

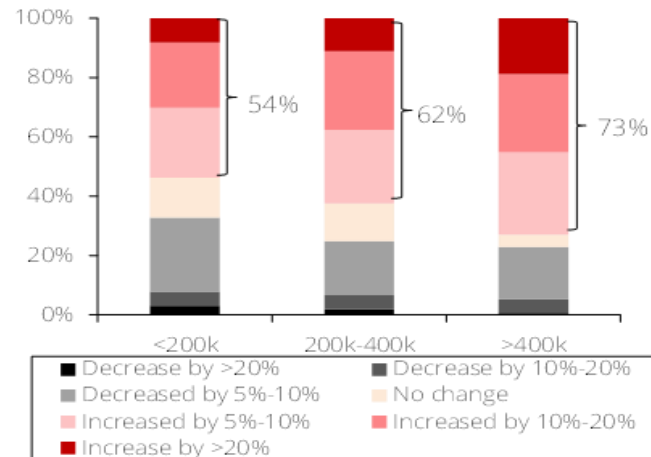
A majority looks to spend more

- Overall, 60% of respondents plan to increase spending by 5% to over 20% in the next 12 months.
- 63% in the lower-tier cities plan to increase spending, as compared to 57% in the first-tier cities.
- 73% of the higher income group also look to increase their spending, vs. 54% of the lower income group.
- Younger consumers (<34 years old) and those over age 45 (mainly >55) show slightly stronger intent to spend more.
- All these suggest good growth drivers for F&B plays, especially by expanding their reach to inland cities, the higher income groups, younger consumers as well as customers >55 to ride on their relatively better readiness to spend – aligning well with leading operators’ growth strategies.

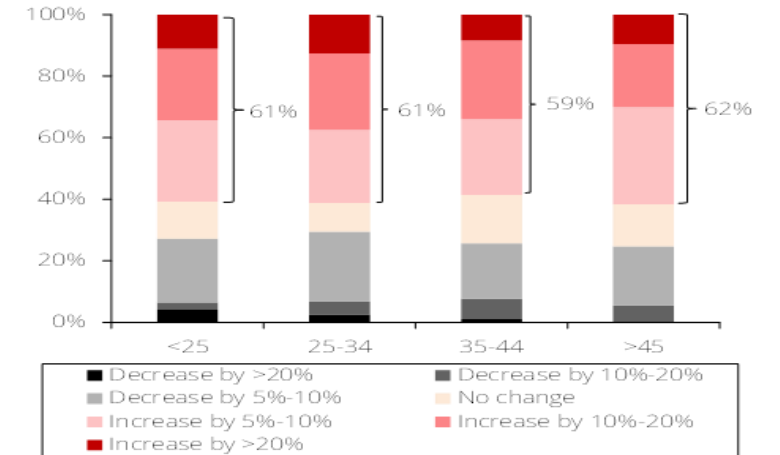
**Change in spendings
(by tier of cities)**



**Change in spendings
(by income group)**



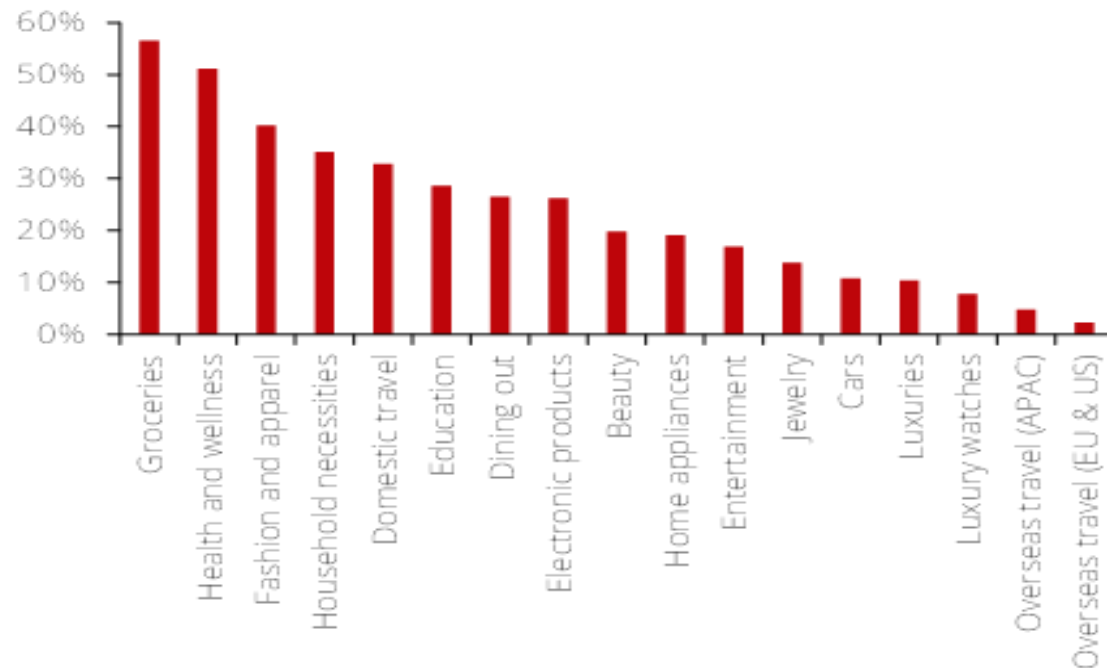
**Change in spendings
(by age group)**



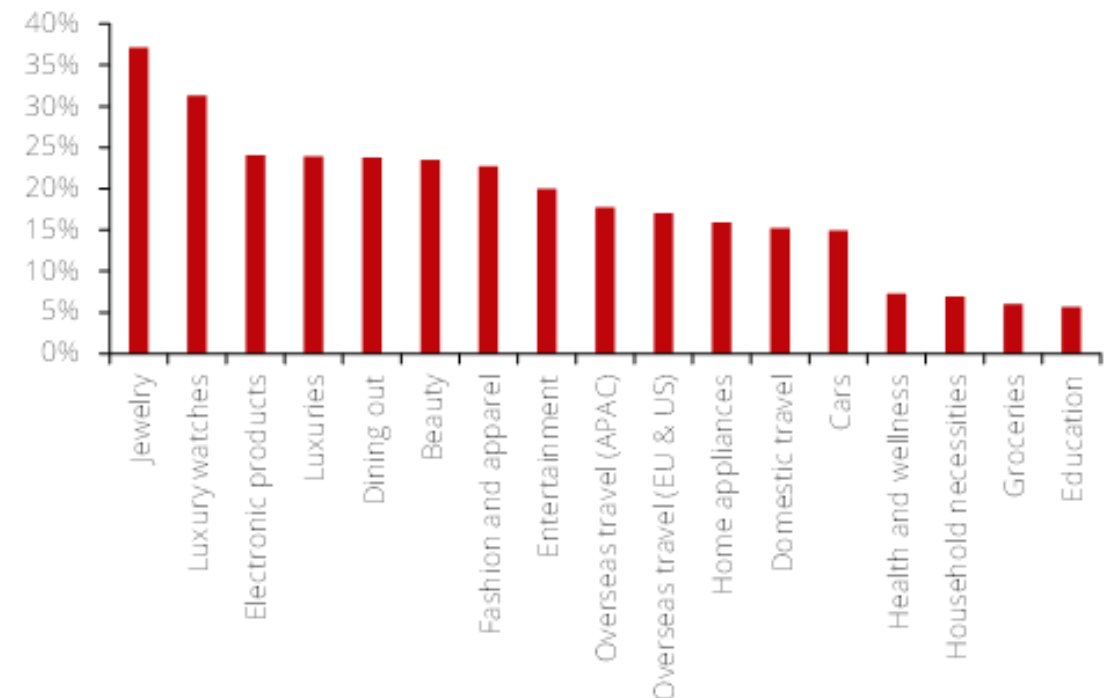
Shifting spending patterns ...

- Over the next 12 months, most respondents prefer to increase spending on **groceries** and **health & wellness**.
- In particular, 1st-tier cities, the higher income group, as well as the >45 age group rank health & wellness as their top category to consume more. Products targeting at well-being and vitality could see better consumer preference ahead.
- On the other hand, spendings on jewelry and luxury watches might see a bigger retrench, as overall consumer sentiment takes some time to recover.

Categories with potential increase in spendings



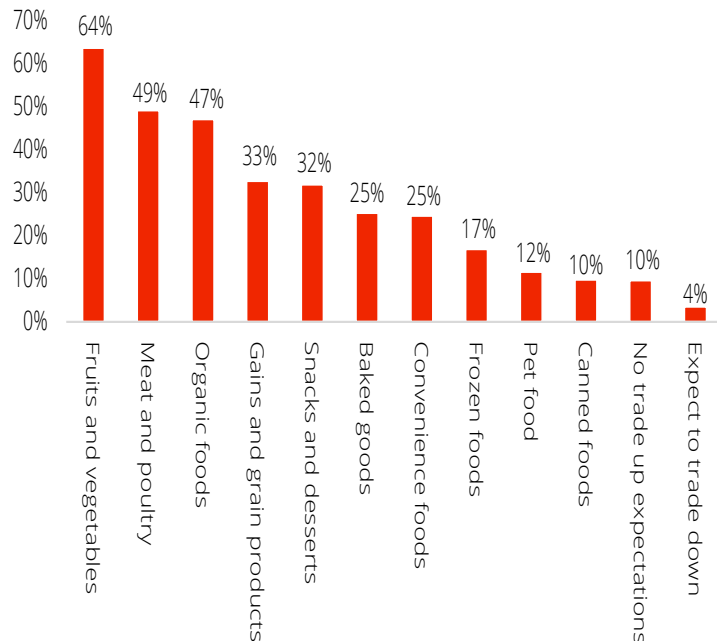
Categories with potential decline in spendings



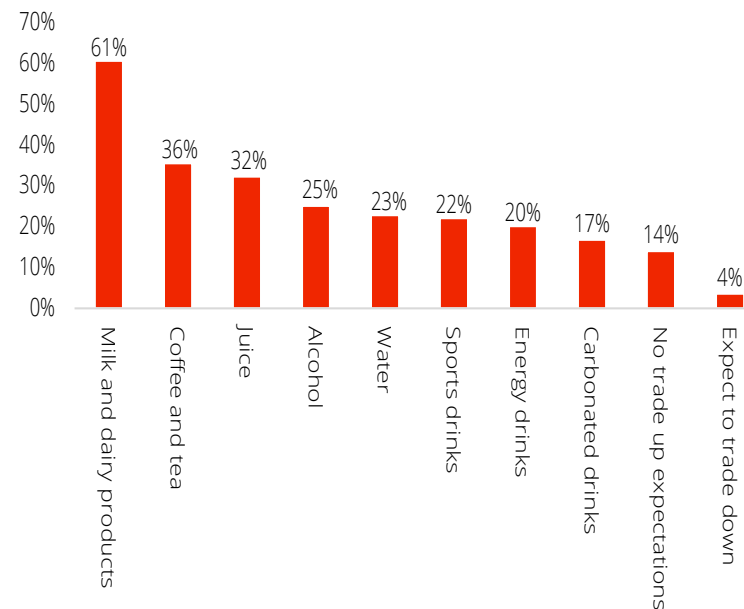
F&B consumption choices: trade-up, trade-down?

- **Top priority: Quality Food and Beverages:** Many respondents plan to upgrade their spending on quality food products, especially for **fruits and vegetables** (64%), **meat and poultry** (49%), and **organic foods** (47%). Similarly, **milk and dairy products** (61%) and **coffee and tea** (36%) are among the top choices for beverage upgrades.
- **Cost-Saving and Promotional Influences:** Cost-saving measures (43%), promotional brands (36%), and better value offerings (36%) could be key reasons to opt for cheaper brands or smaller package sizes.
- Besides, 22% of respondents also consume products based on their needs or preferences, implying a stable demand for essential / popular items regardless of price.

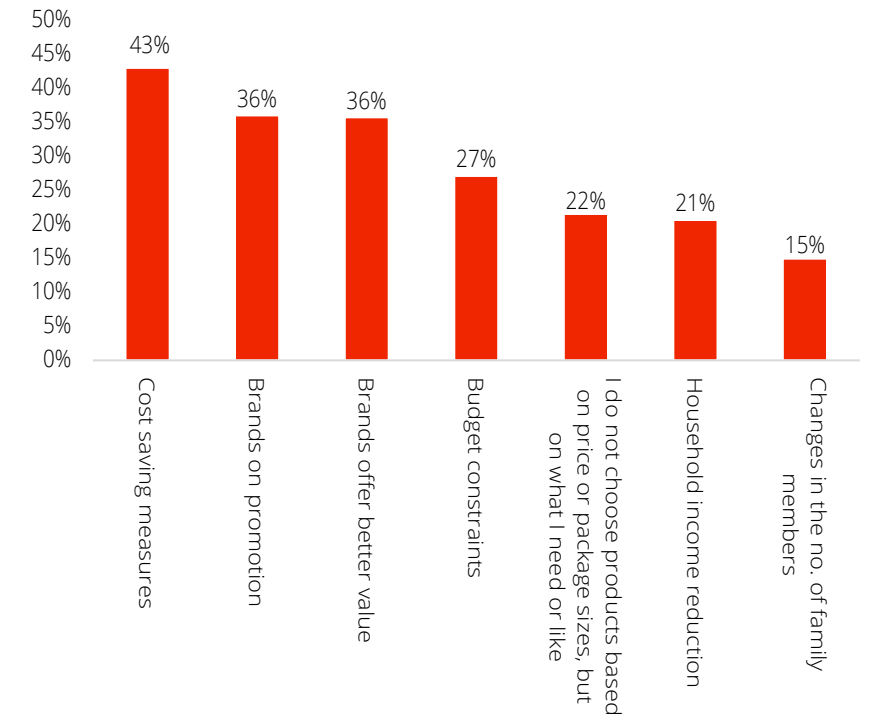
Which categories will you upgrade your spending on food in the next 12 months?



Which beverage categories will you upgrade your consumption choice in the next 12 months?



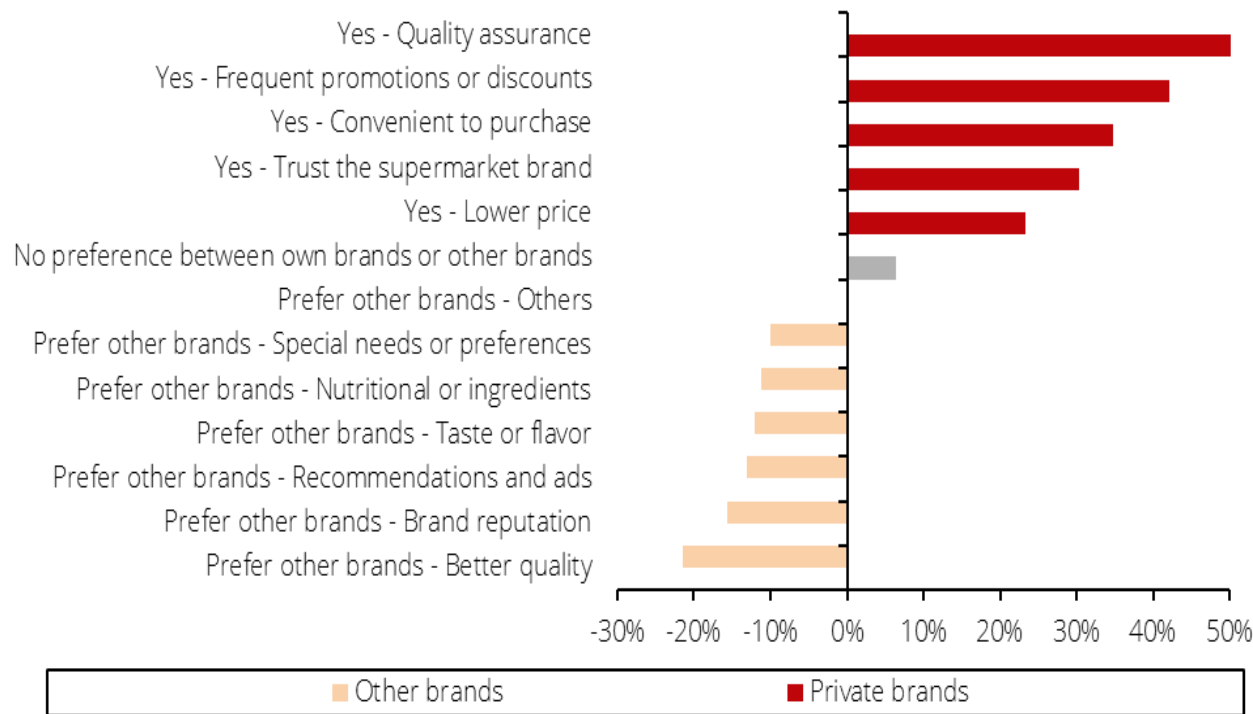
What are your main reasons for choosing cheaper brands, or smaller packages of food or drinks?



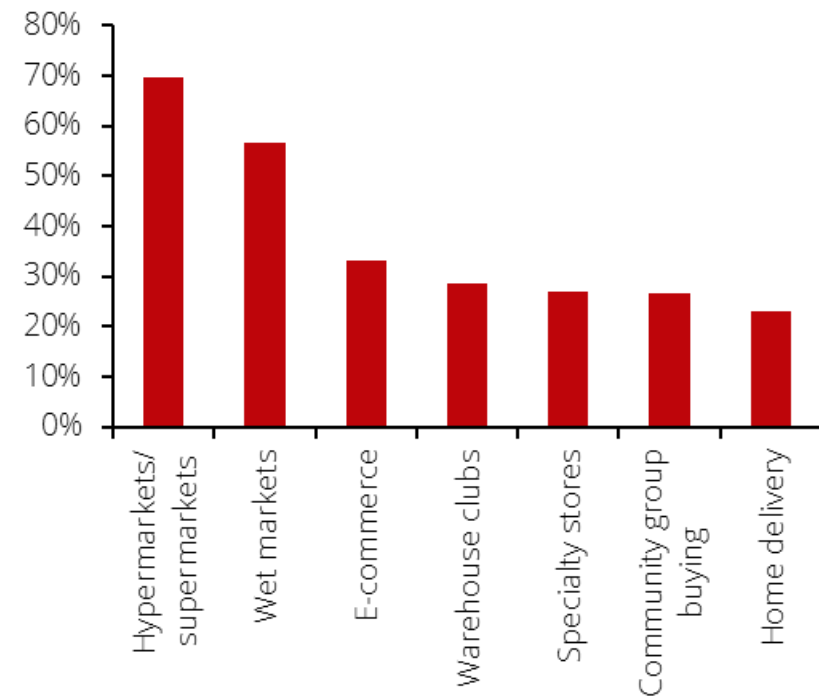
Emerging private labels of F&B retailers

- A majority of respondents prefer private labels of hypermarket / supermarket chain stores over third-party brands, mainly because of consumers' confidence in their quality as well as their more affordable prices. Meanwhile, some respondents choose to buy third-party brands also for their better quality and brand reputation.
- In our survey, specifically for meat purchases, hypermarket / supermarket chain stores are also the most preferred channel, followed by the wet markets.

Preference of private labels vs. other brands



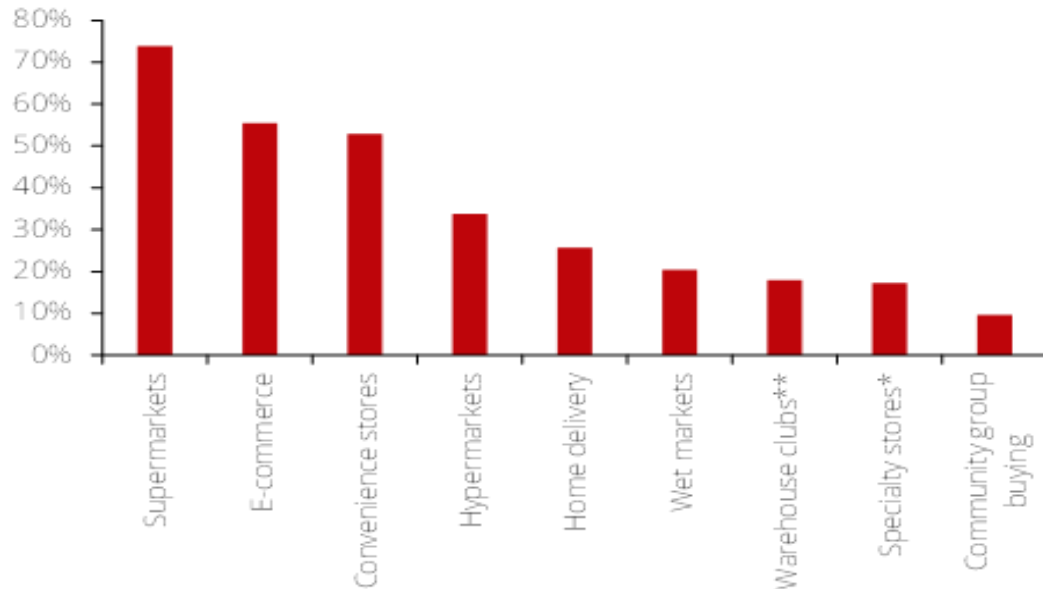
Channel preferences of meat purchase



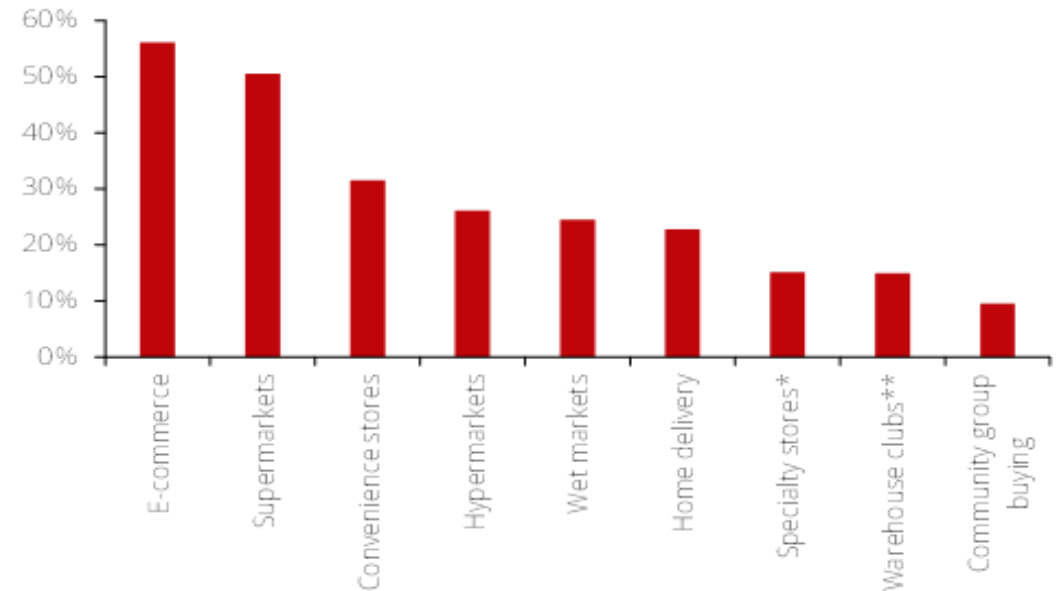
General channel preferences in F&B consumption

- **Supermarket** (74%) dominates as the top channel of preference for F&B product consumption, followed by **e-commerce** (55%) and **convenience stores** (53%).
- Specifically, first-tier cities show a higher preference for supermarkets and e-commerce, while lower-tier cities prefer to shop more in supermarkets and convenience stores.
- Among various channels, a larger amount of respondents are looking to buy more on e-commerce in the next 12 months. This could prompt brand players to increase their online penetration.

Preference of channels



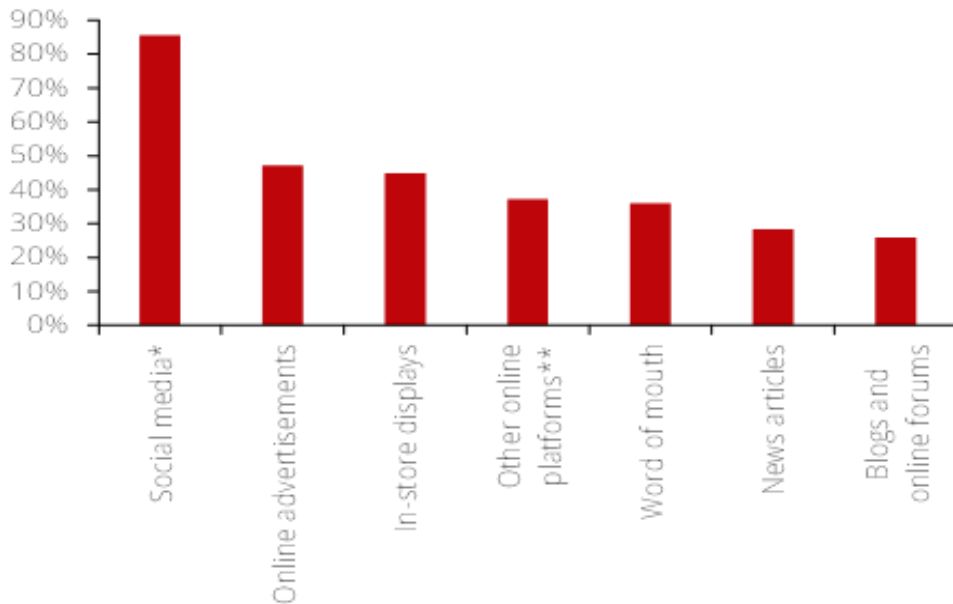
Plans to increase spending in next 12 months



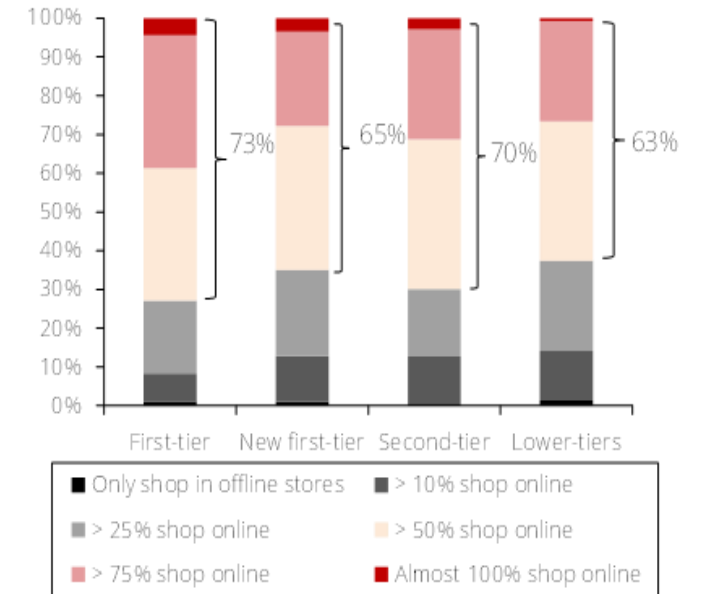
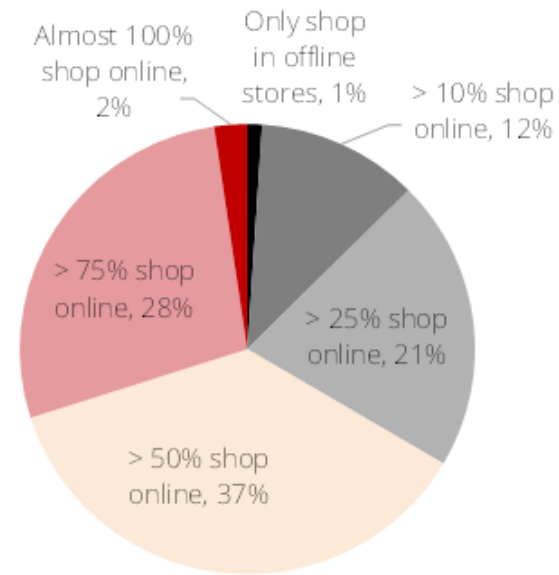
Rising online penetration could accelerate growth

- Across all income groups, **social media** currently stands as the top medium that consumers get to know about new products in the market.
- In terms of shopping frequency, 65% of respondents purchase over half of their needs online, with another 21% buying over 25% of their consumption online.
- Broadly speaking, consumers in higher tier cities also tend to shop more frequently online as compared to the lower tier cities.

Sources of learning about new products



Frequency of shopping online

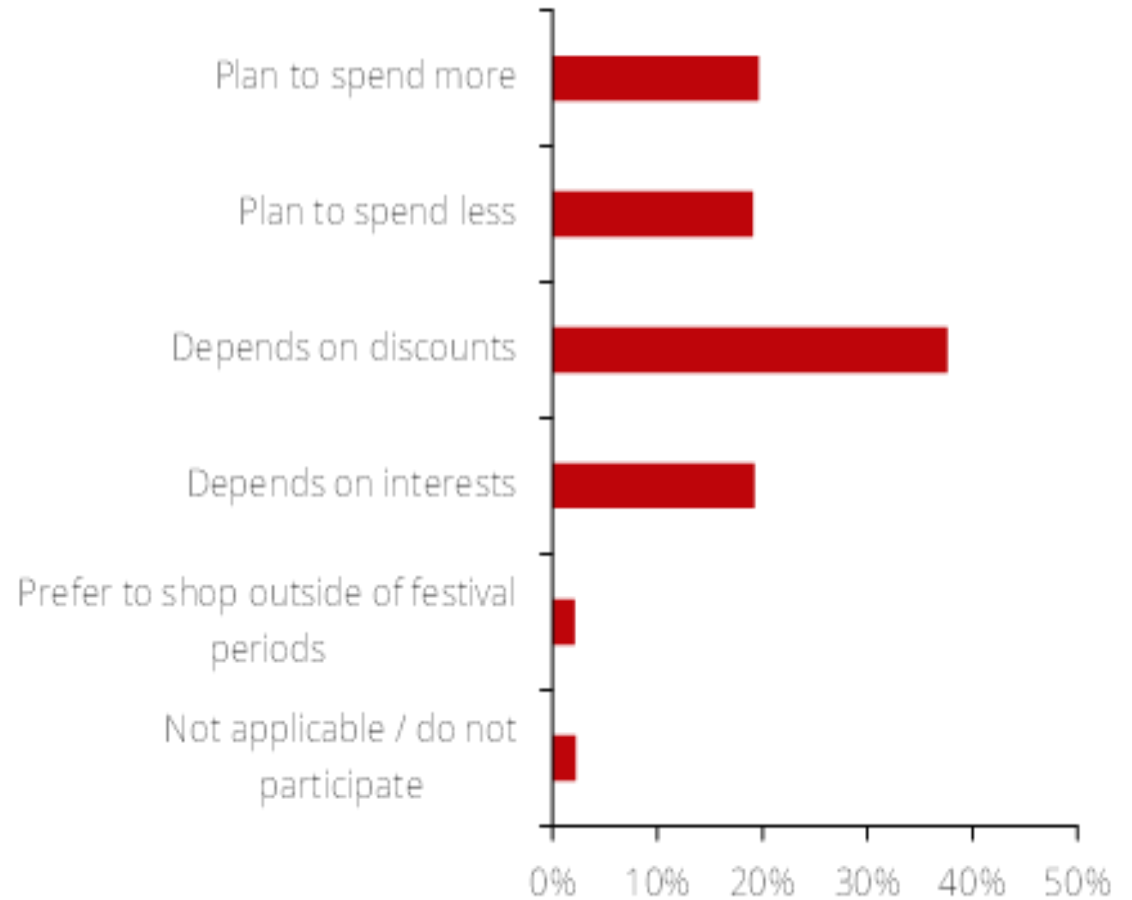


Online spending appetite

- For the online festivals (e.g., Double-11, Double-12), consumers still focus more on the magnitude of discounts & promotions when making their purchases.
- Relatively speaking, product promotions play a slightly smaller factor in affecting spending patterns across the new first-tier cities as well as younger consumers (<35 years old)



Plans for online shopping festivals



Source: DBS HK

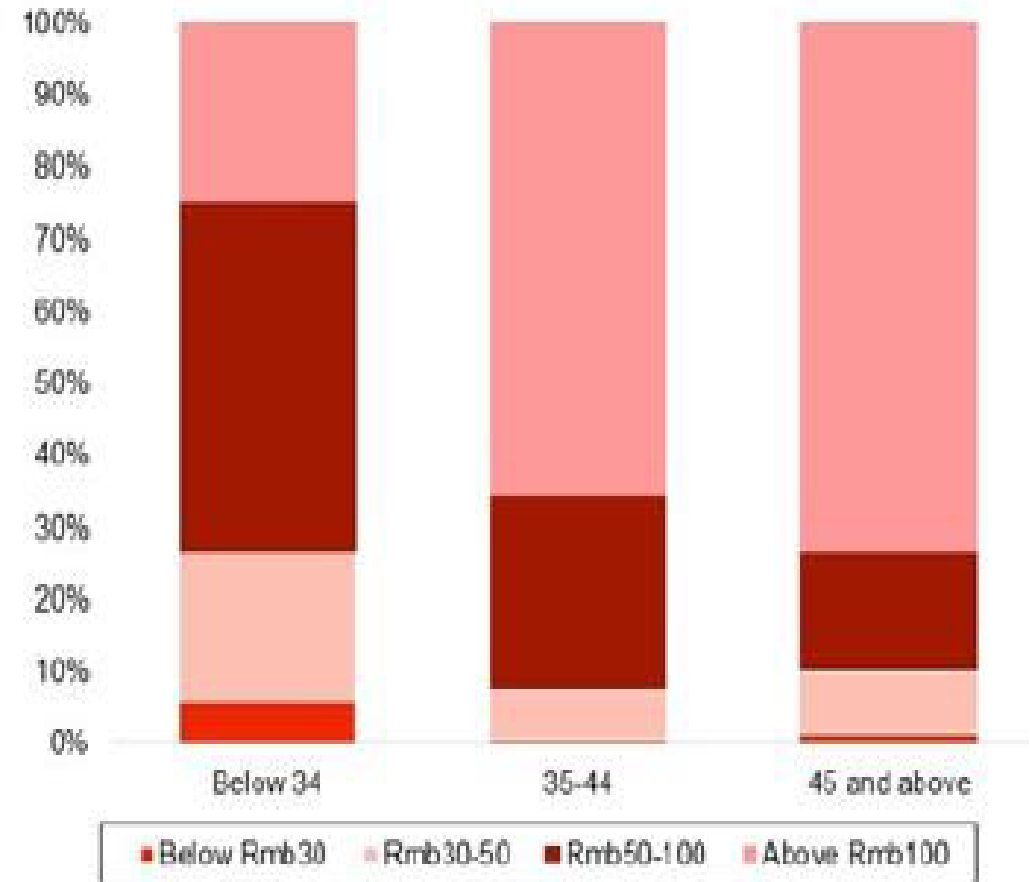
Dining out and delivery spending trends

Spending differences between age groups

- As age of consumers increases, those above 35 have a higher average spend of >Rmb50 when dining out, versus ages below 34
- For delivery orders / takeaways, the average spend per meal of above Rmb50 accounts for a lesser proportion of consumption



Average spending by age group (dining out)



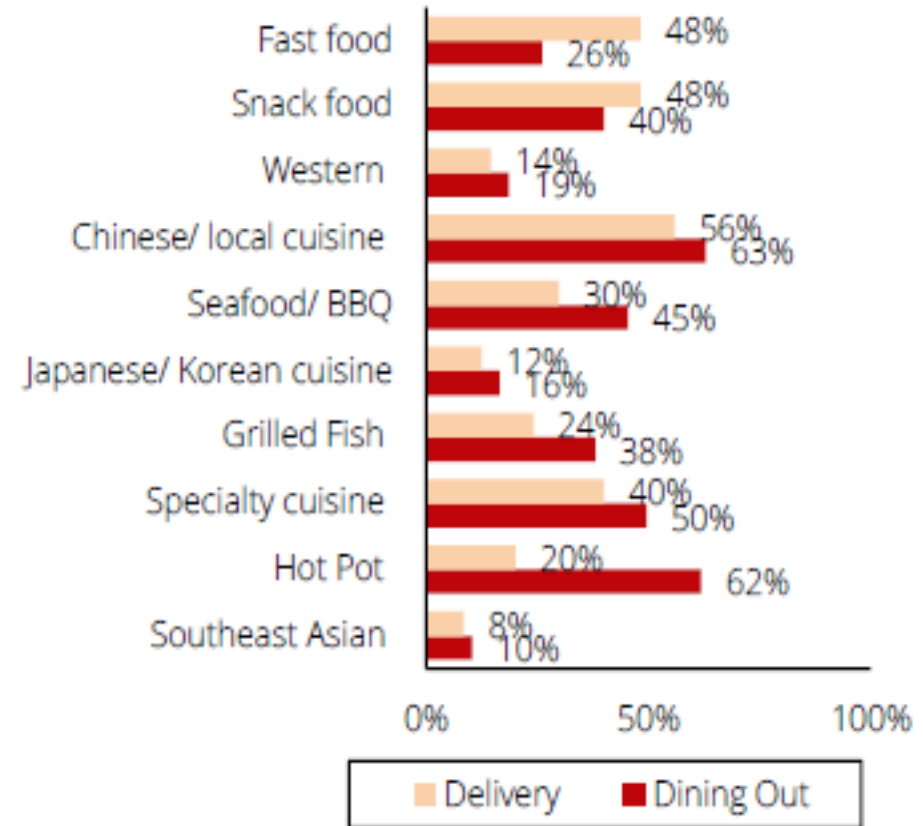
Source: DBS HK

Preferred cuisine for delivery orders vs. dining out

Varied cuisine preferences between delivery and dining out

- There is a preference for **fast food** and **snack food** when ordering delivery versus dining out
- **Chinese / local cuisine** and **hot pot** are most preferred when dining out
- As income rises, consumers diversify their cuisine preference towards Western cuisines, Japanese/ Korean
- When comparing delivery vs. dining out, participants tend to be more adventurous when dining out, preferring seafood, BBQ, grilled fish, Japanese / Korean, Western food and Southeast Asian cuisine
- Chinese and specialty cuisines are key staples for both delivery and dining out

Preferred cuisines

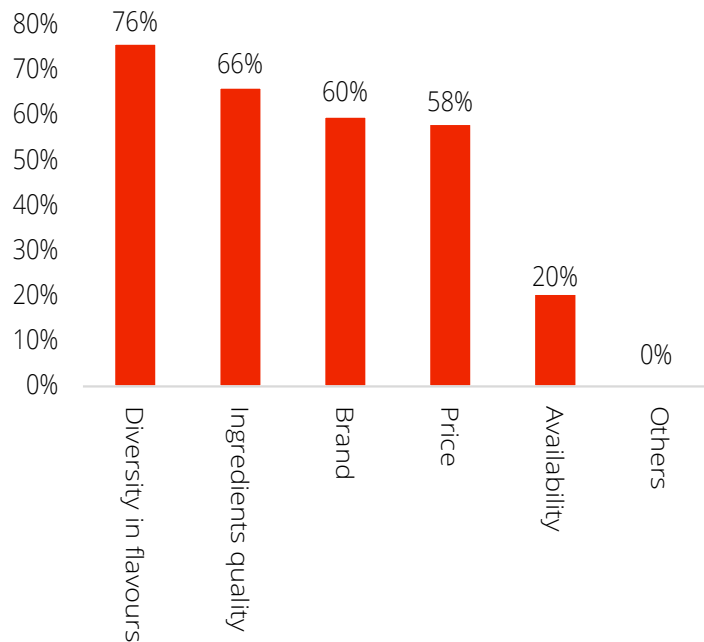


Source: DBS HK

Influences on instant noodle preferences

- **Flavour and quality drive choices:** The majority of respondents prioritize diversity in flavours (76%) and ingredients' quality (66%) upon choosing an instant noodle brand, with brand reputation (60%) also playing a significant role.
- **Preference for family packs:** The family pack (47%) is the most preferred, followed by single-serving bowls (43%) and single-serving bags (37%)
- **Top brands for upcoming purchase over next 12 months:** Respondents prefer Baixiang (67%), Master Kong (63%), and Uni-President (50%).

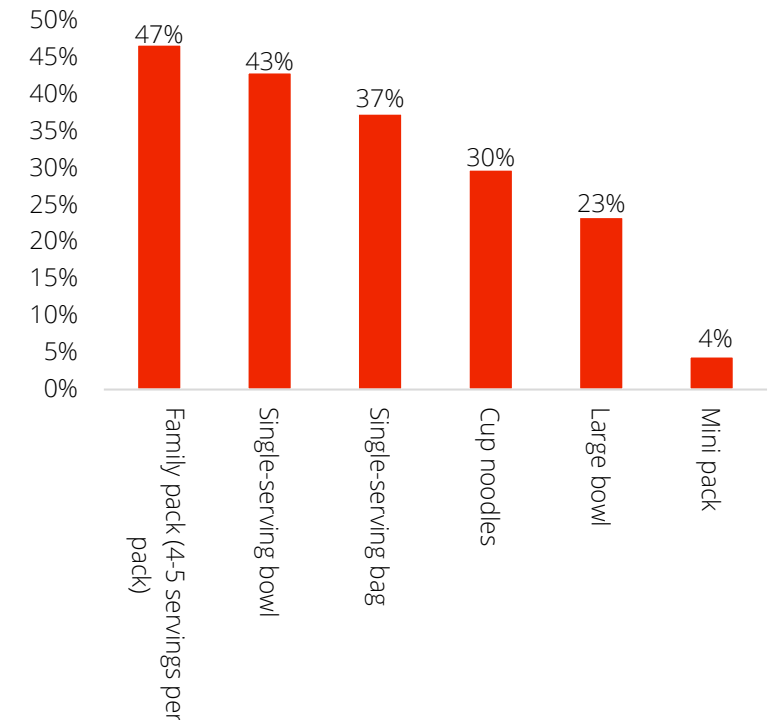
What influences your choice of instant noodle brand?



Which instant noodle brand would you like to buy in the next 12 months?



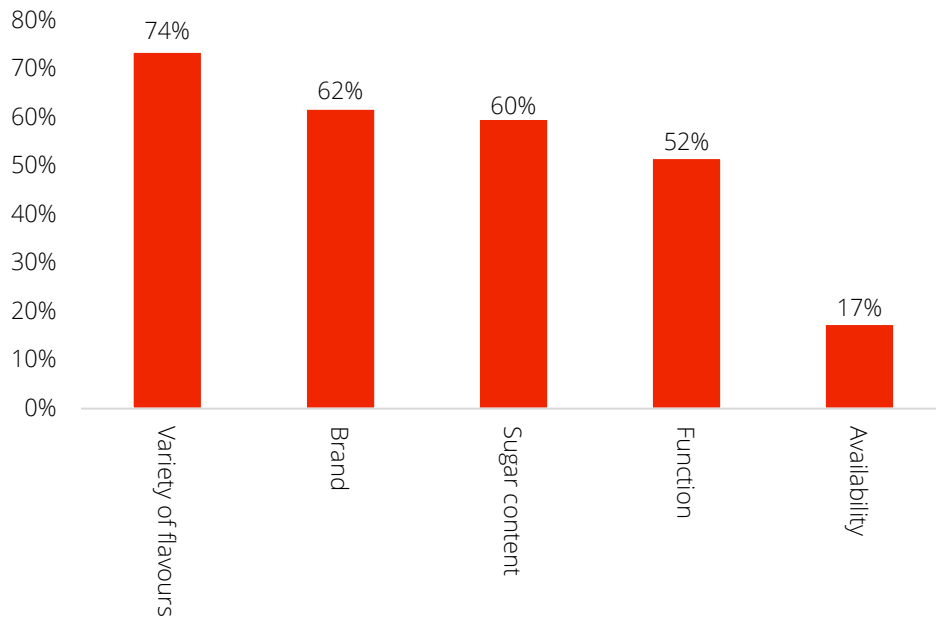
Which instant noodle packaging do you prefer to buy?



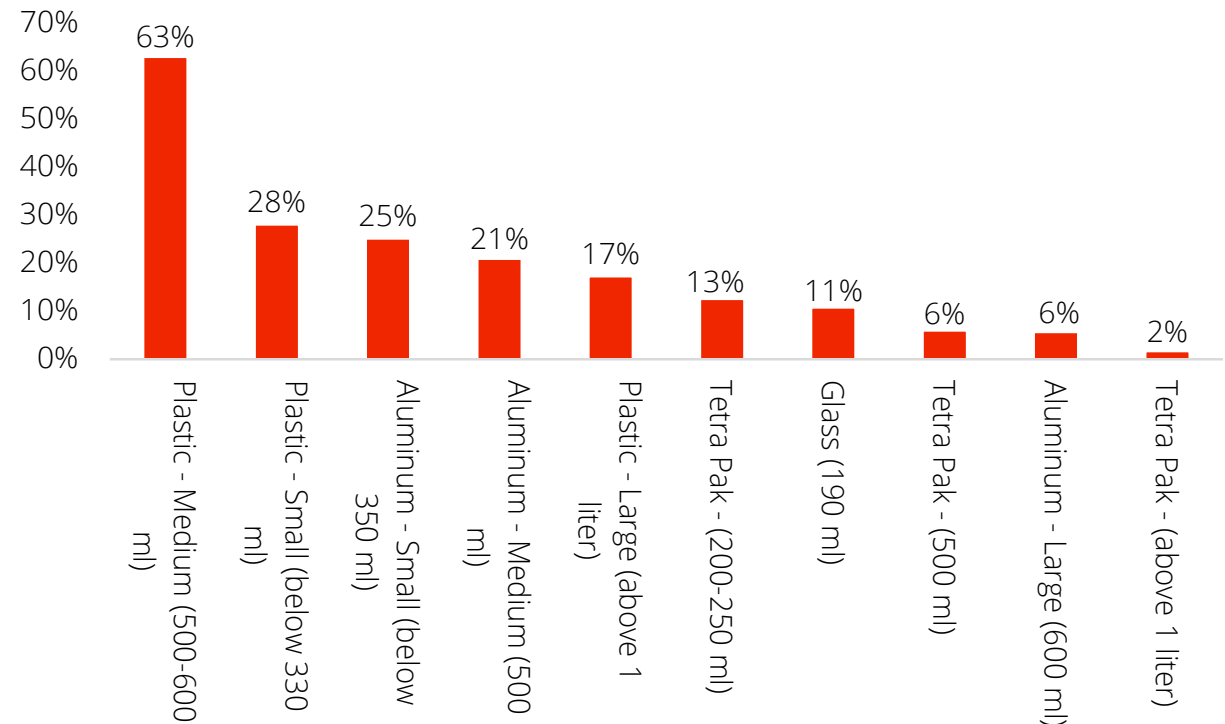
Influences on non-alcoholic beverage preferences

- **Key factors affecting beverage brand choices:** The top-three factors influencing consumers' choices of beverage brands are the variety of flavors (74%), brand recognition (62%), and sugar content (60%). This indicates that consumers prioritize taste options, brand loyalty, and health considerations.
- **Package preferences:** The most preferred type of packaging is medium-sized plastic bottle (500-600 ml), with 63% of consumers favoring this option. Smaller plastic bottle (below 330 ml) and small aluminum can (below 350 ml) are also popular, preferred by 28% and 25% of consumers, respectively. This suggests a preference for convenient, portable packaging sizes among middle class consumers, especially post-COVID-19 as consumer mobility recovers.

What factors influence your choice of beverage brand?



Which beverage packaging do you prefer to buy?



Non-alcoholic beverages: top brand preferences

- **Juice brand preferences:** Huiyuan (52%), Coca-Cola (Minute Maid) (46%), and Nongfu Spring (45%) are top-3 preferred brands
- **Coffee/Tea brand preferences:** Genki Forest (28%), Starbucks RTD coffee (27%), and NESTLE/Nescafe (27%) are amongst the top-3 preferences
- **Bottled water:** Nongfu Spring (51%) and Yibao (47%) are the leading choices for bottled water
- **Sports drinks, energy drinks, and carbonated drinks:** Mizone (38%) and Coca-Cola (28%) are top preferred brands, indicating their significant market presence in this category.

Which of the following fruit juice brands will you prefer to buy in the next 12 months?

Which coffee/tea brand would you like to buy in the next 12 months?

Which bottled water brands would you like to buy in the next 12 months?

Which sports drink / energy drink / carbonated drink brands would you like to buy in next 12 months?



Source: DBS HK

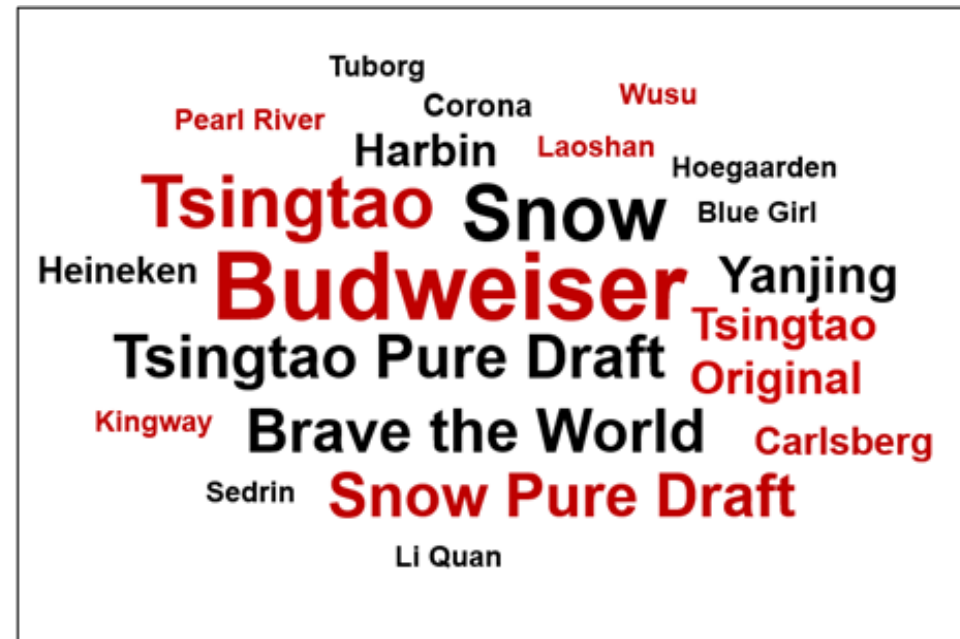
Beer brand preferences

- In general, Tsingtao, Budweiser and Snow Beer are the top-3 brands favoured by our respondents. However, certain brands like Budweiser, Snow, and Tsingtao Original are more popular amongst the higher-income group.
- In addition, higher-income groups tend to drink more as they have lower percentage of non-drinkers.

Beer brand preferences (overall respondents)



Beer brand preferences (high-income groups)



Source: DBS HK

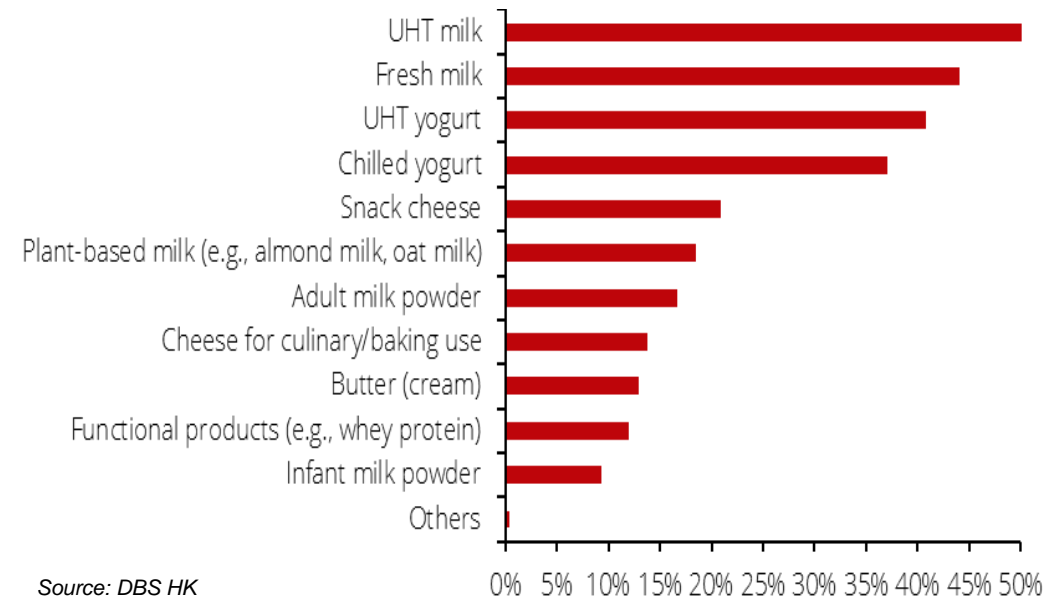
Dairy brand & category preferences

- In general, Mengniu is slightly more popular vs. Yili among our respondents. Premium brands (e.g., Deluxe and Satine) are particularly attractive to the higher-income group. Ambrosial is also a top choice within the yoghurt category.
- Adopt A Cow, despite its currently small market share in China, is chosen by 22% of total respondents, indicating growing popularity.
- By category, UHT milk remains the key preference in the coming 12 months, with strong potential observed in fresh milk products. For milk powder, adult formula shows much stronger growth potential vs. infant formula.

Dairy brand preferences



Preference by product categories

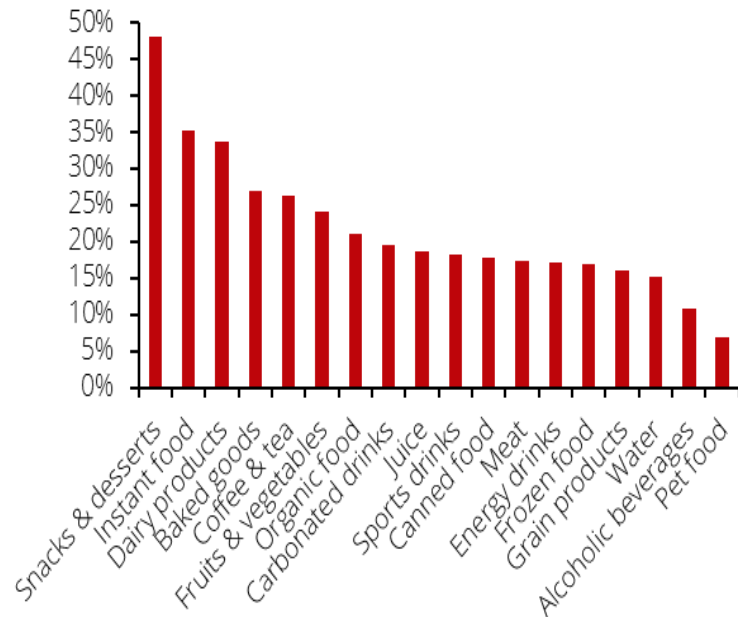


Source: DBS HK

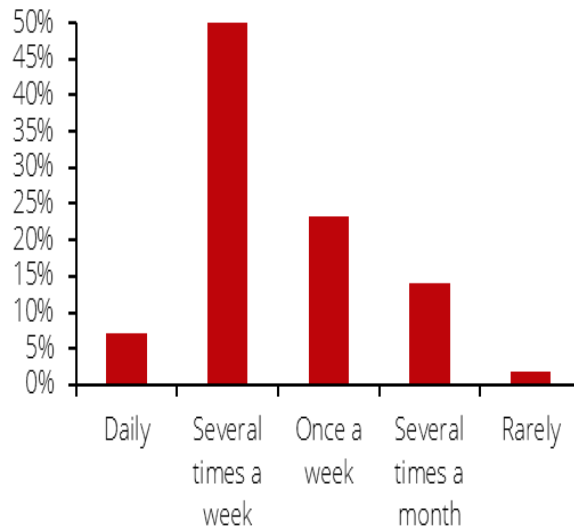
Large vs. small pack size?

- The predominant reasons for choosing different pack sizes could be due to consumption occasions – e.g., family / party sharing; portability.
- As consumer mobility recovers post-COVID, small-packaged products are gaining popularity. Consumers also tend to buy snacks, instant food and dairy products in smaller packages.

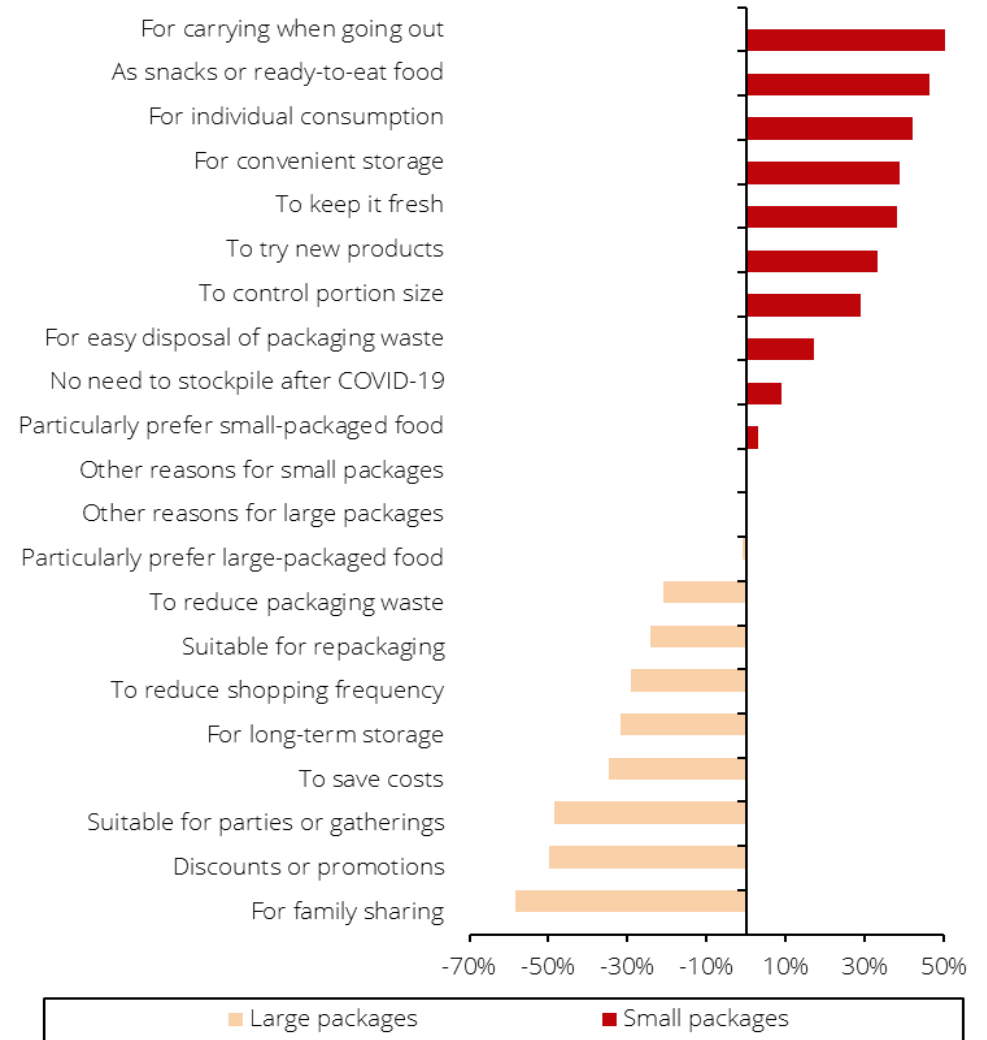
Categories for which consumers prefer small packaging



Frequency of F&B purchase



Reasons for choosing large/small-packaged food & beverages

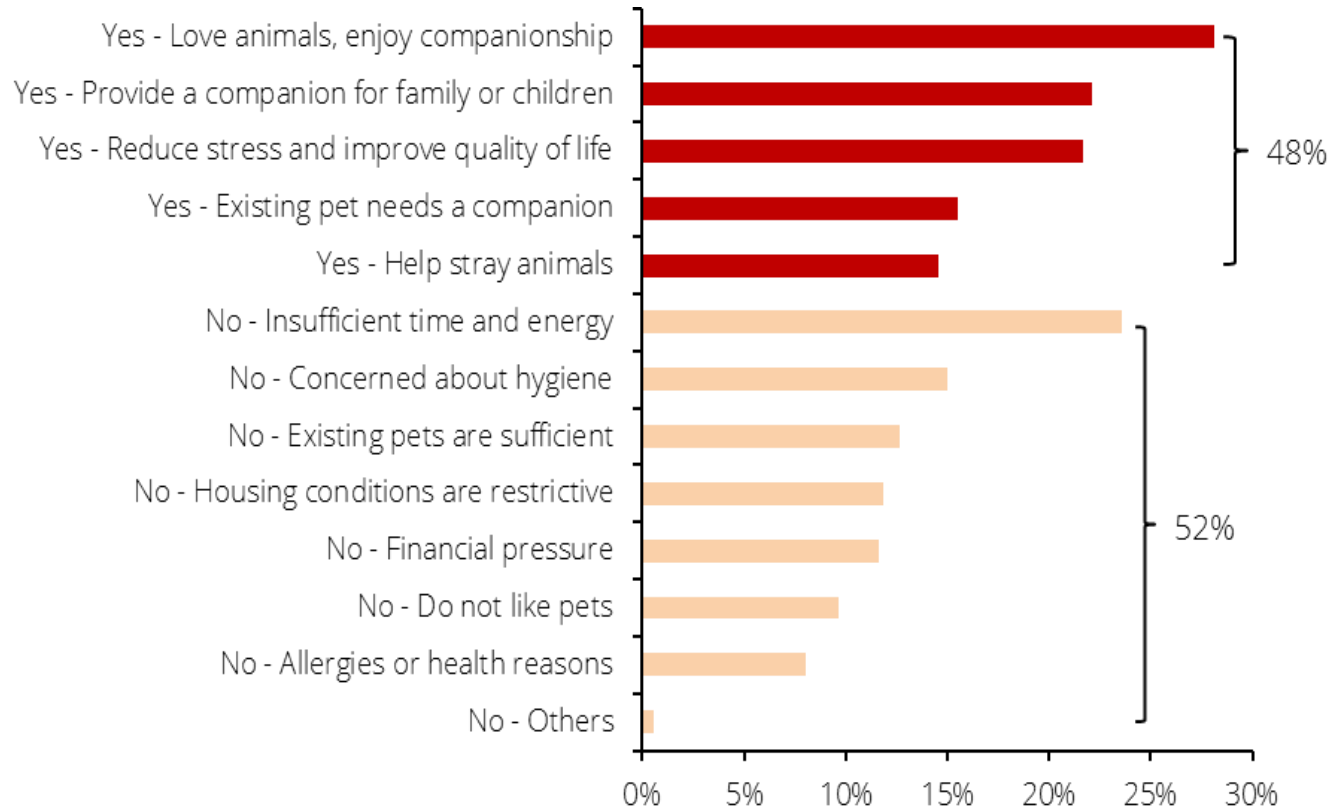


* Negative numbers represent the percentages of responses for choosing large-packaged products
Source: DBS HK

Pet food market: More new pets ahead?

- Around 48% of our respondents would consider adopting or buying a new pet in the next 12 months, with companionship being the biggest incentive.
- When considering pet foods among the pet owners, 27% plan to buy only foreign brands, 18% prefer only domestic brands, while 55% plan to spend on both foreign and domestic brands.

Whether to adopt/purchase a new pet and why



Brand preferences of pet foods



Industry Trends: China Growth Prospects by Industry



Staples: better resilience vs. discretionaires

- China F&B sector has shown more stable growth than discretionary spending in recent year. Aside from the essential nature of food, changing consumer habits and rising demand for health-focused products also support the trend.
- The rise of e-commerce, which accounts for over 20% of food sales, as well as government support for food security further bolster the sector, while discretionary consumption remains relatively more vulnerable to economic fluctuations.



China food & agricultural industry outlook

Restaurants

- China restaurant sector recorded a good recovery as dine-in volumes recover
- Pent-up store openings saw a record number across the chained-operators, concentrated in fast food and crafted beverages
- Expect normalised growth cycle ahead
- The sector is expected to deliver a **CAGR of 8% in 2023-27**

Breweries

- The market size of alcoholic drinks in China is expected to see **5.5% CAGR in 2023-2027F**, with beer sector posting **8.3% CAGR**.
- Beer sector to see **6% ASP growth** over medium-term, as high-end beers remain more affordable v.s. other alcoholic drinks in China.
- Rising Chinese household income also sees further room for its beer prices to gradually increase to levels closer to similar beer products sold in Japan, S. Korea, US, UK, etc.

Dairy

- Overall dairy sector in China is expected to see **2% CAGR in 2023-2027F**, mainly driven by liquid milk, which could see a **CAGR of 4%**.
- Upstream continues to consolidate with ongoing herd size expansion by leading players.
- Average raw milk price may see a low-teens y/y decline in 2024.

Snack foods

- Expect snack foods will continue to rely on product-mix enhancement to drive improvement in average pricing
- Volume is expected to be unsurprising, at flattish or low single-digit growth over the medium-term
- The sector is expected to deliver a **CAGR of 4.5% in 2023-27**



China food & agricultural industry outlook (cont'd.)

Instant noodles

- Disadvantaged by China's reopening, volume pressure is expected to linger in 2024
- ASP is also expected to see limited upside due to high competition and minimal pressure on raw material costs
- The sector is expected to deliver a **CAGR of 3.7% in 2023-27**

Non-alcoholic RTD

- Health and wellness remains the key driving trend, with a growing demand for reduced sugar, low calorie and health related beverages
- Key growth drivers include bottled water, RTD coffee, functional drinks such as flavoured water, sports drinks, energy drinks
- The sector is expected to deliver a **CAGR of 2.0% (by volume) in 2023-27**

Pork

- Hog price cycle in China is mainly driven by changes in pork supply. Industry sow inventory level dropped by 5.6% to 41.4m heads in Dec 2023 amid ongoing consolidation.
- We expect hog **production volume to drop by a mid single-digit rate in 2024**, supporting sequential hog price uptrend in China

Agri-commodities

- China and global agri-commodities have seen softened prices in 2023 amid normalising supplies.
- The **easing cost pressure** for major F&A players could continue in 2024/2025, as selected agri-commodities are expected to see further price downtrend, despite uncertainties from extreme weather conditions.



Agri-commodities

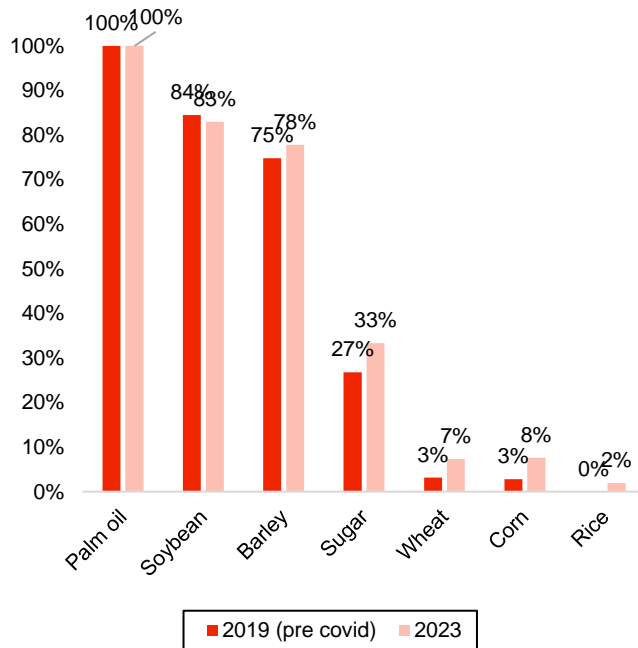
- where prices are heading



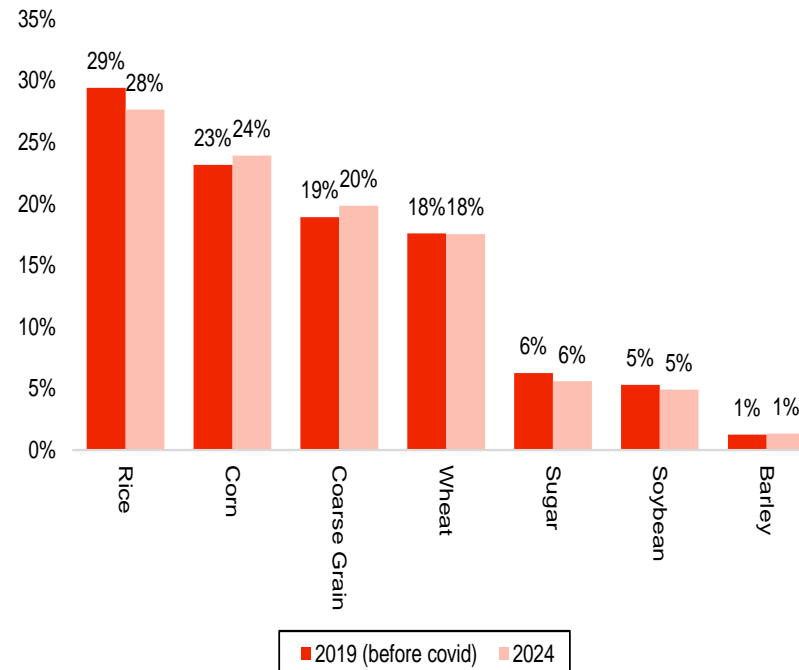
China's position in the commodities market

- China has focused on self sufficiency on maize, wheat and rice, hence its reliance on such commodity imports have largely remained low relative to the global import levels.
- China is the largest soybean importer globally, accounting for 109m tons annually or c.62% of global import. Soybean is mainly crushed to create soybean oil used for cooking, and soybean meal for animal feed.
- China has issued plans to (a) encourage soybean farming, (b) motivate the interchanging of soybean with corn, and (c) reducing soymeal used in animal feed.

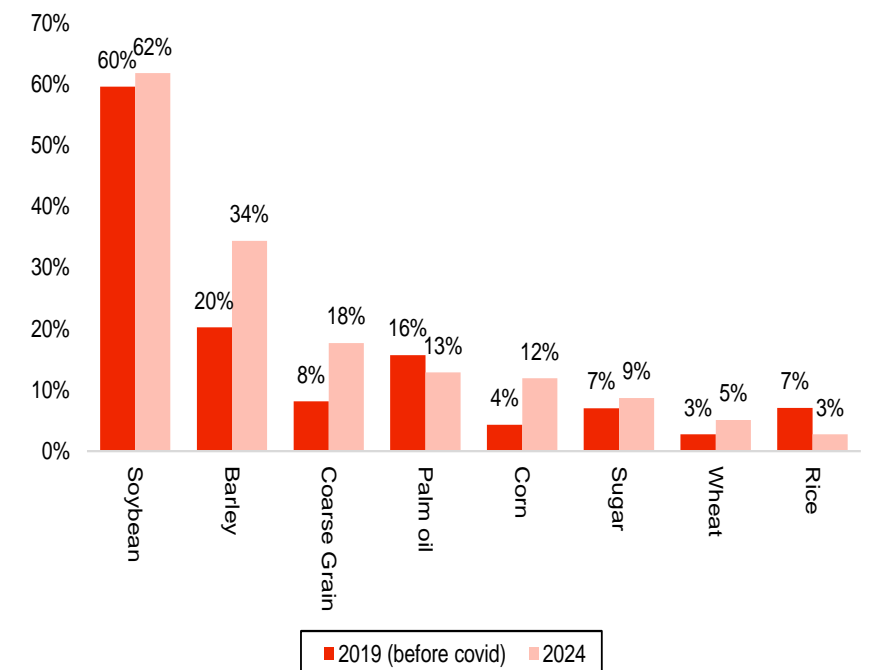
China's reliance on imports (%)



China as % of global production



China as % of global imports



Source: WIND, DBS HK



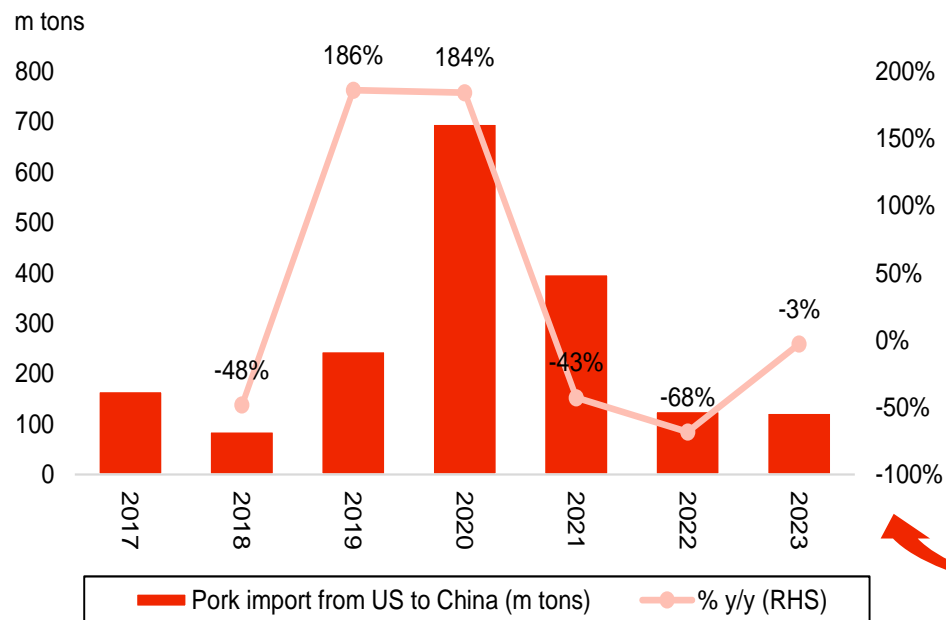
Source: USDA, DBS HK

Source: USDA, DBS HK

US-China trade

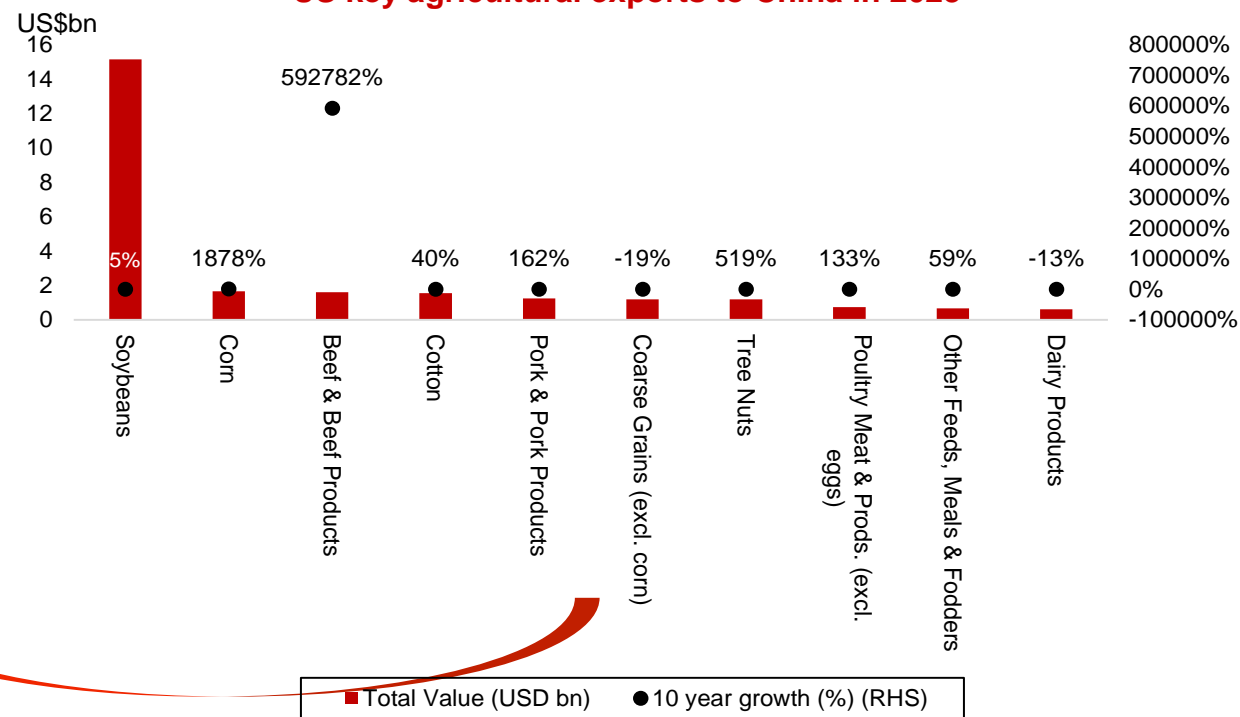
- US-China agricultural trade totaled US\$29bn in 2023.
- China's tariff rates traditionally favours feed imports over livestock imports. However, as China's income per capita rises and competition intensifies, import demand for midstream products (e.g., beef, pork & poultry) grew firmly over the past 10 years.
- Soybean remains the dominant commodity that is imported into China (c.30% of total based on 3-year import volumes).
- At the height of US-China trade tensions in 2018-2019, China's retaliatory tariff rose up to 37% for pork, which was then gradually exempted the next year

US export to China – 2018 recorded a 48% y/y drop in exports to China, thereafter an 186% rebound



Source: China Customs, WIND, DBS HK

US key agricultural exports to China in 2023



Source: USDA, DBS HK

Commodity price changes % y-o-y (China) (2019 – 1H25F)

	Source	1H19	2H19	1H20	2H20	1H21	2H21	1H22	2H22	1H23	2H23	1H24	YTD	2H24F	FY24F	1H25F
% y/y																
Cereal Grain																
Corn	DCE	3	1	6	30	41	8	2	7	-2	-5	-12	-14	-14	-13	-6
Soybean	DCE	-4	-3	31	47	31	20	6	-3	-14	-13	-11	-12	-15	-13	-15
Wheat	NBS	-3	-6	-0	5	5	9	22	19	-4	-6	-10	-13	n.a.	n.a.	n.a.
Rough rice	NBS	-16	13	15	2	-1	-1	13	-6	-16	-2	0	0	0	0	0
Barley	China Custom:	17	-6	-14	-7	11	29	25	30	13	-21	-28	-26	n.a.	n.a.	n.a.
Oilseeds																
Peanut oil	NBS	13	31	35	15	-0	-10	-14	14	28	1	-15	-16	n.a.	n.a.	n.a.
Palm oil	DCE	-14	5	19	28	54	50	58	-11	-40	-12	1	5	19	10	21
Soybean oil	DCE	-2	8	8	18	53	35	22	4	-23	-16	-8	-7	-3	-5	10
Rapeseed oil	DCE	6	14	7	27	44	24	24	4	-30	-26	-11	-9	0	-6	19
Feed																
Corn	MARA	1	3	5	17	37	18	-1	4	1	-2	-13	-14	-14	-13	-6
Soybean Meal	MARA	-11	-10	1	6	31	16	16	28	-4	-5	-16	-22	-29	-23	-12
Fattening Pig	MARA	-0	1	4	8	15	10	6	10	4	-2	-8	-9	n.a.	n.a.	n.a.
Broiler Chicken	MARA	-0	1	3	6	12	10	5	9	5	-0	-7	-8	n.a.	n.a.	n.a.
Egg Chicken	MARA	-0	1	3	6	14	11	6	9	5	-1	-7	-8	n.a.	n.a.	n.a.
Protein prices																
Live hog	MARA	16	106	137	21	-24	-55	-43	52	3	-33	3	10	20	12	-6
Pork price	MARA	8	91	121	19	-22	-51	-40	43	5	-30	-2	6	n.a.	n.a.	n.a.
Piglet prices	MARA	17	152	185	58	-10	-67	-65	39	26	-35	-6	9	n.a.	n.a.	n.a.
Raw milk prices	MARA	3	7	3	4	15	11	-2	-5	-6	-10	-12	-13	-15	-13	-10
Whole milk powder	Fonterra	-3	13	-7	-3	35	24	9	-7	-25	-16	4	9	n.a.	n.a.	n.a.
Other soft commodities																
Sugar	ZCE	-9	13	8	-6	-2	10	8	-0	10	22	-0	-6	-13	-7	-9
Packaging prices																
PET	DCE	-12	-21	-21	1	23	17	9	-7	-9	1	2	1	1	2	-2
Tin	LME	-3	-12	-22	8	77	102	42	-39	-34	13	11	15	25	18	10
Aluminium	DCE	-4	-1	-4	7	32	36	23	-9	-14	2	7	7	7	7	5

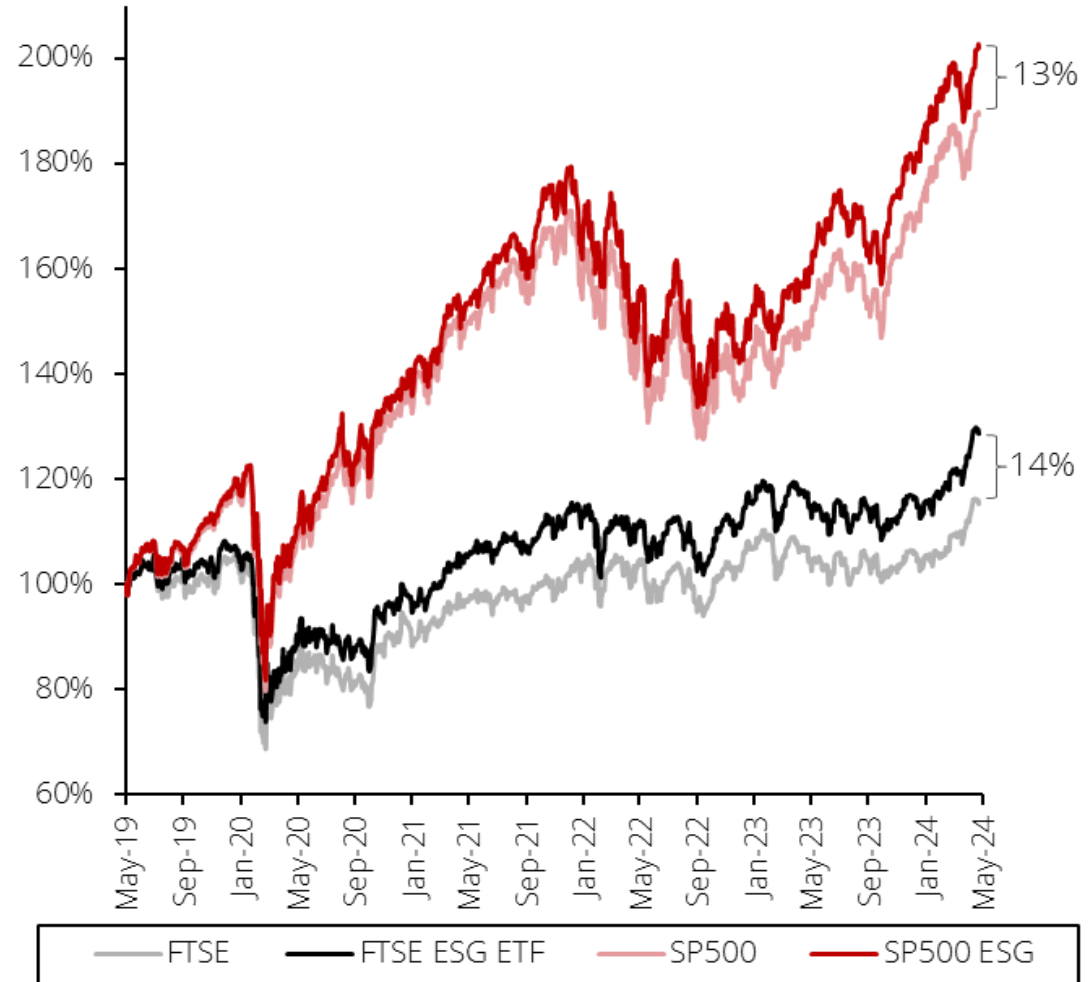
Environment, Social & Governance



ESG stocks outperformed the market

- In general, companies with high ESG ratings are more likely to be perceived as more responsible and ethical, enhancing their reputation and brand value and attracting more customers and investors.
- Companies with higher ESG ratings also have easier access to funds that incorporate ESG criteria into their investment strategies.
- Over the past five years, ESG indexes and ESG-linked ETFs have outperformed the market by >13% in US and UK markets. While such trend has not been as apparent in China/Hong Kong markets, we have seen a gradually widening gap in recent years.

ESG indexes have outperformed the market in the past five years

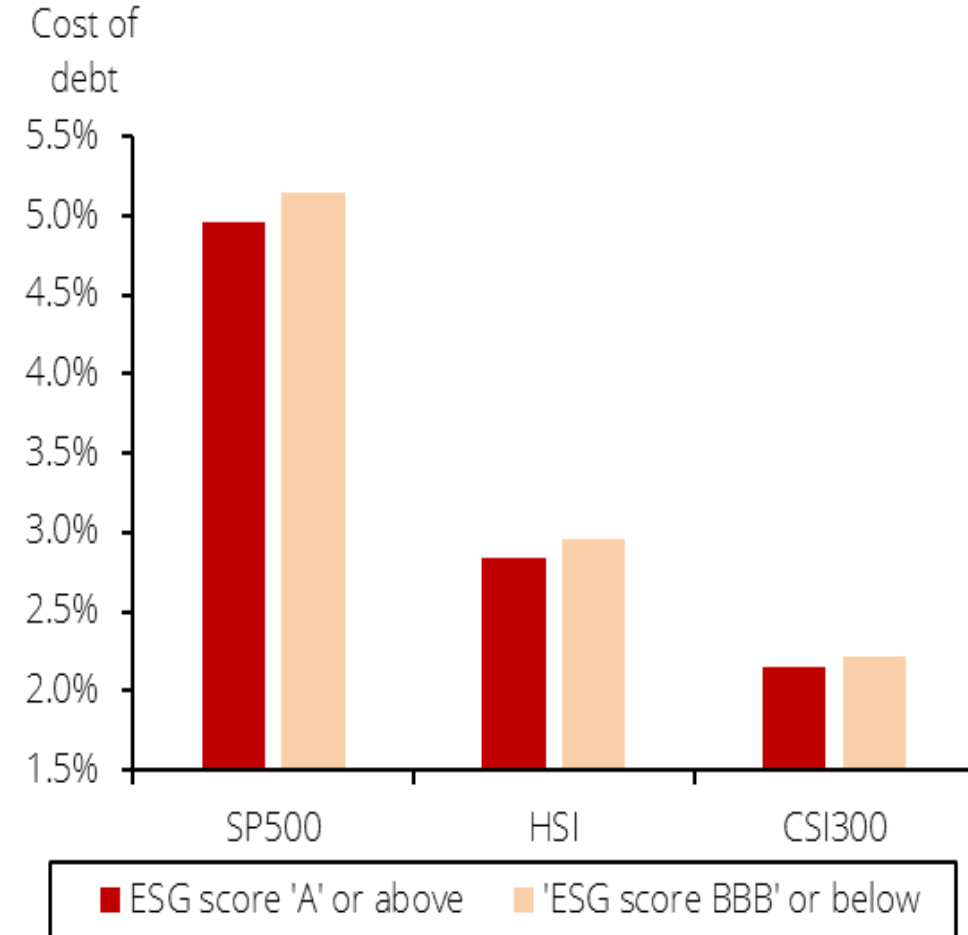


Source: Bloomberg, DBS HK

Riding on sustainability-linked financing

- Effective environmental management, strong governance structures, and positive social practices potentially help lower the risks of companies with higher ESG ratings.
- Companies with higher ESG ratings also tend to have larger access to green financing (e.g., **green bonds** and **sustainability-linked loans**) where they can benefit from interest rate discounts.
- The average cost of debt of companies with higher ESG ratings are lower than that of companies with lower ESG ratings in China / Hong Kong and the US markets.

Index constituent stocks with higher ESG ratings tend to have lower cost of debt



Source: MSCI, Bloomberg, DBS HK

Key sustainability improvements



Carbon footprint



Increasing the use of **renewable energy**

- Rooftop photovoltaic power generation in farms / factories
- Use of air energy for temperature control in dairy farms
- Green logistics - use of LNG / electricity / hydrogen powered transport



Energy savings

- Use of automation technologies – e.g., thermal control in hog / dairy farms
- Optimised facilities – e.g., steam boilers and sterilisers in beverage production



Carbon sequestration

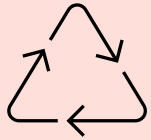
- Use of automation technologies – e.g., thermal control in hog / dairy farms
- Capturing of carbon dioxide produced in fermentation process in alcoholic beverages - up to 99.99%



Progress and targets

- Brewery leader – up to 66% renewable energy use, targeting 100% as early as 2025, net zero by 2040
- Hog / dairy – GHG emission intensity reduced by 5-13% in 2023–2030.

Key sustainability improvements (cont'd.)



Waste management



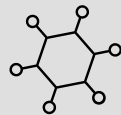
Circular agriculture in hog / dairy farms

- Collection of **biogas** (for power generation) and fertile water (for feed planting)
- Average manure utilisation rate to reach 80% by 2025 in China
- Potentially reduce up to 80% of chemical fertilisers in farms of circular agriculture



Returnable packaging

- Returnable packaging - e.g., returnable cans and glass bottles (refill rate up to 80%)
- Increase the use of recycled materials (up to 90% in glass bottles)



Biological treatment – e.g., aerobic treatment and anaerobic digestion) of wastewater to prevent pollution

Water efficiency

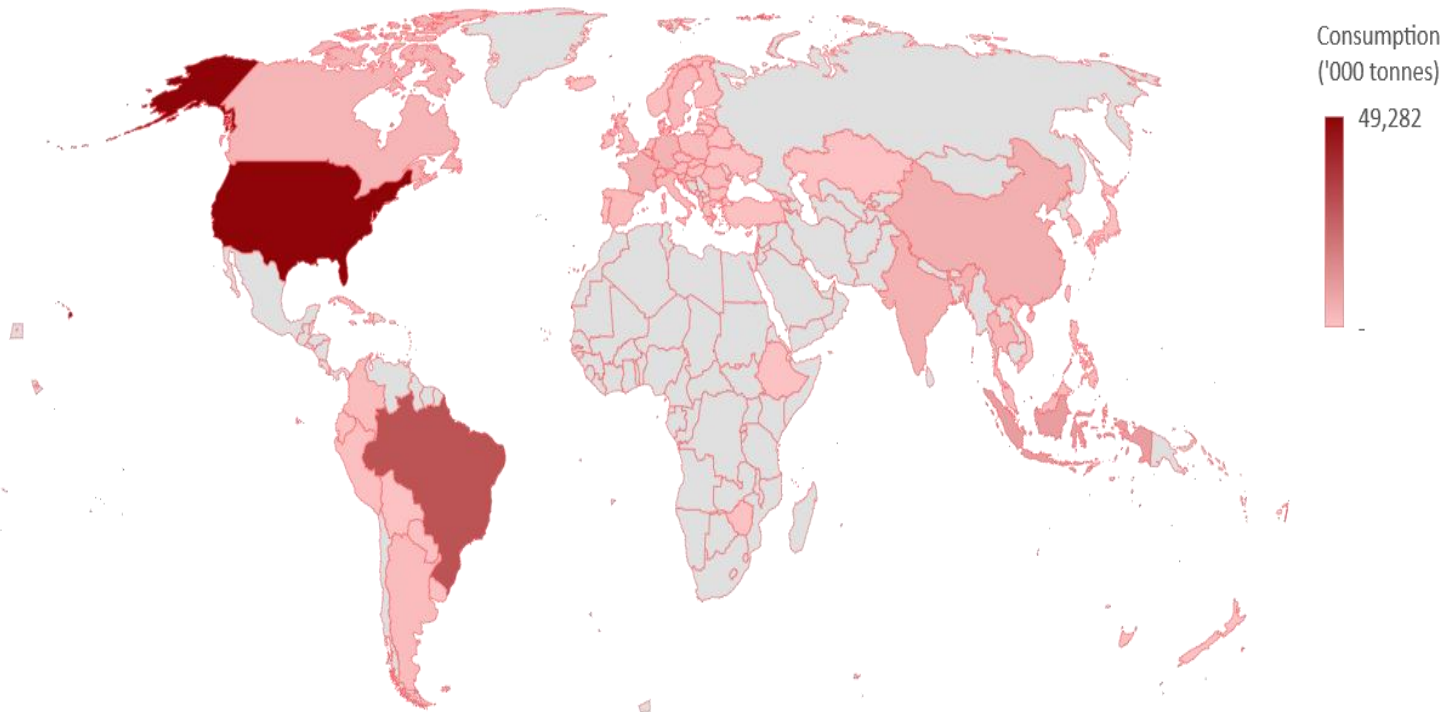


- **Reuse of treated water** for non-potable processes (e.g., cooling, cleaning and irrigation)
- Enhanced processes for water use (e.g., shorter time interval for flushing)

How can biofuel help on sustainability?

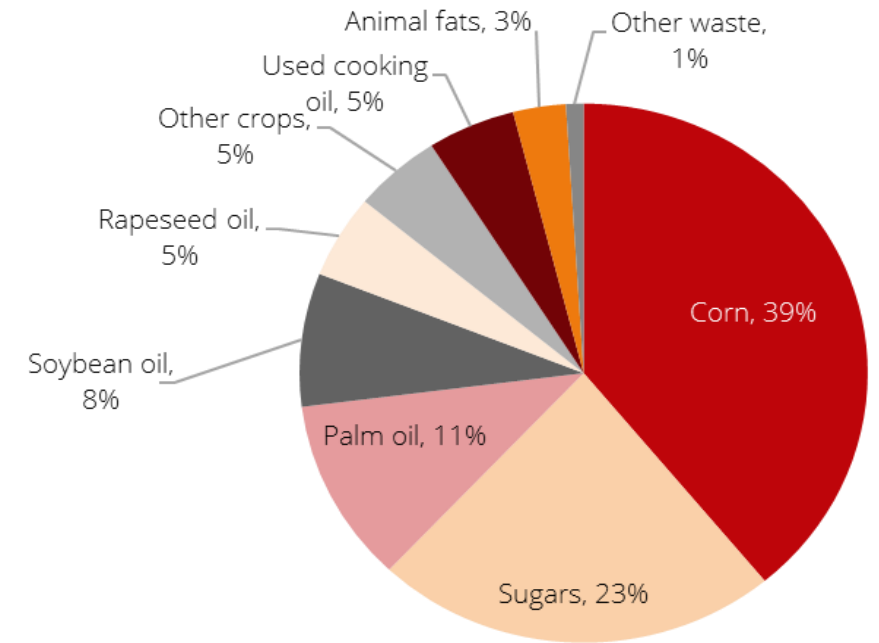
- Biofuels in general produce **fewer carbon dioxide emissions** than fossil fuels due to their cleaner combustion. The impact on carbon intensity varies based on the feedstock used, with average emission reductions between **36% and 74%**.
- Regarding biofuel consumption needs, US and Brazil are the largest markets while China is also among the leading countries, with annual consumption of c.4.6mn tonnes.

World consumption of biofuel (2023)



Source: Euromonitor, DBS HK

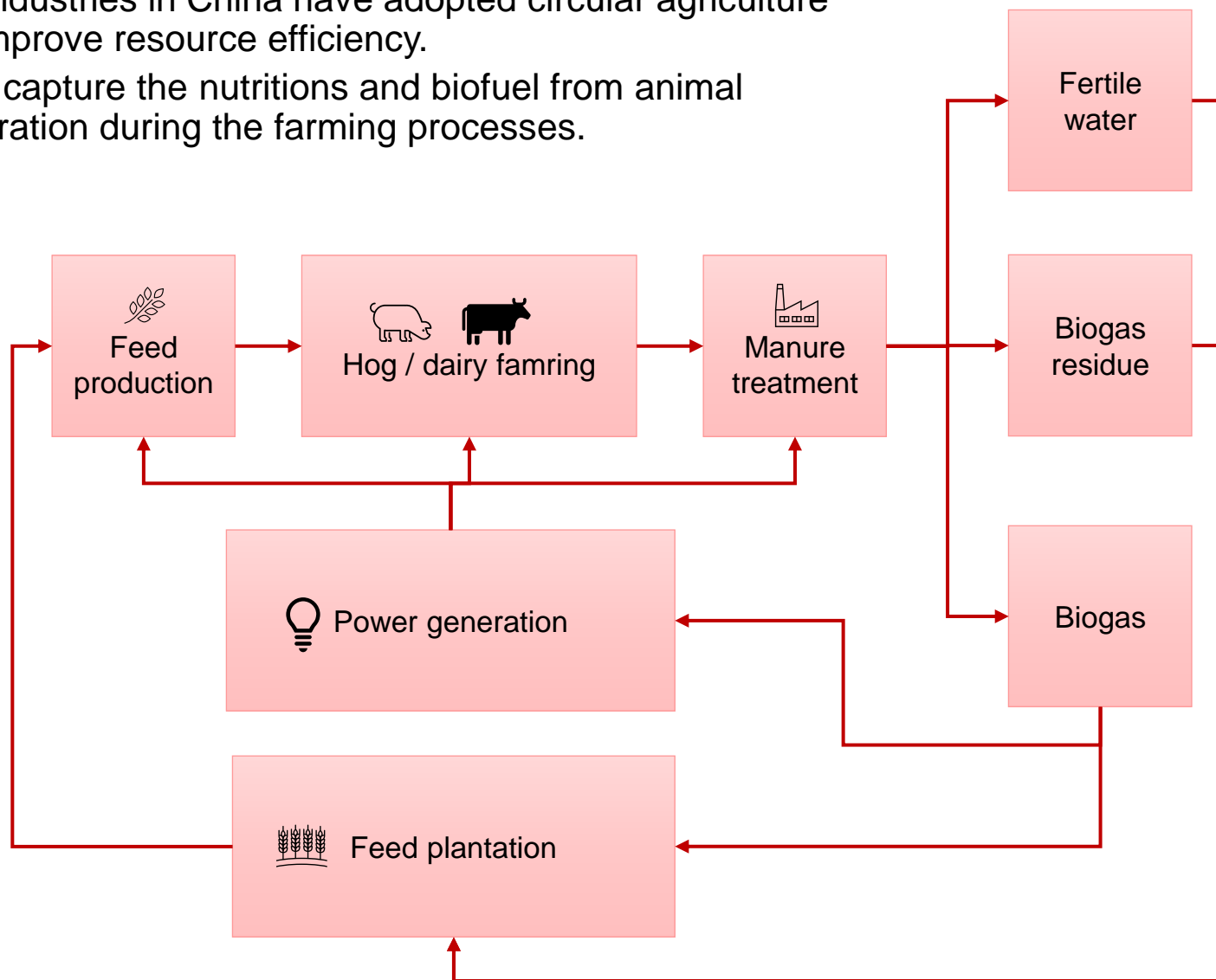
World biofuel by categories



Source: IEA, DBS HK

Case study – use of biofuel from circular agriculture

- Leading Chinese players in hog and dairy industries in China have adopted circular agriculture in order to minimise waste discharge and improve resource efficiency.
- Such system allows hog and dairy farms to capture the nutrients and biofuel from animal manure for feed plantation and power generation during the farming processes.
- By 2025, the manure collection rate in China is expected to reach 80%.



Source: Pig333, news reports, DBS HK

Thank You



DBS Group Research recommendations are based on an Absolute Total Return* Rating system, defined as follows:
STRONG BUY (>20% total return over the next 3 months, with identifiable share price catalysts within this time frame)
BUY (>15% total return over the next 12 months for small caps, >10% for large caps)
HOLD (-10% to +15% total return over the next 12 months for small caps, -10% to +10% for large caps)
FULLY VALUED (negative total return, i.e., > -10% over the next 12 months)
SELL (negative total return of > -20% over the next 3 months, with identifiable share price catalysts within this time frame)

* *Share price appreciation + dividends*

Sources for all charts and tables are DBS HK unless otherwise specified.

GENERAL DISCLOSURE/DISCLAIMER

This report is prepared by DBS Bank (Hong Kong) Limited ("DBS HK"). This report is solely intended for the clients of DBS Bank Ltd., DBS Vickers Securities (Singapore) Pte Ltd. ("DBSVS"), its respective connected and associated corporations and affiliates only and no part of this document may be (i) copied, photocopied or duplicated in any form or by any means or (ii) redistributed without the prior written consent of DBS HK.

The research set out in this report is based on information obtained from sources believed to be reliable, but we (which collectively refers to DBS Bank Ltd., DBSVS, its respective connected and associated corporations, affiliates and their respective directors, officers, employees and agents (collectively, the "DBS Group") have not conducted due diligence on any of the companies, verified any information or sources or taken into account any other factors which we may consider to be relevant or appropriate in preparing the research. Accordingly, we do not make any representation or warranty as to the accuracy, completeness or correctness of the research set out in this report. Opinions expressed are subject to change without notice. This research is prepared for general circulation. Any recommendation contained in this document does not have regard to the specific investment objectives, financial situation and the particular needs of any specific addressee. This document is for the information of addressees only and is not to be taken in substitution for the exercise of judgement by addressees, who should obtain separate independent legal or financial advice. The DBS Group accepts no liability whatsoever for any direct, indirect and/or consequential loss (including any claims for loss of profit) arising from any use of and/or reliance upon this document and/or further communication given in relation to this document. This document is not to be construed as an offer or a solicitation of an offer to buy or sell any securities. The DBS Group, along with its affiliates and/or persons associated with any of them may from time to time have interests in the securities mentioned in this document. The DBS Group, may have positions in, and may effect transactions in securities mentioned herein and may also perform or seek to perform broking, investment banking and other banking services for these companies.

Any valuations, opinions, estimates, forecasts, ratings or risk assessments herein constitutes a judgment as of the date of this report, and there can be no assurance that future results or events will be consistent with any such valuations, opinions, estimates, forecasts, ratings or risk assessments. The information in this document is subject to change without notice, its accuracy is not guaranteed, it may be incomplete or condensed, it may not contain all material information concerning the company (or companies) referred to in this report and the DBS Group is under no obligation to update the information in this report.

This publication has not been reviewed or authorized by any regulatory authority in Singapore, Hong Kong or elsewhere. There is no planned schedule or frequency for updating research publication relating to any issuer.

The valuations, opinions, estimates, forecasts, ratings or risk assessments described in this report were based upon a number of estimates and assumptions and are inherently subject to significant uncertainties and contingencies. It can be expected that one or more of the estimates on which the valuations, opinions, estimates, forecasts, ratings or risk assessments were based will not materialize or will vary significantly from actual results. Therefore, the inclusion of the valuations, opinions, estimates, forecasts, ratings or risk assessments described herein IS NOT TO BE RELIED UPON as a representation and/or warranty by the DBS Group (and/or any persons associated with the aforesaid entities), that:

- (a) such valuations, opinions, estimates, forecasts, ratings or risk assessments or their underlying assumptions will be achieved, and
- (b) there is any assurance that future results or events will be consistent with any such valuations, opinions, estimates, forecasts, ratings or risk assessments stated therein.

Please contact the primary analyst for valuation methodologies and assumptions associated with the covered companies or price targets.

Any assumptions made in this report that refers to commodities, are for the purposes of making forecasts for the company (or companies) mentioned herein. They are not to be construed as recommendations to trade in the physical commodity or in the futures contract relating to the commodity referred to in this report.

DBS Vickers Securities (USA) Inc ("DBSVUSA"), a US-registered broker-dealer, does not have its own investment banking or research department, has not participated in any public offering of securities as a manager or co-manager or in any other investment banking transaction in the past twelve months and does not engage in market-making.

ANALYST CERTIFICATION

The research analyst(s) primarily responsible for the content of this research report, in part or in whole, certifies that the views about the companies and their securities expressed in this report accurately reflect his/her personal views. The analyst(s) also certifies that no part of his/her compensation was, is, or will be, directly or indirectly, related to specific recommendations or views expressed in the report. The research analyst (s) primarily responsible for the content of this research report, in part or in whole, certifies that he or his associate¹ does not serve as an officer of the issuer or the new listing applicant (which includes in the case of a real estate investment trust, an officer of the management company of the real estate investment trust; and in the case of any other entity, an officer or its equivalent counterparty of the entity who is responsible for the management of the issuer or the new listing applicant) and the research analyst(s) primarily responsible for the content of this research report or his associate does not have financial interests² in relation to an issuer or a new listing applicant that the analyst reviews. DBS Group has procedures in place to eliminate, avoid and manage any potential conflicts of interests that may arise in connection with the production of research reports. The research analyst(s) responsible for this report operates as part of a separate and independent team to the investment banking function of the DBS Group and procedures are in place to ensure that confidential information held by either the research or investment banking function is handled appropriately. There is no direct link of DBS Group's compensation to any specific investment banking function of the DBS Group.


COMPANY-SPECIFIC / REGULATORY DISCLOSURES

1. DBS Bank Ltd, DBS HK, DBSVS, DBSVUSA, or their subsidiaries and/or other affiliates do not have a proprietary position in the securities recommended in this report as of 12 Jun 2024.
2. **Compensation for investment banking services:**
DBSVUSA does not have its own investment banking or research department, nor has it participated in any public offering of securities as a manager or co-manager or in any other investment banking transaction in the past twelve months. Any US persons wishing to obtain further information, including any clarification on disclosures in this disclaimer, or to effect a transaction in any security discussed in this document should contact DBSVUSA exclusively.
3. **Disclosure of previous investment recommendation produced:**
DBS Bank Ltd, DBS HK, DBSVS, DBSVUSA, or their subsidiaries and/or other affiliates may have published other investment recommendations in respect of the same securities / instruments recommended in this research report during the preceding 12 months. Please contact the primary analyst listed on page 1 of this report to view previous investment recommendations published by DBS Bank Ltd, DBS HK, DBSVS, DBSVUSA, or their subsidiaries and/or other affiliates in the preceding 12 months.

1. An associate is defined as (i) the spouse, or any minor child (natural or adopted) or minor step-child, of the analyst; (ii) the trustee of a trust of which the analyst, his spouse, minor child (natural or adopted) or minor step-child, is a beneficiary or discretionary object; or (iii) another person accustomed or obliged to act in accordance with the directions or instructions of the analyst.

2. Financial interest is defined as interests that are commonly known financial interest, such as investment in the securities in respect of an issuer or a new listing applicant, or financial accommodation arrangement between the issuer or the new listing applicant and the firm or analysis. This term does not include commercial lending conducted at arm's length, or investments in any collective investment scheme other than an issuer or new listing applicant notwithstanding the fact that the scheme has investments in securities in respect of an issuer or a new listing applicant.

RESTRICTIONS ON DISTRIBUTION

General	This report is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation.
Australia	This report is being distributed in Australia by DBS Bank Ltd, DBSVS or DBS Vickers (Hong Kong) Limited ("DBSV HK"). DBS Bank Ltd holds Australian Financial Services Licence no. 475946. DBS Bank Ltd, DBSVS and DBSV HK are exempted from the requirement to hold an Australian Financial Services Licence under the Corporation Act 2001 ("CA") in respect of financial services provided to the recipients. Both DBS Bank Ltd and DBSVS are regulated by the Monetary Authority of Singapore under the laws of Singapore, and DBSV HK is regulated by the Hong Kong Securities and Futures Commission under the laws of Hong Kong, which differ from Australian laws. Distribution of this report is intended only for "wholesale investors" within the meaning of the CA.
Hong Kong	This report is being distributed in Hong Kong by DBS Bank Ltd, DBS Bank (Hong Kong) Limited and DBS Vickers (Hong Kong) Limited, all of which are registered with or licensed by the Hong Kong Securities and Futures Commission to carry out the regulated activity of advising on securities. DBS Bank Ltd., Hong Kong Branch is a limited liability company incorporated in Singapore. For any query regarding the materials herein, please contact Dennis Lam (Reg No. AH8290) at dbsvhk@dbs.com
Indonesia	This report is being distributed in Indonesia by PT DBS Vickers Sekuritas Indonesia.
Malaysia	This report is distributed in Malaysia by AllianceDBS Research Sdn Bhd ("ADBSR"). Recipients of this report, received from ADBSR are to contact the undersigned at 603-2604 3333 in respect of any matters arising from or in connection with this report. In addition to the General Disclosure/Disclaimer found at the preceding page, recipients of this report are advised that ADBSR (the preparer of this report), its holding company Alliance Investment Bank Berhad, their respective connected and associated corporations, affiliates, their directors, officers, employees, agents and parties related or associated with any of them may have positions in, and may effect transactions in the securities mentioned herein and may also perform or seek to perform broking, investment banking/corporate advisory and other services for the subject companies. They may also have received compensation and/or seek to obtain compensation for broking, investment banking/corporate advisory and other services from the subject companies.  Wong Ming Tek, Executive Director, ADBSR
Singapore	This report is distributed in Singapore by DBS Bank Ltd (Company Regn. No. 196800306E) or DBSVS (Company Regn No. 198600294G), both of which are Exempt Financial Advisers as defined in the Financial Advisers Act and regulated by the Monetary Authority of Singapore. DBS Bank Ltd and/or DBSVS, may distribute reports produced by its respective foreign entities, affiliates or other foreign research houses pursuant to an arrangement under Regulation 32C of the Financial Advisers Regulations. Where the report is distributed in Singapore to a person who is not an Accredited Investor, Expert Investor or an Institutional Investor, DBS Bank Ltd accepts legal responsibility for the contents of the report to such persons only to the extent required by law. Singapore recipients should contact DBS Bank Ltd at 6878 8888 for matters arising from, or in connection with the report.
Thailand	This report is being distributed in Thailand by DBS Vickers Securities (Thailand) Co Ltd. For any query regarding the materials herein, please contact [Chanpen Sirithanarattanakul] at [research@th.dbs.com]
United Kingdom	This report is produced by DBS HK which is regulated by the Hong Kong Monetary Authority This report is disseminated in the United Kingdom by DBS Bank Ltd, London Branch ("DBS UK"). DBS UK is authorised by the Prudential Regulation Authority and is subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from us on request. In respect of the United Kingdom, this report is solely intended for the clients of DBS UK, its respective connected and associated corporations and affiliates only and no part of this document may be (i) copied, photocopied or duplicated in any form or by any means or (ii) redistributed without the prior written consent of DBS UK. This communication is directed at persons having professional experience in matters relating to investments. Any investment activity following from this communication will only be engaged in with such persons. Persons who do not have professional experience in matters relating to investments should not rely on this communication.

RESTRICTIONS ON DISTRIBUTION

Dubai International Financial Centre	<p>This communication is provided to you as a Professional Client or Market Counterparty as defined in the DFSA Rulebook Conduct of Business Module (the "COB Module"), and should not be relied upon or acted on by any person which does not meet the criteria to be classified as a Professional Client or Market Counterparty under the DFSA rules.</p> <p>This communication is from the branch of DBS Bank Ltd operating in the Dubai International Financial Centre (the "DIFC") under the trading name "DBS Bank Ltd. (DIFC Branch)" ("DBS DIFC"), registered with the DIFC Registrar of Companies under number 156 and having its registered office at units 608 - 610, 6th Floor, Gate Precinct Building 5, PO Box 506538, DIFC, Dubai, United Arab Emirates.</p> <p>DBS DIFC is regulated by the Dubai Financial Services Authority (the "DFSA") with a DFSA reference number F000164. For more information on DBS DIFC and its affiliates, please see http://www.dbs.com/ae/our--network/default.page.</p> <p>Where this communication contains a research report, this research report is prepared by the entity referred to therein, which may be DBS Bank Ltd or a third party, and is provided to you by DBS DIFC. The research report has not been reviewed or authorised by the DFSA. Such research report is distributed on the express understanding that, whilst the information contained within is believed to be reliable, the information has not been independently verified by DBS DIFC.</p> <p>Unless otherwise indicated, this communication does not constitute an "Offer of Securities to the Public" as defined under Article 12 of the Markets Law (DIFC Law No.1 of 2012) or an "Offer of a Unit of a Fund" as defined under Article 19(2) of the Collective Investment Law (DIFC Law No.2 of 2010).</p> <p>The DFSA has no responsibility for reviewing or verifying this communication or any associated documents in connection with this investment and it is not subject to any form of regulation or approval by the DFSA. Accordingly, the DFSA has not approved this communication or any other associated documents in connection with this investment nor taken any steps to verify the information set out in this communication or any associated documents, and has no responsibility for them. The DFSA has not assessed the suitability of any investments to which the communication relates and, in respect of any Islamic investments (or other investments identified to be Shari'a compliant), neither we nor the DFSA has determined whether they are Shari'a compliant in any way.</p> <p>Any investments which this communication relates to may be illiquid and/or subject to restrictions on their resale. Prospective purchasers should conduct their own due diligence on any investments. If you do not understand the contents of this document you should consult an authorised financial adviser.</p>
United States	<p>This report was prepared by DBS HK. DBSVUSA did not participate in its preparation. The research analyst(s) named on this report are not registered as research analysts with FINRA and are not associated persons of DBSVUSA. The research analyst(s) are not subject to FINRA Rule 2241 restrictions on analyst compensation, communications with a subject company, public appearances and trading securities held by a research analyst. This report is being distributed in the United States by DBSVUSA, which accepts responsibility for its contents. This report may only be distributed to Major U.S. Institutional Investors (as defined in SEC Rule 15a-6) and to such other institutional investors and qualified persons as DBSVUSA may authorize. Any U.S. person receiving this report who wishes to effect transactions in any securities referred to herein should contact DBSVUSA directly and not its affiliate.</p>
Other jurisdictions	<p>In any other jurisdictions, except if otherwise restricted by laws or regulations, this report is intended only for qualified, professional, institutional or sophisticated investors as defined in the laws and regulations of such jurisdictions.</p>

DBS Bank (Hong Kong) Limited
13 th Floor One Island East, 18 Westlands Road, Quarry Bay, Hong Kong
Tel: (852) 3668-4181, Fax: (852) 2521-1812