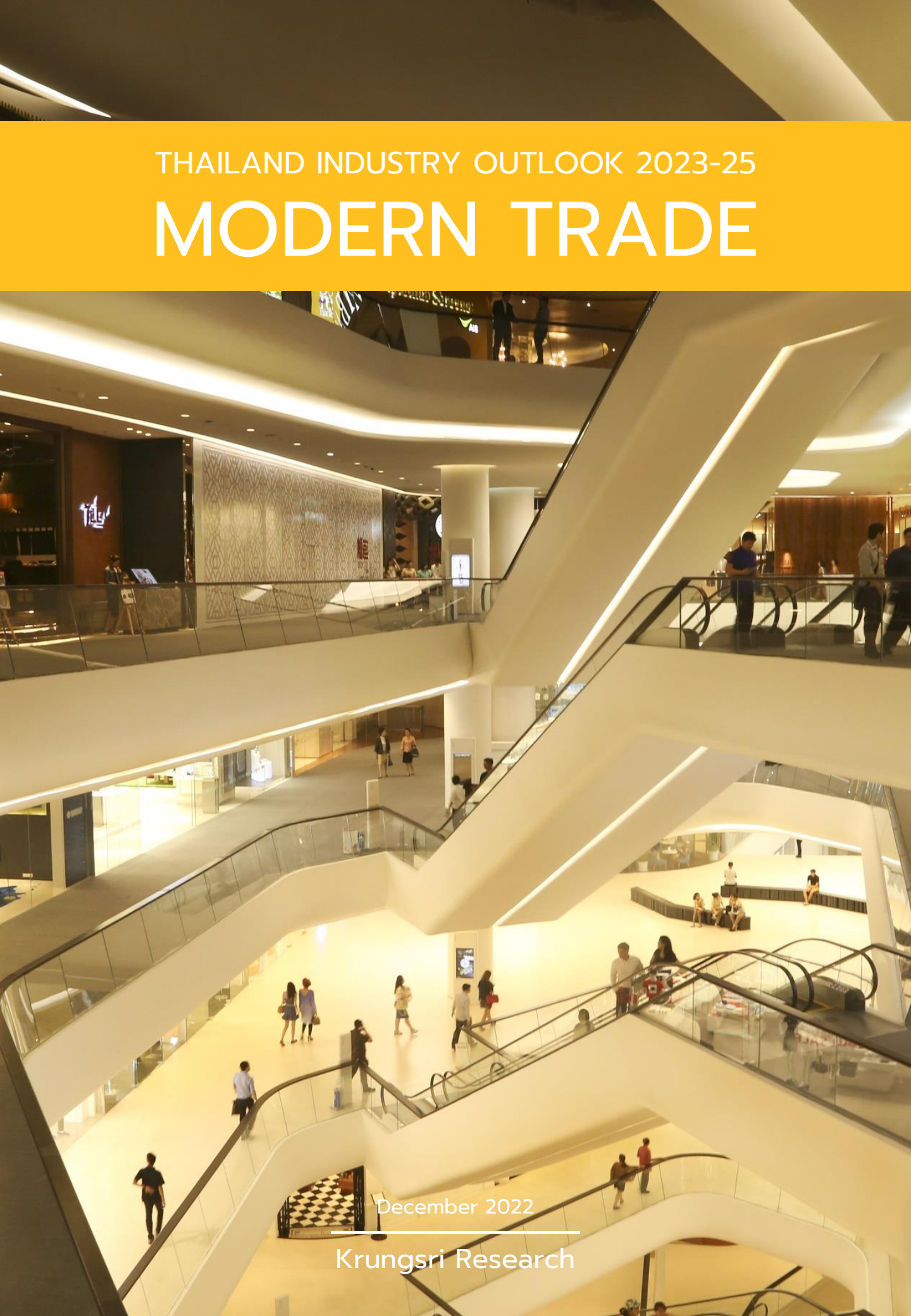
THAILAND INDUSTRY OUTLOOK 2023-25

MODERN TRADE



December 2022

Krungsri Research

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EXECUTIVE SUMMARY



Business conditions gradually improved for modern trade outlets through 2022 with the turnaround in the Thai economy, though the industry has been boosted in particular by: (i) government stimulus packages on consumer spending; (ii) the reopening of the country and the rebound in tourist arrivals; and (iii) the resilience of consumer spending power among mid- to upper-income earners. In addition, the continuing expansion in online distribution has also helped to lift sales, but unfortunately for most consumers, the rising cost of living is weighing on purchasing power, and as such, 2022 sales growth will be limited to 3.0-4.0%. **The situation will improve in 2023-2025, and over the next three years, average annual growth should run in the range 4.0-5.0%.** This outlook will be supported by: (i) forecast GDP growth of 3.0-4.0% per annum that will feed into a strengthening of consumer spending power; (ii) the rebound in the tourist sector and the return of tourist arrivals to their pre-Covid level by 2025; (iii) the positive effects on employment and spending of government investment in megaprojects; and (iv) economic growth across the broader region, which will open up new opportunities for players to develop additional income streams.

Modern trade retailers will develop their businesses along a twin-track of expansion in their online presence and the reach of their brick-and-mortar outlets. This will be supported by the development of new business models that take advantage of new technology, and this will help to both differentiate players and to increase their competitiveness. This will, though, take place against a backdrop of intensifying competition as players look to secure sources of long-term growth by broadening and deepening their market penetration.

Krungsri Research view

Over 2023-2025, the modern trade sector will enjoy growth that will move along with an improving outlook for consumer spending. Sales will benefit in particular from the accelerating rebound in foreign tourist arrivals and progress on government infrastructure projects, which will then support an expansion in branch numbers. Nevertheless, competition will intensify and problems with persistently high levels of household debt will drag on sales. This will have different effects for each segment of the market. The details are listed below..

- **Department stores: Sales will strengthen from 2021's 3.5% expansion to growth of 4.0-5.0% annually.** This will be a result of the abating of the Covid-19 pandemic and

the shift in business strategy to developing omnichannel platforms and using 5G and AR technology to offer new and enticing consumer experiences. Players will also step up their investments in high-potential markets in the broader region, and this will help them to develop additional sources of income.

- **Discount stores/hypermarkets/supercenters: 2022's growth of 3.0% will inch up to 3.0-4.0% over the next three years** as operators increasingly adapt and diversify their store formats according to the demands of individual locations. Players will also expand into local communities across the country, which will help them connect with a wider range of customers. Alongside this, they will continue to put their efforts into the development of digital platforms, all the while selling goods at prices that undercut those of other types of retailers. However, operators will face stiffer competition as a result of the lack of strong product differentiation marking their product lines off from those on sale in other segments of the retail market.
- **Supermarkets: Annual sales growth may move up slightly from the 6.0% achieved in 2022 to 6.0-7.0% in the coming period**. This segment will enjoy the highest growth within the retail sector thanks to players' ability to match their marketing strategies to the needs of their shoppers, most of whom are mid- to upper-income consumers with significant purchasing power. Supermarkets gain from the high-quality of their produce, and from strategies that include: (i) rebranding outlets as premium lifestyle supermarkets that offer higher-priced imported goods; (ii) expanding their presence into higher-income provinces; (iii) developing their online offerings to make consumers' online experience as smooth as possible. In light of this and the benefits that they gain from their size, supermarkets will likely be able to sustain healthy turnover.
- **Convenience stores/minimarts: Income rose by 4.5% in 2022, and annual growth will continue in the range of 4.5-5.5% over the next 3 years**. The continuing expansion in the coverage of branch networks, the extension of services to include sales of ready-to-eat food, and an increase in the use of online channels will all help to build additional income. This will, though, be balanced by an intensification of market pressure as direct competitors open branches to challenge convenience stores, and indirect competitors (e.g., hypermarkets) increasingly adapt their retail formats as they look to steal market share. Thus, the move by major players to partner with traditional retailers is helping these establish a presence on the high street, and this is then affecting convenience store takings. As such, average branch incomes are likely to fall from earlier highs. Nevertheless, while franchisees will face an increased threat to their operations, franchisors will continue to generate profits.

Table 1: Retail Business Growth by Type of Business (%)

	2019P	2020E	2021E	2022E	2023-25F
Department stores	3.5	-14.0	-11.5	3.5	4.0-5.0
Discount stores/ Hypermarkets/Supercenters	2.7	-11.0	-9.0	3.0	3.0-4.0
Supermarkets	4.0	-11.0	-8.0	6.0	6.0-7.0
Convenience stores	2.9	-6.5	-4.5	4.5	4.5-5.5
Modern retail sales growth	**2.8**	**-12.0**	**-9.0**	**3.0-4.0**	**4.0-5.0**

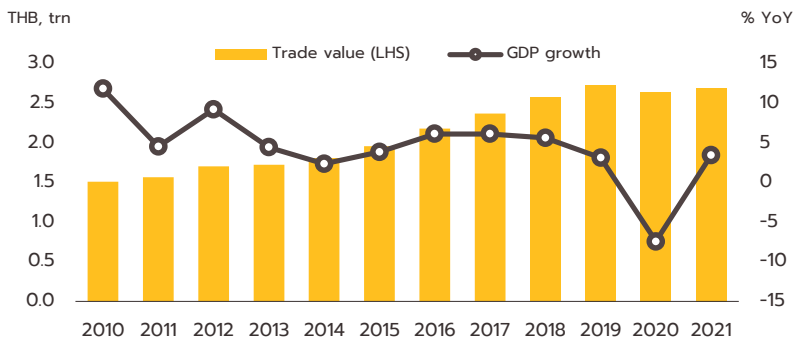
Source: Thai Retailers Association (TRA), for 2020-2025 estimated and forecast by Krungsri Research

OVERVIEW

The modern trade industry falls within the broader retail sector, which as of 2021, had a total value of THB 2.7 trillion (up 1.9% from 2020), and the sector thus accounts for 16.7% of Thailand's total GDP. This was sufficient to put the retail sector second in terms of its importance to the Thai economy, coming after only manufacturing, which has a 27.0% share of GDP. Modern trade players are generally major corporations that operate extended commercial networks, and because they buy in such large quantities, their market strength and negotiating position outweighs that of manufacturers and distributors[1/]. Stores are managed using modern logistics and distribution techniques, and players are in the process of leveraging a greater use of modern technology and an expanded online presence for the advantages that this provides to their marketing.

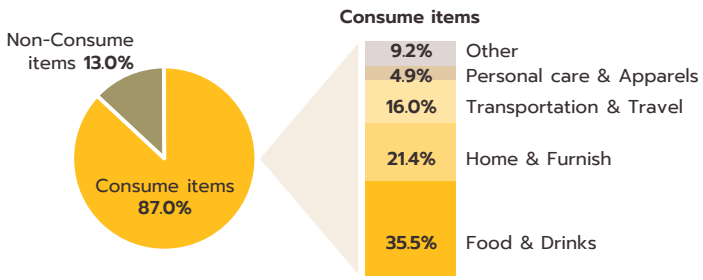
Modern trade outlets have enjoyed rapid growth in Thailand, especially in and around Bangkok and in other more urbanized parts of the country. Sectoral success has been built on: (i) government policy to allow foreign players that have access to modern management and operational technology to invest in the retail sector;[2/] (ii) consumer preferences that favor retailers offering a unified shopping experience under a single roof that extends over food, personal care items, and household goods (Figure 2) that are generally cheaper than equivalent goods sold in traditional outlets; and (iii) ongoing investment in the opening of new branches and the expansion of operators' markets.

Figure 1: Wholesale & Retail Trade Value vs GDP Growth



Source: The National Economic and Social Development Council (NESDC)
Note: GDP & wholesale & retail trade value at current market prices

Figure 2: Distribution of Household Expenditure by Type (2021)



Source: National Statistical Office (NSO)
Note: Non-consume items include taxes, contributions, interest payment, etc.

1/ One reason that large modern trade operations are able to offer goods at price points below those of traditional retailers is that they are in a position to set up condition to collect fees from manufacturers and distributors that wish to sell through their shops. Sources of income include: (i) initial fees for stocking new lines; (ii) charges for marketing and other services for, e.g., hosting display stands, access to shelf space, signage, bonuses in the case that sales exceed monthly targets, and the transport and logistics fees incurred in shipping goods from distribution centers to stores; (iii) the fees for producing leaflets and flyers, as well as the provision of free or additionally discounted goods on special occasions (e.g., New Year, the opening of new branches, store renovations and re-openings, and during festivals); (iv) credit terms that extend to 90-120 days; and (v) contracts that allow players to terminate business relations unilaterally.

2/ The 1999 Foreign Business Act allows non-Thais to operate in the retail and wholesale industries (reserved occupations as per Appendix 3 of the Act) if they invest at least THB 100 million in Thailand. Potential investors must also apply for a license from the Foreign Business Committee.

The majority of the players active in the modern trade segment are major, well-established Thai corporations that are well-versed in revenue generation. These companies benefit from their economies of scale, their access to sources of funding, their extensive commercial and retail networks, and their ability to develop new businesses across a broad front. Examples of these include Central Group, Charoen Pokphand (CP) Group, Thai Charoen Corporation (TCC) Group, The Mall Group, and Saha Pathanapibul Group (Table 2).

Table 2: Key Players in Thailand's Retail Market (2021)

Group	Key property	Store format	Number
Central Group			
	Central•Central World	Department store	25
	Robinson	Department store	49
	B2S	Specialty store	143
	Supersports	Specialty store	247
	OfficeMate	Category killer	77
	Power Buy	Category killer	122
	Thai Wassadu/BNB Home	Category killer	65
	Tops Supermarket	Supermarket	121
	Central Food Hall	Supermarket	12
	Tops Supercenter/Plazza	Hypermarket	9
	Tops Daily	Convenience store	100
	FamilyMart	Convenience Store	805
CP Group			
	7-Eleven	Convenience store	13,134
	CP Freshmart	Convenience store	331
	Lotus's	Hypermarket	227
	Lotus's go fresh	Supermarket	186
	Lotus's go fresh	Convenience store	1,433
Thai Charoen Corporation (TCC) Group			
	Asiatique	Shopping mall	1
	Gateway Ekamai	Shopping mall	1
	Gateway at Bangsue	Shopping mall	1
	Big C/Big C extra	Hypermarket	155
	Big C market	Supermarket	61
	Mini Big C	Convenience store	1,171
The Mall Group			
	The Mall	Department store	6
	Siam Paragon	Department store/ Shopping mall	1
	The Emporium		1
	The EmQuartier		1
	Gourmet Market	Supermarket	18
	Home Fresh Mart	Supermarket	2
	BeTrend	Specialty store	9
Saha Pathanapibul			
	Lawson 108	Convenience store	150
AEON Group			
	MaxValu	Supermarket	29
	MaxValu Tanjai	Supermarket	28
Siam Piwat			
	Siam Discovery	Shopping mall	1
	Siam Center	Shopping mall	1
MBK			
	MBK Center	Shopping mall	1
	Paradise Park	Shopping mall	1
	The Nine	Community mall	1
Siam Future Development			
	Mega Bangna	Shopping mall	1
	The Market Place	Hypermarket	7
	Esplanade	Shopping mall	1
	Siam Future Center	Hypermarket	2
	La Villa	Community mall	1
	J Avenue	Community mall	1
	Power Center	Hypermarket	3
	Nawamin City Avenue	Community mall	1
	The Avenue Ratchayothin	Community mall	1
	The Avenue Changwattana	Community mall	1
	Pattaya Avenue	Community mall	1
Land & House			
	HomePro	Category killer	96
	Maga Home	Category killer	14
Seacon Development			
	Seacon Square	Shopping mall	1
	Seacon Bangkae	Shopping mall	1
Siam Retail Development			
	Fashion Island	Shopping mall	1
	Terminal 21	Shopping mall	1
	Life Center	Shopping mall	1
	The Promenade	Shopping mall	1
Other Groups			
	Villa Market	Supermarket	28
	Foodland	Supermarket	23
	CJ Express	Convenience store	600
	K-Village	Community mall	1
	Gaysorn	Shopping mall	1
	Icon Siam (2018)	Shopping mall	1
	Daiso	Specialty store	107

Source: Euromonitor, Company data, Newspaper, Compiled by Krungsri Research

BOX 1: Modern trade operations[3/]

1) **Department stores** have a retail footprint in excess of 1,000 sq.m. and target mid- to upper-income consumers. Stock lines are focused on modern, high-quality goods and include Thai and imported brand names that may be sold at a premium. The market is dominated by the triumvirate of Central, Robinson, and The Mall, outlets of which are usually located in shopping centers or malls[4/]. For example, Central Lad Phrao department store rents space from the Central Plaza shopping center in Lad Phrao, Central Pinklao department store rents space from Central Plaza shopping center in Pinklao, and The Mall department store is located in The Mall shopping center. Details of the major players are given below.

   - **Central Group** is the leader in the Thai department store market in terms of both number of branches and total retail space. The group operates under the Central, Robinson and Central Embassy brands, each of which offers shoppers a somewhat different experience and so while Central outlets are generally found in provinces with higher purchasing power, Robinson invests in the development of lifestyle centers. However, sites operated by the group may swap between these as managers look to best match the needs of the local market, and so sites have changed from the Robinson to Central brands in Mega Bangna, Udon Thani, and Khon Kaen. Alongside its offline activities, Central is also pushing forward with the development of its online presence as the company looks to widen its consumer base.
   - **The Mall branches** are found in large shopping centers in the center of Bangkok operating under the brands The Mall, Paragon, Emporium, EmQuartier, and M Lifestyle. Where branches have been opened outside Bangkok, these has usually been in provinces with large tourism industries or that are otherwise economically important, e.g., The Mall Korat, and BluPort shopping center in Hua Hin. The Mall Group is developing its use of omnichannel retail distribution channels through the application of an online-to-offline (O2O) model, as well as investing in the upgrade of physical stores by converting these to 'The Mall Lifestyle' outlets.
   - **Other players** in this space include Siam Piwat Group (operating as Siam Discovery and Siam Center), Seacon Development Group (Seacon Square and Seacon Bangkae), Siam Retail Development Group (Fashion Island and Terminal 21), MBK Group (MBK Center and Paradise Park), Japanese JV (Siam Takashimaya), Gaysorn Property Group (Gaysorn Plaza), Siam Future (Mega Bangna and Esplanade), TCC Group (Asiatique and Gateway Ekamai/Bangsue), and Charoen Pokphand Group (Icon Siam with Siam Piwat). The majority of these companies are Thai corporations that are active principally in other parts of the economy but that have invested in department stores and shopping centers, mostly located in prime areas in the capital and that target mid- to upper-income consumers with strong spending power.

2) **Discount stores/hypermarkets/supercenters** are usually at least 1,000 sq.m. in size. These target mid- to lower-income earners and stock everyday consumer goods, with competition usually occurring on price. Lotus's, Big C, and Tops Superstore are the main players in this segment.

   Operators have been adjusting their business tactics, and to better penetrate local communities in the Bangkok Metropolitan Region, players have been opening smaller outlets. Lotus's[5/] has thus switched to investing in its smaller Lotus's go fresh branches, while Big C has stepped up the opening of Mini Big C branches. Alongside this, players have been opening up new types of store, for example by operating smaller 24-hour branches on the same site as major full-size outlets. Upcountry, players have been opening full-size and reduced branches in both major and tier-two provinces where urbanization rates are rising, as well as increasing penetration of second-tier areas at the district level. For example, Big C has been opening new outlets in smaller provinces and districts, but these generally have an average size of 3,000-4,000 sq.m. compared to the norm of 7,000-8,000 sq.m. for a full-size branch. At the same time, 'Big C Depots' have begun to appear in second-tier districts within richer provinces as the company tries to make inroads into the wholesale market and then to use its vehicle fleet to distribute goods to smaller branches in more remote areas.

3/ The Standing Committee on Commerce, Industry and Labour has designated large self-service wholesale cash & carry operations such as Makro as a particular type of distributor, but this paper considers only retail operations..

4/ Shopping centers/shopping malls are single structures within which many goods and services are retailed, though the exact products that are available will depend on decisions made by renters/occupiers of retail space; these sign contracts with the landlord operating the shopping center to pay rent for this space for a specified period.

5/ In 2021, the Charoen Pokphand Group bought Tesco Lotus, which was rebranded across the board as Lotus's. This was with the exception of Tesco Lotus Express, which became Lotus's go fresh.

3) **Supermarkets** typically have a footprint of 400 sq.m. or more. These focus on mid- to upper-income earners and sell consumer goods, a wide range of fresh foods, and imported items. The most important players in this segment are Tops Market, Gourmet Market, Foodland, and Villa Market.

   Supermarkets have enjoyed the most rapid year-on-year sales growth of all the retail segments. This has largely been thanks to the advantages offered by a customer base that is overwhelmingly at the mid- to upper-end of the market, together with their ability to sell consumer goods needed in day-to-day life and to stock product lines that meet the changing needs of modern consumers (e.g., ready-to-eat foods, health foods, organic products, and imported goods). Supermarkets have also benefited from the constant revision of their marketing strategies, and the steady expansion in their branch networks. However, competition can be fairly intense since players need to fend off challenges from retailers in other segments selling similar goods. This is particularly so for discount stores and hypermarkets, which are expanding their market presence by opening smaller community-level outlets, and convenience stores, which have extremely wide-reaching branch networks.

4) **Convenience stores/express stores/mini marts** are smaller than other store types, and typically have a footprint of 40 sq.m. and up. These retailers benefit from their convenience and ease of use, and the fact that they sell everyday goods at competitive prices, mostly to the local communities within which they are sited. The market leaders are 7-Eleven, Lotus's Go Fresh, Mini Big C, Family Mart, Lawson 108, and Tops Daily.

   Convenience stores have the largest number of branches and the fastest growth rate of all modern trade segments, and these have also been able to take the greatest market share from traditional retailers. Convenience stores' success lies in their low investment overheads compared to other modern trade outlets and their relentless penetration of local communities that, together with their ubiquitous presence in service stations, has allowed them to establish almost complete national coverage. Nevertheless, competition is stiffening from other segments, in particular from discount stores, which are opening smaller branches that are very similar to convenience stores (these are also called 'super convenience stores'). Examples of these include Mini Big C and the rebranding of Lotus Express as Lotus's go fresh, and in Bangkok and upcountry, these reduced-size discount stores are now fighting over much the same customer base as convenience stores. Discount stores have also partnered with traditional retailers, and by offering comprehensive, integrated management and a more modern image, these are able to extend retail sales deeper into local markets. Examples of these local convenience stores include Tuk De Mee Matratan (TD Tawandang), Don Jai (Big C), Ran Ni Khai De (Lotus's), and Buddy Mart (Makro).

5) **Specialty stores** sell goods drawn from a narrow range of products that tend to be of higher quality, and so these have correspondingly higher prices. Outlets are often in larger communities or in department stores or shopping centers. Some retailers also sell own-brand goods, such as Watsons, Boots and Supersports.

Many other subgroups of modern trade outlets have emerged, including large retailers selling cheap or discounted goods (so-called 'category killers' that dominate a particular product category). These operate in markets such as office equipment, home and garden supplies, and electrical appliances (Thai examples include Power Buy, Office Mate, HomePro and Thai Watsadu). In addition, other modern trade outlets (e.g., Daiso and Tokutokuya) sell a range of goods at a single price point

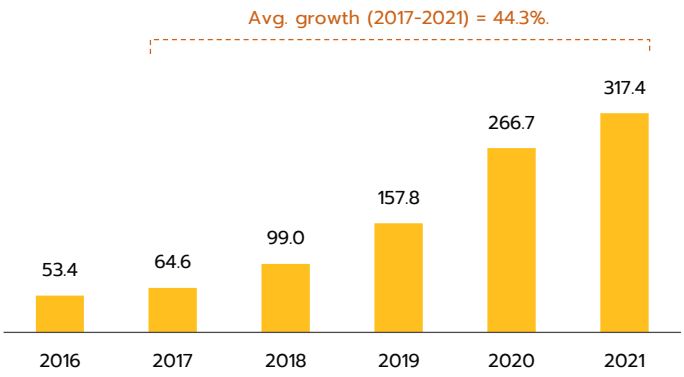
Table 3: Modern Trade Store Formats

	Department store	Discount store	Supermarket	Convenience store	Specialty store
Product categories	various: fashionable, high quality/ guarantee	consumer goods, basic quality	consumer goods, fresh food, prepared food	consumer goods, prepared food, small size	personal care products, own brand
Target consumer	middle-upper	lower-middle/ grocery	middle-upper	those favoring convenience	middle-upper
Supplier	domestic, foreign, brand name	domestic	domestic, foreign	domestic	domestic, foreign
Stock inventory	60-90 days	30-45 days	10-15 days	15-20 days	30 days and 7 months for import stuff
Pricing	more expensive than others	low price/ wholesale price	mixed pricing	higher than discount store and supermarket	similar level to department store
Key player (Brand)	Central, The Mall, Robinson	Lotus's, Big C	Tops, Gourmet, Foodland	7-Eleven, Lotus' go fresh, Mini Big C, FamilyMart	Watson, Boots, Supersports, B2S

Source: Bank of Thailand (BOT), compiled by Krungsri Research

Competition is somewhat intense given the similarity of the goods sold, the number of modern trade branches in the country, and the rising threat from online distribution. The latter has grown with the spread of internet access and mobile phone ownership, though this process was turbocharged by the Covid-19 pandemic; 2021 online sales were double their level in 2019 (Figure 3). Nevertheless, despite these impressive growth rates, the volume of goods sold online is still relatively small compared to the size of the overall retail market, and customers generally still prefer to shop offline. (source: Electronic Transactions Development Agency). This situation presents an opening to players to increase their online sales and to connect with a wider customer base.

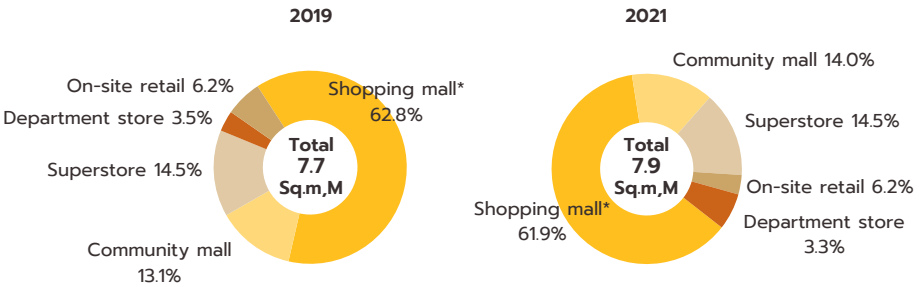
Figure 3: Thailand Online Retail Sector Value (Baht, bn)



Source: Euromonitor
Note: *Sales of E-Commerce (Goods)

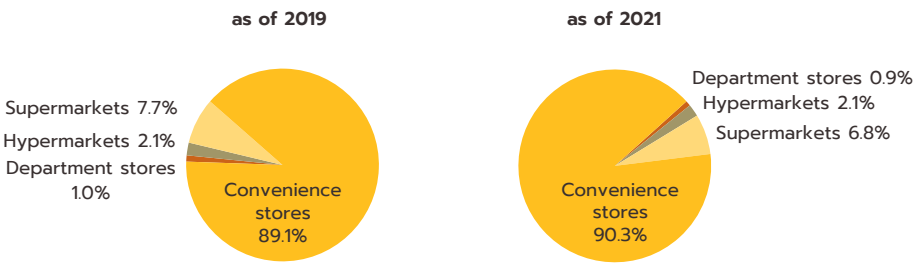
Operators of modern trade outlets moved forward somewhat carefully with expansion plans while the pandemic raged, and so in 2021, cumulative total retail space in the Bangkok Metropolitan Region (BMR)[6/] increased by just 1.3% to 7.93 million sq.m. (Figure 4). For shopping malls and department stores (respectively, 61.9% and 3.3% of BMR retail space), the totals remained relatively unchanged from 2020. However, space on community malls (14.0% of BMR retail space) expanded 8.3% (compared to growth of 1.1% in 2020), superstore space (14.5% of the total) increased 1.6%, and supporting retail space (6.2%) edged up 0.3%. Outside the BMR, the big players (7-Eleven, Lotus's, and Big C) pressed on with their plans, and deepening partnerships with traditional retailers have pushed new retail outlets across all parts of the country. By number of outlets, as of the end of 2021, convenience stores accounted for a full 90.3% of the modern trade industry, up from 89.1% in 2020. These were followed in importance by supermarkets, hypermarkets, and department stores (Figure 5).

Figure 4: Retail Supply by Type (% of total)



Source: CBRE
Note: * Enclose mall format (which includes special shops, outlet malls, retail and wholesale centers)

Figure 5: Outlets by Retailer (% share)



Source: Euromonitor

6/ Colliers International Thailand

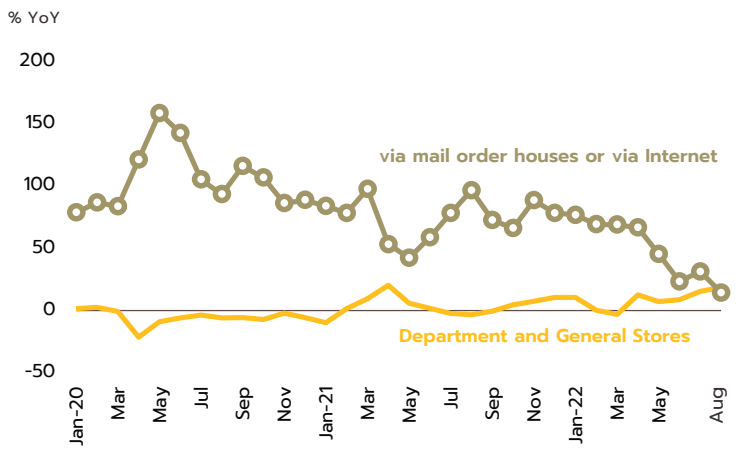
SITUATION

Modern trade operations suffered under the impact of the multiple waves of Covid-19 that washed over the country between the start of 2020 and the end of 2021, when the government began to relax pandemic controls by limiting and then lifting the curfew, extending the hours during which shops were able to open, and beginning the easing of restrictions on foreign arrivals. This then began the process by which the economy returned to more normal conditions.

Modern trade sales strengthened through 2022, and following a -9.0% contraction in 2021, these are forecast to have grown by 3.0-4.0% in 2022. The market has benefited from the following:

1) **Social and economic life has returned almost to normal** following the designation of Covid-19 as an endemic disease from 1 October.
2) **Since the start of the year, the authorities have gradually relaxed restrictions on foreign arrivals**. This has included withdrawing the Test & Go system, reopening to fully vaccinated tourists from May 1, and from July 1, no longer requiring arrivals to register for the Thailand Pass. As a result, 5.7 million arrivals were recorded between January and October, and for the year, a total of 10.4 million foreign tourists are expected to come to Thailand, which would mark a sharp increase on 2021's 0.43 million arrivals. This will then help to lift sales for shops in tourist areas and outlets that target the overseas market.
3) **Farm incomes have strengthened** (up 14.4% YoY during 9M2022) and this will now support an increase in spending.
4) **Consumption has been boosted by government stimulus packages,** including phases 4 and 5 of the Half Each program (covering March-April and September-October respectively), the Shop and Refund scheme (from 1 January to 15 February), and phase 4 of the We Travel Together program (July-October).
5) **Continuing growth in the e-commerce sector** is reflected in the rise in the index of goods ordered by post, television, radio, telephone and internet, which jumped 45.9% YoY over 8M22 (Figure 6). Likewise, modern trade outlets' online sales are also up sharply, with Lotus's reporting growth in excess of 400% YoY in this area. This is in line with the Global Digital Stat 2021 report by We Are Social and Hootsuit, which indicates that Thailand has the 3rd highest rate of internet shopping in the world. Goods that are particularly favored by Thai consumers when making online purchases include health products, fashion items, electronic products, goods for babies and children, and pet supplies. Priceza thus estimates that the Thai e-commerce market will expand by another 30% YoY in 2022.

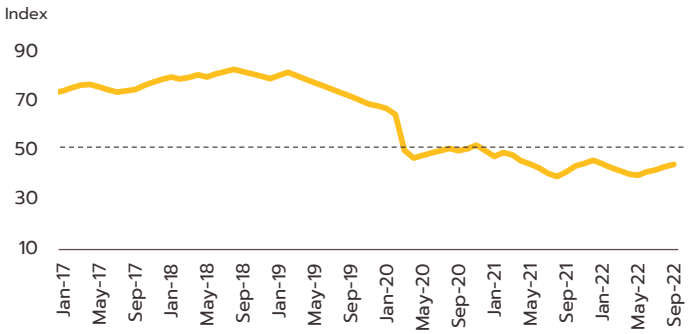
Figure 6: Retail Sale Index (Growth)



Source: Bank of Thailand (BOT), Krungsri Research

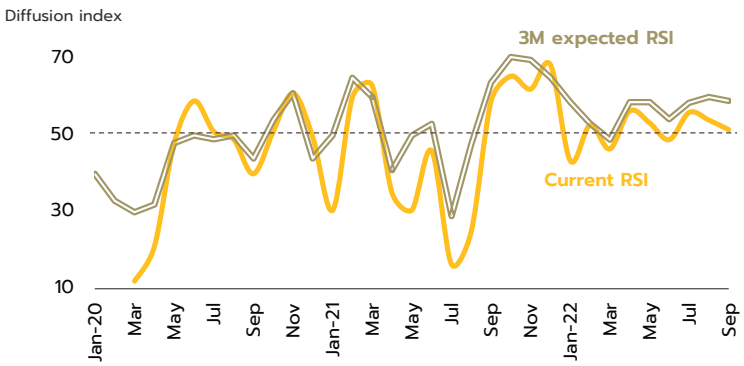
Although the retail sector has been showing signs of recovery, businesses continue to struggle against the deadweight of inflation and the effects of this on consumer spending power. The latter is showing up most clearly among mid- to low-income earners, who were already affected by the only slow transmission of the recovery to those receiving smaller pay packets. The market is also battling against rising interest rates (that put higher pressure on household dept); a survey by the University of the Thai Chamber of Commerce shows 'household debt' by the end of 2022 this will hit a 16-year high of 89.3% of GDP from 88.2% as of the 2nd quarter. Even among mid- to upper-income earners, spending is softening, and the difficulties troubling the consumer market are reflected in the fall in the Consumer Confidence Index to a 10-month low in May (Figure 7), the worsening of the Retailer Sentiment Index (Figure 8), and the inflation-driven increase in average spending per bill. Moreover, consumers have increased the frequency of their shopping only slightly, and the average shopping basket is now filled with a greater proportion of household necessities, rather than discretionary purchases (source: the Bank of Thailand, and the Thai Retailers Association).

Figure 7: Consumer Confidence Index (CCI)



Source: Krungsri Research calculated from Bank of Thailand's data and The University of the Thai Chamber of Commerce (UTCC)

Figure 8: Retailer Sentiment Index (RSI)



Source: Bank of Thailand (BOT), Thai Retailers Association (TRA), Krungsri Research

Table 4: Retail Business Growth by Type of Business (%)

	2017	2018	2019	2020E	2021E	2022E
Department stores	4.0	4.5	3.5	-14.0	-11.5	3.5
Discount stores/ Hypermarkets/Supercenters	3.2	3.0	2.7	-11.0	-9.0	3.0
Supermarkets	5.0	6.5	4.0	-11.0	-8.0	6.0
Convenience stores	3.3	3.4	2.9	-6.5	-4.5	4.5
Modern retail sales growth	**3.0**	**3.2**	**2.8**	**-12.0**	**-9.0**	**3.0-4.0**

Source: TRA, Krungsri Research
Note: E = estimated by Krungsri Research

Table 5: Number of Outlets by Retailer

	2017	2018	2019	2020	2021	
					Outlets	Share (%)
Department stores*	76	78	79	79	80	0.4
Discount stores/ Hypermarkets/Supercenters	505	356	368	382	391	2.2
Supermarkets	445	465	478	491	480	2.7
Convenience stores	14,504	14,501	15,397	16,263	17,002	94.7
Total	**15,530**	**15,400**	**16,322**	**17,215**	**17,953**	**100.0**

Source: Companies' data, compiled by Krungsri Research
Note: * Only the key operators, namely, Central, Robison, and The Mall.

Operators have been steadily expanding their branch networks. This has been most evident among convenience stores, which have been relentlessly extending their reach into communities, but shopping centers, community malls, and superstores have also been opening new branches and extending existing sites (in Q2 2022, the total retail space of community malls and superstores increased by respectively 2.0% YoY and 3.0% YoY). In addition, retailers have been revising their stock lines, for example by adjusting how goods are packaged to take into account increased concerns about public health, and reconfiguring their operations to better respond to the rising consumer preference for shopping on digital platforms. This has involved: (i) using omnichannel digital platforms[7/], for example by opening webstores, building mobile applications, developing 'quick commerce' operations (i.e., dispatching goods almost as soon as they are ordered), and working with online marketplaces such as Lazada, Shopee and JD Central; (ii) extending online to offline[8/] (O2O) operations by offering personal shopper, call and shop, and chat and shop services that are delivered through social commerce channels such as Facebook, LINE and e-ordering; and (iii) increasing the use of digital payment services such as Alipay (online banking), WeChat Pay and Dolfin, as well as the online payment gateways used by domestic Thai banks. By developing along these lines and taking greater advantage of the opportunities provided by the online world, modern trade outlets have been able to increase the efficiency of their distribution networks and connect with new consumer groups.

The situation for individual segments of the modern trade industry is given below.

- **Department stores: Companies have focused on investing in high-potential sites alongside expansion in their omnichannel distribution networks.**
  - **Operators are pushing forward with twin strategies of expanding their online activities in parallel with investing in brick-and-mortar operations** in the hope that this will both increase sales and attract new consumer groups, and as part of the latter, players are shifting their marketing to a greater focus on domestic consumers. Developments include strengthening the impact of service channels through the use of chat and shop and call and shop services, and promoting products to consumers through social Media channels such as Facebook Live and official Line brands. The success of this approach has meant that the contribution of online sales to overall income has grown many times over. Thus, Central department store has reported that omnichannel sales' share of total income has jumped from 3% in 2019 to 10% in 2020 and then to 20% in 2021, and this is expected to reach 25% in 2022.
  - **Business conditions will recover steadily through 2022** on: (i) the ending of the pandemic and the positive effect that this is having on social and economic life; and (ii) the return of foreign tourists to Thailand, which will boost department store sales, most obviously in the main tourist areas of Bangkok, Pattaya, and Phuket. For their part, operators have been renovating and expanding sites in expectation of future growth, and so **Krungsri Research sees department store sales rising by 3.5% this year,** having crashed -11.5% in 2021 (Figure 9).

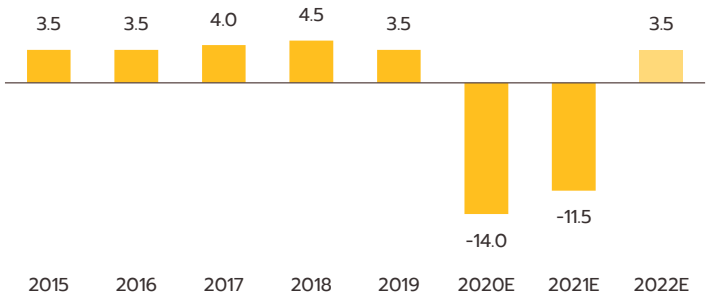
7/ Omnichannel is a form of distribution that mixes online (e.g., websites, social media, or e-commerce) and offline (e.g., in store) marketing and sales. Information gathered on customers from these diverse sources is gathered and analyzed to give retailers an overview of the market and to provide a better understanding of consumer needs and intentions, and this puts them in
a better position to offer more comprehensive assistance to potential and actual buyers.
8/ O2O, or online to offline, marketing combines the advantages of both the on- and offline worlds, and this allows companies to raise the quality of their services, expand sales, and engage with a broader consumer base.

Table 6: Department Store Outlets in Thailand

Retailers	Outlets			
	2019	2020	2021	Sep 2022E
Central	23	24	25	26
The Mall	6	6	6	6
Robinson	50	49	49	50
Total	**79**	**79**	**80**	**82**

Source: Compiled by Krungsri Research
Note: E = estimated

Figure 9: Sales Growth of Department Store (%YoY)



Source: TRA, Krungsri Research
Note: E = estimated by Krungsri Research

- **Discount stores/hypermarkets/supercenters: Players are focusing their attention on smaller retail units, especially in the Bangkok Metropolitan Region**.
  - **Within this segment, competition is fairly intense,** since players have to fight for market share with other types of modern retail operation. This includes convenience stores, supermarkets, and specialist retailers, as well as players selling in other formats that are investing in expansion upcountry and into the hypermarket segment (e.g., Central opens Tops Club). In addition, companies have been building new sources of long-term growth by investing in operations in Vietnam, Lao PDR, and Cambodia, but expansion in branch networks has been held back by the pandemic. Thus, in 2021, total branch networks grew by 2.4% YoY (Table 6), down from an average annual growth of 2.7% over 2019 and 2020. For the first 9 months of 2022, players operated a total of 389 branches.
  - **The prolonged Covid-19 pandemic prompted players to shift their focus and to work on expanding their use of online marketing channels**. This included implementing a deeper exploration of the omnichannel model, and developing new distribution channels such as: allowing consumers to order goods through their phones or via the Line app; drive-thru services that permit customers to buy, pay for and collect goods without having to leave their vehicles; click and collect services, by which customers order online and collect from a retail outlet; and online express delivery services that dispatch goods within an hour of being bought. Players have also partnered with e-commerce platforms such as Lazada and Shopee and built up their presence on social media (e.g., on Facebook and Line).

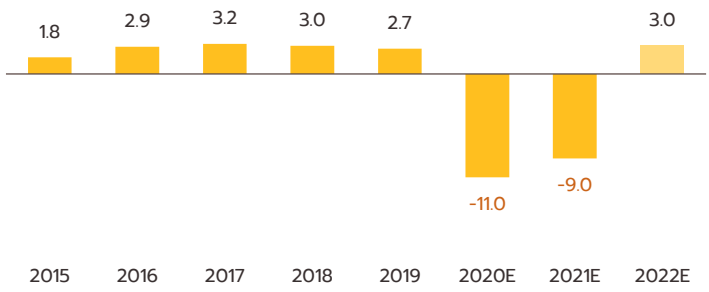
- **Although the pandemic passed into the rearview mirror in 2022, sales remain under pressure from the only slow and incomplete recovery in spending power, and this situation has been made worse by this year's rapid run up in inflation**. As a result, the Retailer Sentiment Index for operators of hypermarkets slipped to a 12-month low in June. Nevertheless, in the remainder of the year, recovery will continue, government stimulus spending will help to lift the economy (including THB 5 billion in transfers to welfare card holders), the return of tourists will add to aggregate spending power, and the end of year celebrations will boost sales further. **Krungsri Research thus sees 2022 sales bouncing back to growth of 3.0%** following a contraction of -9.0% in 2021 (Figure 10).

Table 7: Discount store/Hypermarket Outlets in Thailand

Retailers	Outlets			
	2019	2020	2021	Sep 2022E
Lotus's (Tesco Lotus/Tesco Khum/ Tesco Lotus Extra)	216	220	227	224
Big C/Big C Extra	151	152	154	155
Tops Superstore & Plazza	9	9	9	10
Total	**376**	**381**	**390**	**389**

Source: Compiled by Krungsri Research
Note: E = estimated

Figure 10: Sales Growth of Discount store/Hypermarket/Supercenter (%YoY)



Source: TRA, Krungsri Research
Note: E = estimated by Krungsri Research

Supermarkets: Growth has remained strong

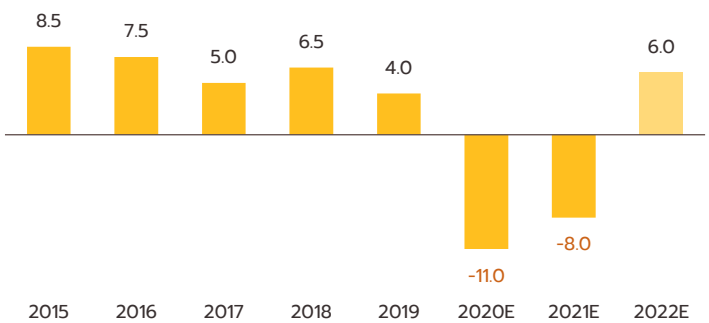
- **The return of economic life to close to normal helped to support solid rates of growth for supermarkets through 2022**. This was tempered, though, by the sharp escalation in the cost of living and the resulting need by some consumers to exercise much greater care over their shopping. In response to a changing business landscape, players have adapted their marketing strategies in a number of ways. (i) Supermarkets are developing their use of online channels (e.g., by building membership systems that allow them to record consumer purchases), and offering more personalized marketing through the use of direct mailings, SMSs, the Line app, and mobile applications. (ii) To better meet the needs of wealthier customers, some outlets have been upgraded to premium lifestyle supermarkets (e.g., Big C Foodplace) and product lines have been extended to include more expensive imported goods. Outlets have also been opened in new locations, for example in community malls (in Q2 of 2022, the space available on community malls in the BMR grew 2.0% YoY), as well as in stand-alone locations in higher-income provinces (e.g., where industrial estates are located or in second-tier locations that have significant tourist potential). As such, over 9M22, the number of supermarket branches in Thailand rose 4.8% from the end of 2021 to a total of 503 sites (Table 8). (iii) Operators have formed partnerships with other companies (e.g., GrabMart and Kerry Express) to reduce the friction involved in making purchases. As a result, **Krungsri Research believes that the supermarket segment will see overall growth in sales of 6.0%,** which would represent a significant turnaround from 2021's contraction of -8.0% (Figure 11).

Table 8: Supermarket Outlets in Thailand

Retailers	Outlets			
	2019	2020	2021	Sep 2022E
Lotus's go fresh	195	195	186	203
Tops Market/Central Food Hall + Tops Club	125	128	133	140
Big C Market	56	64	61	61
MaxValu	30	31	29	28
Villa Market	35	34	28	28
Foodland	23	22	23	23
Gourmet Market & Home Fresh Mart (HFM)	14	17	20	20
Total	**478**	**491**	**480**	**503**

Source: Compiled by Krungsri Research
Note: E = estimated

Figure 11: Sales Growth of Supermarket (%YoY)



Source: TRA, Krungsri Research
Note: E = estimated by Krungsri Research

- **Convenience stores: These have the most extensive branch networks of all players in the modern trade sector and so are well placed to continue taking significant market share from traditional retailers.**

  - **Convenience stores operate extensive networks and so as of 2022, there were 17,446 outlets open in Thailand** (Table 9). 7-Eleven enjoys a dominant position within the segment, and with 13,433 branches, it accounts for 77.0% of all convenience stores, followed in importance by Lotus's Go Fresh (10.6% of the total) and Mini Big C (8.2% of the total). Outlets may be established as larger stand-alone operations, located in service stations, where they meet the needs of both travelers and people living in the immediate neighborhood, or sited in shopping centers. Within the segment, competition is fierce, with this occurring both via intensified marketing efforts and through the type of goods on offer, which now incorporates fresh and ready-to-eat food. Players are also offering a broader range of services, such as allowing customers to pay utility or credit card bills, and partnering with logistics and e-commerce players to offer delivery services. In addition, players are extending the range of sales channels that they are able to exploit by installing vending machines on- and off-site.

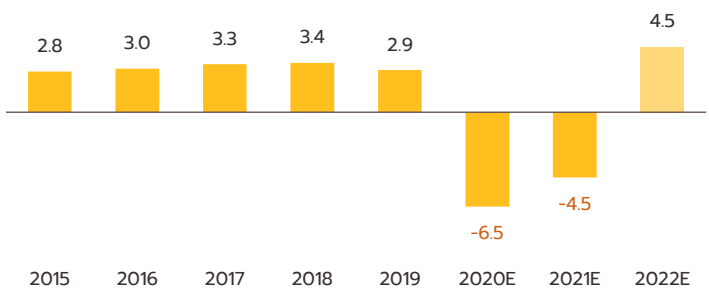
  - **For 2022, convenience store income will strengthen** on the general improvement in the economy, a rise in incomes in the agricultural sector, and the effects of government stimulus packages on consumer spending (e.g., phase 5 of the We Travel Together program). Players are continuing to steadily expand their branch networks, and this is allowing them to connect to a wider spread of communities, though players are also intensifying their online efforts. The latter has included developing online platforms that connect to retail networks, offering delivery services, and accepting payments through mobile apps and credit cards, and this has all added to operators' bottom lines. Nevertheless, the steep increase in prices that consumers have been faced with this year has particularly impacted mid-to lower-income earners, and this is dragging on sales growth. Given this, **Krungsri Research expects convenience stores to see growth of 4.5% through 2022**, up from a fall of -4.5% in 2021 (Figure 12).

Table 9: Convenience Store Outlets in Thailand

Retailers	Outlets			
	2019	2020	2021	Sep 2022E
7-Eleven	11,712	12,432	13,134	13,433
FamilyMart	968	901	805	448
Lawson 108	123	130	150	154
Lotus' go fresh (Lotus Express)	1,384	1,390	1,433	1,852
Mini Big C	1,016	1,215	1,352	1,431
Tops Daily	108	100	100	108
MaxValu Tanjai	44	28	28	20
Total	**15,355**	**16,196**	**17,002**	**17,446**

Source: Compiled by Krungsri Research
Note: E = estimated

Figure 12: Sales Growth of Convenience Store (%YoY)

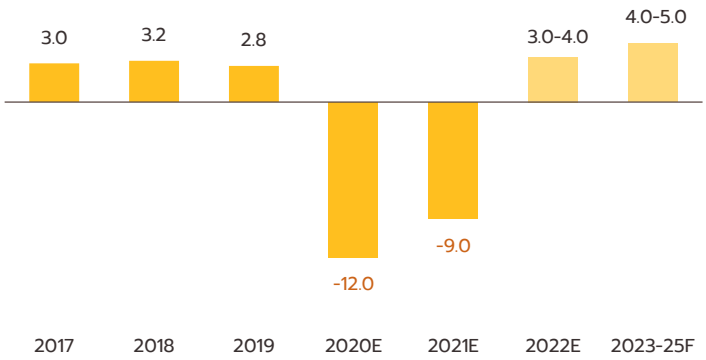


Source: TRA, Krungsri Research
Note: E = estimated by Krungsri Research

OUTLOOK

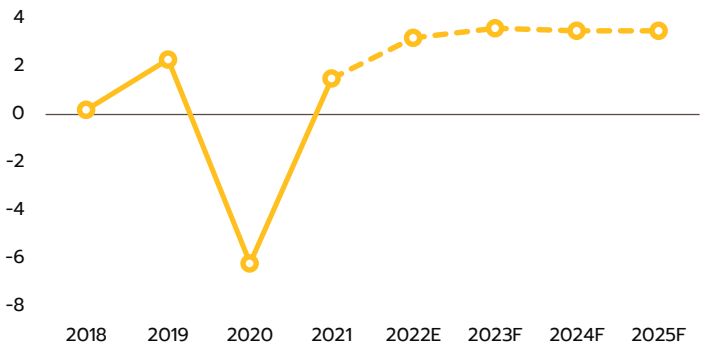
The modern trade sector should enjoy average annual growth of 4.0-5.0% over 2023-2025 (Figure 13), with the sector benefiting from a range of factors. **(i) The economy is expected to expand by 3.0-4.0% per year** (Figure 14) and this will then lift consumer spending power. **(ii) Both the domestic and international tourist markets will return** to close to their 2019 pre-pandemic levels over the period (Thai tourists are expected to make 185 million trips in 2024, and total foreign arrivals should hit 42 million by 2025) (Figure 15), which will then add to income for outlets or branches in tourist areas. **(iii) The government will move forward with spending on megaprojects,** and this will inject additional funds into the economy, add to employment, boost incomes, and support an expansion of modern retail chains. **(iv) Online sales are forecast to rise by 13.6% per year** (source: e-Conomy SEA 2021). **(v) Government efforts to stimulate spending and consumption** will likely bear fruit. These include raising the minimum wage (from October 1, 2022) and issuing long-term visas to four classes of high-potential visitors[9/]. **(vi) The IMF sees annual GDP growth averaging 3.5-6.5% in the CLMV countries,** which will open up new business opportunities for retailers in major regional centers and in border provinces.

Figure 13: Modern Trade Retail Business Growth (%YoY)



Source: TRA, Krungsri Research
Note: E, F = estimated and forecast by Krungsri Research

Figure 14: Thailand's GDP Growth (%YoY)

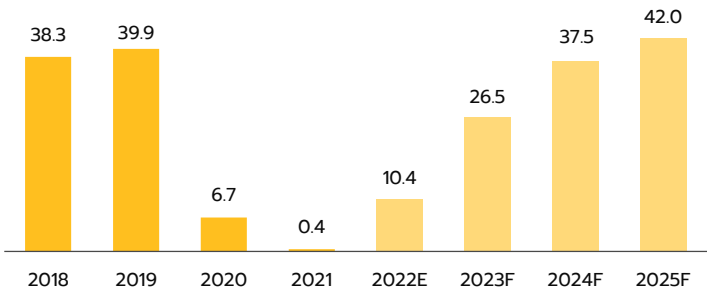


Source: NESDC
Note: E, F = estimated and forecast by Krungsri Research

9/ These are: (i) high net worth individuals; (ii) wealthy pensioners; (iii) professionals and expats working in Thailand; and (iv) highly skilled professionals.

Figure 15: International Tourist Arrivals

(Persons, m)



Source: Ministry of Tourism and Sports (MOTS)
Note: E, F = estimated and forecast by Krungsri Research

Outlook for individual segments

- **Department stores: Sales will strengthen from 2021's 3.5% expansion to growth of 4.0-5.0% annually**. This will be a result of the abating of the Covid-19 pandemic and the shift in business strategy to developing omnichannel platforms and using 5G and AR technology to offer new and enticing consumer experiences. Players will also step up their investments in high-potential markets in the broader region, and this will help them to develop additional sources of income.
- **Discount stores/hypermarkets/supercenters: 2022's growth of 3.0% will inch up to 3.0-4.0% over the next three years** as operators increasingly adapt and diversify their store formats according to the demands of individual locations. Players will also expand into local communities across the country, which will help them connect with a wider range of customers. Alongside this, they will continue to put their efforts into the development of digital platforms, all the while selling goods at prices that undercut those of other types of retailers. However, operators will face stiffer competition as a result of the lack of strong product differentiation marking their product lines off from those on sale in other segments of the retail market.
- **Supermarkets: Annual sales growth may move up slightly from the 6.0% achieved in 2022 to 6.0-7.0% in the coming period**. This segment will enjoy the highest growth within the retail sector thanks to players' ability to match their marketing strategies to the needs of their shoppers, most of whom are mid- to upper-income consumers with significant purchasing power. Supermarkets gain from the high-quality of their produce, and from strategies that include: (i) rebranding outlets as premium lifestyle supermarkets that offer higher-priced imported goods; (ii) expanding their presence into higher-income provinces; (iii) developing their online offerings to make consumers' online experience as smooth as possible. In light of this and the benefits that they gain from their size, supermarkets will likely be able to sustain healthy turnover.
- **Convenience stores/minimarts: Income rose by 4.5% in 2022, and annual growth will continue in the range of 4.5-5.5% over the next 3 years**. The continuing expansion in the coverage of branch networks, the extension of services to include sales of ready-to-eat food, and an increase in the use of online channels will all help to build additional income. This will, though, be balanced by an intensification of market pressure as direct competitors open branches to challenge convenience stores, and indirect competitors (e.g., hypermarkets) increasingly adapt their retail formats as they look to steal market share. Thus, the move by major players to partner with traditional retailers is helping these establish a presence on the high street, and this is then affecting convenience store takings. As such, average branch incomes are likely to fall from earlier highs. Nevertheless, while franchisees will face an increased threat to their operations, franchisors will continue to generate profits.

Modern trade operations will continue with their strategy of building out new branches, developing online distribution channels, and investing in new business models that exploit recent technological innovations as they look to make up for delays to expansion plans and ground lost during the pandemic. However, against a backdrop of changing consumer spending patterns, players will need to build greater consumer awareness of their apps if they wish to more fully develop the potential offered by online distribution. With regard to business expansion, several possibilities are in play.

1) **Branches may be either shrunk or expanded** to allow for a nimbler approach to siting new outlets and thus of entering new markets, building new customer relationships, and expanding total branch coverage.

2) **Branches may be opened in new formats,** such as smaller lifestyle shopping malls that are being set up in less prominent provinces and larger districts. Alternatively, reduced-size retail outlets may be opened in locations where players will be able to benefit from changes to consumer behavior that are seeing shoppers make fewer trips to large outlets and instead to increasingly shop near home.

3) **Players will expand their use of social media platforms and other direct to consumer (D2C)**[10/] online channels as they try to bring their operations more into line with changing consumer lifestyles. In addition, quick commerce will also become more popular as consumers shift to a preference for on demand shopping, buying small selections of items that are dispatched within half an hour.

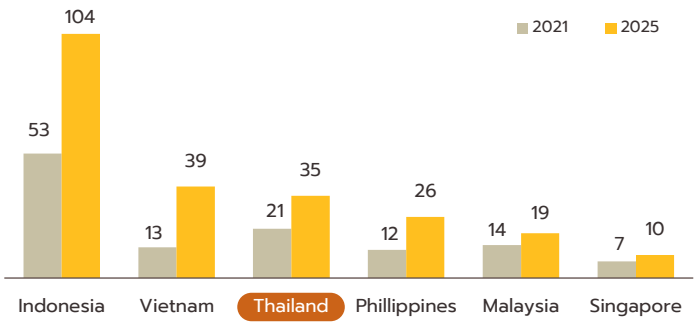
4) **Operators of discount stores, hypermarkets, and supercenters will tend to expand via sales of their own-brand products** distributed through traditional retailers serving local markets in Bangkok and upcountry. This will allow players to develop a new source of long-term growth, as well as strengthening their negotiating position relative to suppliers.

5) **Wider exploitation of the possibilities offered by new technology will help operators better penetrate niche markets.** For example, advances in AI will help retailers design discounts and sales promotions that more precisely match consumer needs and behaviors, and to do so in an increasingly personalized way.

6) **Expansion into markets in neighboring countries** that have both the wealth and size to make this viable will support growth in long-term income. Thus, by 2026, Central plans to have invested THB 30 billion in new retail operations in Vietnam.

Figure 16: Retail E-commerce Market Size in SEA*

(USD, bn)



Source: e-Conomy SEA 2021
* Southeast Asia

10/ D2C or direct to consumer marketing describes the use of online channels to sell directly to shoppers. This may be through websites and apps, but sales do not pass through an intermediary.

Despite this broadly positive outlook, headwinds will blow against the sector, and these will include the following. **(i) Competition will tend to intensify** as a result of the constantly increasing number of outlets. Competition will come from within the same segment, from other parts of the market, and from major Thai and overseas corporations that see the growth potential of the Thai market and are acting accordingly. **(ii) The number of online competitors is also rising,** and this includes both Thai and non-Thai players in the consumer to consumer (C2C)[11/] market and those operating on e-marketplaces (e.g., Lazada, Alibaba, Shopee, JD.com, eBay and Amazon). Indeed, the e-Conomy SEA 2021 report indicates that the value of the Thai e-commerce market will reach THB 35 billion by 2025, up 66.7% from 2021 (Figure 16). As such, players will need to be diligent in managing their e-commerce supply chains, which will need to be flexible, responsive and efficient, and to ensure that their online distribution meets the standards expected by consumers, players may need to partner with companies that have expertise in transport and logistics. **(iii) To maintain and to sharpen their competitiveness, operators will also need to adapt and exploit modern technology** by: (a) developing omnichannel operations that take advantage of 5G technology; (b) using AI to evaluate consumer demand and expenditure, and to maintain optimal stock levels; and (c) building augmented reality (AR) and virtual reality (VR) systems that offer consumers the possibility of experiencing a convincing simulation of the products they are considering buying.



11/ C2C or consumer to consumer selling is an e-commerce model that allows consumers to buy and sell directly to and from one another

Box 2: Major operators' plans for investment and development of online distribution, 2022

Company	Brand	Investment plans (Thai and international)	Plans for online distribution
Central Group	• Central and Robinson department stores • Tops Market/ Tops Superstore/ Tops Club • FamilyMart	• Robinson branches have been opened in Thalang in Phuket (August 25, 2022) and Ratchapruk (November, 2022), and 4 Central branches in Bangkok have been renovated (Rama II, Chit Lom, Lat Phrao, and Ram Inthra). • Central plans to open 15 Tops supermarkets in 2022 (up from an average of 8 new branches per year), and to open the new 'Tops Club'. This specializes in world-famous imported and exclusive products, and this will thus help the company penetrate high-spending consumer groups. • Central will open 'GO!' lifestyle shopping malls upcountry. These will include hypermarkets and GO! Power, a retailer of electrical appliances. The company plans to open 4 branches in Nakhon Ratchasima in 2022. • The company has earmarked THB 30 billion for investment in Vietnam out to 2026. In 2022, Central will open 3 Tops Markets and 3 GO! supermarkets (adding to the respectively 8 and 2 that are already open). In addition, in 2023, 5 Big C outlets will be renovated and relaunched, 3 as GO! Malls and 2 as GO! Hypermarkets. • La Rinascente branches in Milan and Rome will also be renovated.	• Over THB 31 billion has been set aside to pay for the 'New Central New Retail' strategy. This will cover the development of the Central retail ecosystem and an omnichannel platform. In addition, use of technology (e.g., robotics and AI) will be increased to better respond to consumer needs. • The company plans to increase the value of omnichannel sales to 25% of the total in 2022 (up from 20% in 2021).
The Mall Group	• The Mall and Paragon department stores • Emporium and EmQuartier shopping centers • Gourmet Market • Home Fresh Mart	• Investments totaling more than THB 50 billion will continue to flow into the development of the mixed-use Bangkok Mall, the biggest in SE Asia. construction is expected to be completed in 2024.	• The company began investing seriously in digital commerce in 2022. This will accelerate business transformation and the use of advanced AI-analytics will help to shift operations into the digital 5.0 era. • The company will also integrate marketing operations through the adoption of an O2O omnichannel retail model.
CP Group	• 7-Eleven • CP Fresh Mart • Lotus's and Lotus's go fresh	• The 7-Eleven and Lotus's go fresh networks will expand by respectively 700 and 70-80 branches. • 10 new branches are planned for Cambodia, and the first CP-backed retail branch will be opened in Lao PDR at the end of 2022 or the start of 2023.	• O2O strategies will be applied to the sale of goods and services made through both offline and through online platforms. • CP intends to become a market leader of 'New SMART Retail' by using technology to connect over 2,300 outlets across the country to their online platform. • AI will be used in big data analytics to personalize the issuing of discounts and special offers.
TCC Group	• Big C/Big C Extra • Big C Market • Mini Big C	• The company plans to add 15 hypermarkets, 5 supermarket Food Place stores, and 100 Mini Big C outlets to its network. • Big C hypermarkets will continue to be established in Bangkok under the brand 'Big C Place', and 90 Big C hypermarkets will be renovated nationwide by 2026. • A total of 50 Big C outlets are planned for Cambodia.	• Omnichannel marketing will be extended, and delivery services will be developed that match the lifestyles of younger consumers. • The O2O model will be applied to operations.

Source: Company data, compiled by Krungsri Research

Box 3: Omnichannel Retail Trends

Creating immersive online shopping experiences through the use of AR	• Augmented reality (AR) will be used to give customers the opportunity to interact with prospective purchases in a virtual reality space. Examples of how AR might be used include: (1) Trying on clothes and accessories in a virtual environment, rather than having to make a decision based on how they look on a model. (2) Trying out purchases in-place, for example by seeing how a sofa or TV looks in the customer's own sitting room.
Expanding the use of social media as a sales channel	• Selling through social media live streaming (e.g., Facebook Live shopping) will take on an ever-greater importance (in 2021, Thais comprised Facebook's 8th biggest userbase, and the 16th and 18th most important users of Instagram and YouTube). • Thai consumers are tending to increase purchases made through social media, and data from the Global Digital Report 2021 shows that 52% of consumers use social media to research products before making an online purchase.
Developing payment systems	• The Covid-19 pandemic increased demand for contactless payment systems, and this added to the importance of technologies such as digital wallets, PayPal, Apple Pay, and Google Pay. Making it easier for consumers to use these payment methods will therefore help to differentiate retailers from their competitors.

Source: Roirevolution.com, MarketResearch, Global Digital Report 2021, Compiled by Krungsri Research

Box 4: Future supermarket AI applications

The Covid-19 pandemic has accelerated retailers' uptake of AI technology, which they are using to support and extend their competitiveness. AI applications include maintaining social distancing in stores, using contactless payment systems, and increasing online orders and deliveries. AI is also helping players adapt to the shift in consumer behavior and a growing preference for shopping online.

Improving social distancing	• AI systems can be used to reduce crowding by monitoring and controlling the number of people in a particular space. • Using robotic assistants to reduce the risk of infection (including with emerging infectious diseases) will also encourage consumers to see retail outlets as safe spaces.
Improving the checkout process	• Smart shelf technology can track the items taken from or returned to shelves, as well as inform customers about special promotions as they walk past promoted products. These abilities then allow smart installations to communicate with staff when shelf stocks run low and to automatically charge customers once they have finished shopping. • Smart baskets can track purchases and suggest additional items as appropriate. These can then process credit card payments, thus avoiding the need for contact with others and the possibility of infection
Improving inventory management	• AI-enabled robots can be used to solve problems with inventory management (e.g., running out of stock or mislabeling prices) and to forecast inventory requirements.
Sparking consumer interest through personalization	• AI applications can develop personalized sales promotions by carrying out an analysis of individual consumer preferences in light of details such as the food allergies someone may have and their degree of responsiveness to individual prompts. This will help retailers develop promotions that better match consumer demand and so lead to increased sales. • AI can also be used to guide customers rapidly to particular items.

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