



# Industry Focus and Indicator Update

แนวโน้มอุตสาหกรรมไทยหลัก 33 อุตสาหกรรม จัดทำโดยทีมวิจัยธุรกิจ ธนาคาร แลนด์ แอนด์ เฮ้าส์ จำกัด (มหาชน)

1. Automobile
2. Auto Parts
3. Electrical Appliances
4. HDD
5. Integrated Circuits
6. Frozen & Processed Chicken
7. Frozen Seafood
8. Cassava Products
9. Oil Palm
10. Rice
11. Rubber
12. Sugar
13. Cement
14. Construction Contractor
15. Condominium in BMR
16. Low-rise Housing in BMR
17. Office Building in BMR
18. Retail Space in BMR
19. Industrial Estate
20. Credit Card
21. Auto Hire-Purchase
22. Personal Loan
23. Hot & Cold Rolled Steel Sheet
24. Long Product Steel
25. Private Hospitals
26. Tourist Accommodation
27. Modern Trade
28. Motorcycle
29. Petrochemicals
30. Power Generation
31. Refinery
32. Oil Service Station
33. Banking



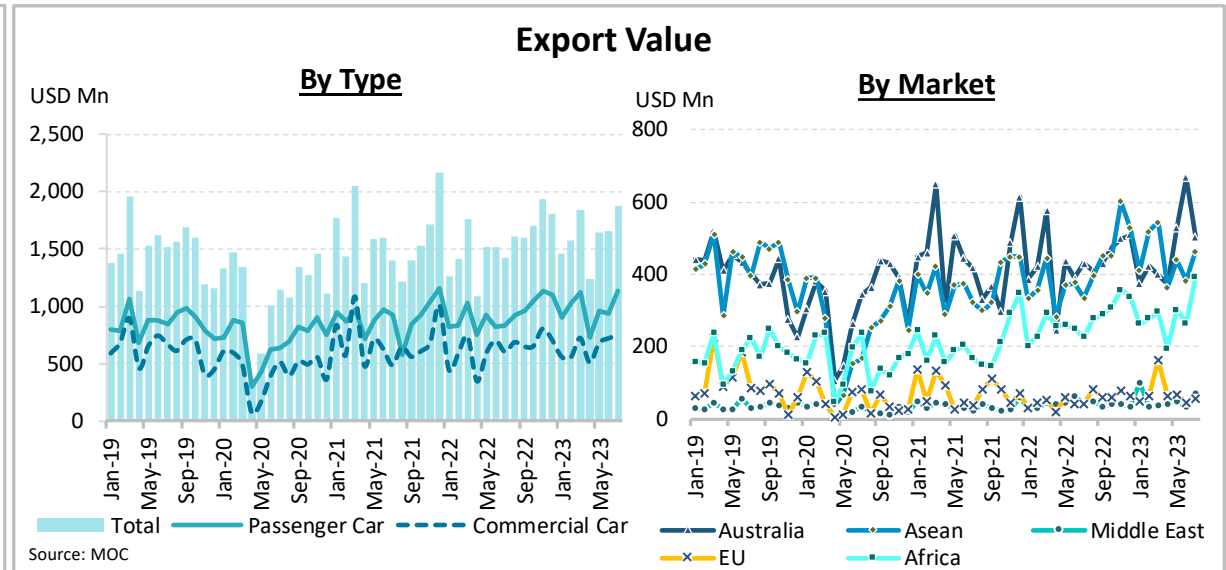
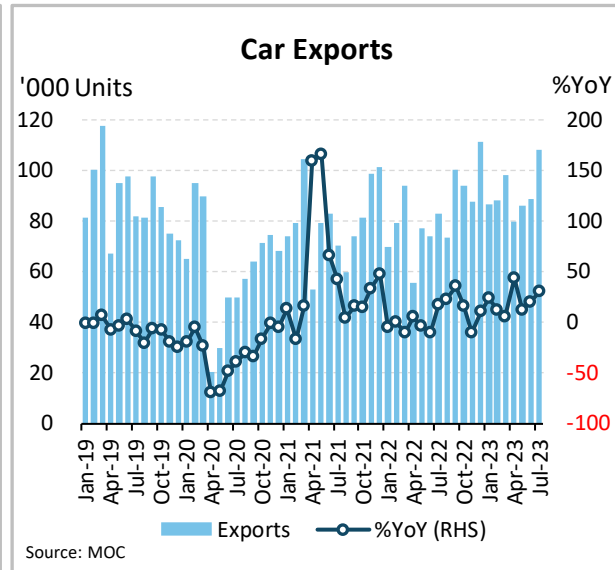
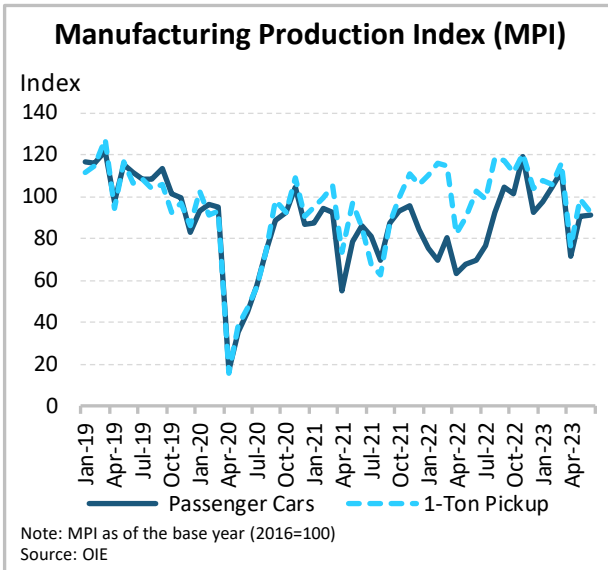
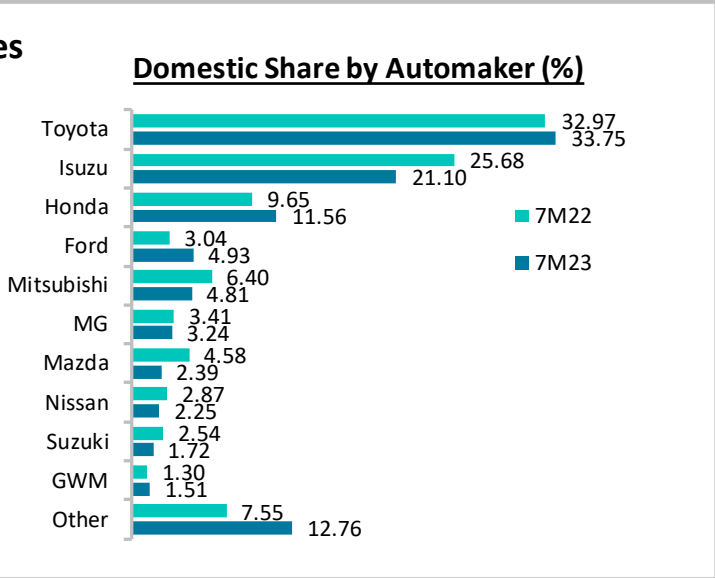
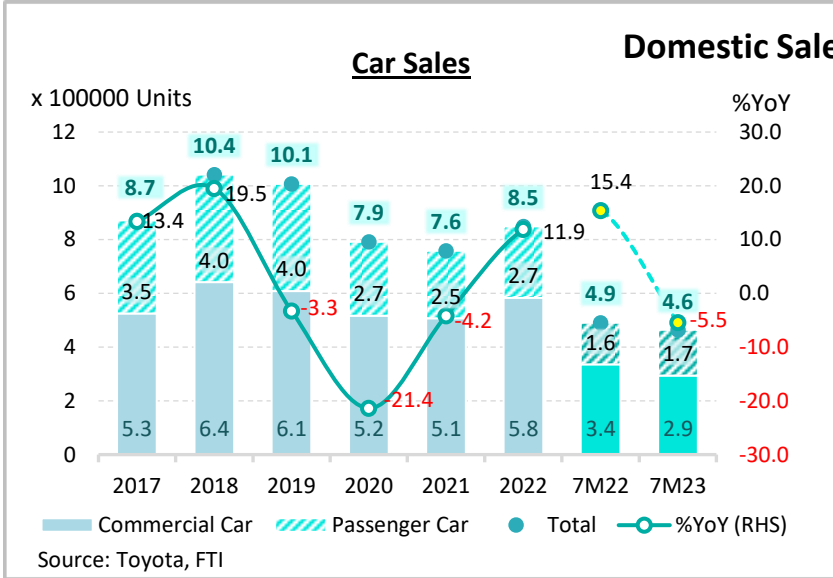
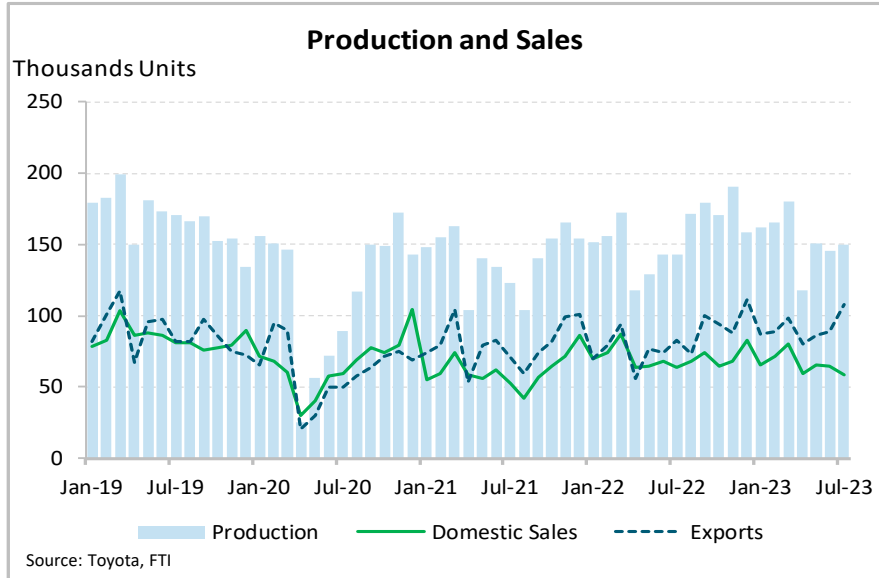
August 2023

ผู้วิเคราะห์: BR Team

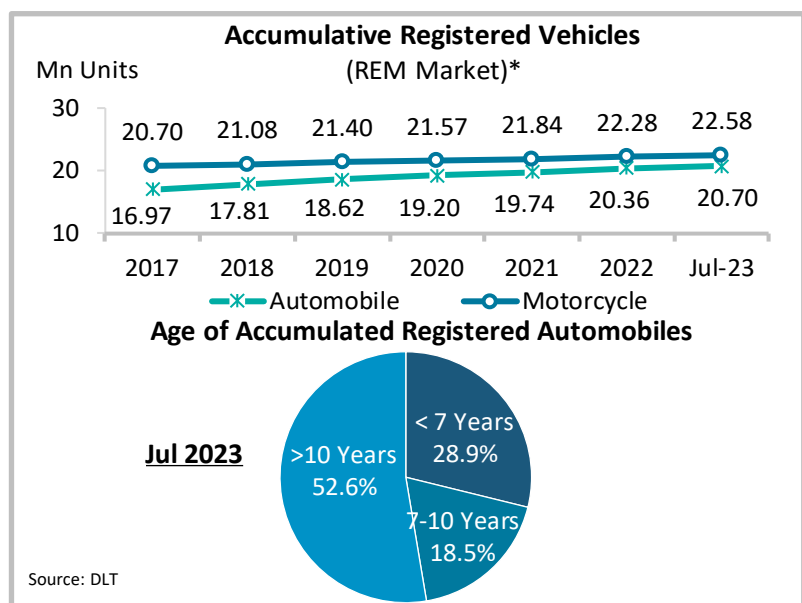
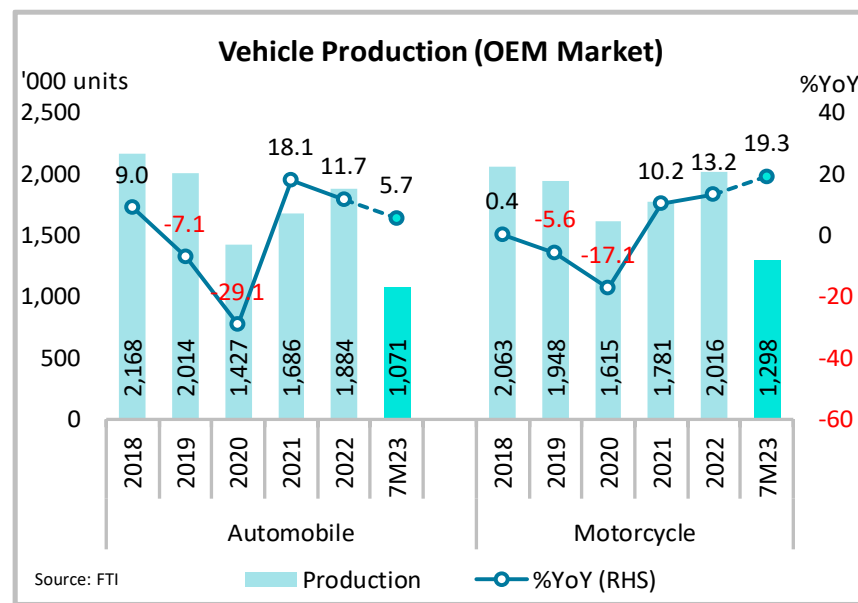
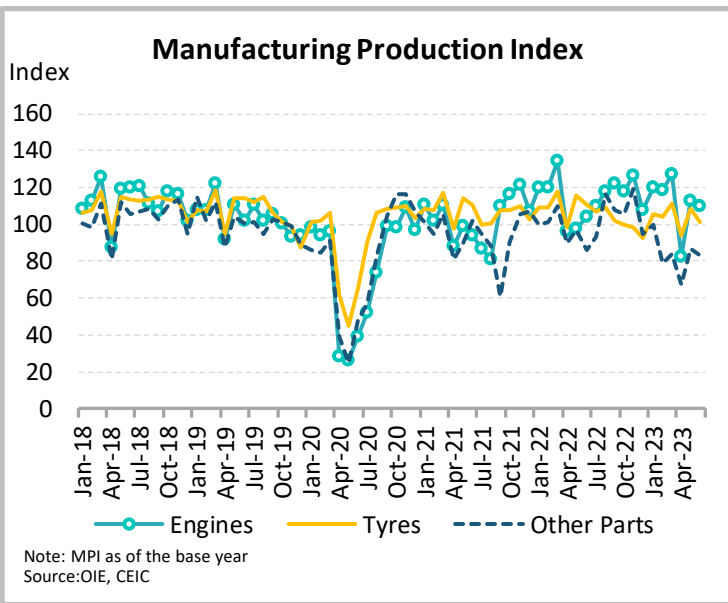
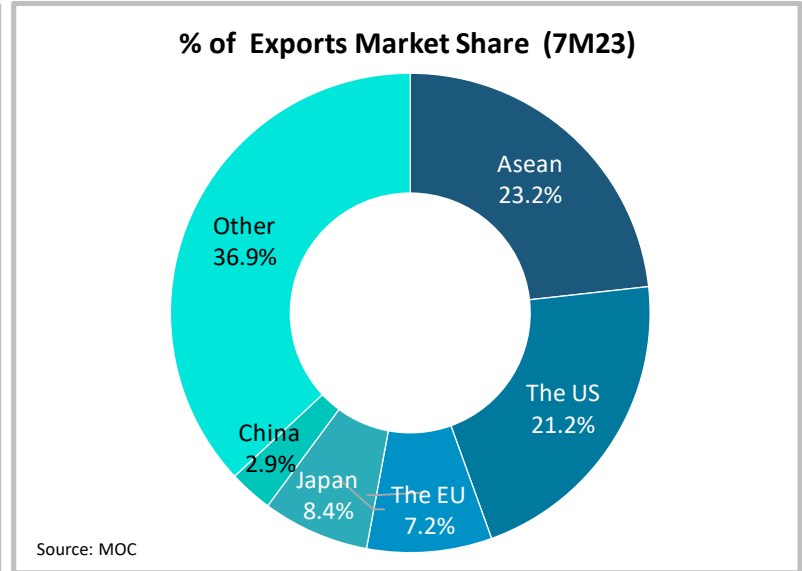
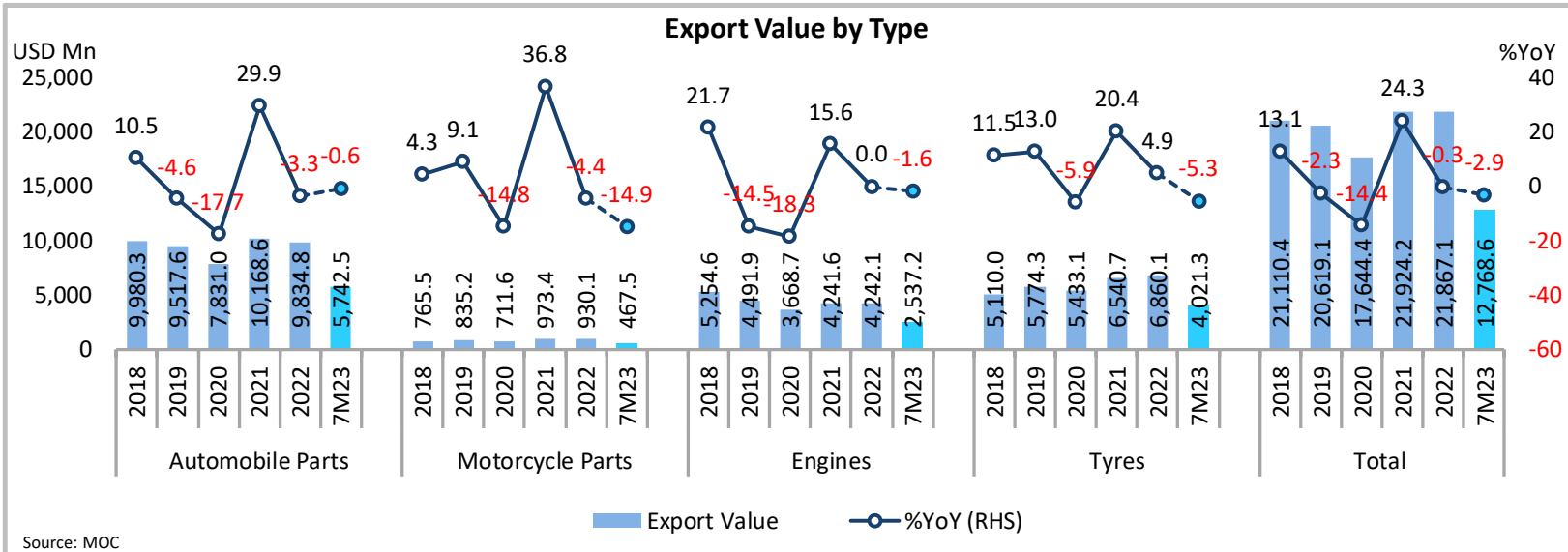
Business Research



# 1. Automobile (รถยนต์)

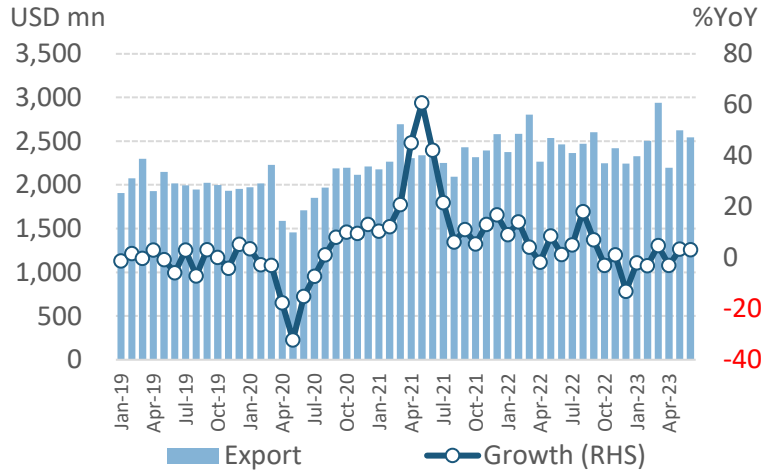


# 2. Auto Parts (ชิ้นส่วนยานยนต์)



# 3. Electrical Appliances (เครื่องใช้ไฟฟ้า)

Electrical Appliance Export Value



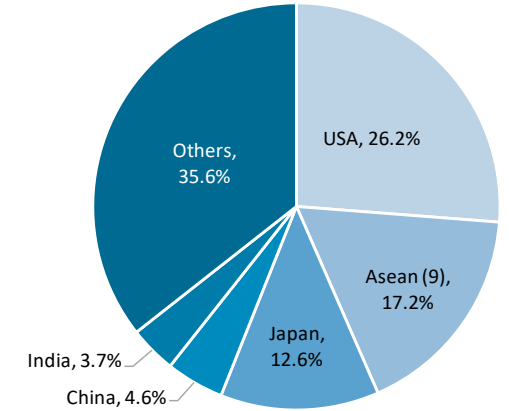
Electrical Appliance Export

Electrical Appliance Export by Product

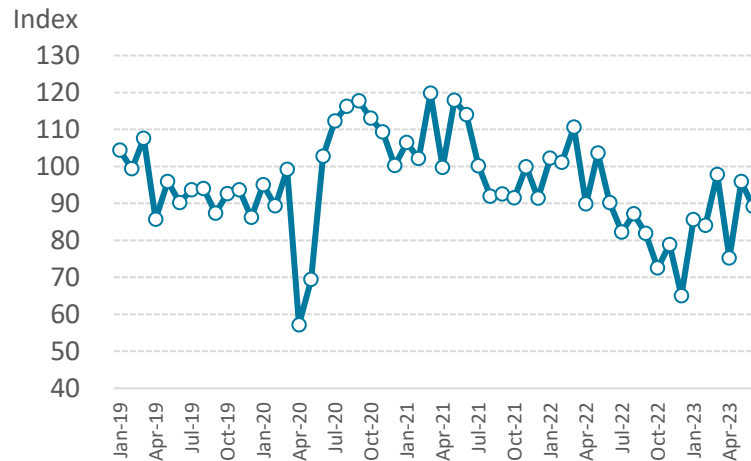
Unit: USD mn

	2019	2020	2021	2022	1H23	%YoY	Share (%)
Air conditioner	5,496	5,253	6,486	7,044	4,035	7.4	26.7
Television receiver	3,041	2,412	2,862	2,795	1,483	5.2	9.8
Refrigerator	1,977	2,098	2,393	2,222	1,028	-19.2	6.8
Washing machine	1,286	1,226	1,343	1,190	653	2.5	4.3
Microwave Oven	765	950	1,239	1,402	623	-15.6	4.1
Compressor	827	698	903	919	434	-11.8	2.9
Video recording	450	349	602	508	202	-35.3	1.3
Others	10,381	10,521	12,444	13,291	6,673	4.2	44.1
<b>Total</b>	<b>24,224</b>	<b>23,506</b>	<b>28,273</b>	<b>29,371</b>	<b>15,130</b>	<b>0.7</b>	<b>100.0</b>

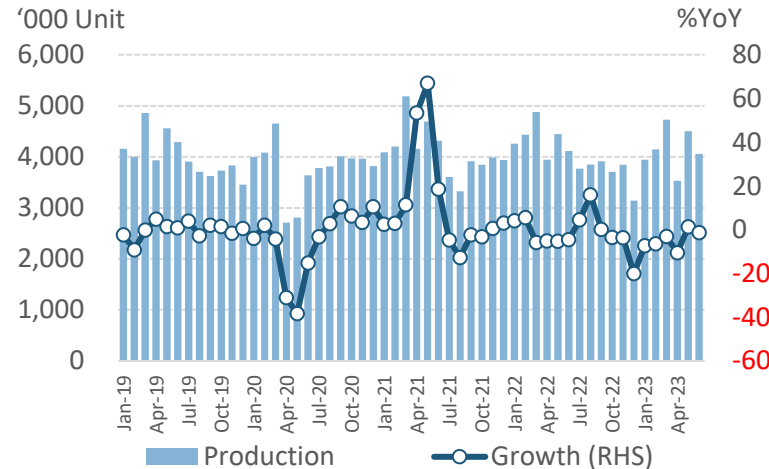
Export Market Share (1H2023)



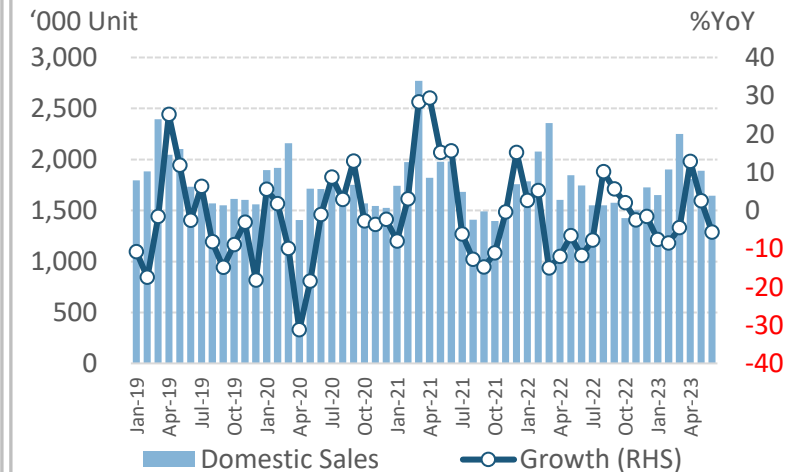
Manufacturing Production Index (MPI)



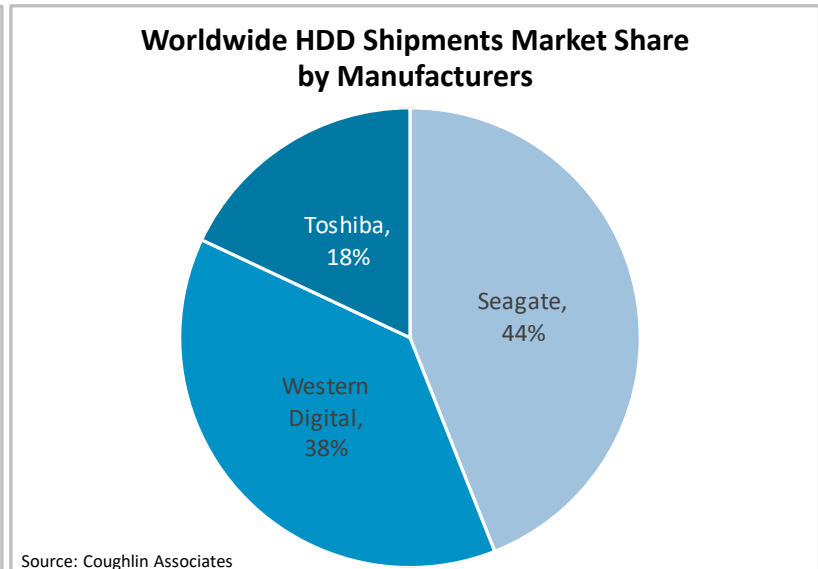
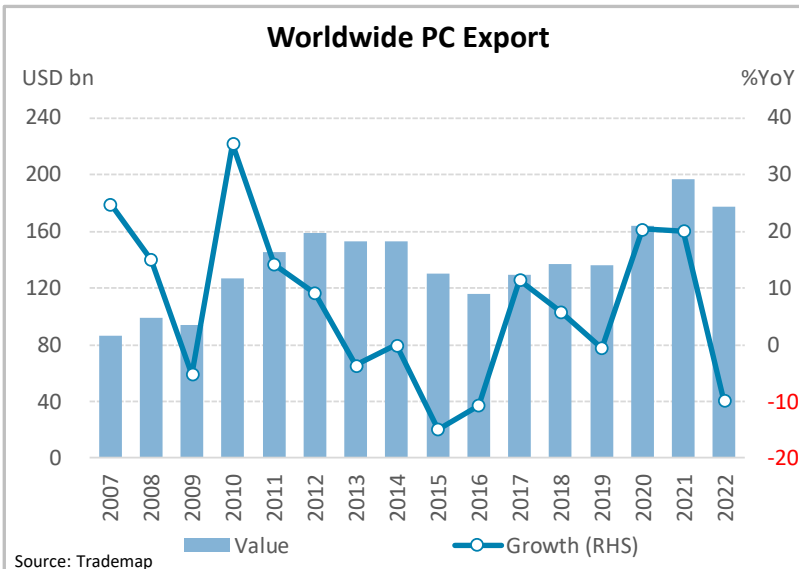
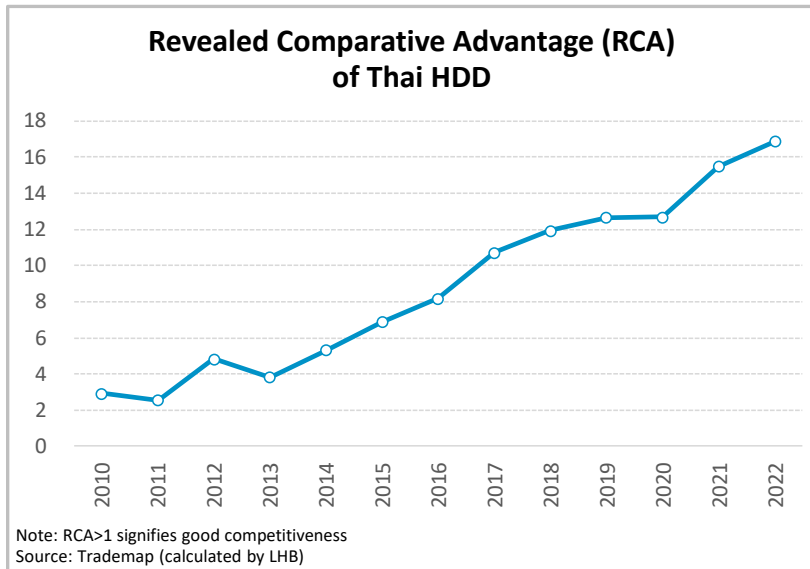
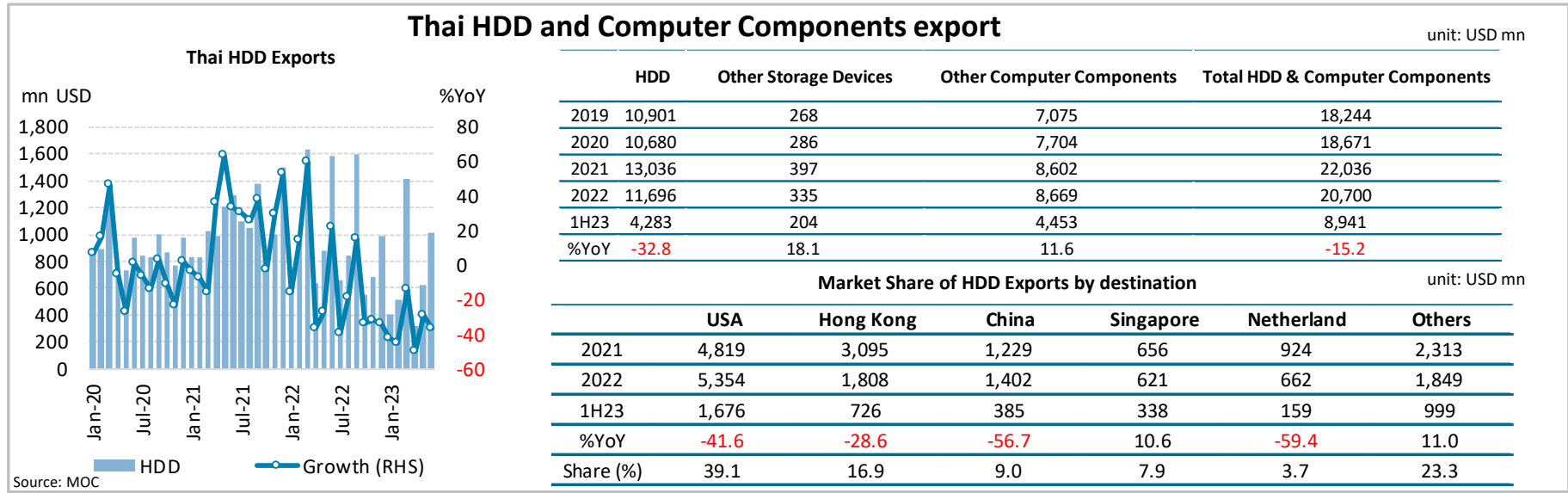
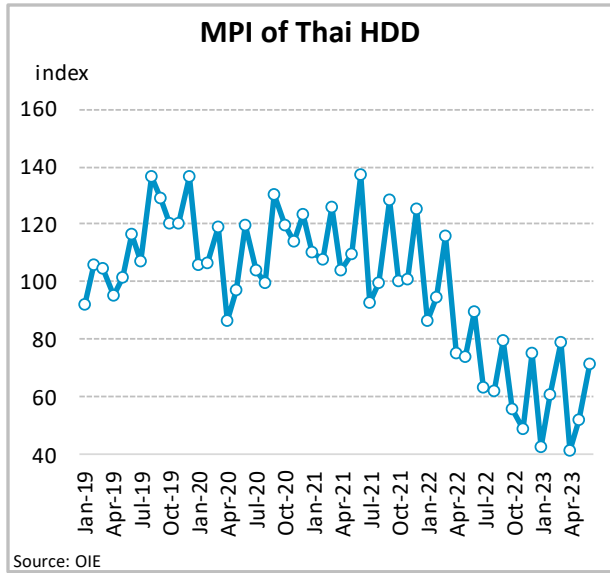
Electrical Appliance Production



Domestic Electrical Appliance Sales

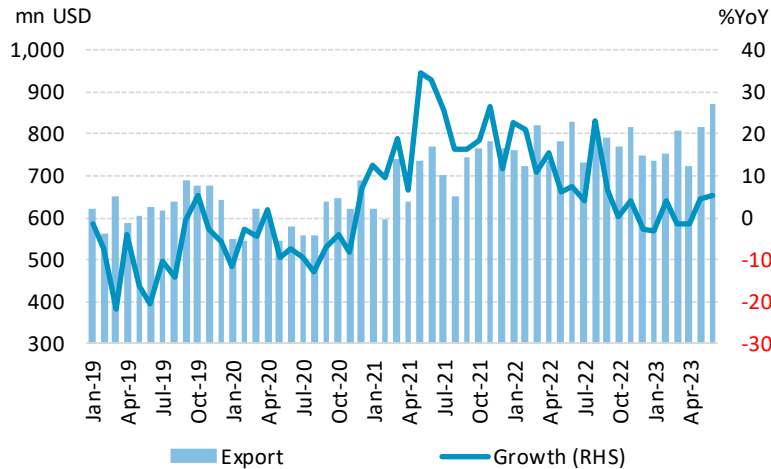


# 4. Hard Disk Drive : HDD (ฮาร์ดดิสก์ไดรฟ์)



# 5. Integrated Circuits: IC (แผงวงจรไฟฟ้า)

### Thai IC Export



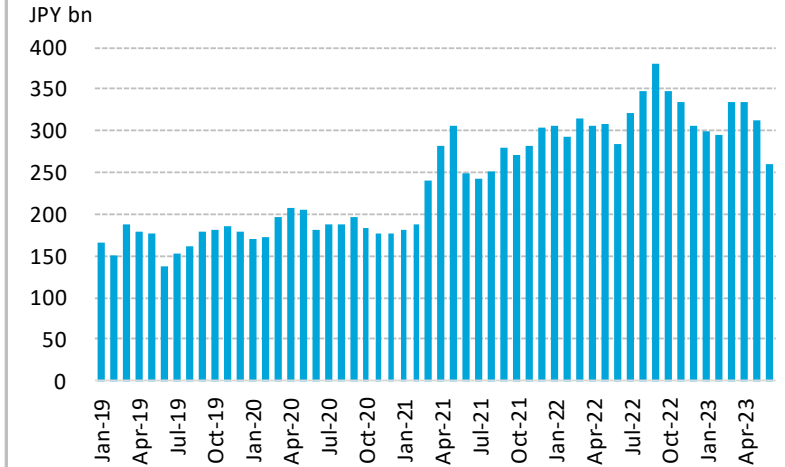
### Market Share of Thai IC Exports by Destination

Country	2021	2022	1H23	%YoY	Share (%)
Hongkong	2,343.4	2,003.2	904.0	-16.8	19.2
Singapore	986.9	1,280.6	617.1	1.0	13.1
Taiwan	490.6	685.9	419.5	31.8	8.9
USA	564.6	741.0	397.5	10.4	8.4
China	719.5	747.5	382.6	9.7	8.1
Others	3,412.1	3,850.0	1,990.4	3.4	42.2
<b>Total</b>	<b>8,517.0</b>	<b>9,308.1</b>	<b>4,711.1</b>	<b>1.3</b>	<b>100.0</b>

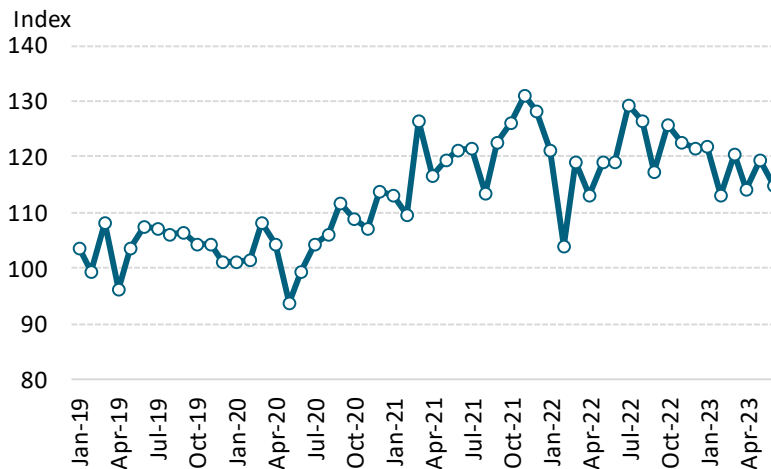
Unit: USD mn

Source: MOC

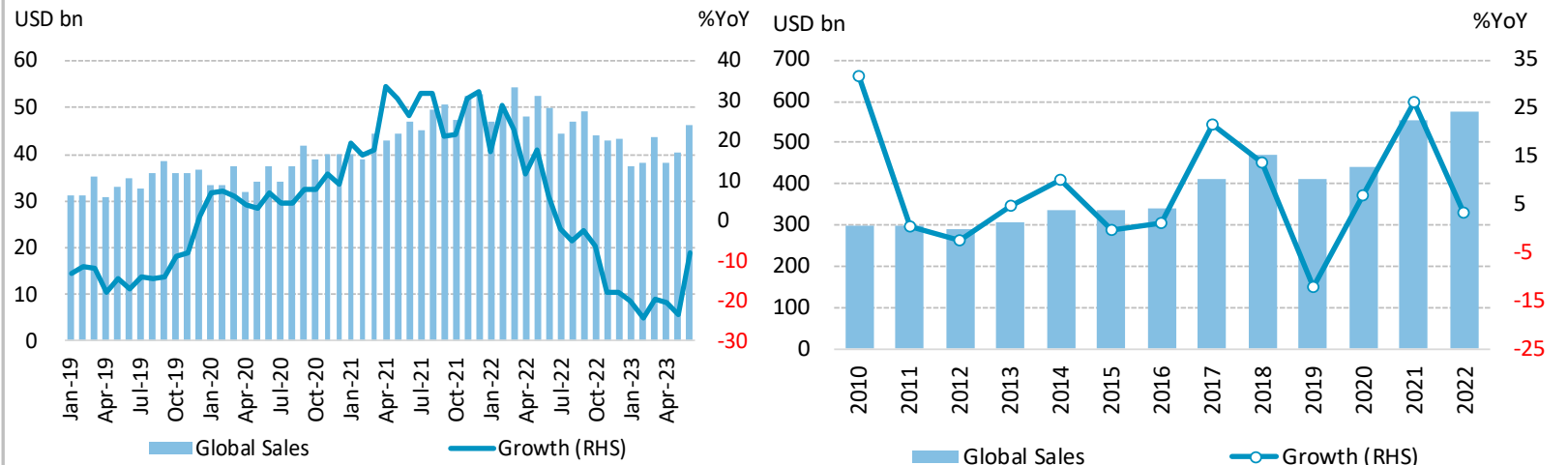
### SEAJ Billing (three month avg)



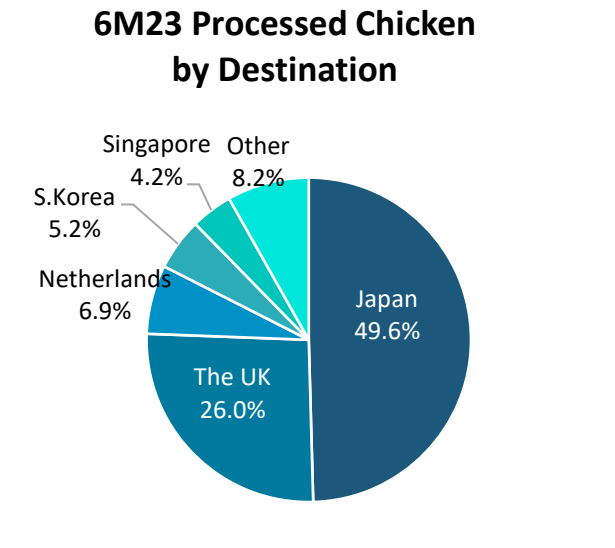
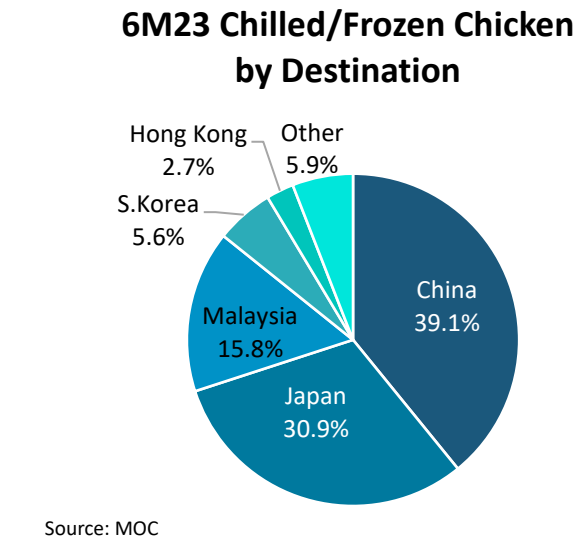
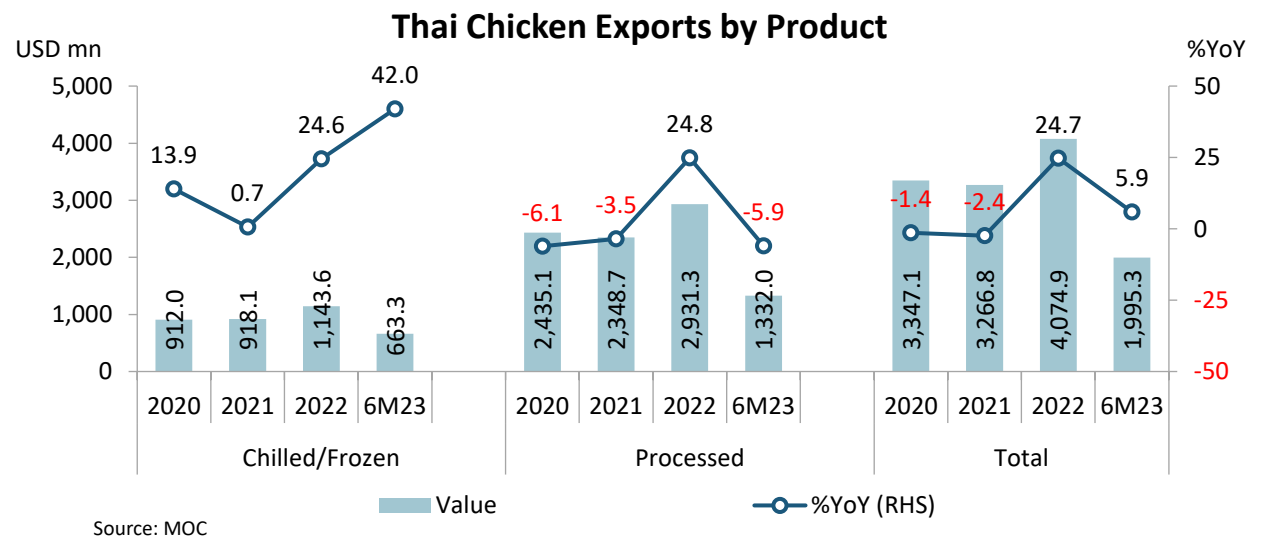
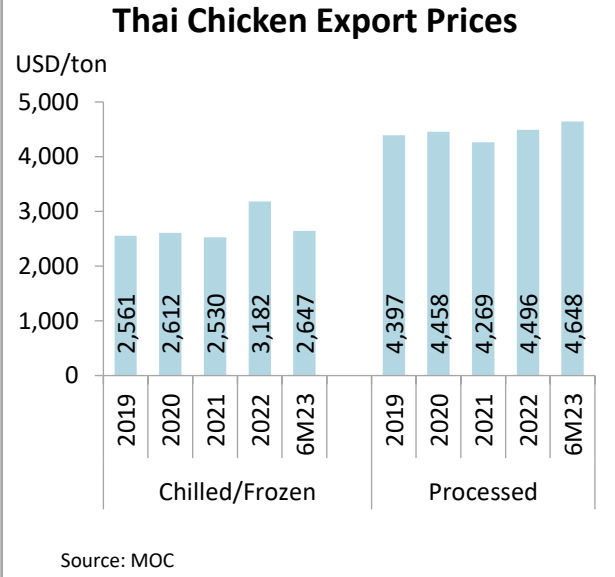
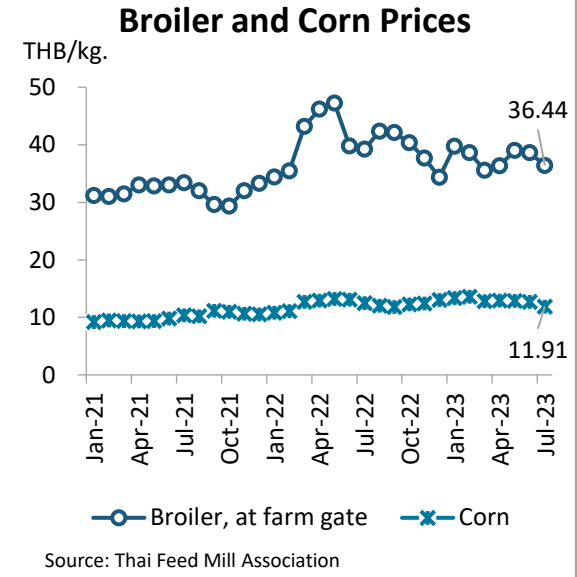
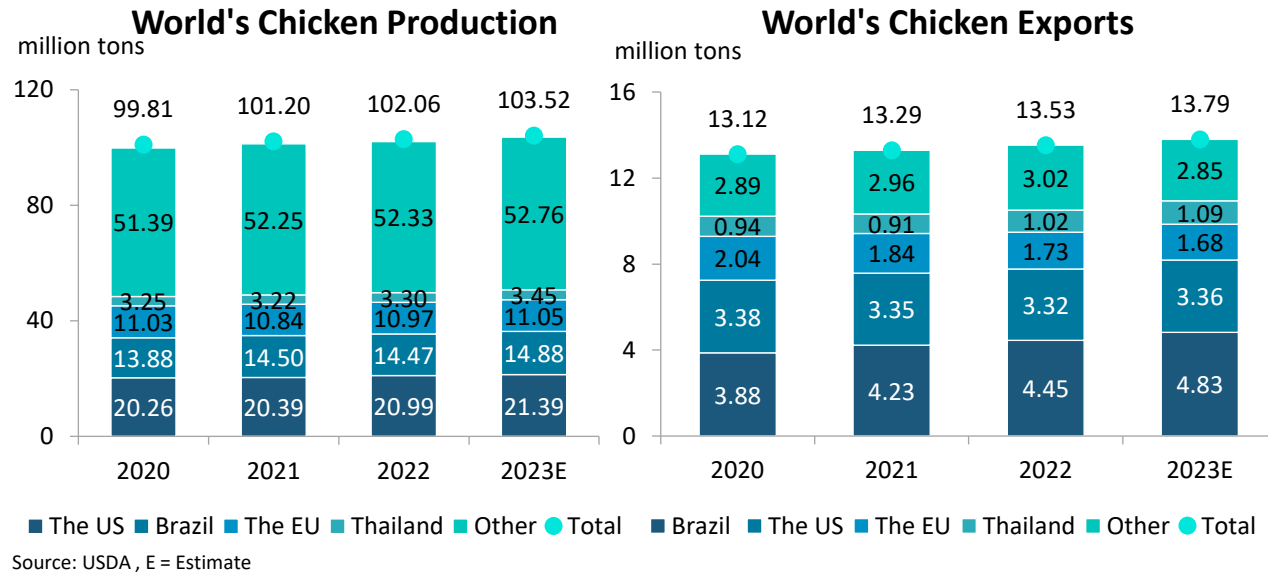
### Manufacturing Production Index (MPI)



### Worldwide Sales of Semiconductors

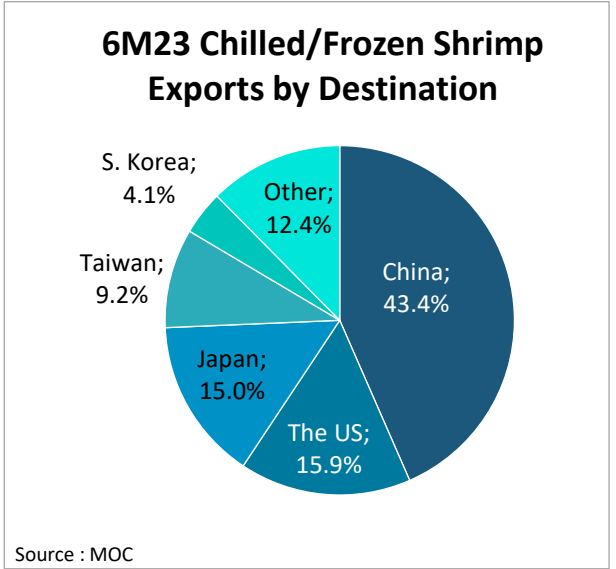
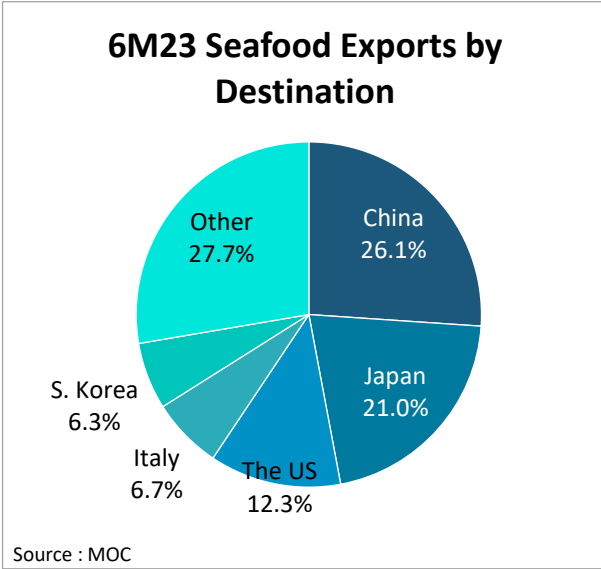
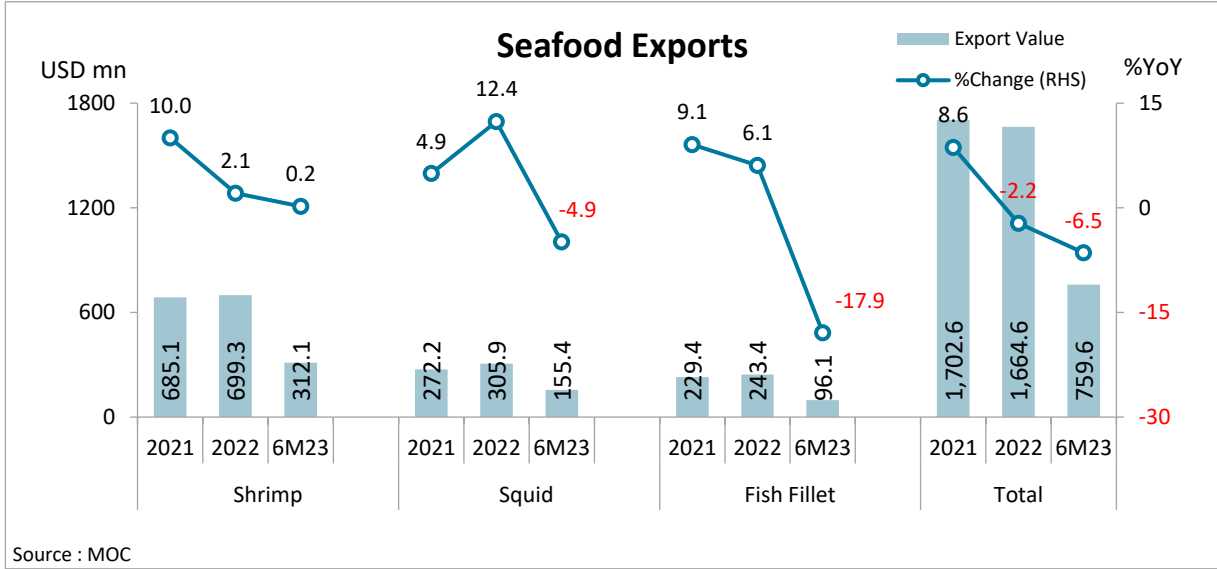
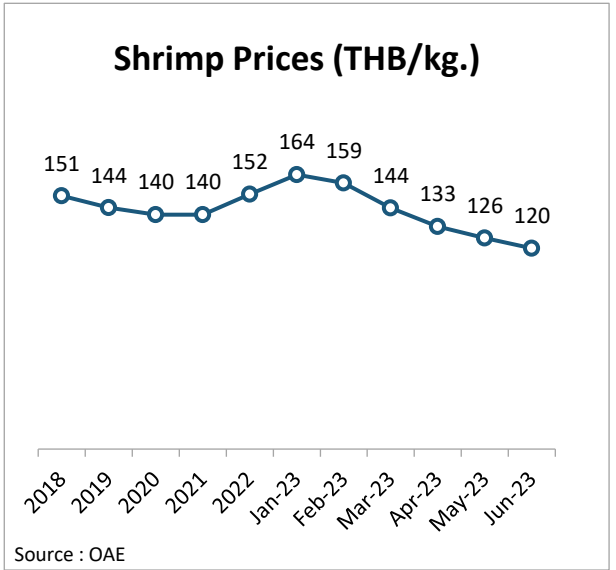
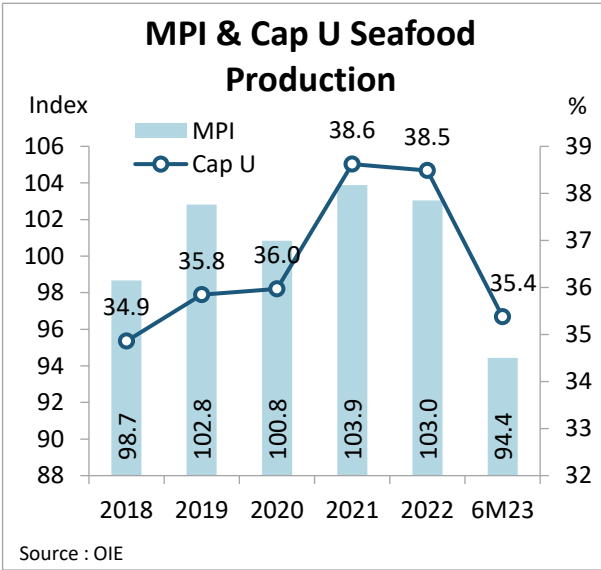
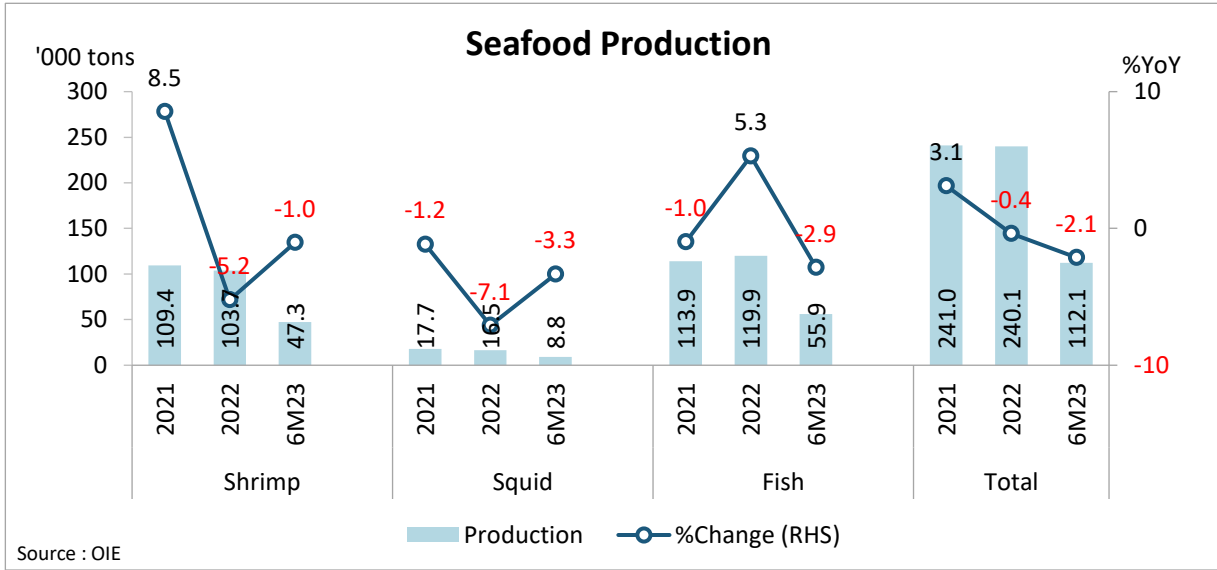


# 6. Frozen and Processed Chicken (ไก่แช่แข็งและแปรรูป)





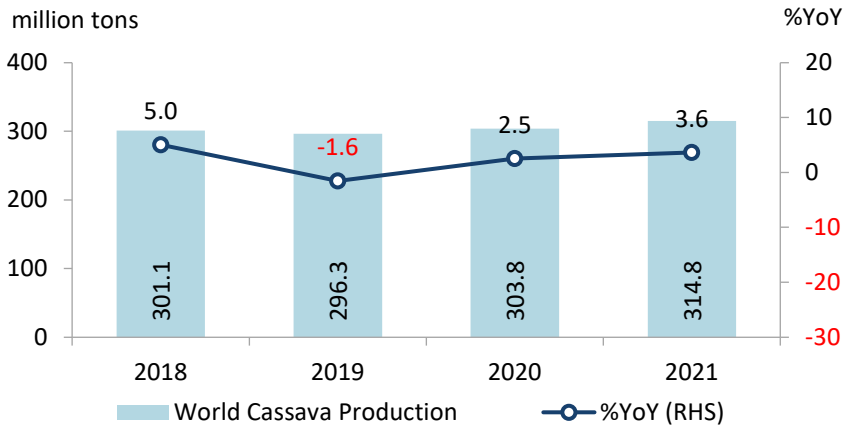
# 7. Frozen Seafood (อาหารทะเลแช่แข็ง)



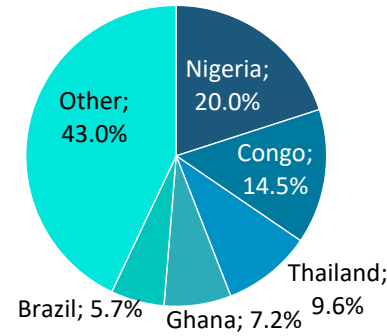


# 8. Cassava Products (ผลิตภัณฑ์มันสำปะหลัง)

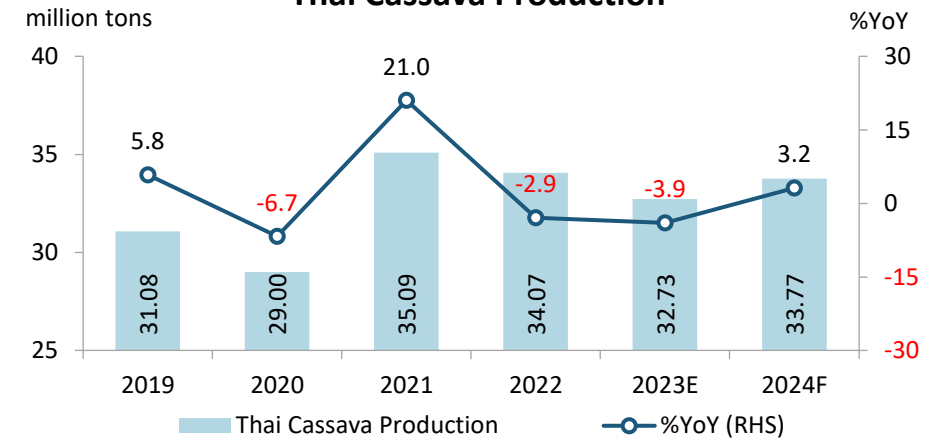
### World Cassava Production



### 2021 World Cassava Production by Country

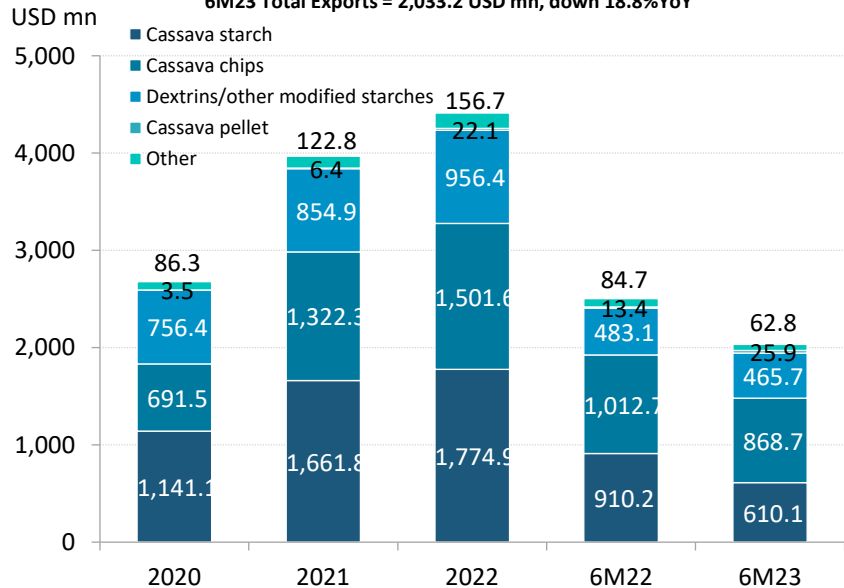


### Thai Cassava Production

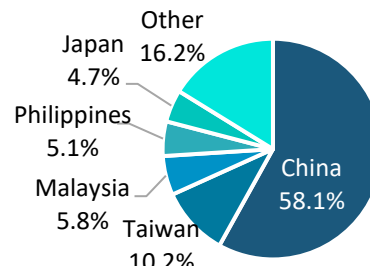


### Thai Cassava Products Exports

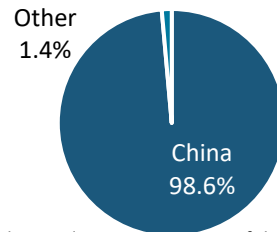
6M23 Total Exports = 2,033.2 USD mn, down 18.8%YoY



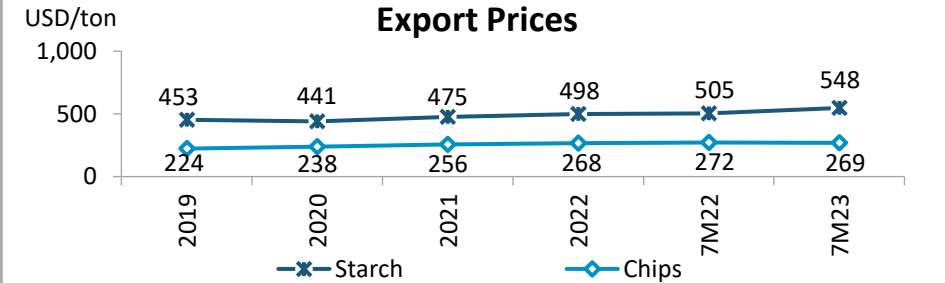
### 6M23 Cassava Starch Exports by Destination



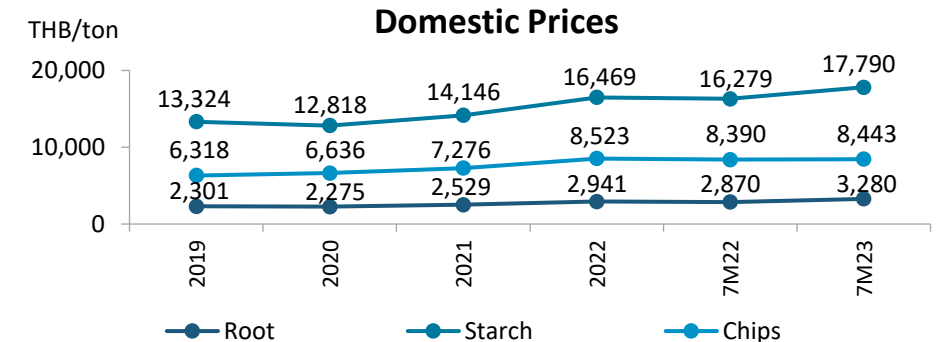
### 6M23 Cassava Chip Exports by Destination



### Export Prices

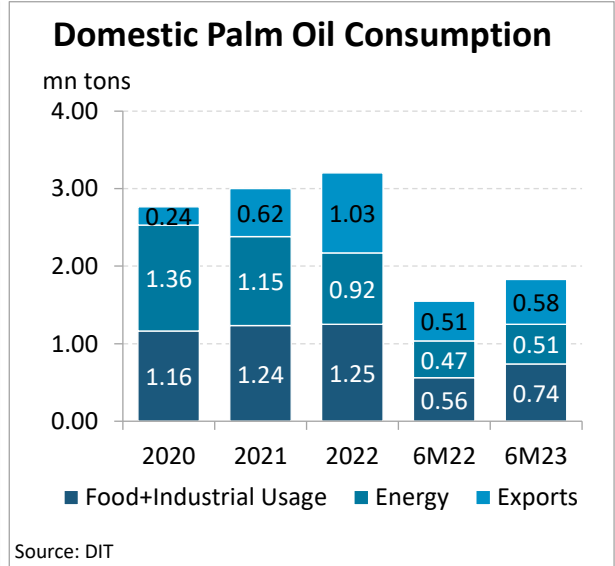
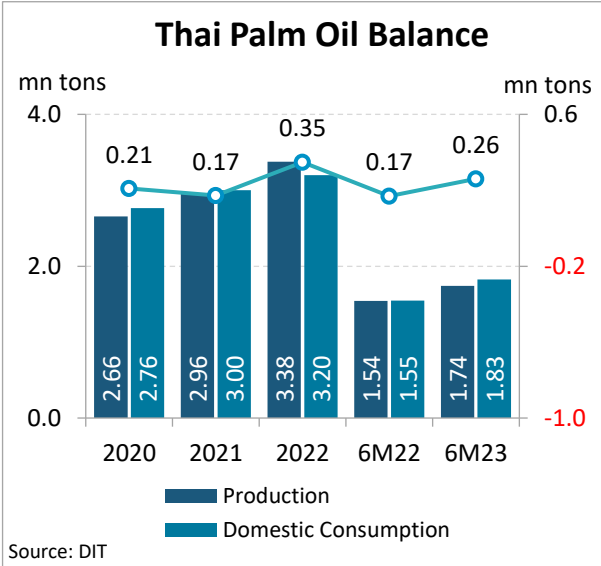
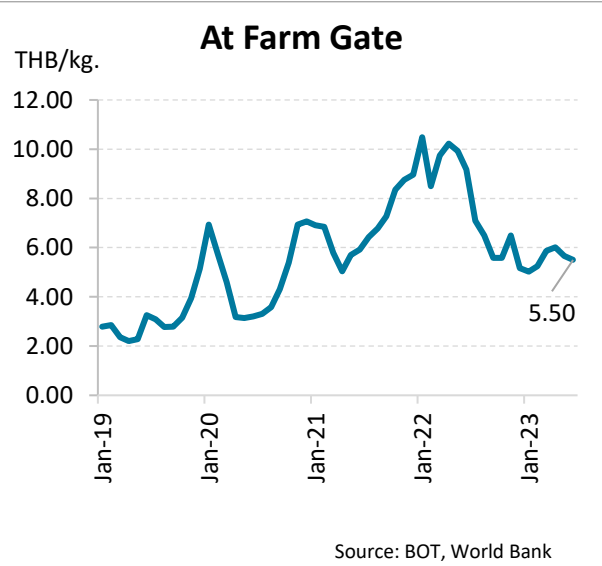
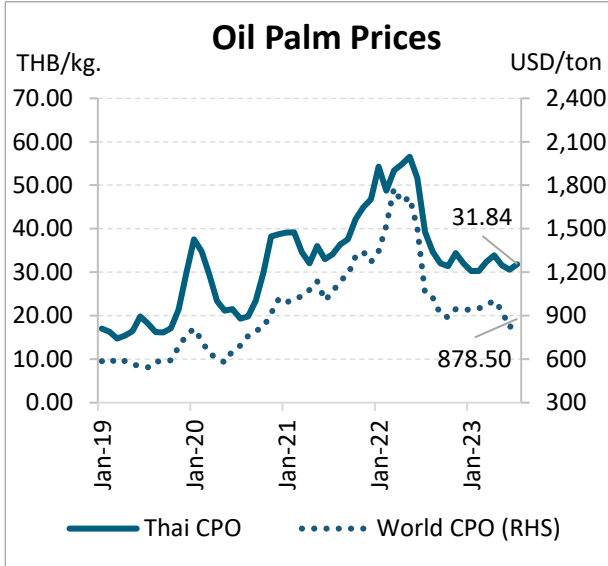
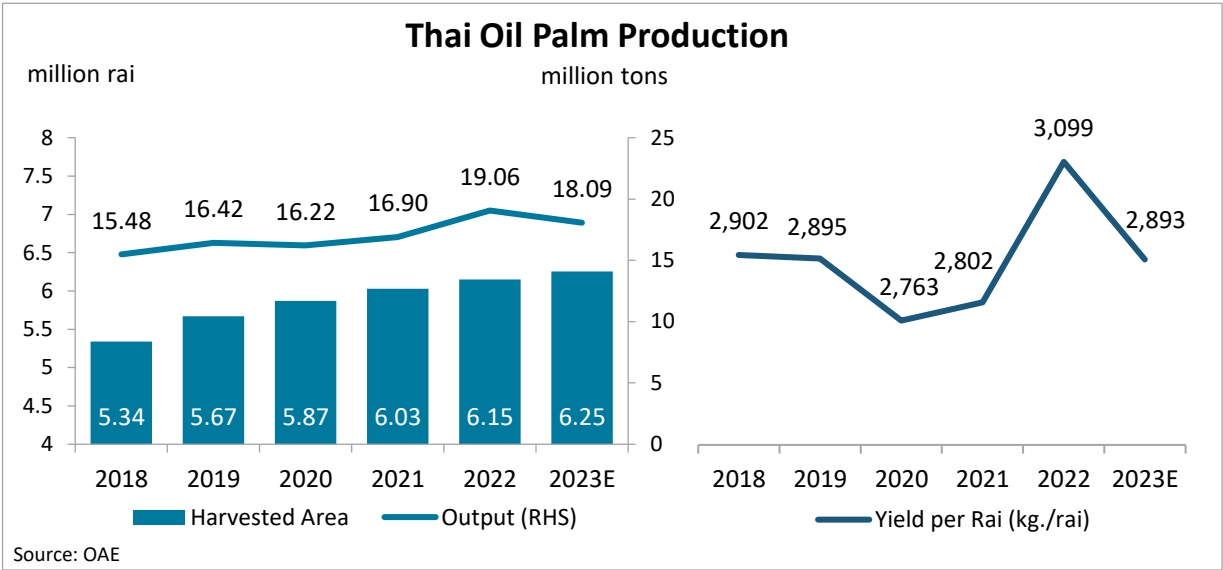
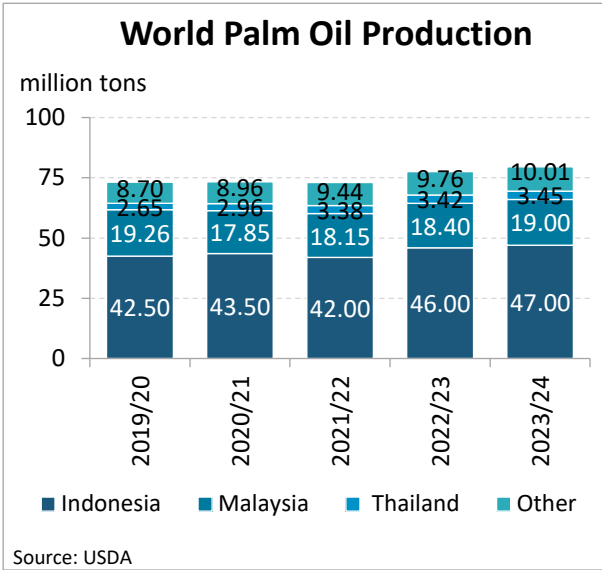
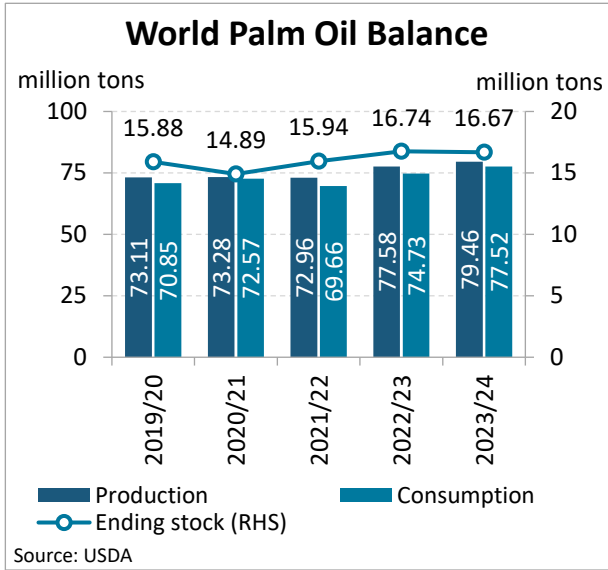


### Domestic Prices

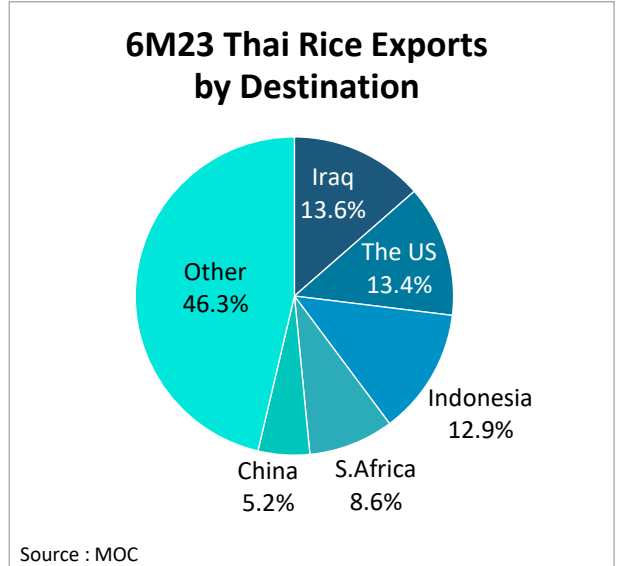
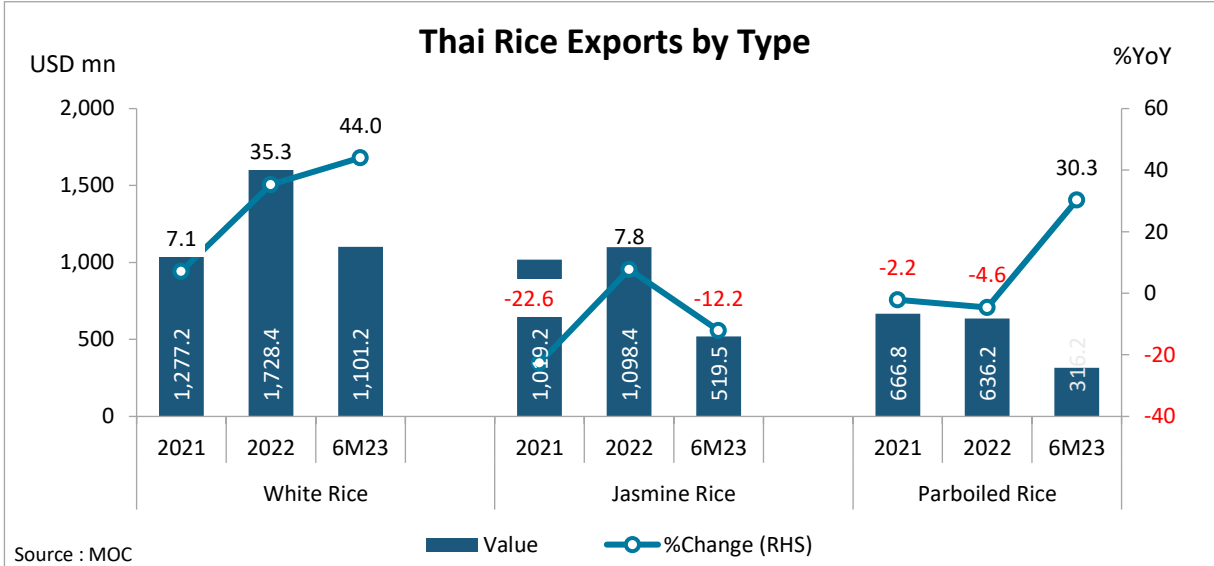
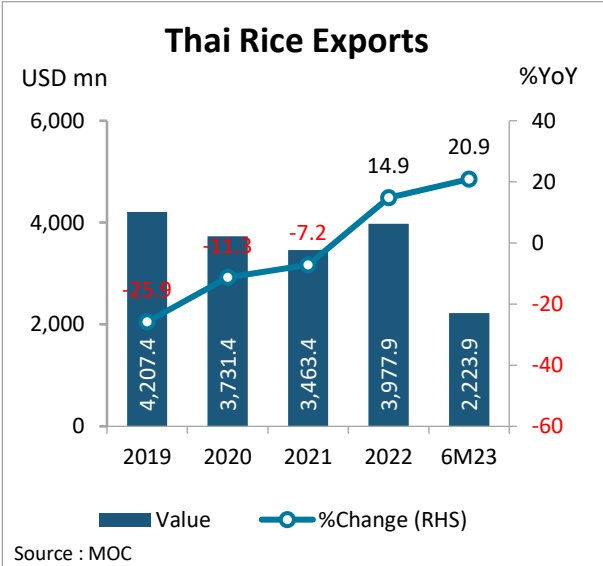
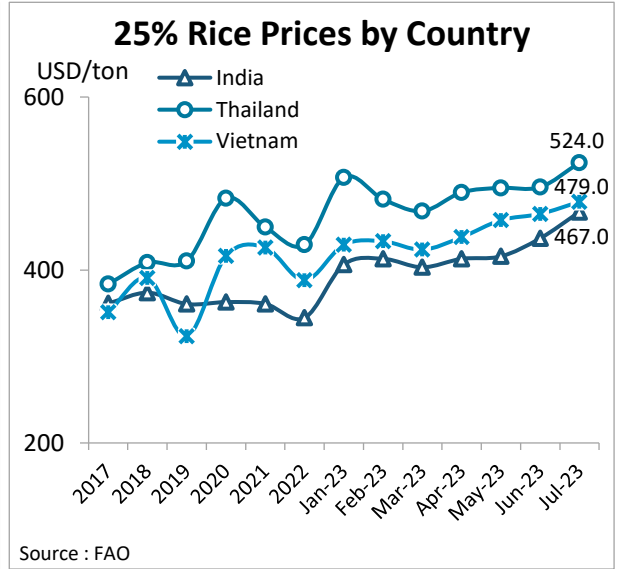
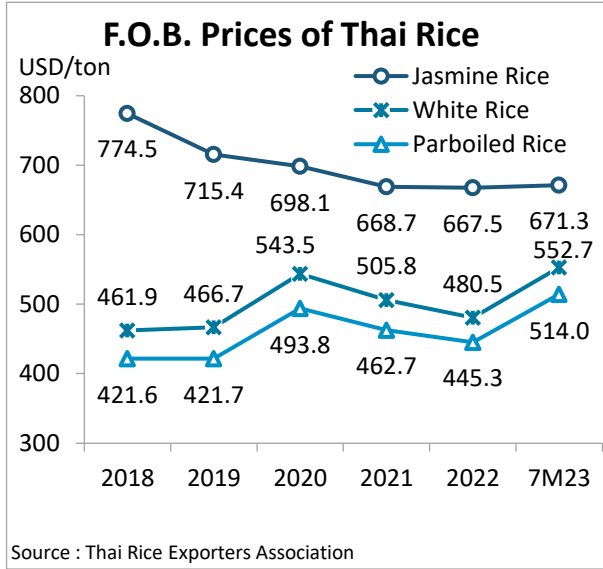
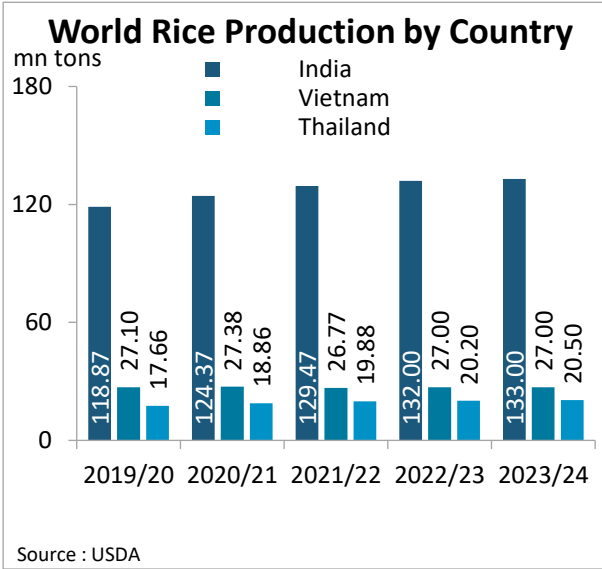
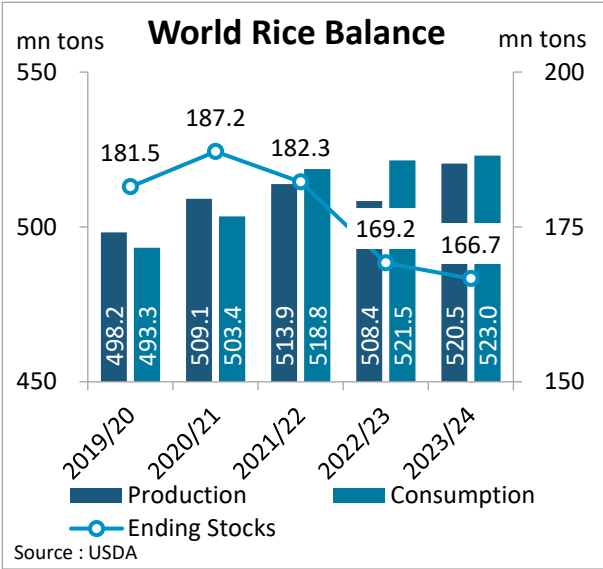


Source: Food and Agriculture Organization of the United Nations, Office of Agricultural Economics, Ministry of Commerce, Thai Tapioca Development Institute

# 9. Oil palm (ปาล์มน้ำมัน)

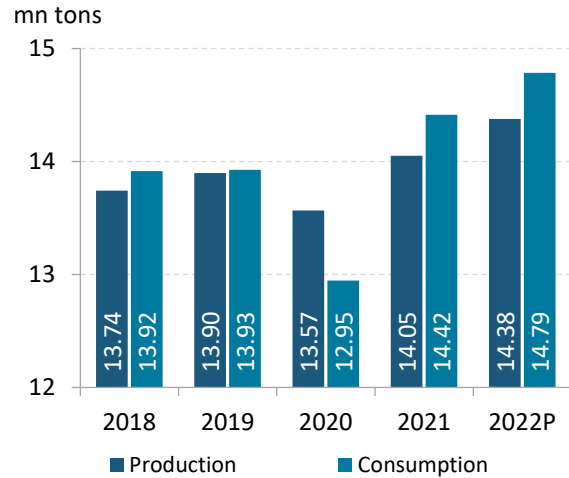


# 10. Rice (ข้าว)



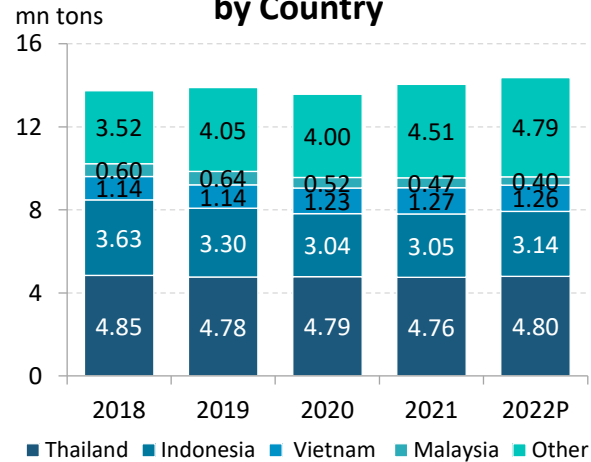
# 11. Rubber (ยางพารา)

### World Natural Rubber Balance



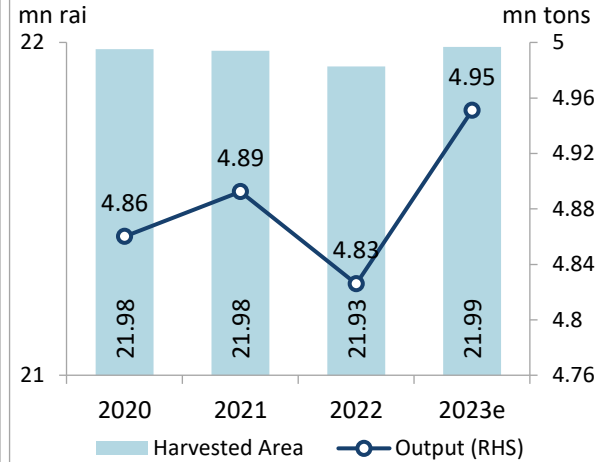
Source : OAE

### Natural Rubber Production by Country



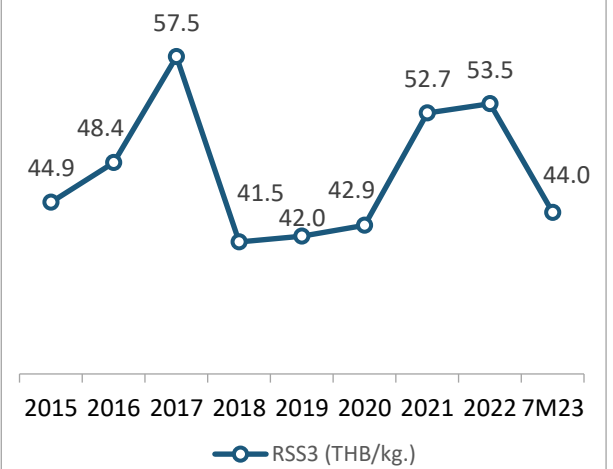
Source : OAE

### Thai Rubber Harvested Area



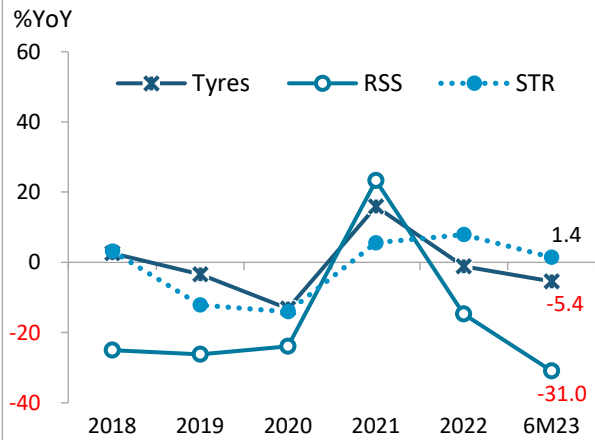
Source : OAE

### Thai Rubber Prices at Farm Gate



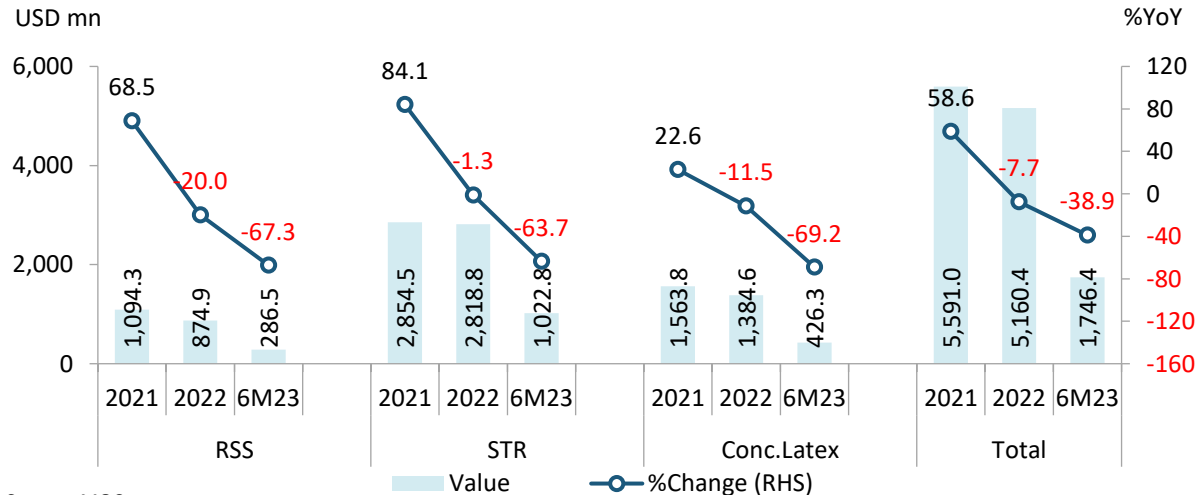
Source : OAE

### MPI of Thai Rubber Products



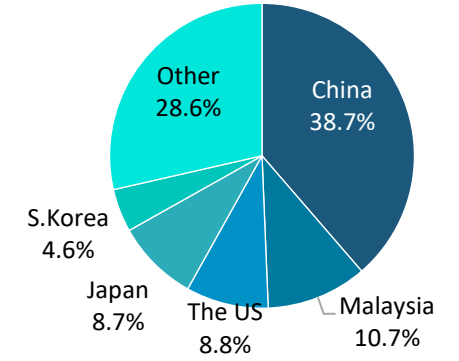
Source : OIE

### Thai Rubber Exports by Type



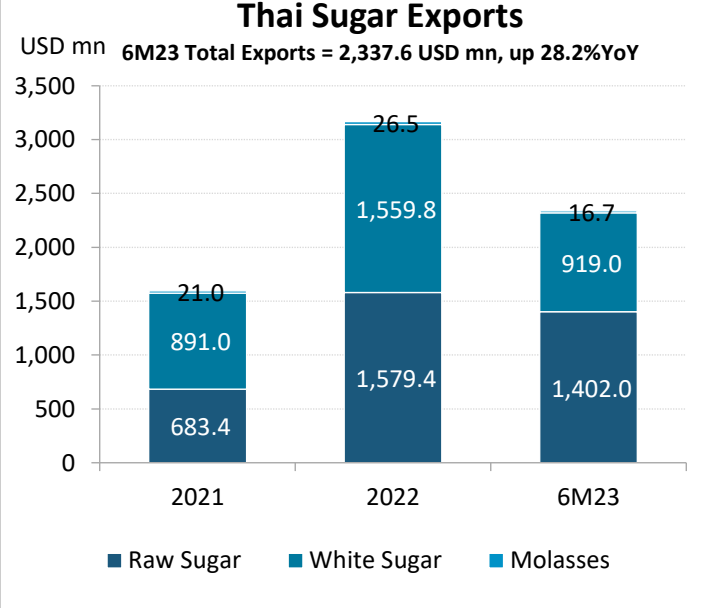
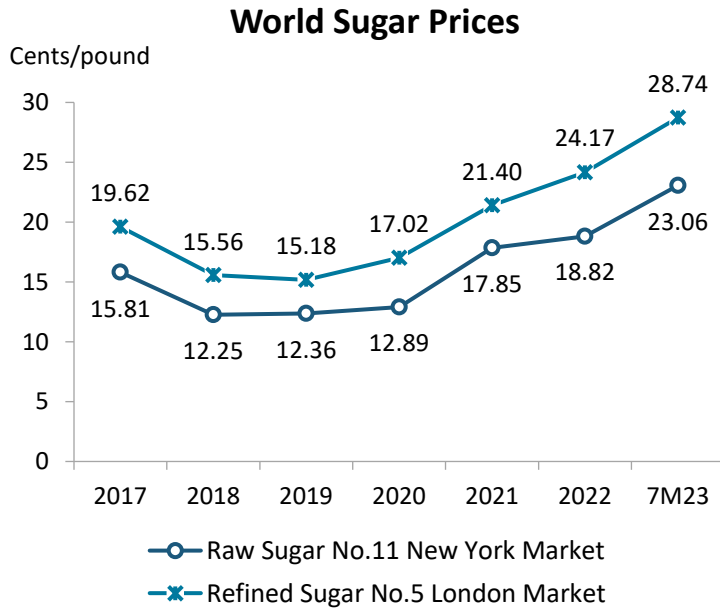
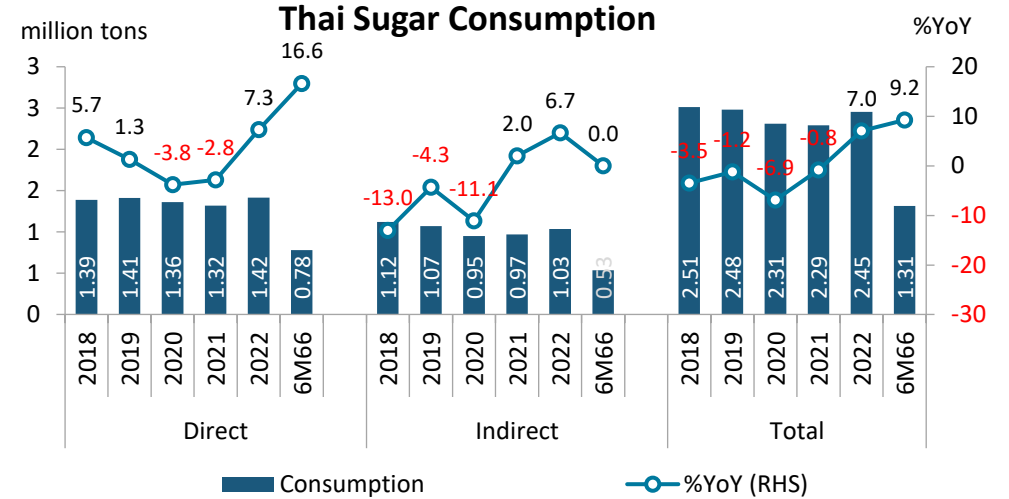
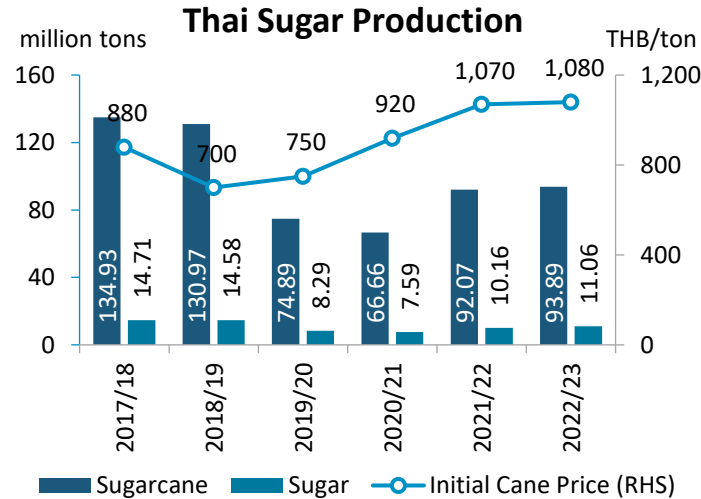
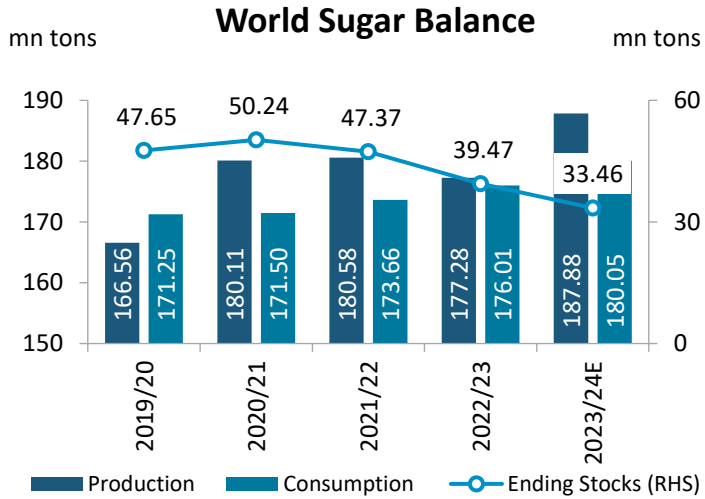
Source : MOC

### 6M23 Thai Rubber Exports by Destination

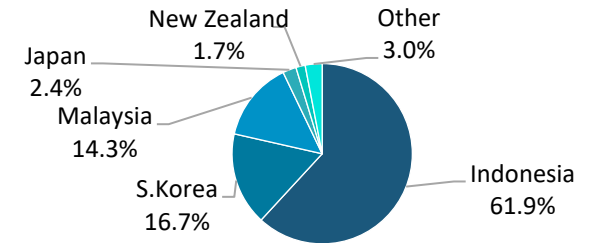


Source : MOC

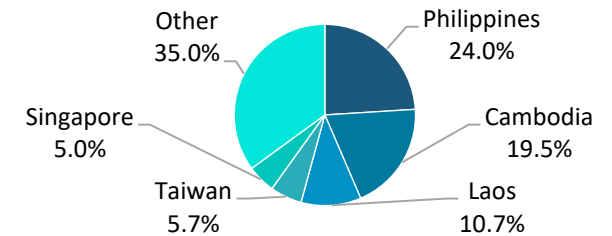
# 12. Sugar (น้ำตาล)



### 6M23 Raw Sugar Exports by Destination

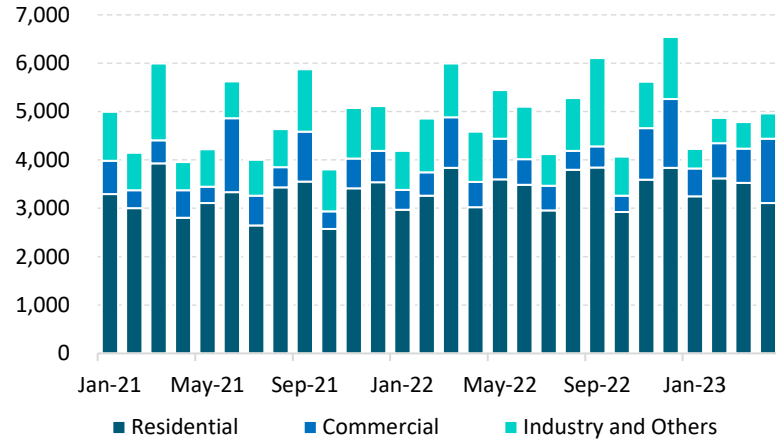


### 6M23 White Sugar Exports by Destination



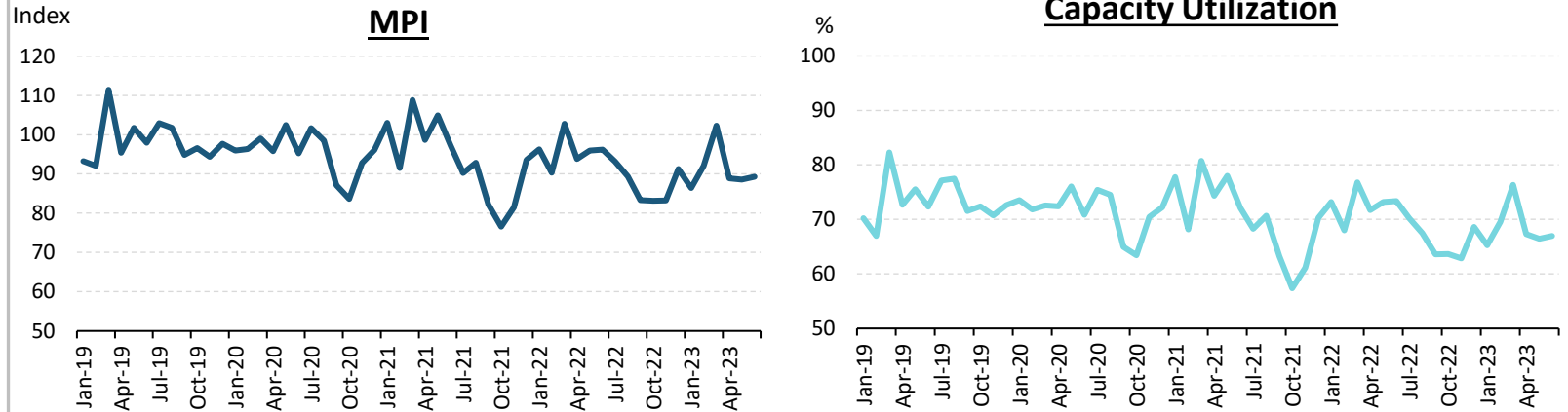
# 13. Cement (ปูนซีเมนต์)

Thousand sq.m. **Construction Area Permitted**



Source: Toyota, FTI

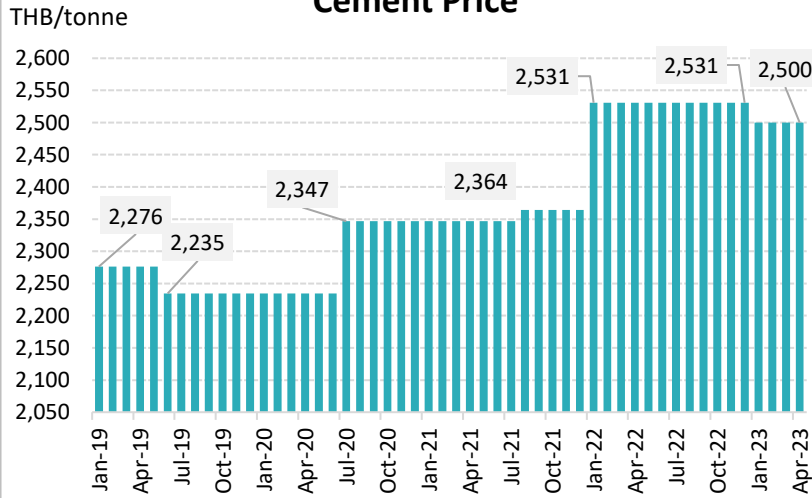
**MPI & Capacity Utilization**  
(Cement, White Cement and Clinkers)



Note: MPI as of the base year (2016=100)  
Source: OIE

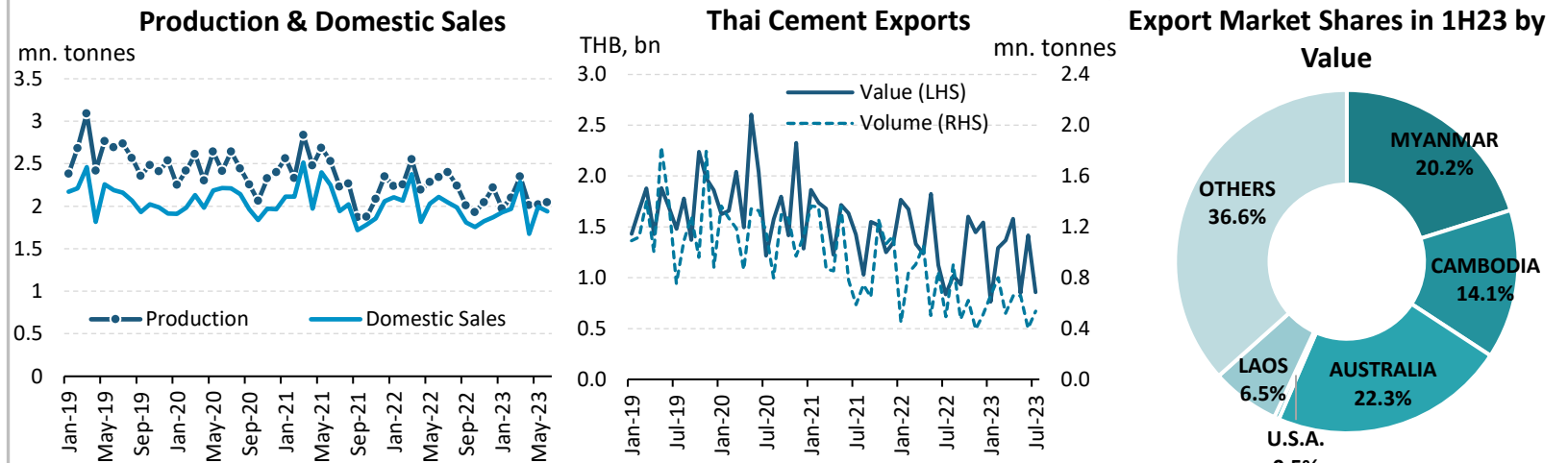
Source: Semiconductor Equipment Association of Japan (SEAJ)

**Cement Price**



Source: MOC

**Thai Cement Production, Domestic Sales and Exports**



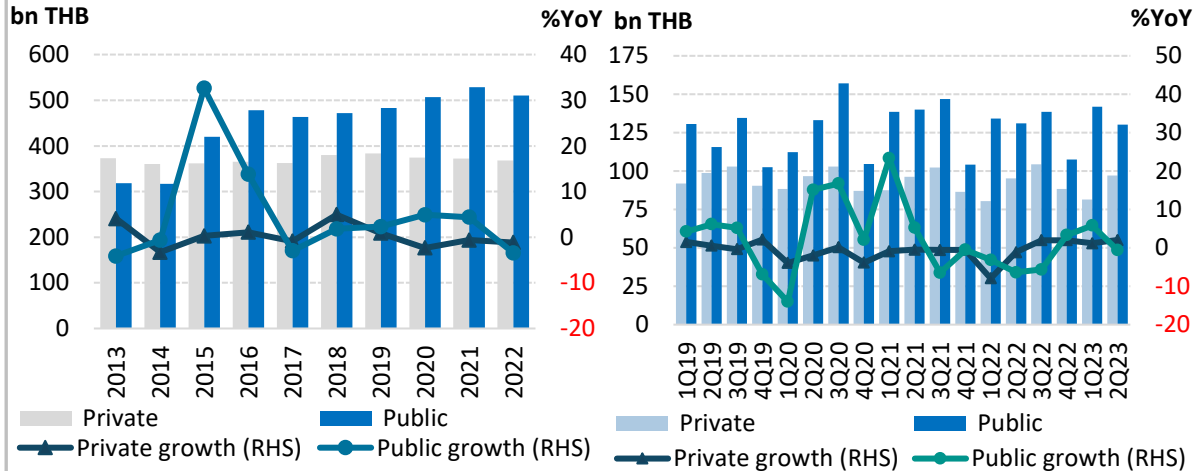
Source: OIE

Source: MOC

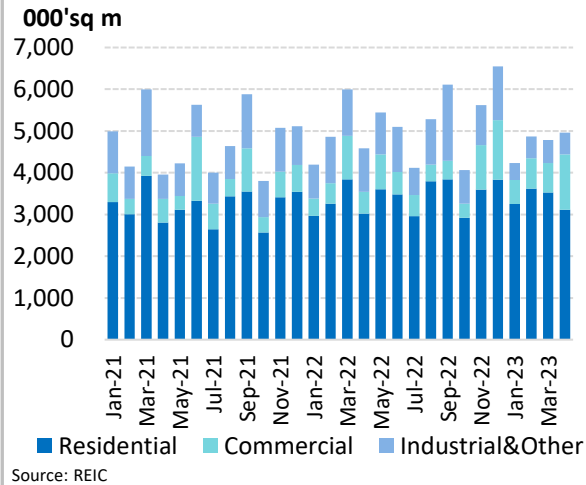
Source: MOC

# 14. Construction Contractor (รับเหมาก่อสร้าง)

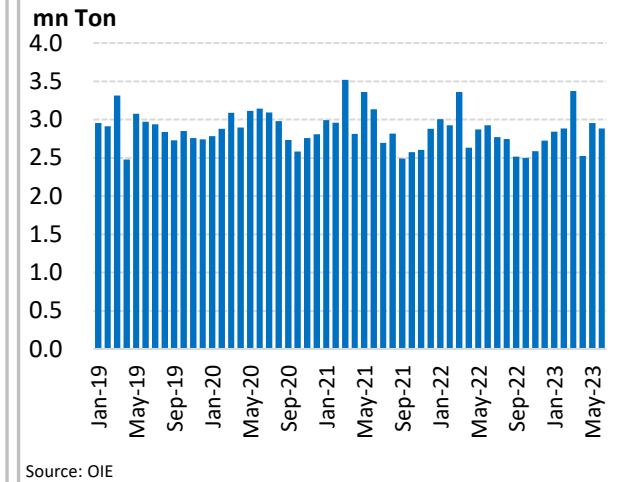
### Construction Gross Fixed capital (constant price)



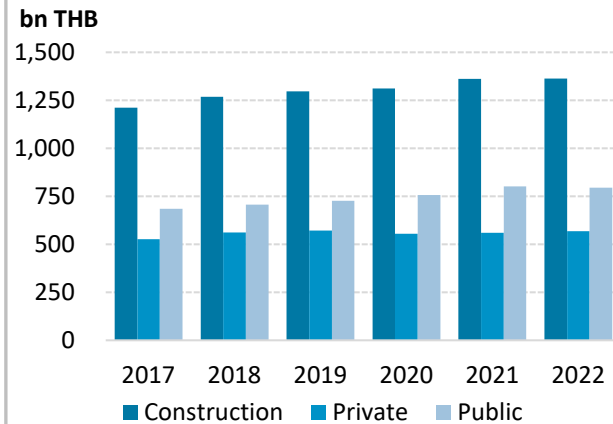
### Construction areas permitted



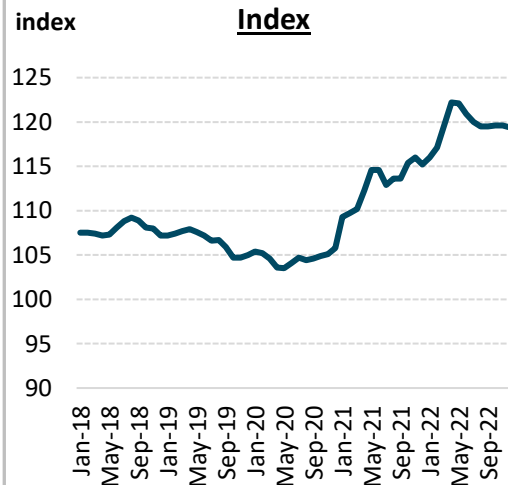
### Domestic Cement Sales



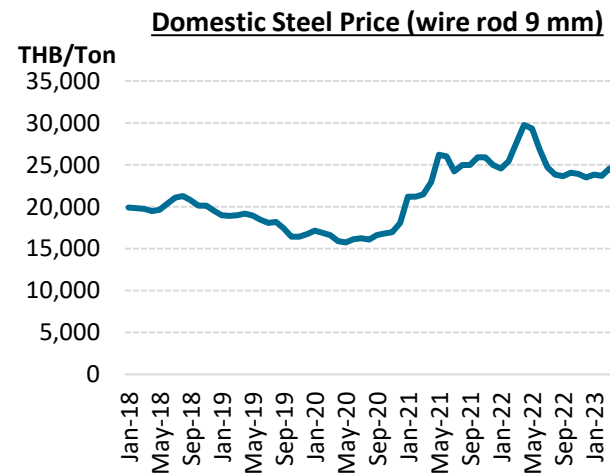
### Construction Gross Fixed capital (current price)



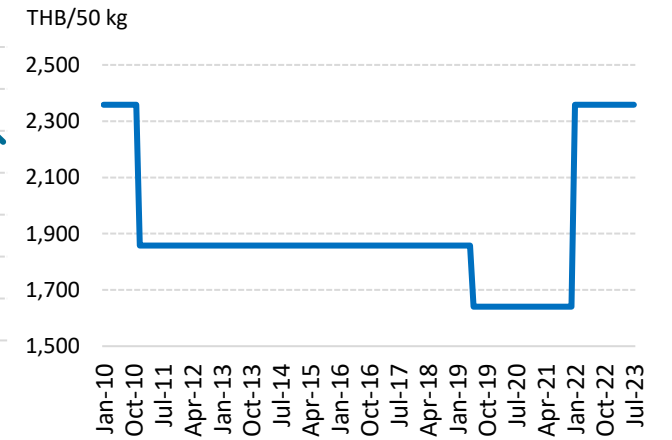
### Construction Materials Price



### Construction Material Price

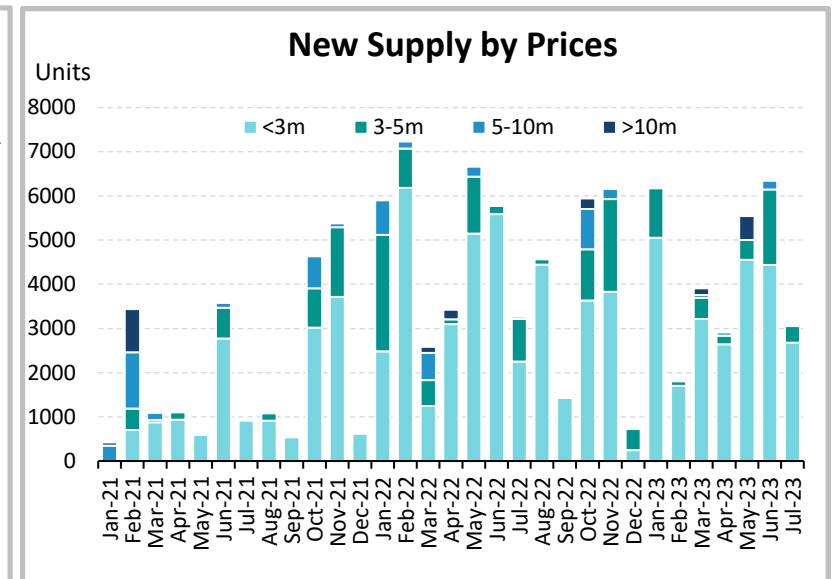
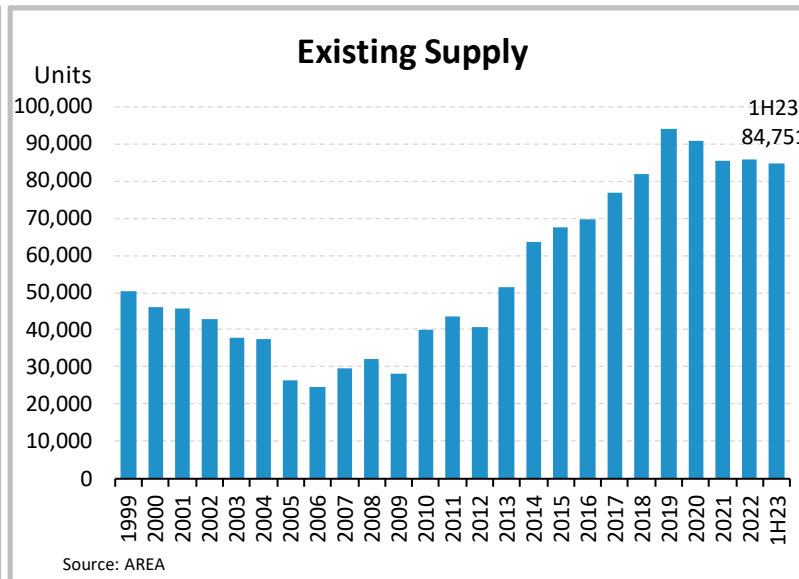
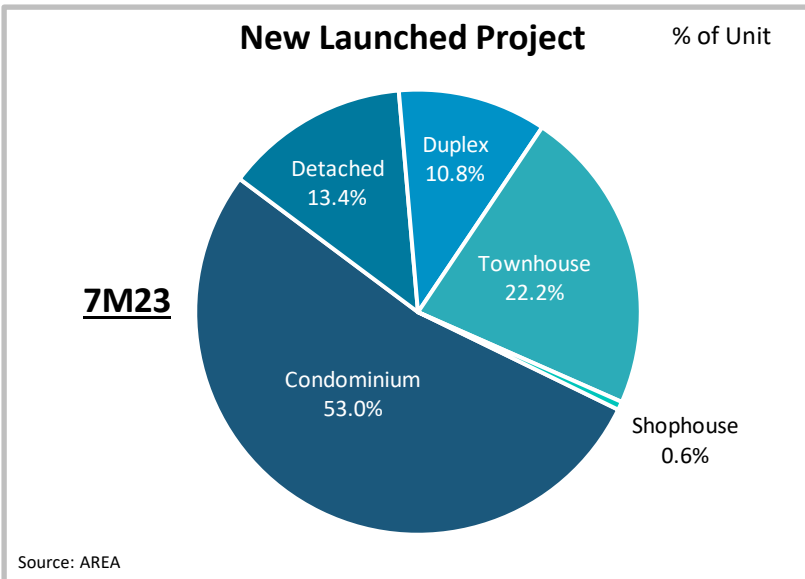
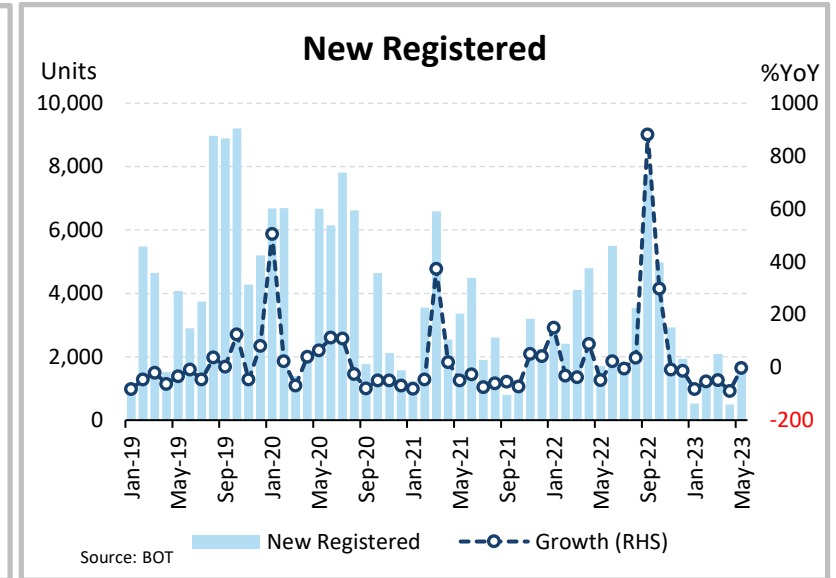
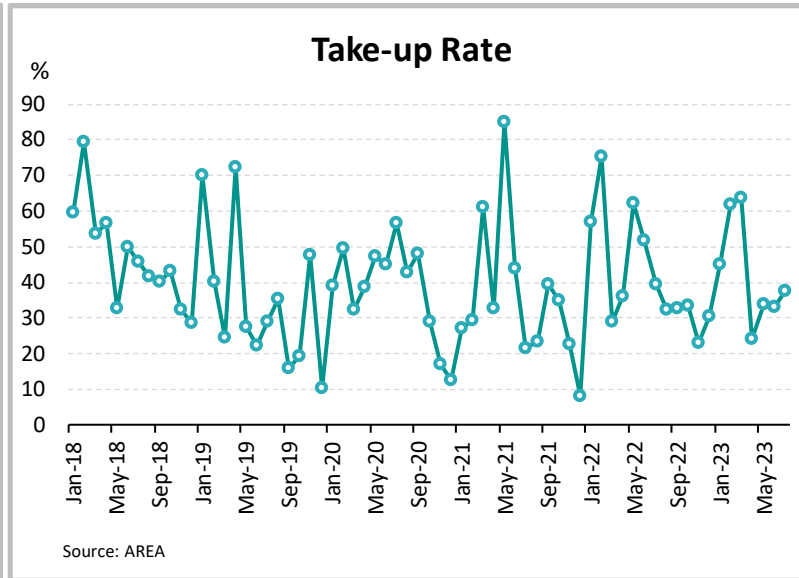
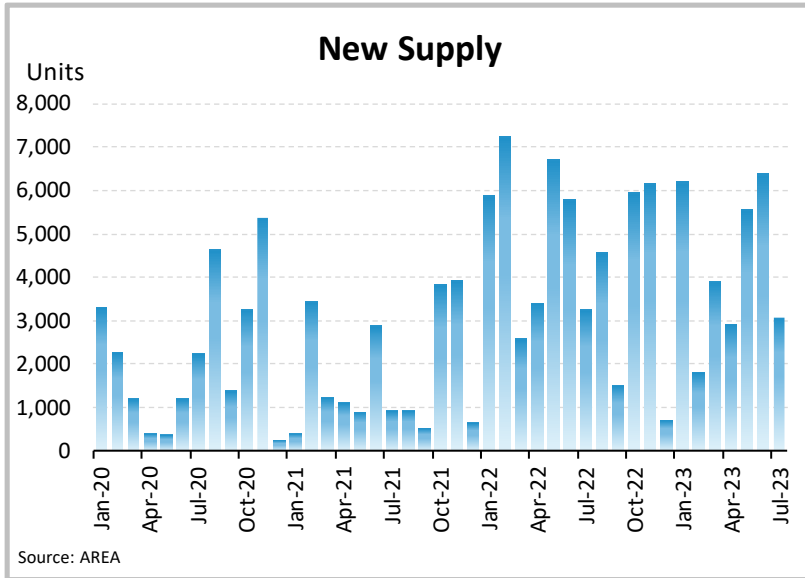


### Domestic Cement Price

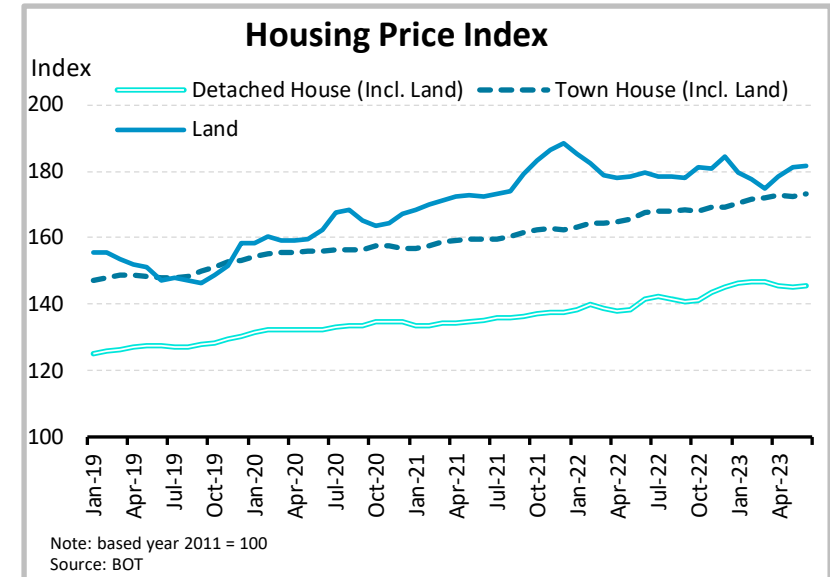
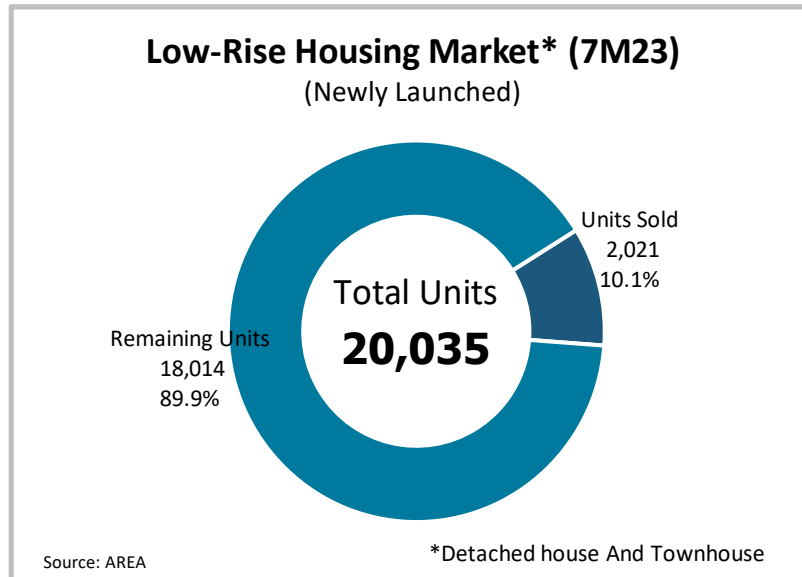
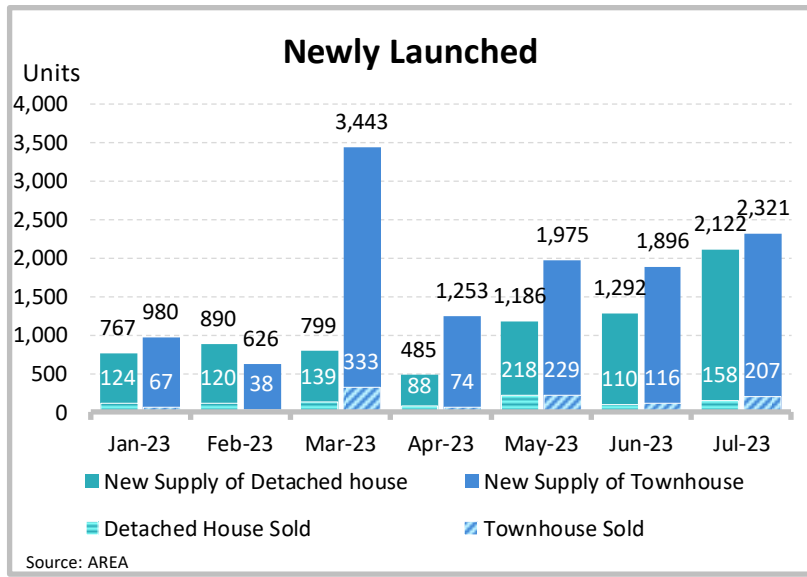
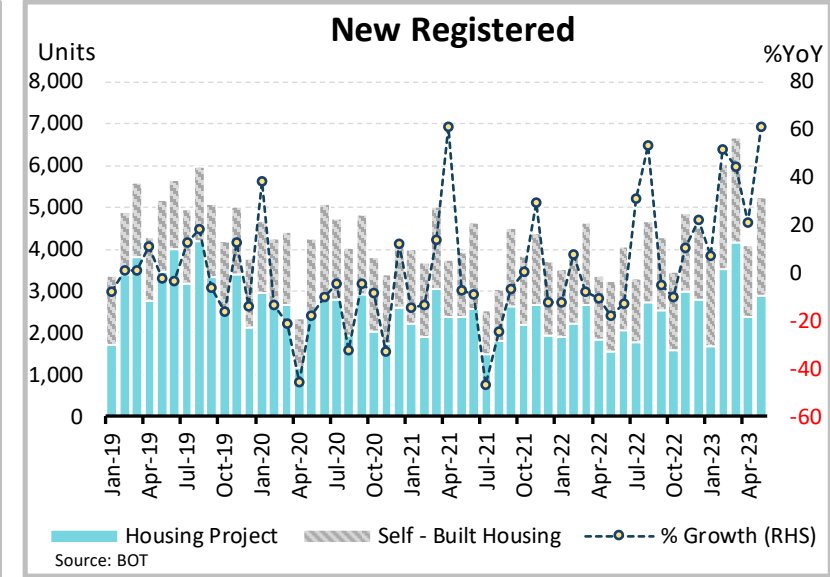
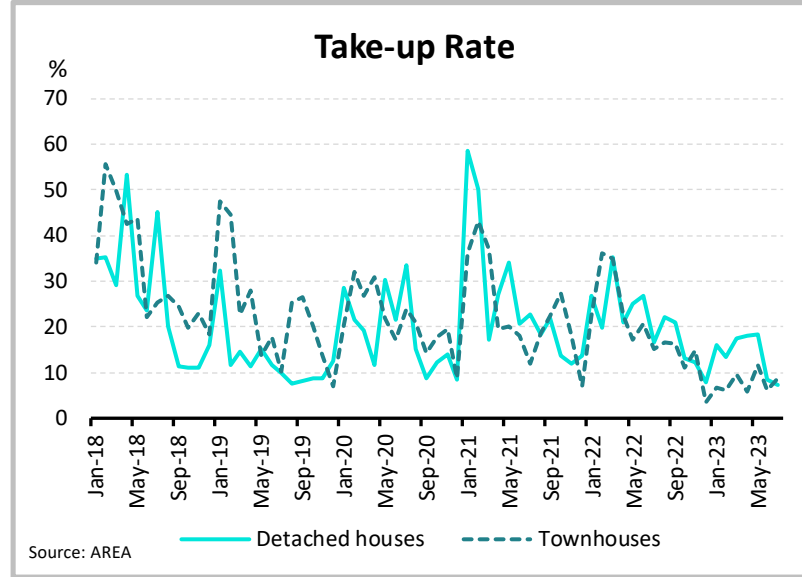
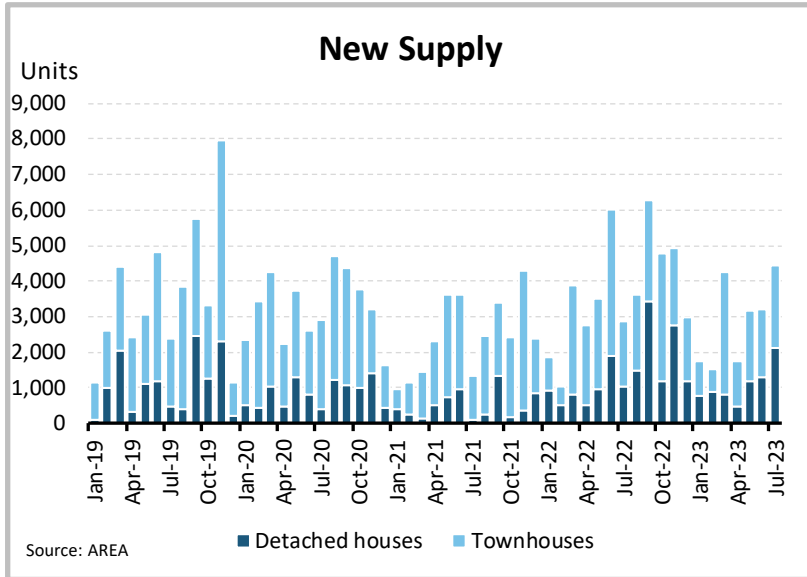




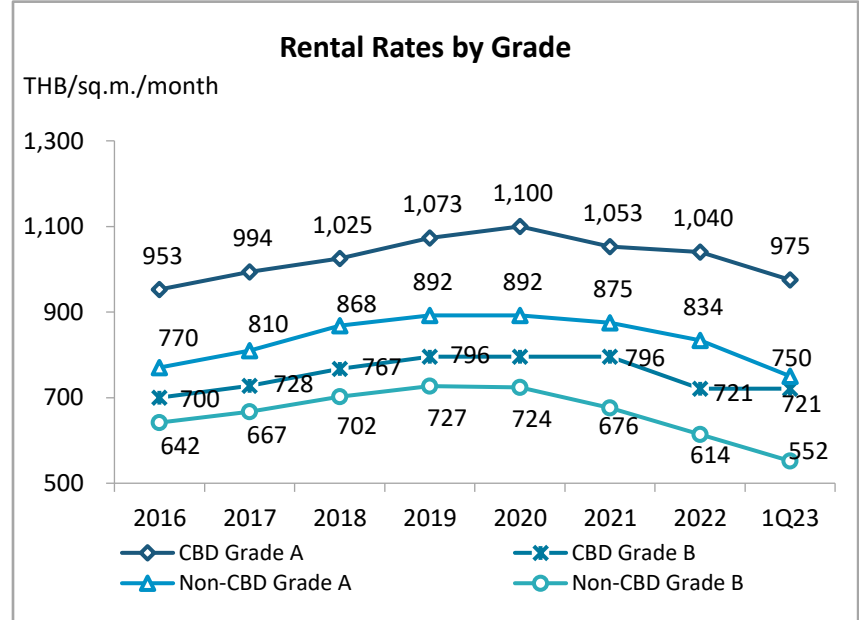
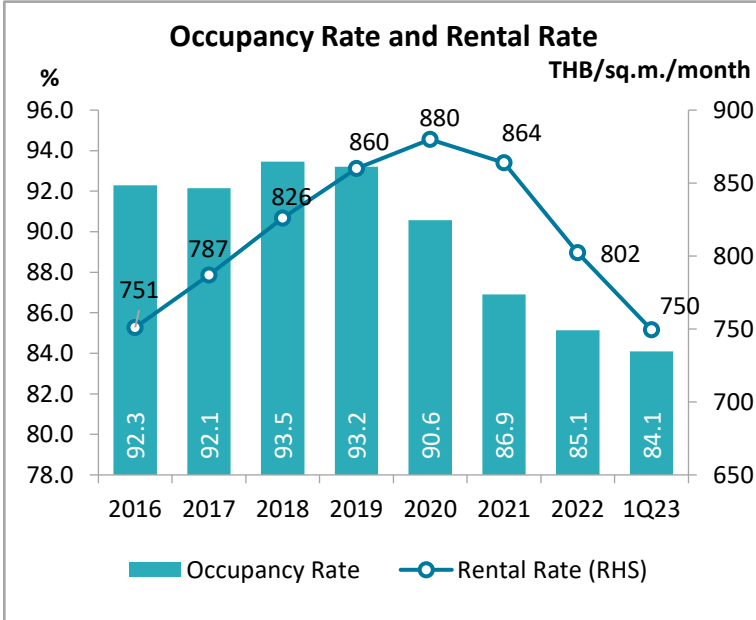
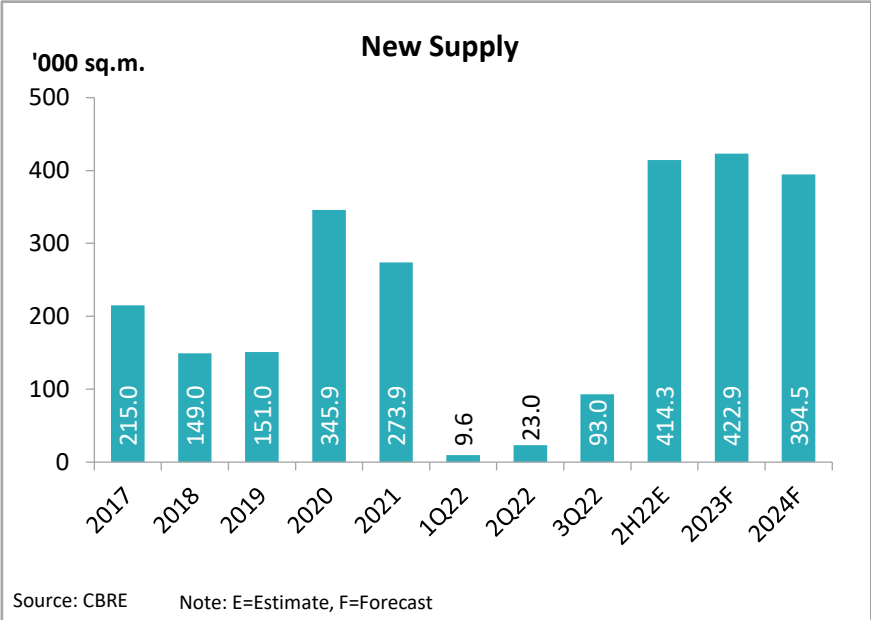
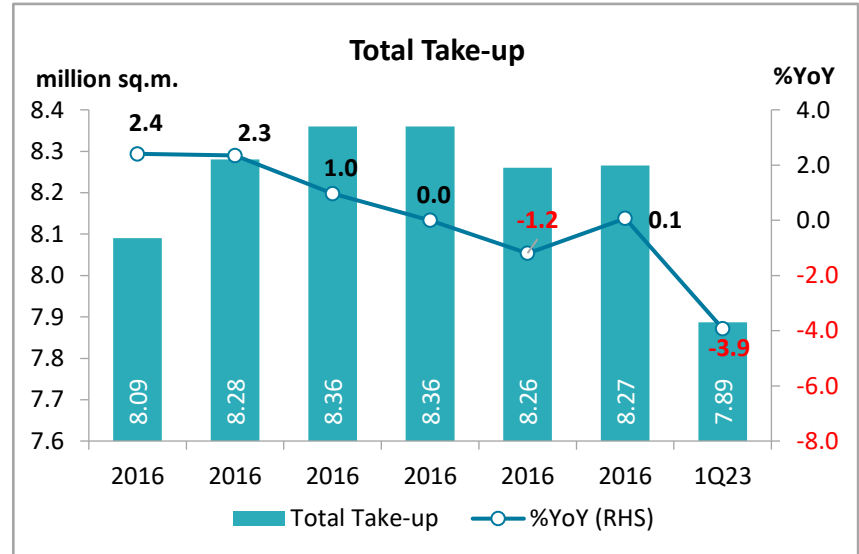
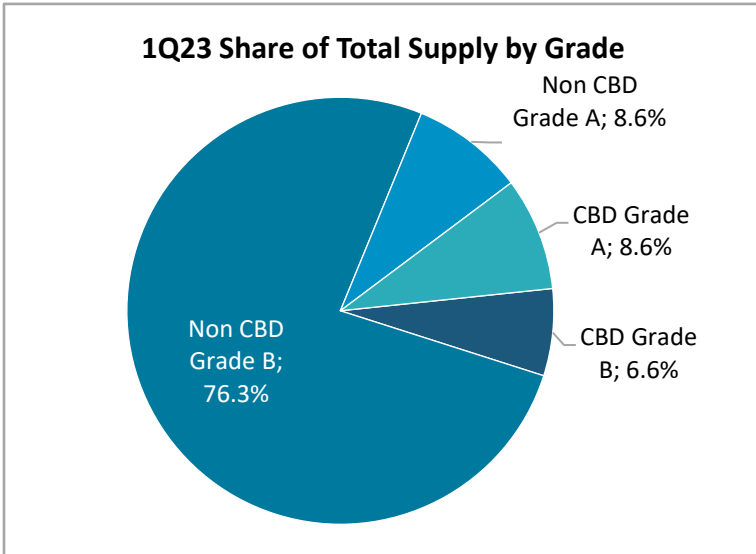
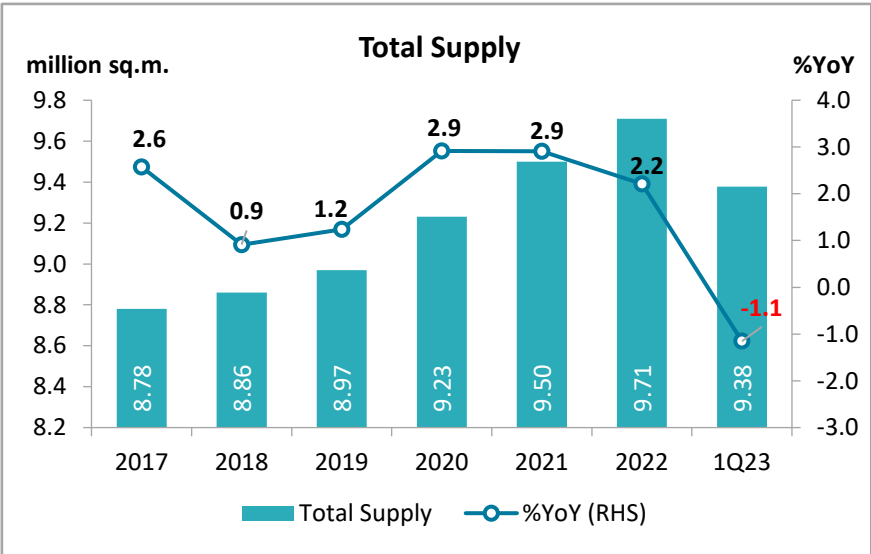
# 15. Condominiums in BRM (คอนโดมิเนียม)



# 16. Low-rise Housing in BRM (บ้านจัดสรร)

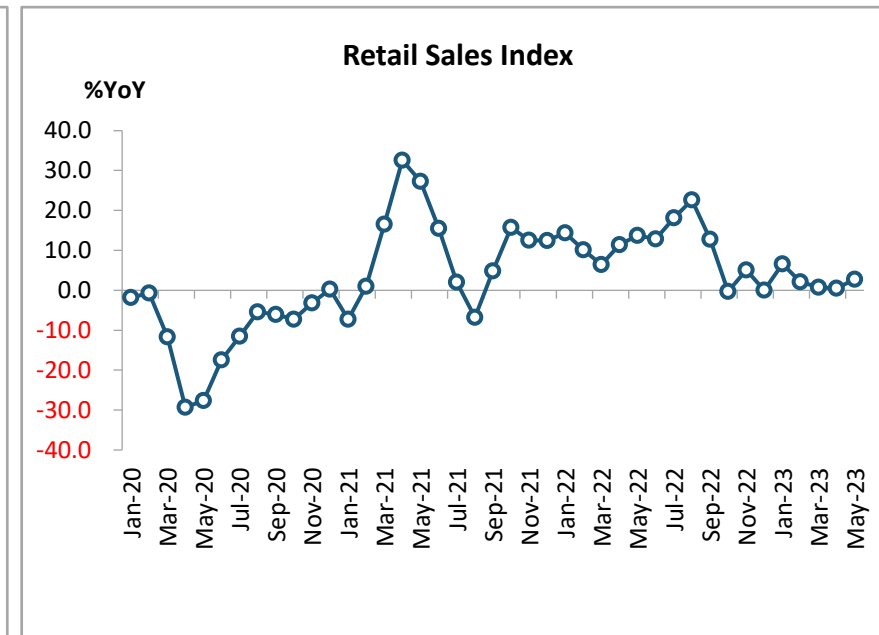
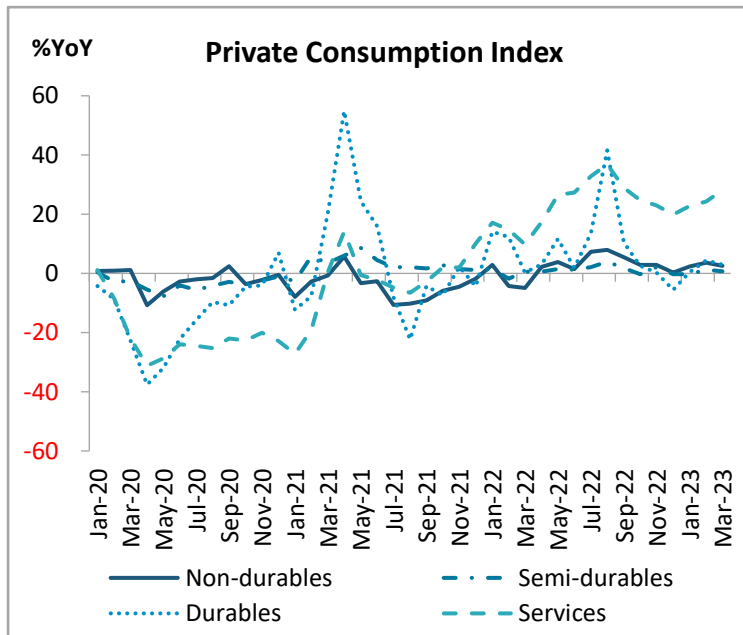
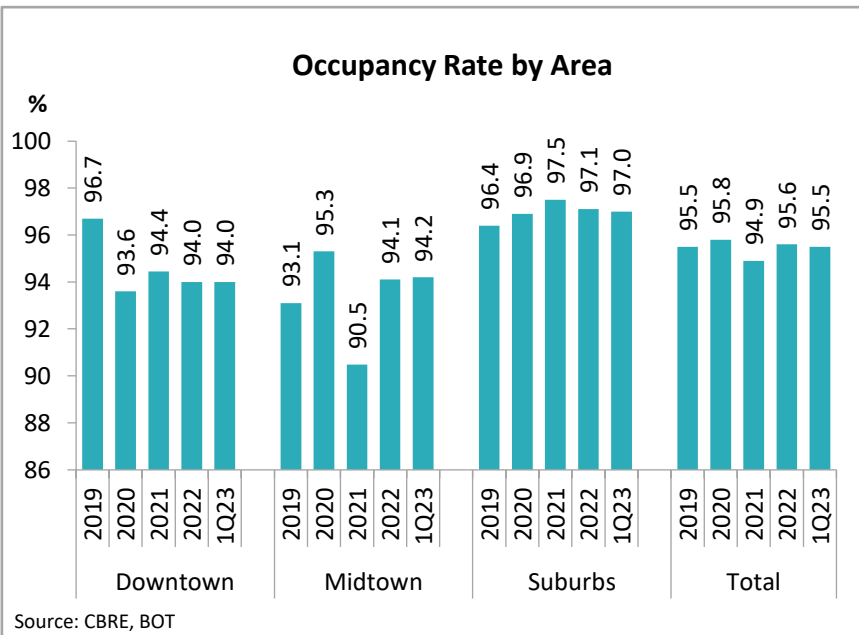
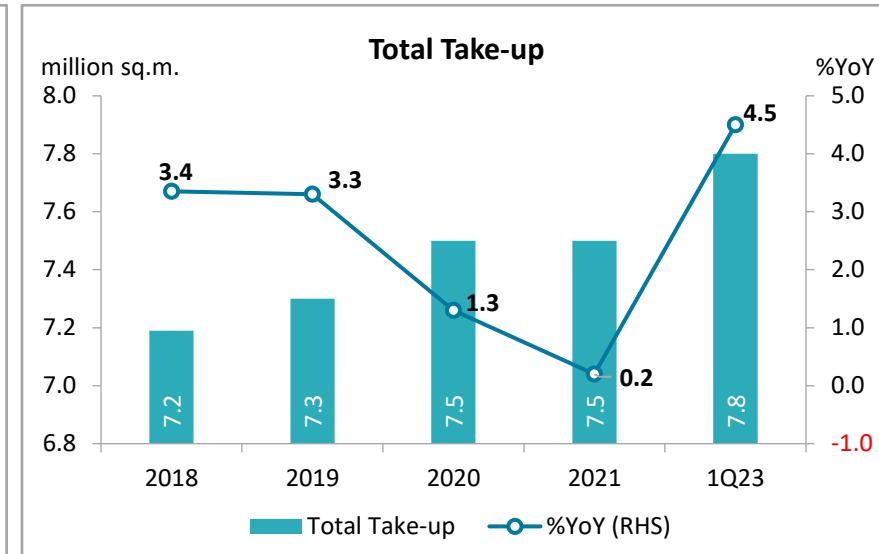
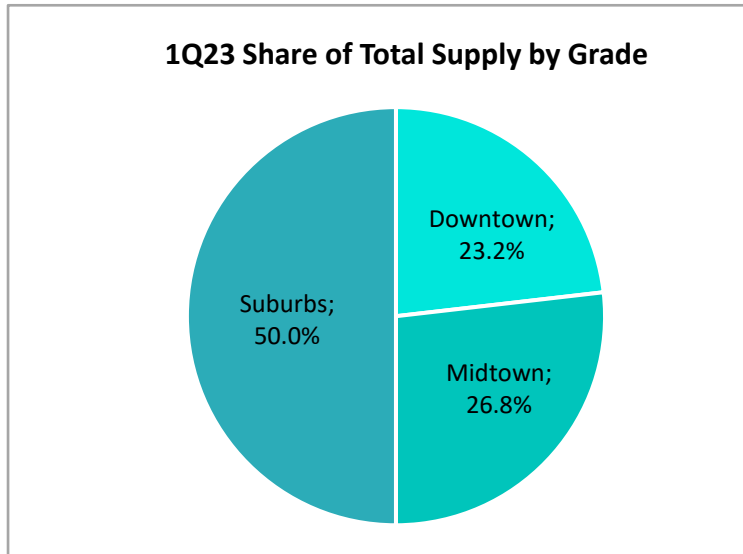
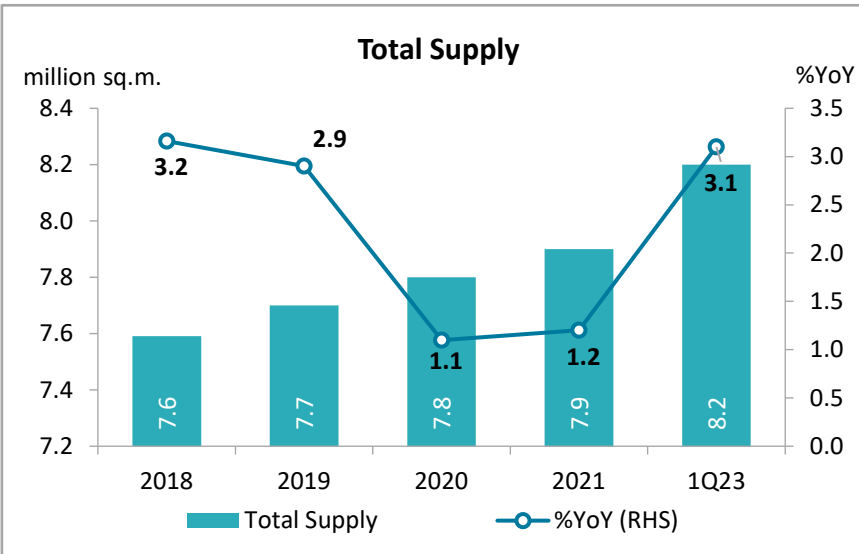


# 17. Office Building in BMR (อาคารสำนักงานให้เช่า)



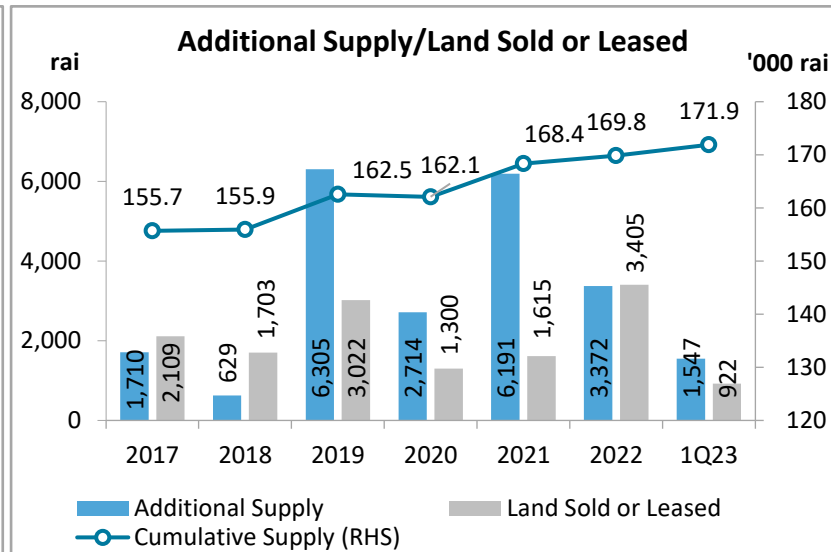
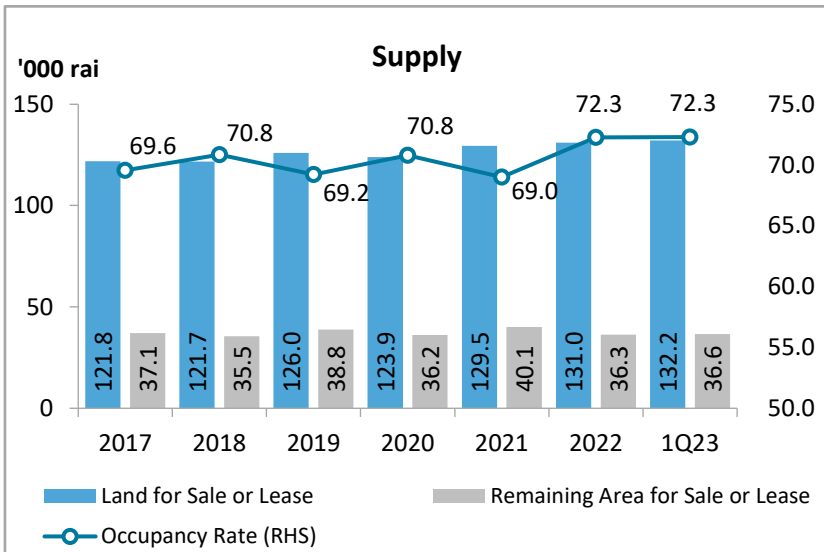
Source: CBRE Note: E=Estimate, F=Forecast

# 18. Retail Space in BMR (พื้นที่ค้าปลีก)



Source: CBRE, BOT

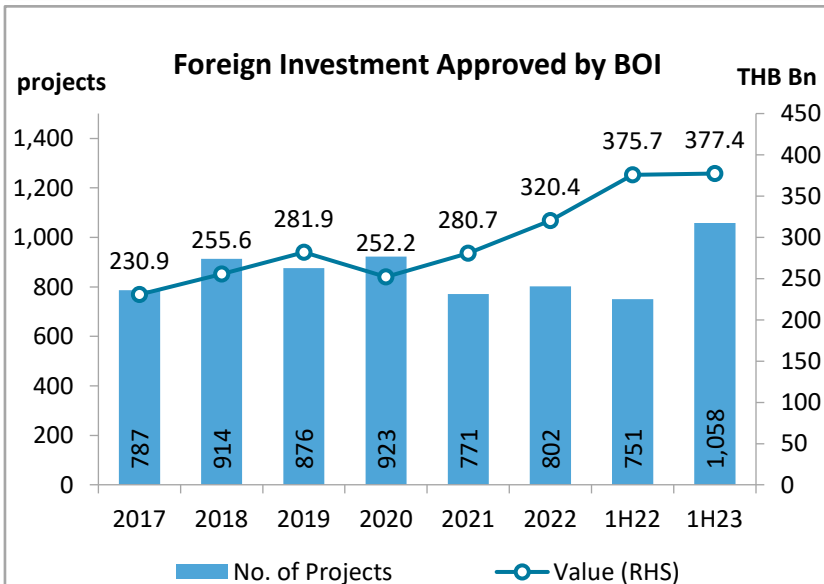
# 19. Industrial Estate (นิคมอุตสาหกรรม)



Additional Supply (rai)								
Year	BKK& Vicinity	North	Central	East	NE	West	South	Total
2021	-	-	-	6,191	-	-	-	6,191
2022	-	-	-	3,372	-	-	-	3,372
1Q23	-	-	-	1,547	-	-	-	1,547

Land Sold or Leased (rai)								
Year	BKK& Vicinity	North	Central	East	NE	West	South	Total
2021	117	-	113	1,325	60	-	-	1,615
2022	258	17	-	2,935	16	20	159	3,405
1Q23	41	-	16	799	60	6	-	922

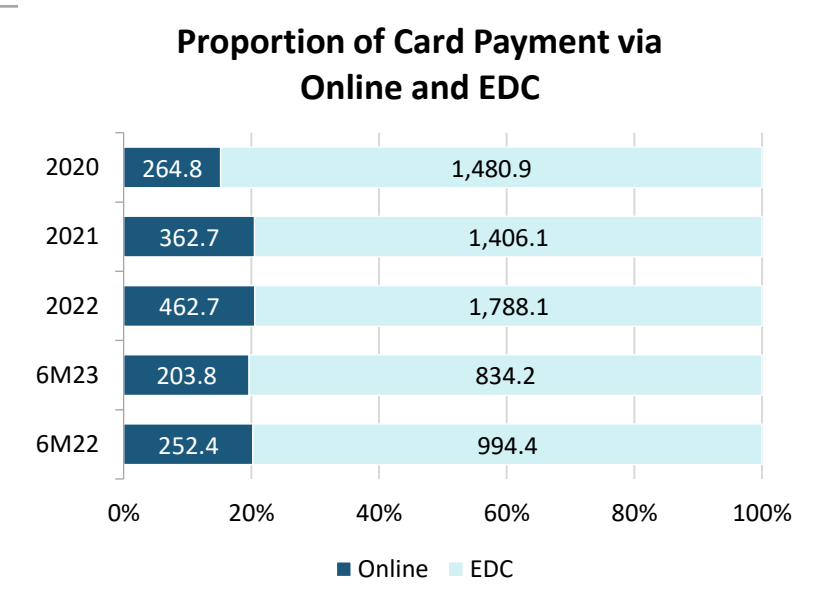
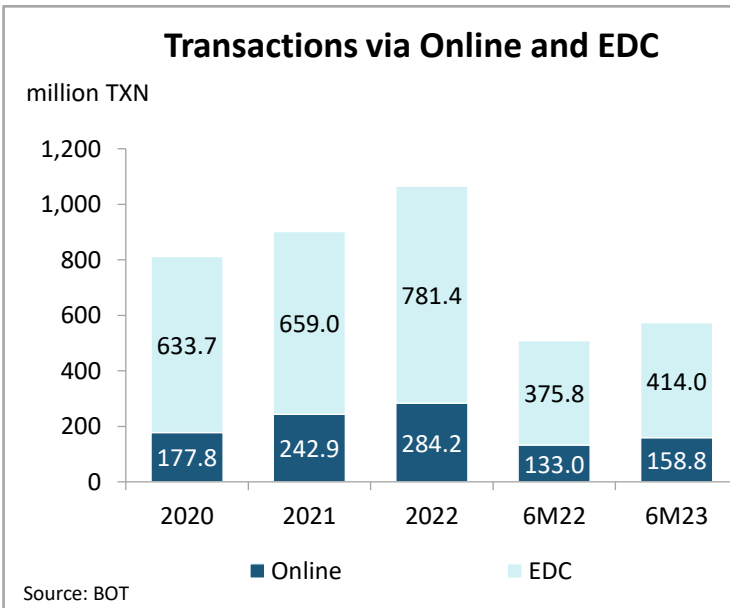
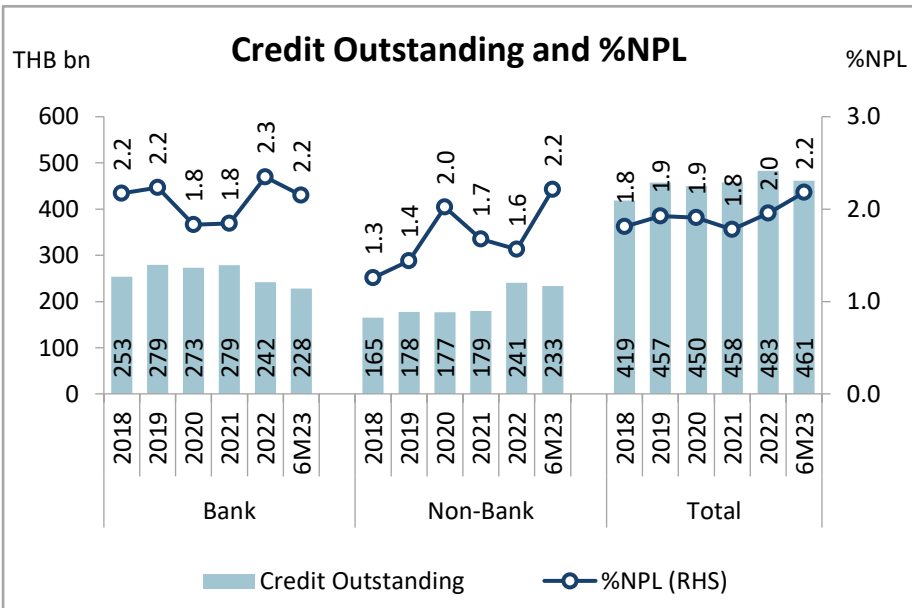
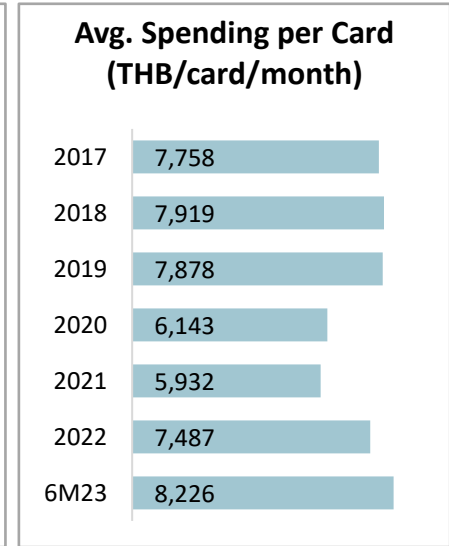
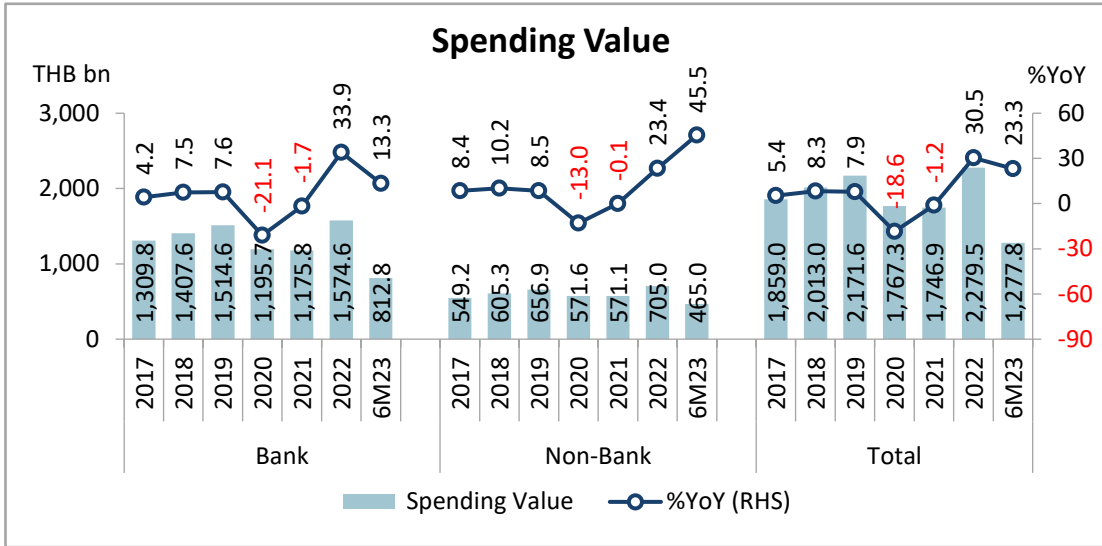
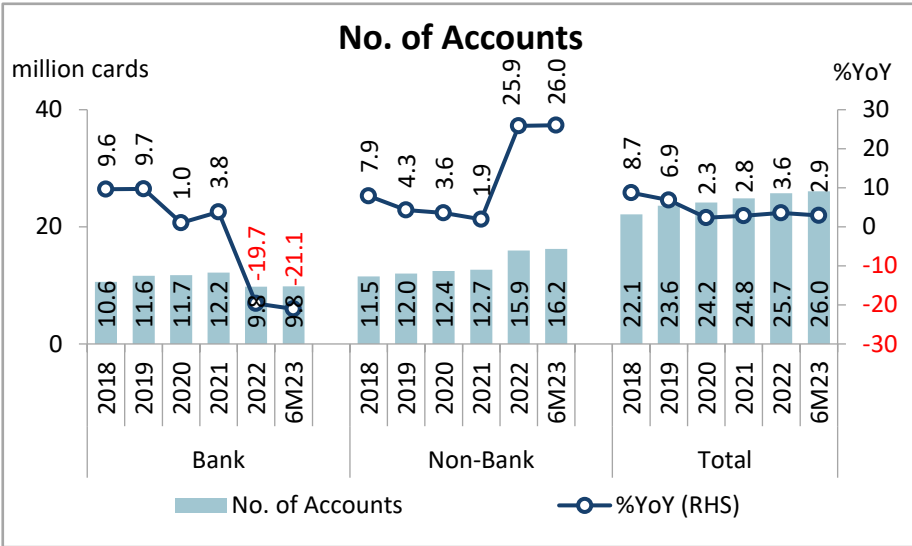


Unit: THB Bn	Foreign Investment Projects Classified by Sector					
	2020		2021		2022	
	No. of Projects	Value	No. of Projects	Value	No. of Projects	Value
Agricultural Products	57	8.2	72	24.9	66	25.0
Minerals and Ceramics	32	21.9	14	5.7	22	23.2
Light Industry/Textiles	64	8.1	57	43.1	43	30.5
Metal Products and Machinery	234	77.9	179	45.1	183	83.1
Electrical and Electronic Products	233	55.2	186	67.8	175	79.0
Chemicals and Paper	57	17.1	64	59.4	58	21.2
Services	245	63.5	199	34.7	255	58.5
Technology and Innovation Development	1	0.4	0	0	0	0
<b>Total</b>	<b>923</b>	<b>252.2</b>	<b>771</b>	<b>280.7</b>	<b>802</b>	<b>320.4</b>

Top 10 Foreign Investment 1H2023 Approved by BOI				
Ranking	Country	No. of Projects	Value (THB Bn)	
1	China	98	56,505	
2	Singapore	81	50,579	
3	Japan	149	50,040	
4	The US	19	20,058	
5	South Korea	12	20,029	
6	Hong Kong	32	13,054	
7	เนเธอร์แลนด์	31	9,123	
8	Taiwan	45	8,861	
9	France	14	7,075	
10	Switzerland	9	4,547	

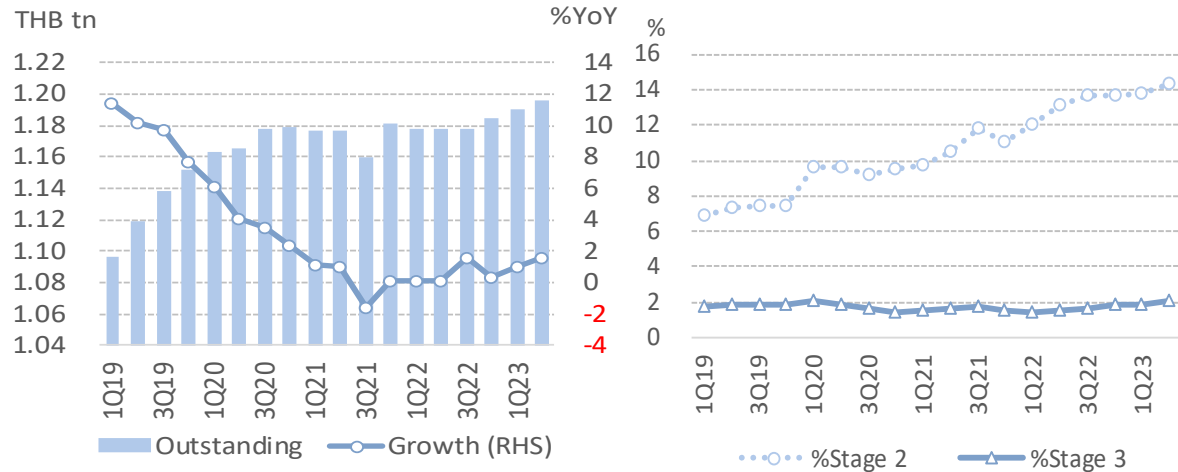
Source: Real Estate Information Center, The Board of Investment of Thailand

# 20. Credit Card (บัตรเครดิต)



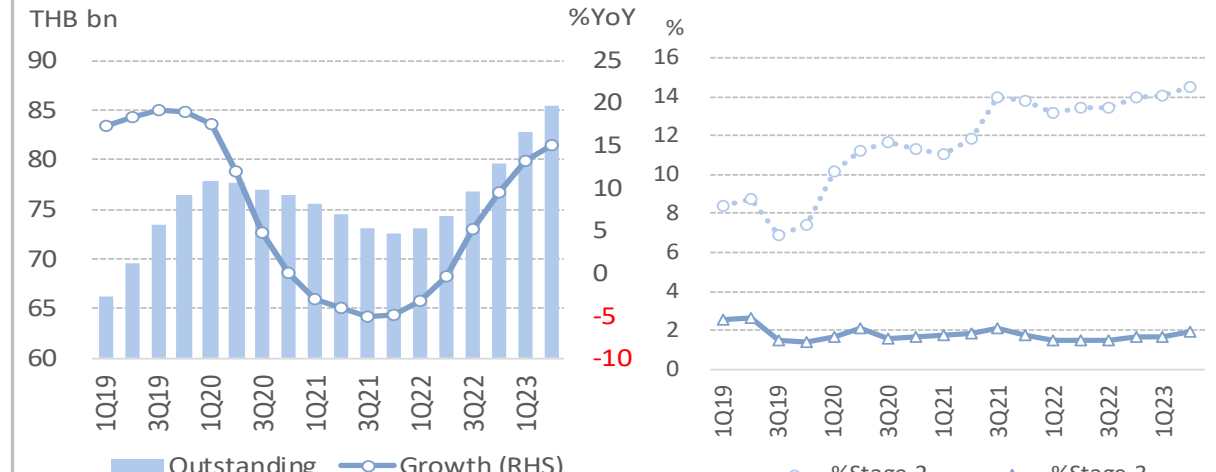
# 21. Auto Hire-Purchase (เช่าซื้อรถยนต์)

### Hire-Purchase Loan Outstanding & Quality



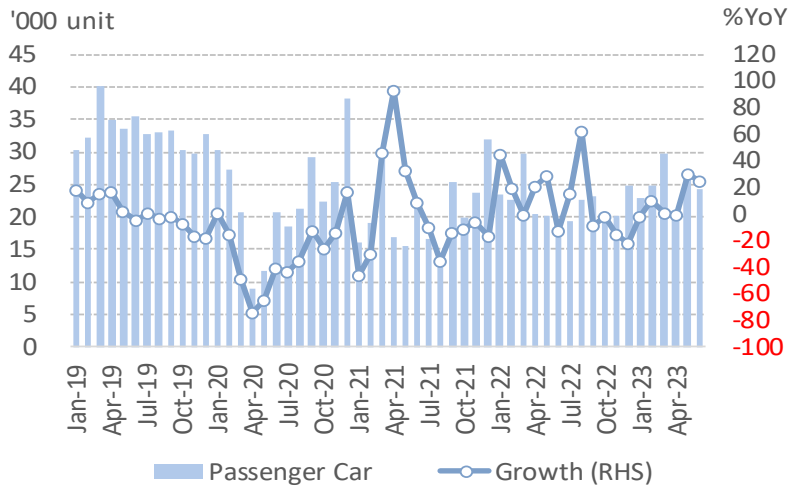
Source: BOT

### Title Loan Outstanding & Quality



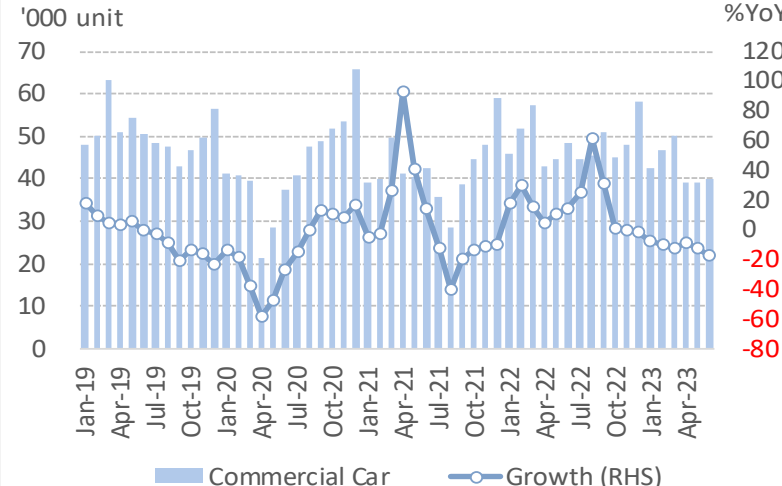
Source: BOT

### Passenger Car sales



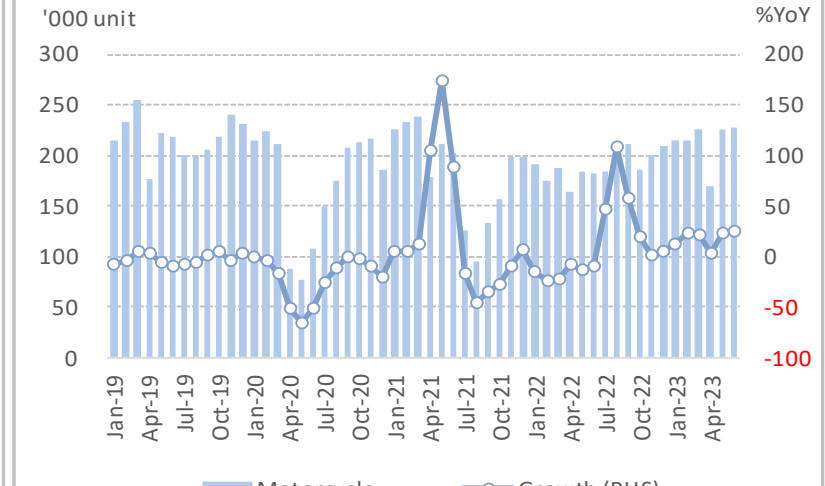
Source: TOYOTA

### Commercial Car sales



Source: TOYOTA

### Motorcycle sales

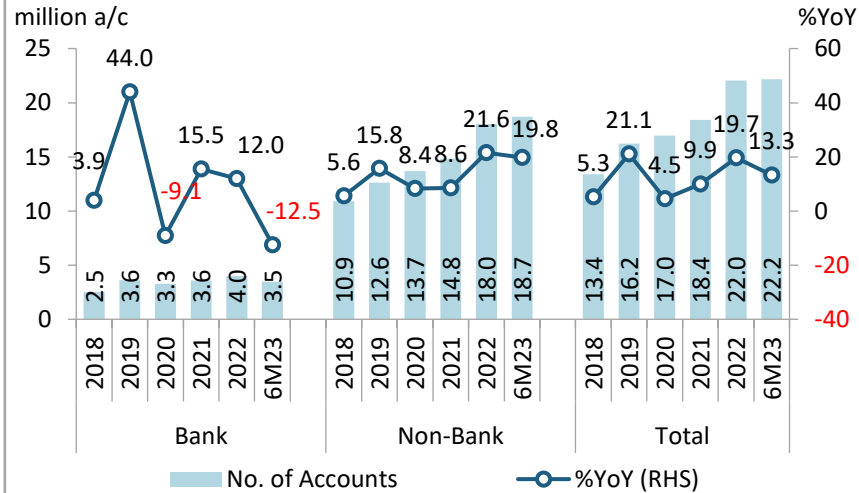


Source: OIE

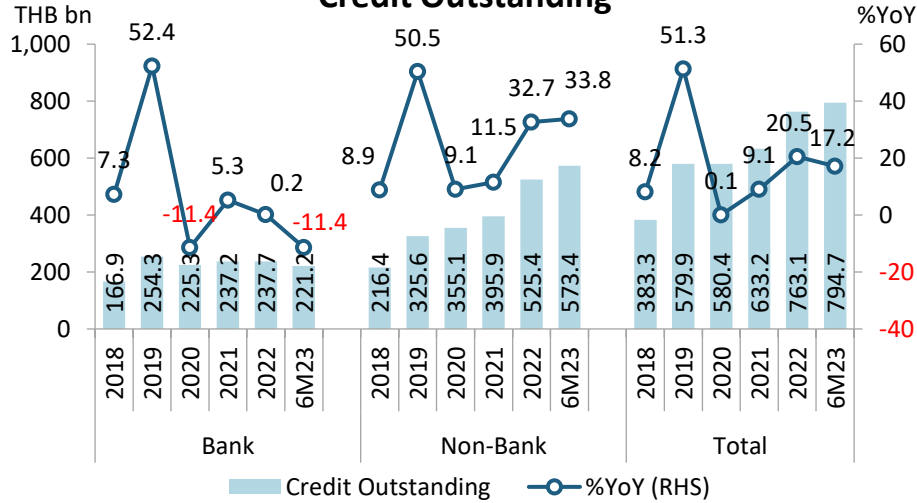


# 22. Personal Loan (สินเชื่อส่วนบุคคล)

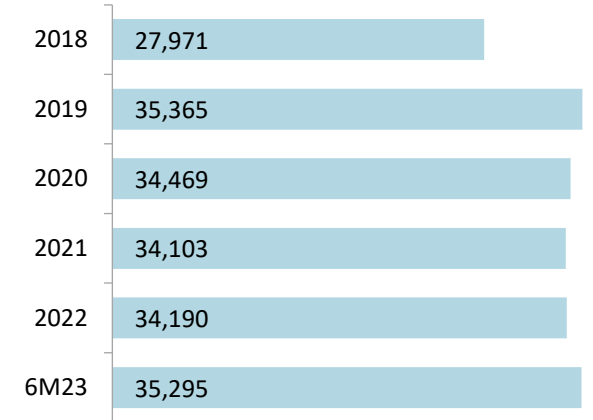
### No. of Accounts



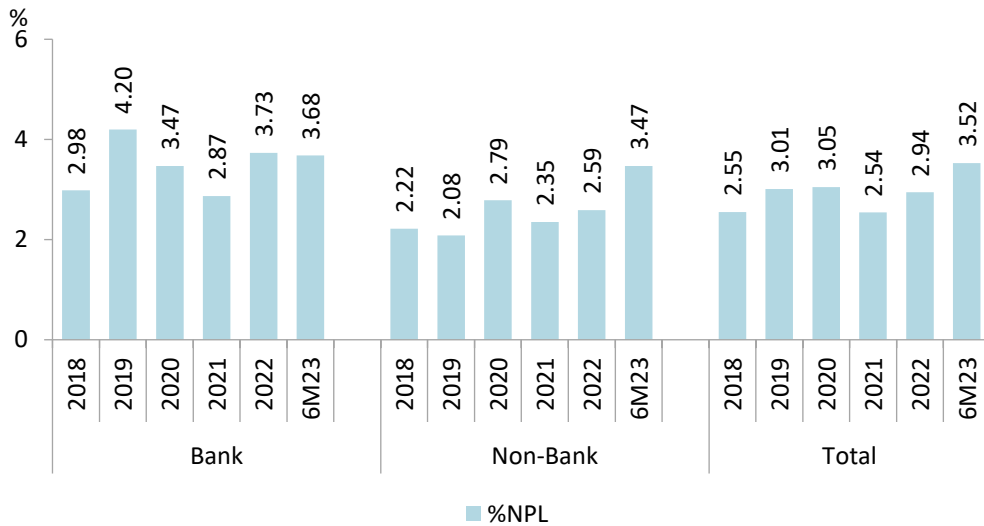
### Credit Outstanding



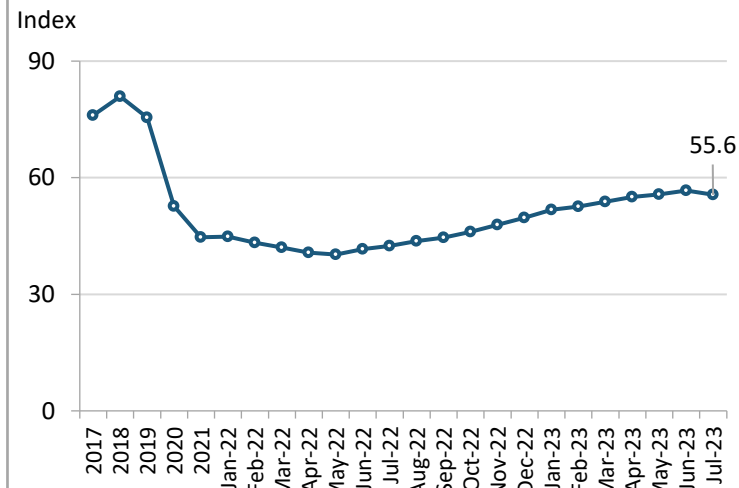
### Outstanding per Account (THB/account/month)



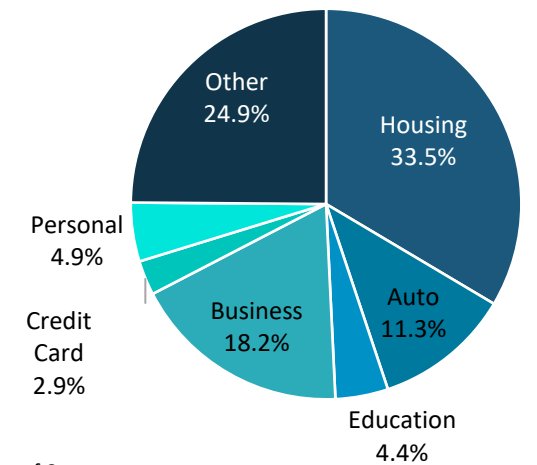
### %NPL



### Consumer Confidence Index



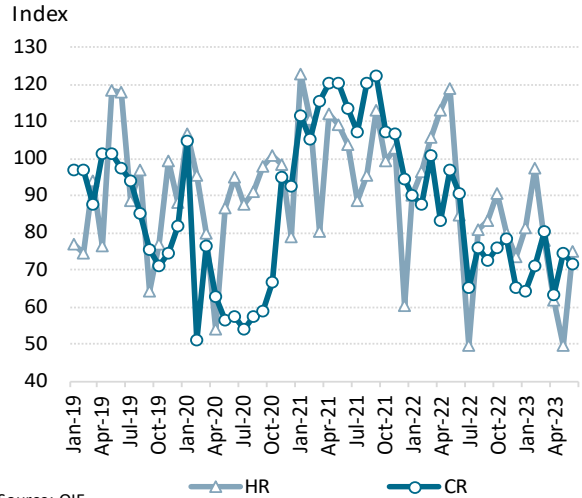
### 1Q23 Household Debt Total = 15.96 THB tn



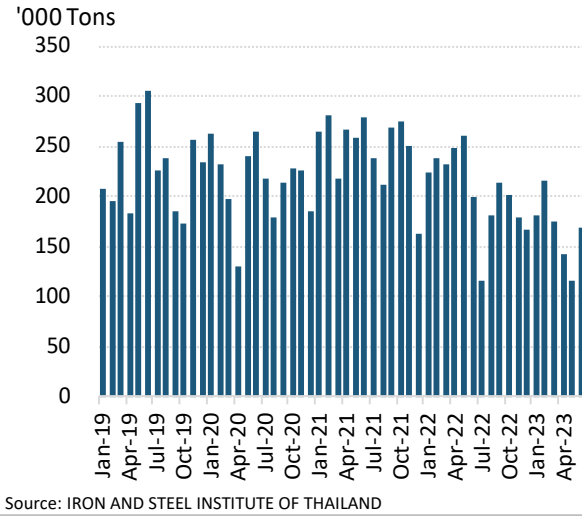
Source: BOT, Center for Economics and Business Forecasting; University of the Thai Chamber of Commerce

# 23. Hot & Cold Rolled Steel Sheet (เหล็กแผ่นรีดร้อนรีดเย็น)

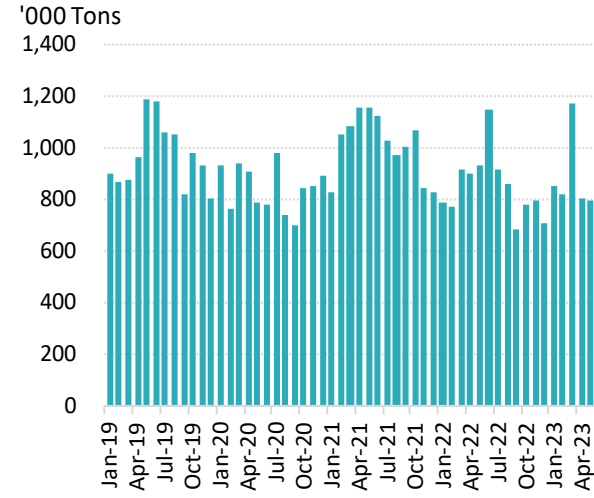
### HR & CR Steel MPI



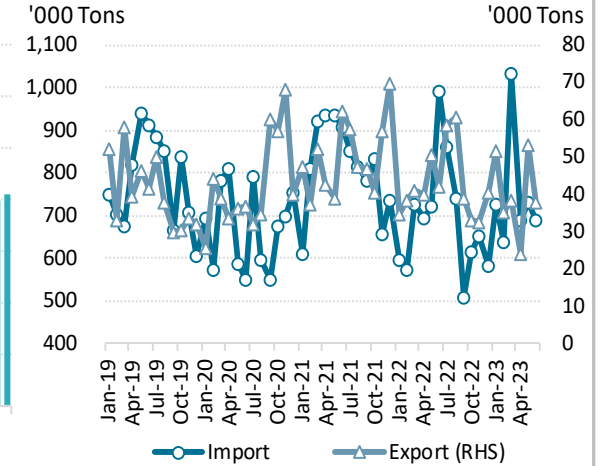
### HR & CR Production



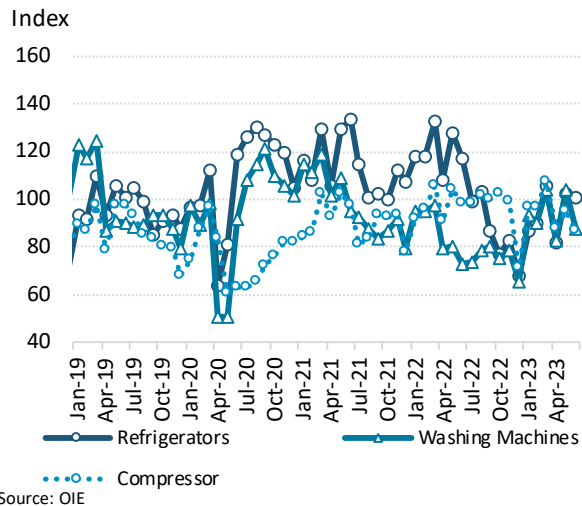
### HR & CR Domestic Demand



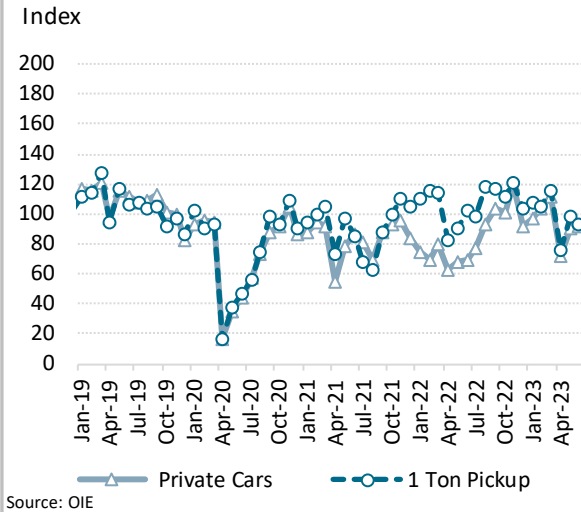
### HR & CR Import and Export



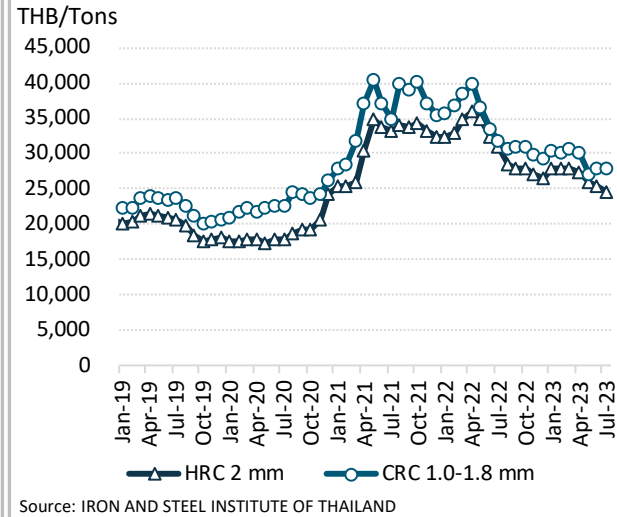
### Electrical Appliance MPI



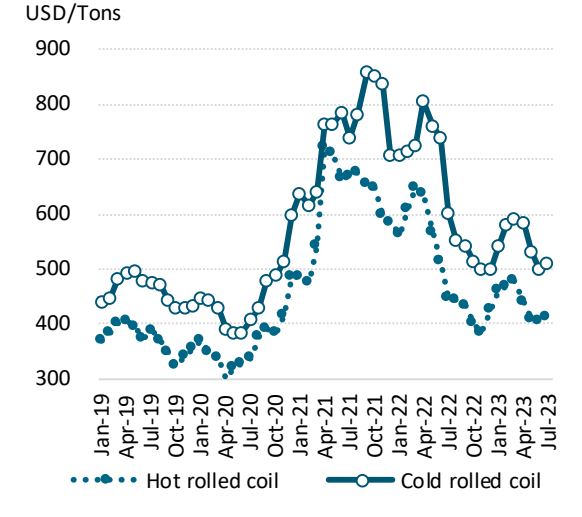
### Automobile MPI



### Domestic Steel Price

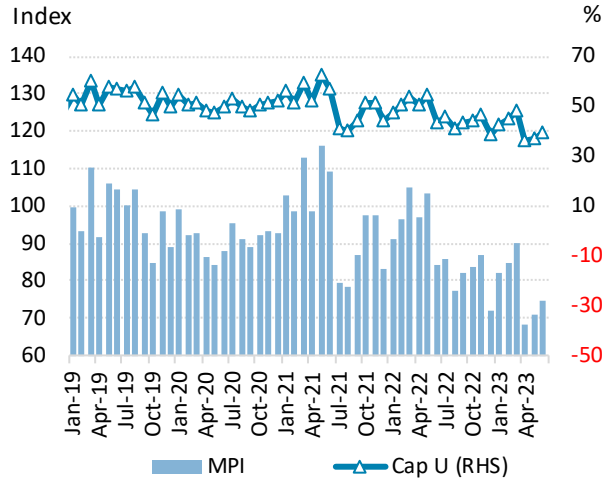


### Global Steel Price



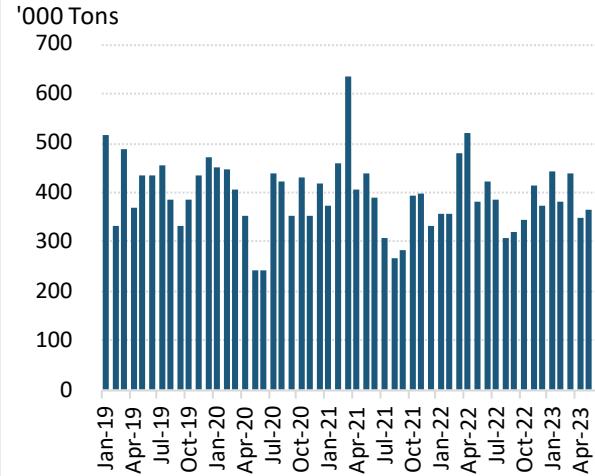
# 24. Long Product Steel (เหล็กทรงยาว)

### MPI & Capacity Utilization



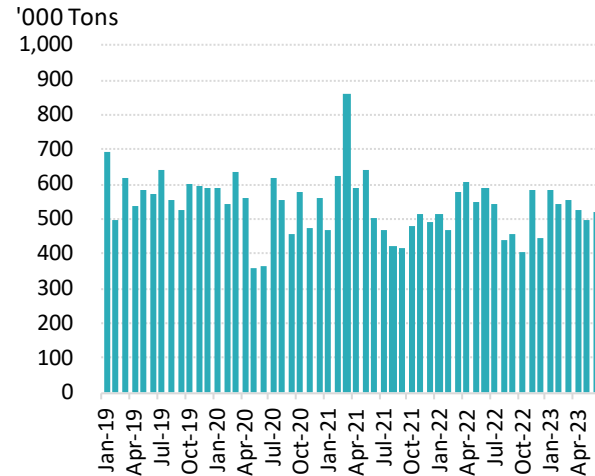
Source: OIE

### Production

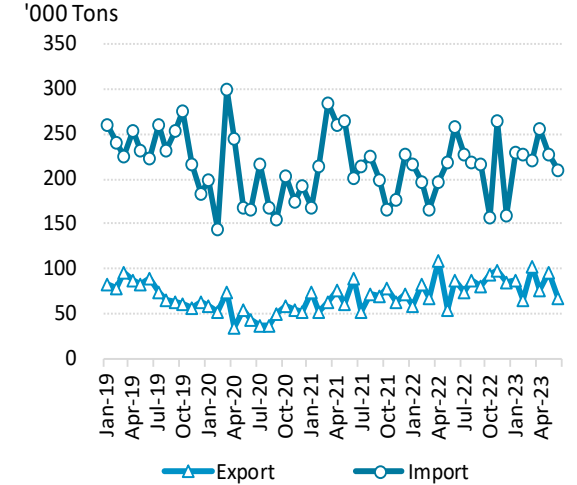


Source: IRON AND STEEL INSTITUTE OF THAILAND

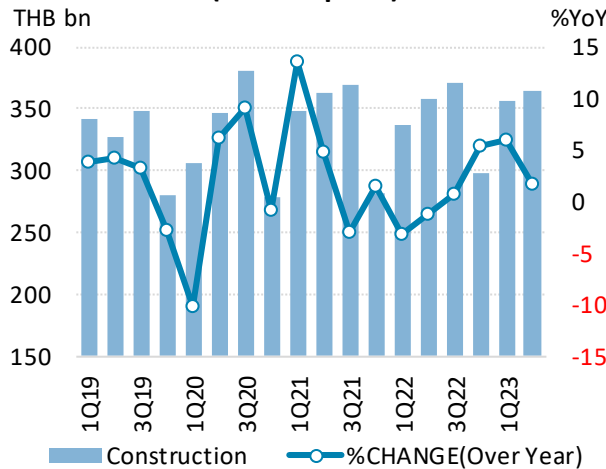
### Domestic Demand



### Import and Export

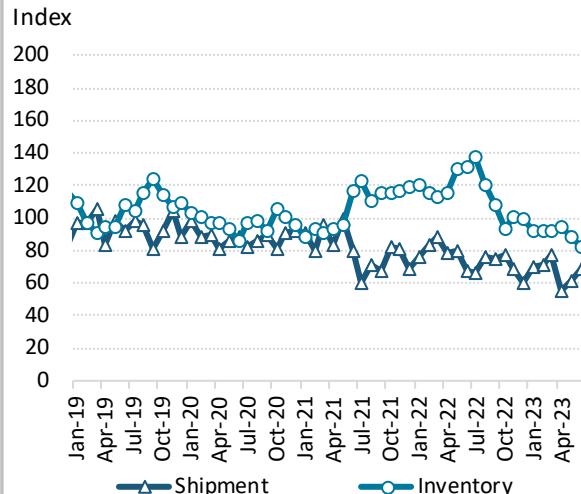


### Construction Gross Fixed Capital (current price)



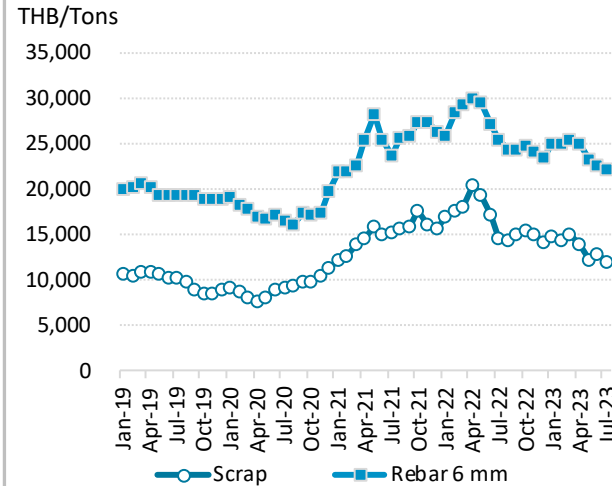
Source: NESDC

### Shipment & Inventory index



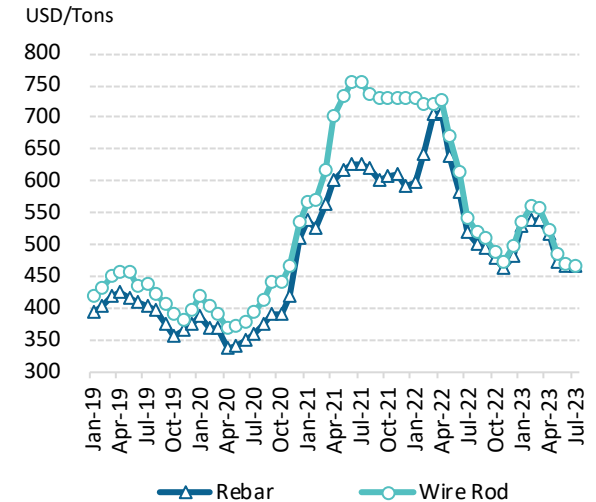
Source: OIE

### Domestic Price

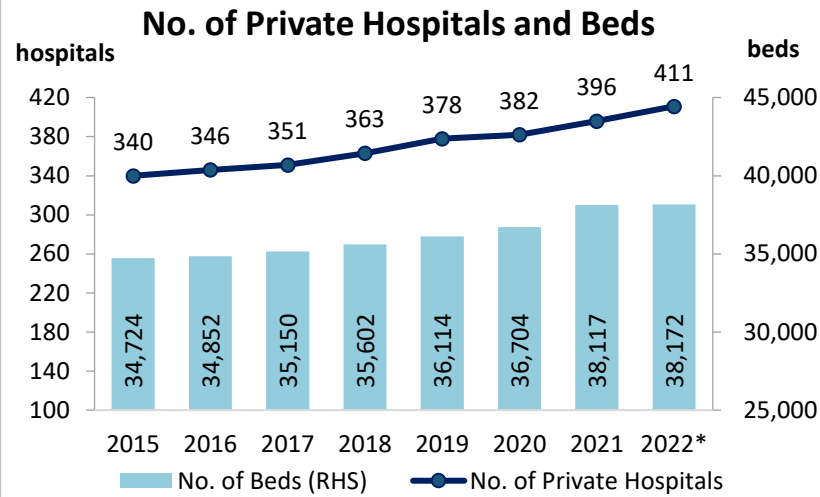


Source: IRON AND STEEL INSTITUTE OF THAILAND

### Global Steel Price

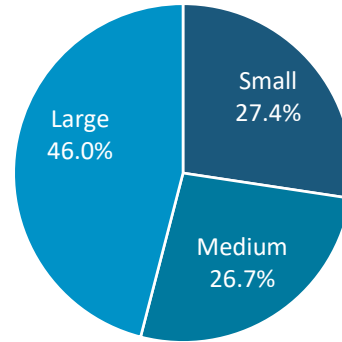


# 25. Private Hospitals (โรงพยาบาลเอกชน)



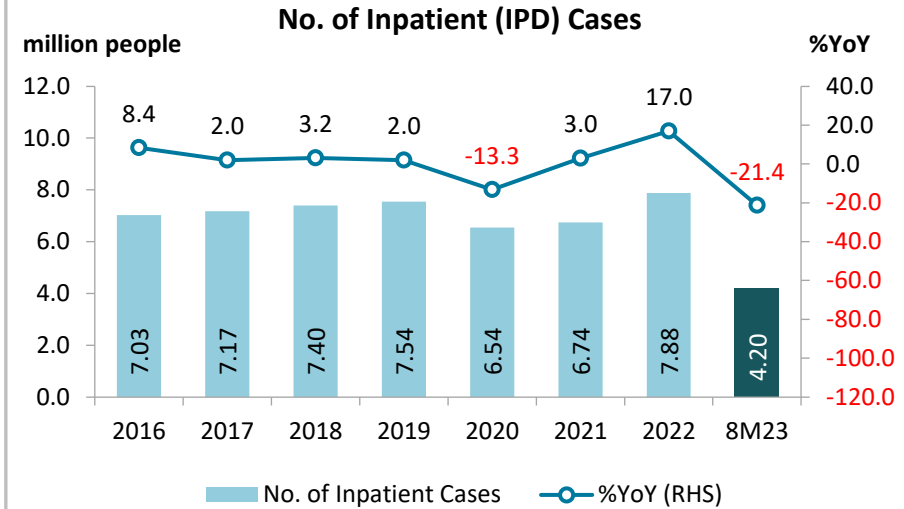
Source: MOPH, Note: \*updated as of 6 Oct 2022

### Share of Private Hospitals by Size (2022)\*\*

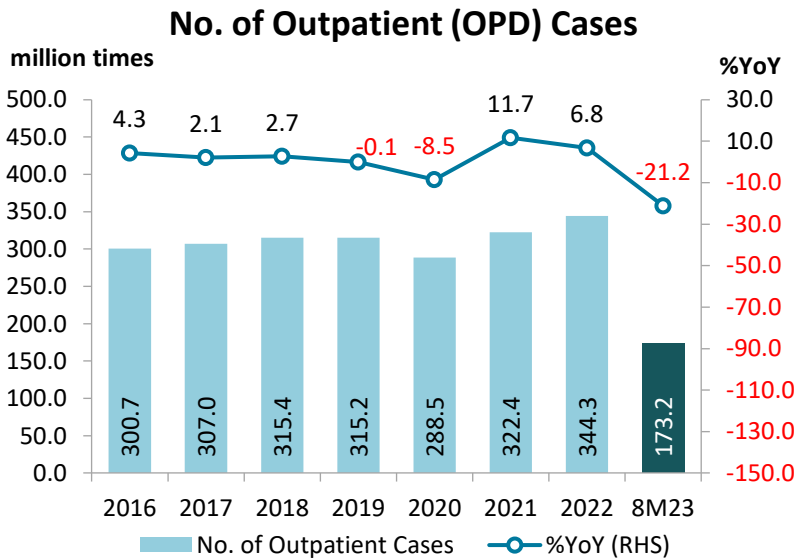


\*\*As of 24 Aug 2022

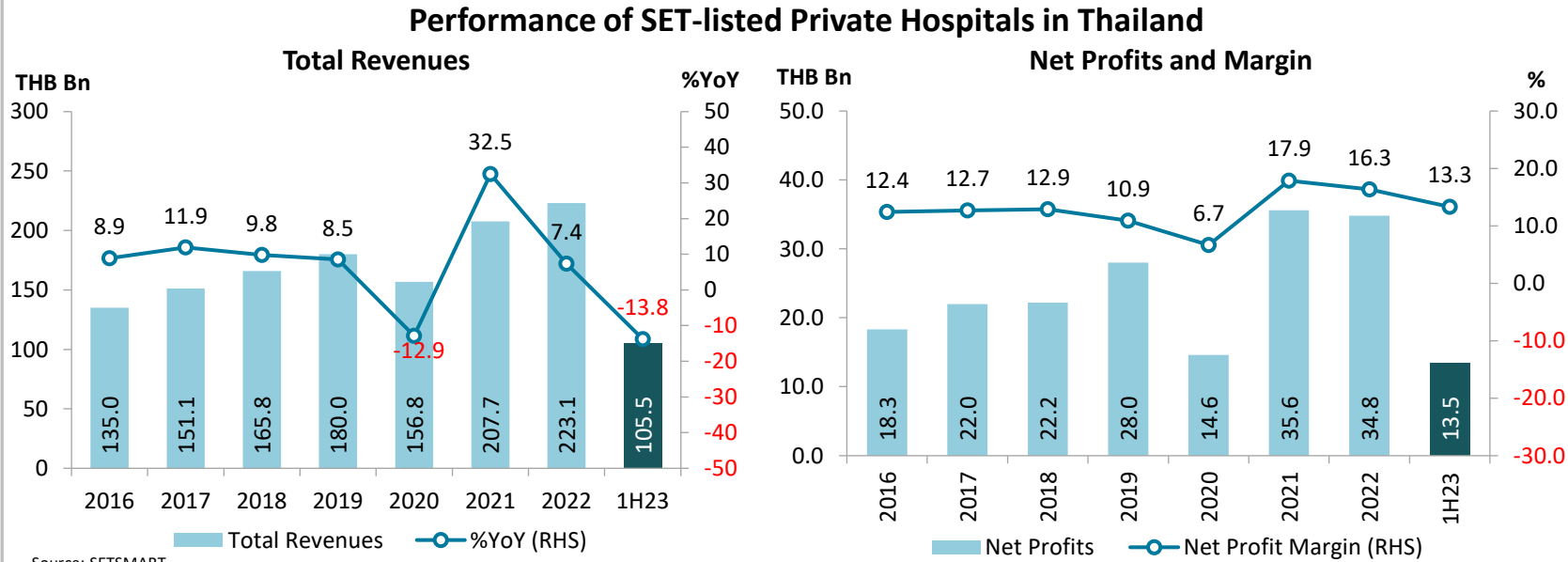
Remark: small size (1-30 beds), medium size (31-200 beds), large size (more than 200 beds)



Source: Health Data Center, MOPH

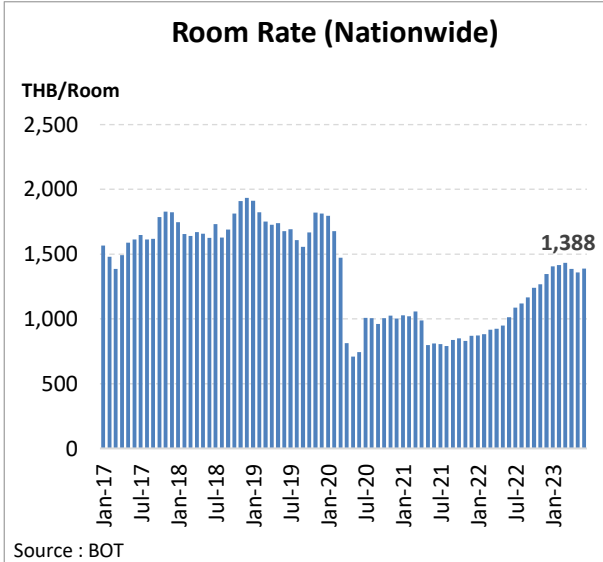
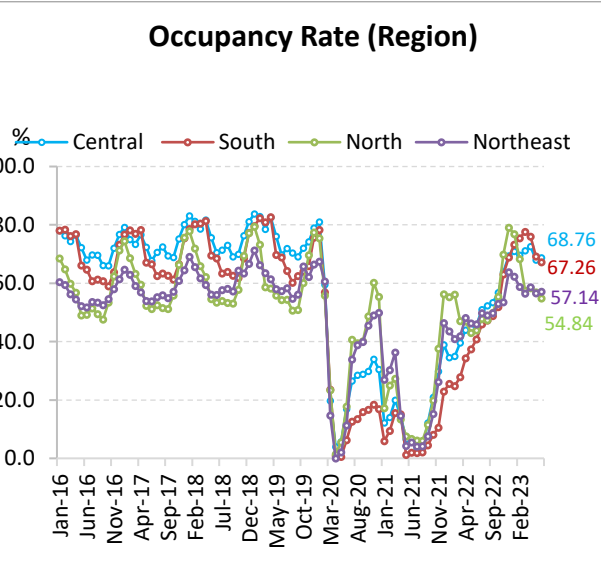
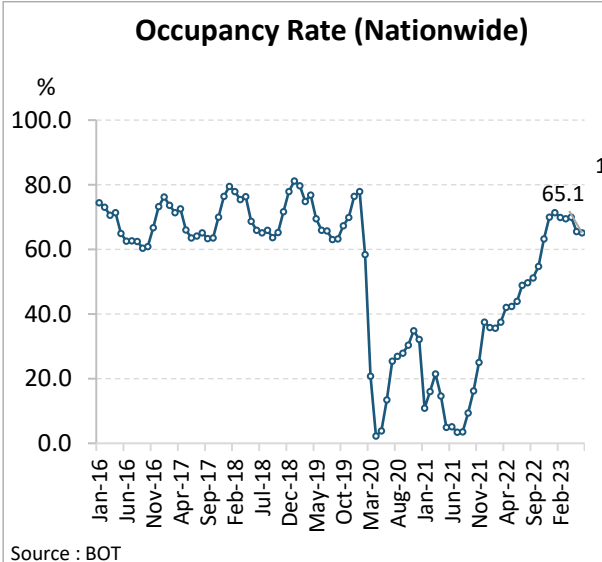
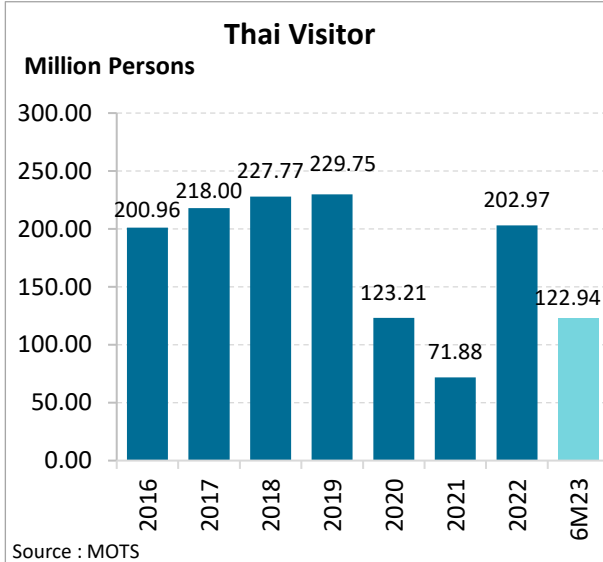
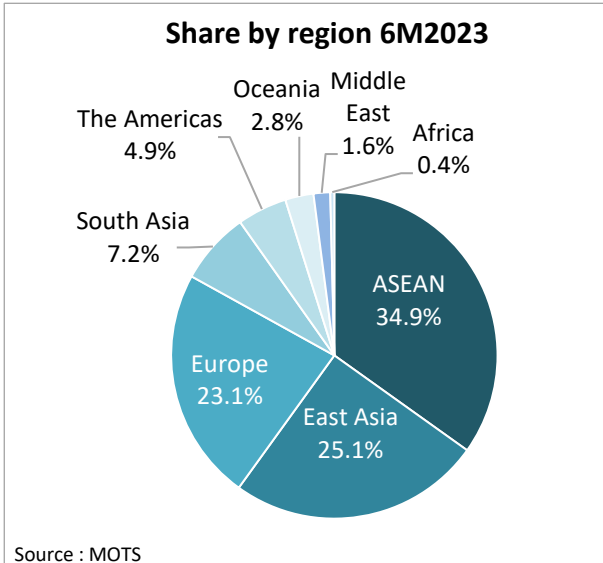
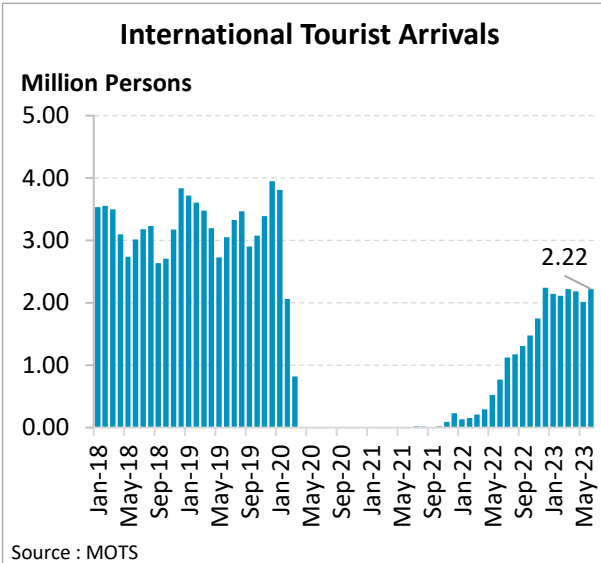
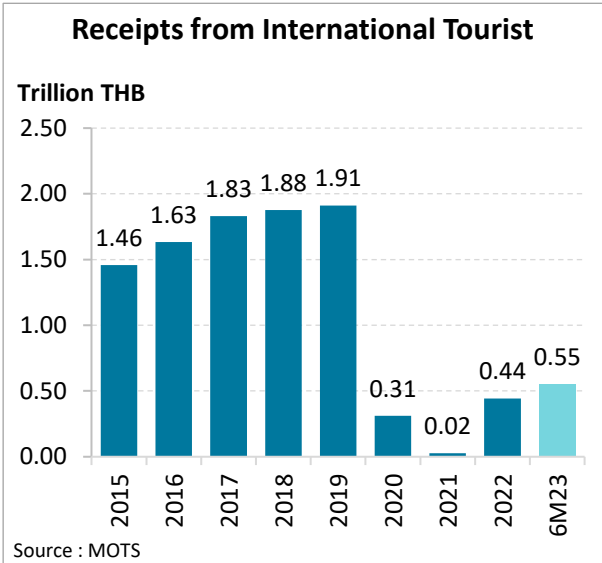


Source: Health Data Center, MOPH



Source: SETSMART

# 26. Tourist Accommodation (โรงแรม) [1/2]



## 26. Tourist Accommodation (โรงแรม) [2/2]

### International Tourist Arrivals by Region

Region	Million Persons					
	2019	2020	2021	2022	6M2023	%YoY
ASEAN	10.69	1.65	0.03	4.53	4.50	619.3
East Asia	16.64	2.09	0.04	5.90	3.24	1,620.4
Europe	6.72	2.08	0.25	2.55	2.98	354.3
South Asia	2.40	0.32	0.01	1.18	0.93	224.7
Middle East	0.70	0.08	0.03	0.47	0.21	145.5
The Americas	1.63	0.32	0.05	0.61	0.64	366.0
Oceania	0.89	0.14	0.01	0.37	0.36	317.9
Africa	0.20	0.02	0.00	0.07	0.05	244.6
<b>Total</b>	<b>39.87</b>	<b>6.70</b>	<b>0.43</b>	<b>15.68</b>	<b>12.91</b>	<b>520.6</b>

Source : MOTs

### International Tourist Arrivals (thousand persons)

Month	2019	2020	2021	2022	6M2023
Jan	3,718.5	3,810.2	7.7	133.9	2,144.9
Feb	3,603.7	2,062.0	5.7	153.0	2,113.6
Mar	3,473.1	819.4	6.7	210.8	2,219.0
Apr	3,195.0	0.0	8.5	293.4	2,182.1
May	2,726.8	0.0	6.1	521.4	2,013.9
Jun	3,052.3	0.0	5.7	767.5	2,219.0
July	3,327.2	0.0	18.1	1,124.2	-
Aug	3,466.5	0.0	15.1	1,174.7	-
Sep	2,902.7	0.0	12.2	1,309.1	-
Oct	3,074.1	1.2	20.3	1,475.4	-
Nov	3,386.4	3.1	91.3	1,748.4	-
Dec	3,947.3	6.6	230.5	2,241.2	-
<b>Total</b>	<b>39,873.53</b>	<b>6,702.40</b>	<b>427.87</b>	<b>11,153.03</b>	<b>12,914.69</b>

### International Tourist Arrivals (%YoY)

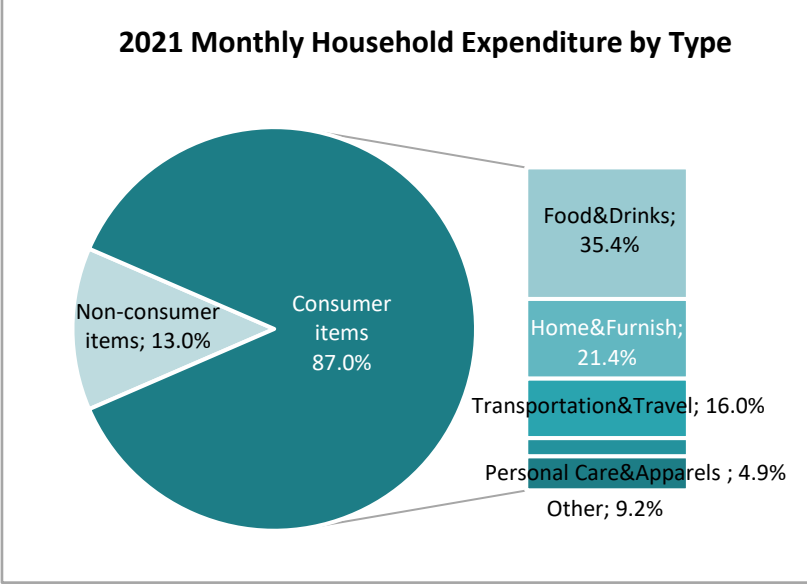
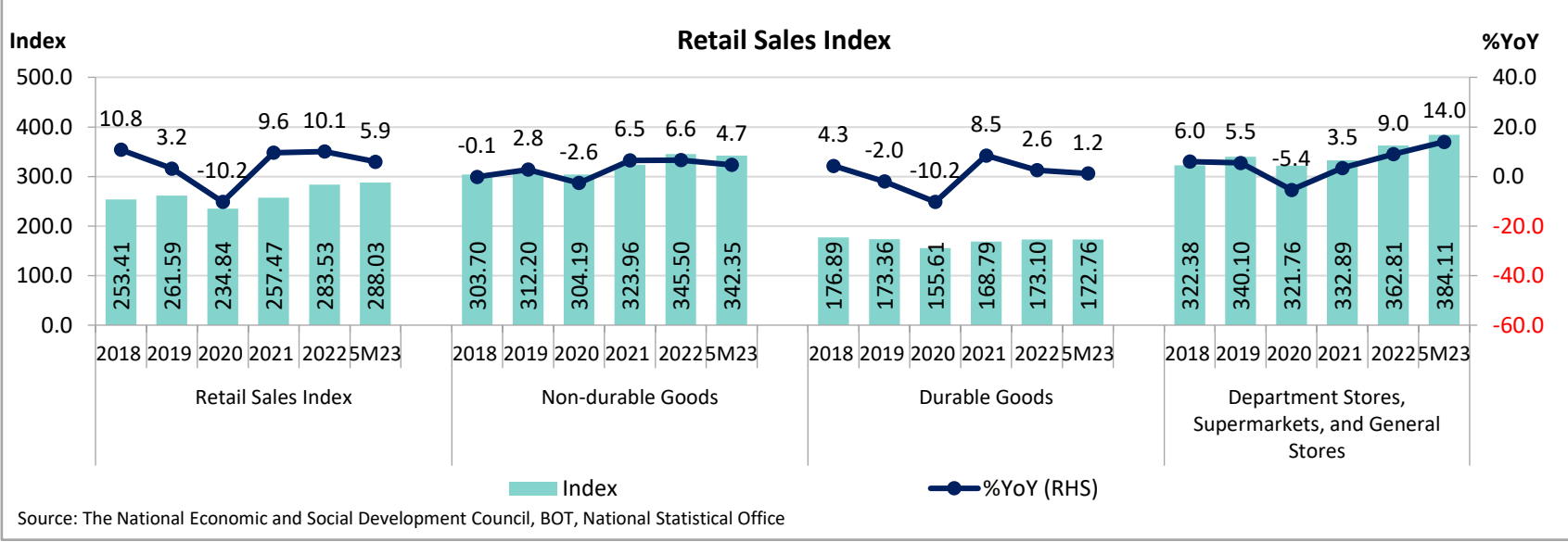
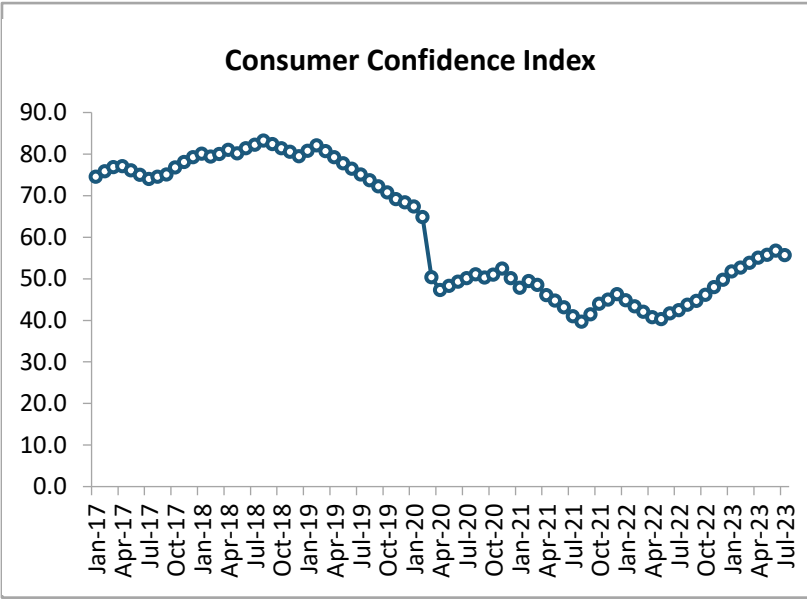
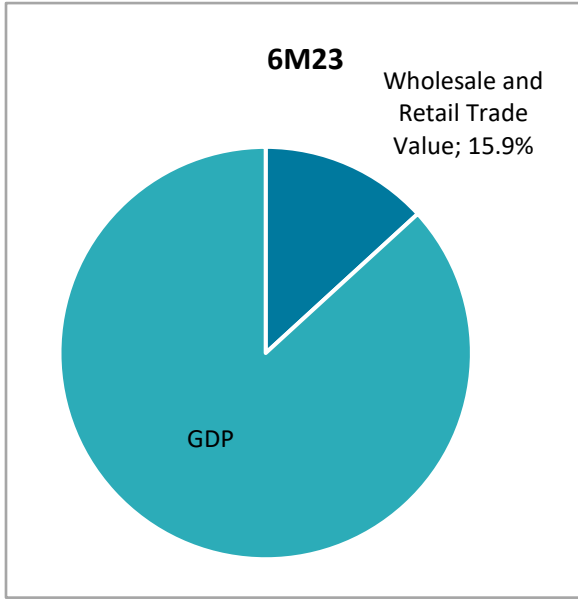
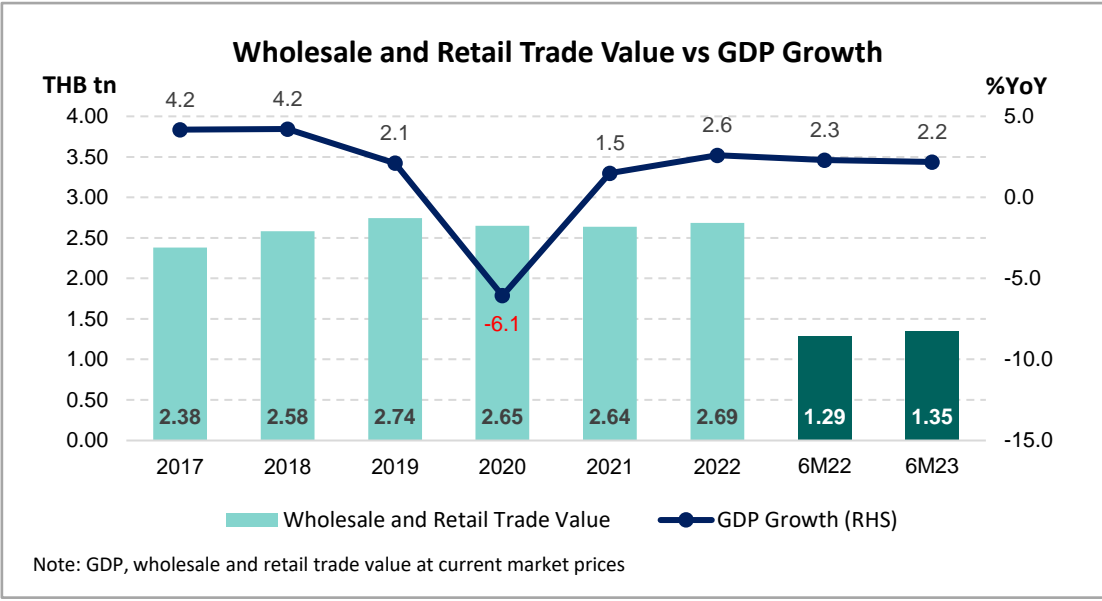
Month	2019	2020	2021	2022	6M2023
Jan	5.3	2.5	-99.8	1,640.4	1,501.9
Feb	1.5	-42.8	-99.7	2,564.2	1,281.8
Mar	-0.6	-76.4	-99.2	3,029.5	952.5
Apr	3.2	-100.0	n.a.	3,339.4	643.9
May	-0.4	-100.0	n.a.	8,515.5	286.2
Jun	1.3	-100.0	n.a.	13,379.0	189.1
July	4.7	-100.0	n.a.	6,126.3	-
Aug	7.4	-100.0	n.a.	7,677.2	-
Sep	10.1	-100.0	n.a.	10,598.0	-
Oct	13.7	-100.0	1,587.9	7,178.2	-
Nov	6.8	-99.9	2,877.3	1,815.9	-
Dec	2.9	-99.8	3,415.8	872.3	-
<b>Total</b>	<b>4.4</b>	<b>-83.2</b>	<b>-93.6</b>	<b>2,506.6</b>	<b>520.9</b>

### Occupancy Rate (%)

	Central (Inc.BKK)					Southern					Northern					Northeastern									
	2019	2020	2021	2022	6M23	2019	2020	2021	2022	6M23	2019	2020	2021	2022	6M23	2019	2020	2021	2022	6M23					
Jan	81.26	77.97	10.85	35.83	71.44	83.77	80.97	12.24	34.58	70.90	79.59	78.24	5.98	25.55	73.26	79.40	75.47	17.27	55.29	76.82	71.28	67.38	26.97	43.49	62.24
Feb	79.76	58.39	16.04	35.64	69.89	82.84	59.55	14.08	35.01	69.57	82.31	56.91	9.48	24.78	75.47	73.26	55.84	24.99	56.15	68.33	66.23	60.60	30.31	40.88	58.72
Mar	74.83	20.82	21.51	37.50	69.51	78.53	19.73	19.94	39.64	71.20	80.96	23.57	15.63	27.82	77.57	58.71	23.40	27.35	47.08	57.45	63.48	14.74	36.30	41.88	56.52
Apr	76.89	2.26	14.63	42.05	70.06	82.54	4.01	14.63	44.01	72.57	82.63	0.86	15.19	34.28	76.01	58.18	1.45	13.45	46.89	58.36	61.39	0.05	14.65	48.09	58.63
May	69.51	3.83	4.95	42.38	65.53	76.10	5.68	6.61	44.47	67.98	69.76	0.54	1.25	37.38	69.14	55.78	5.54	7.56	42.94	56.90	57.98	2.13	4.33	46.25	56.60
Jun	65.98	13.43	5.15	43.97	65.12	69.73	16.93	6.58	45.61	68.76	68.82	6.26	1.95	40.76	67.26	54.28	17.78	6.75	43.85	54.84	57.33	11.33	5.54	46.00	57.14
July	65.80	25.41	3.45	48.91	-	71.89	26.58	3.47	51.02	-	64.24	12.64	1.90	45.98	-	54.39	40.72	6.12	47.80	-	58.32	33.84	4.03	49.81	-
Aug	63.04	26.93	3.51	49.76	-	70.38	28.55	3.57	52.30	-	60.22	13.55	2.07	47.28	-	50.69	39.45	6.09	47.42	-	54.67	38.80	4.14	49.04	-
Sep	63.25	27.93	9.42	51.22	-	69.09	28.82	12.23	53.42	-	62.47	15.88	4.48	48.76	-	50.84	40.14	11.56	49.84	-	56.13	39.89	7.58	49.74	-
Oct	67.37	30.40	16.19	54.73	-	72.01	29.83	21.01	56.78	-	64.01	16.71	8.13	51.87	-	60.10	48.72	19.90	55.39	-	65.78	45.51	15.30	52.92	-
Nov	69.93	34.82	25.03	63.32	-	74.18	34.03	29.89	63.80	-	65.94	18.40	10.53	63.05	-	69.65	60.18	37.60	69.86	-	62.20	49.05	26.19	53.50	-
Dec	76.47	32.16	37.52	69.99	-	78.96	30.48	38.92	69.44	-	75.62	16.95	22.90	68.82	-	77.44	55.32	56.25	79.06	-	66.48	49.85	46.39	63.85	-
<b>Avg.</b>	<b>71.17</b>	<b>29.53</b>	<b>14.02</b>	<b>47.94</b>	<b>68.59</b>	<b>75.84</b>	<b>30.43</b>	<b>15.26</b>	<b>49.17</b>	<b>70.16</b>	<b>71.38</b>	<b>21.71</b>	<b>8.29</b>	<b>43.03</b>	<b>73.12</b>	<b>61.89</b>	<b>38.67</b>	<b>19.57</b>	<b>53.46</b>	<b>62.12</b>	<b>61.77</b>	<b>34.43</b>	<b>18.48</b>	<b>48.79</b>	<b>58.31</b>



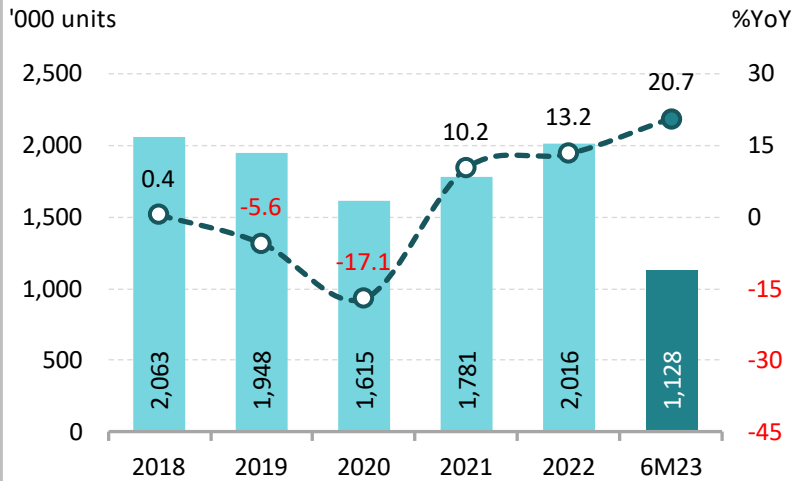
# 27. Modern Trade (ร้านค้าปลีกสมัยใหม่)





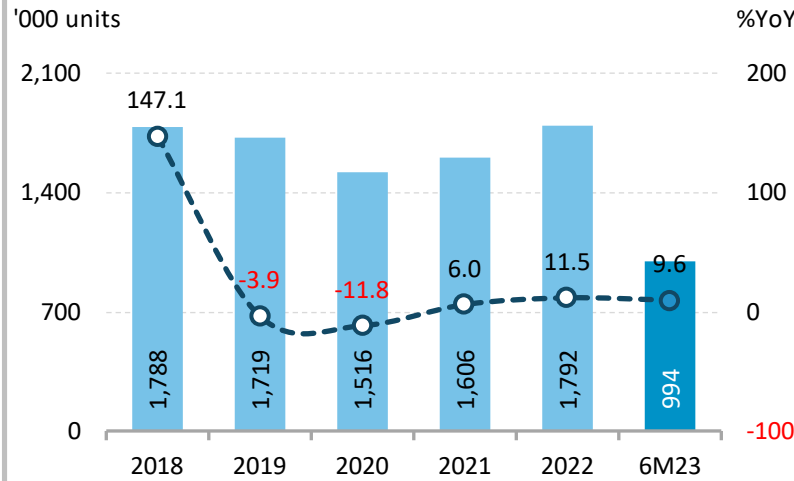
# 28. Motorcycle (รถจักรยานยนต์)

### Production



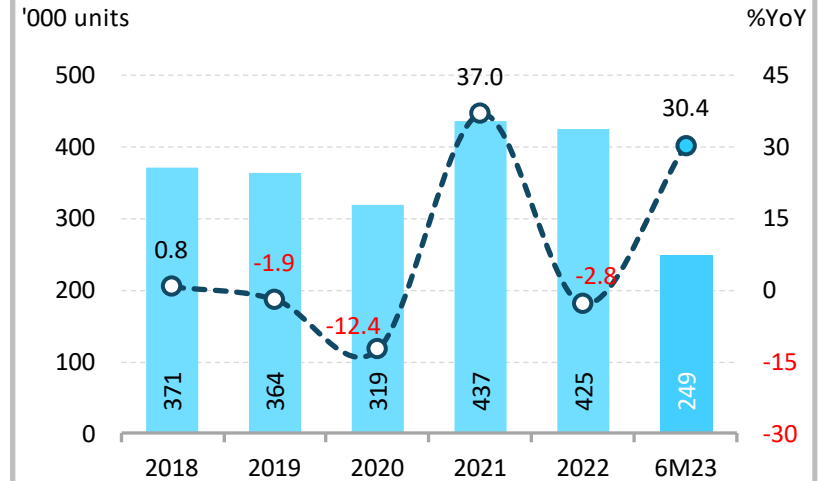
Source: FTI

### Domestic Sales



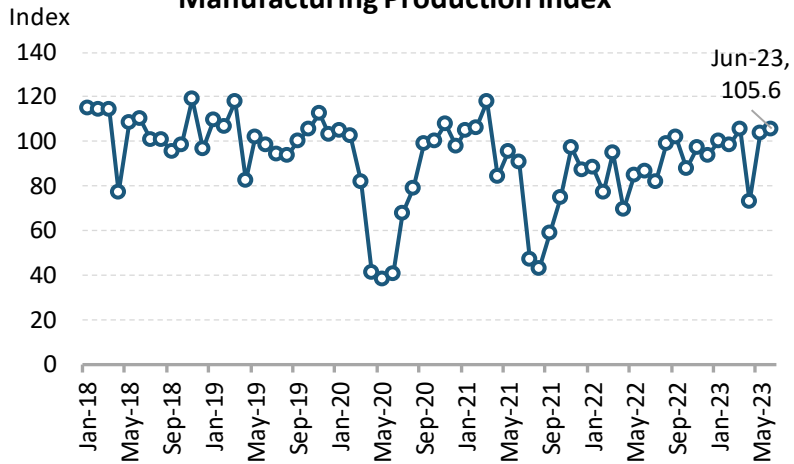
Source: FTI

### Exports



Source: MOC

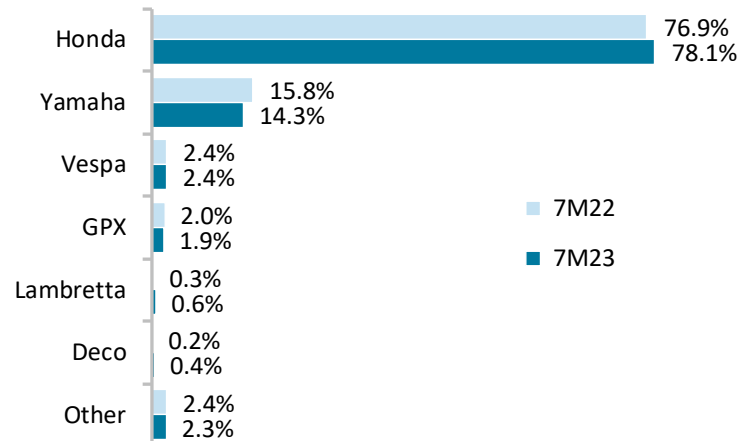
### Manufacturing Production Index



Note: MPI as of the base year (2016=100)

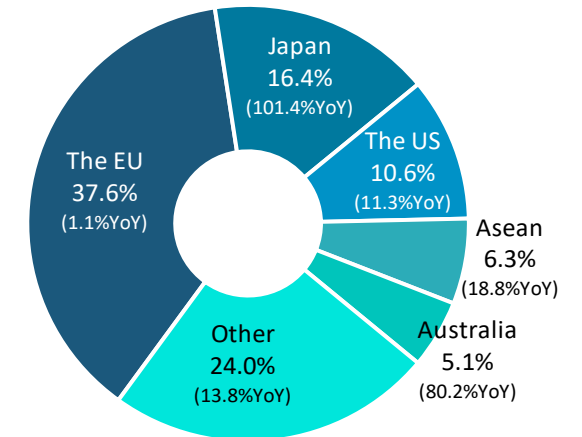
Source: OIE

### Domestic Registered by Brand



Source: DLT

### Share of Exports by Destination (7M23)

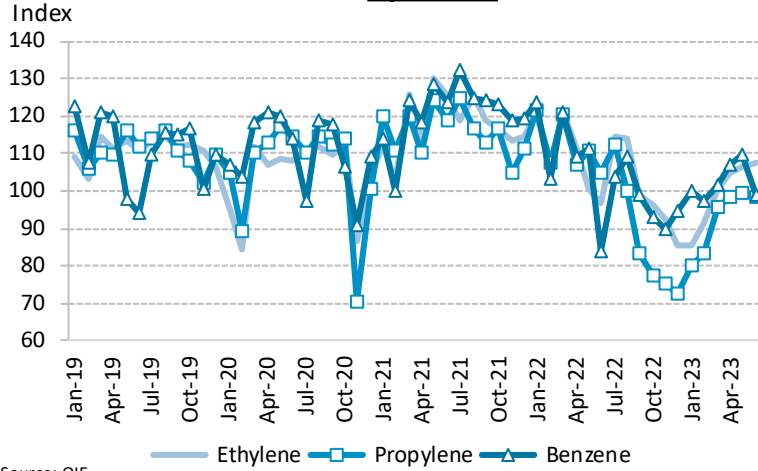


Source: MOC

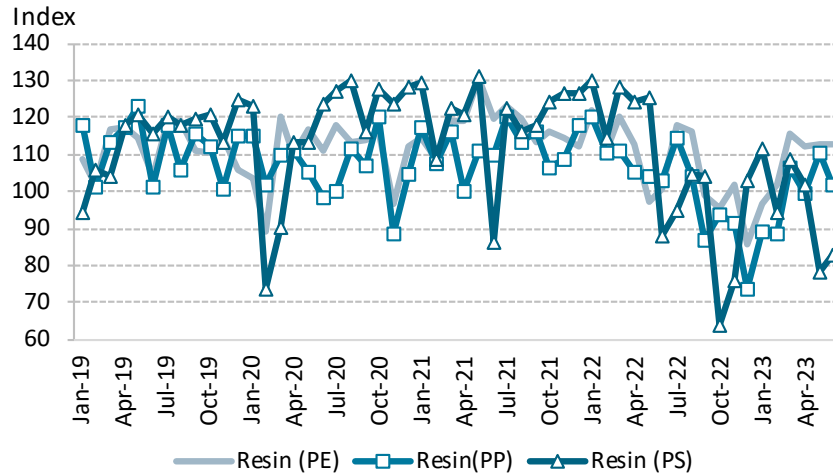
# 29. Petrochemicals (ปิโตรเคมี)

## Manufacturing Production Index

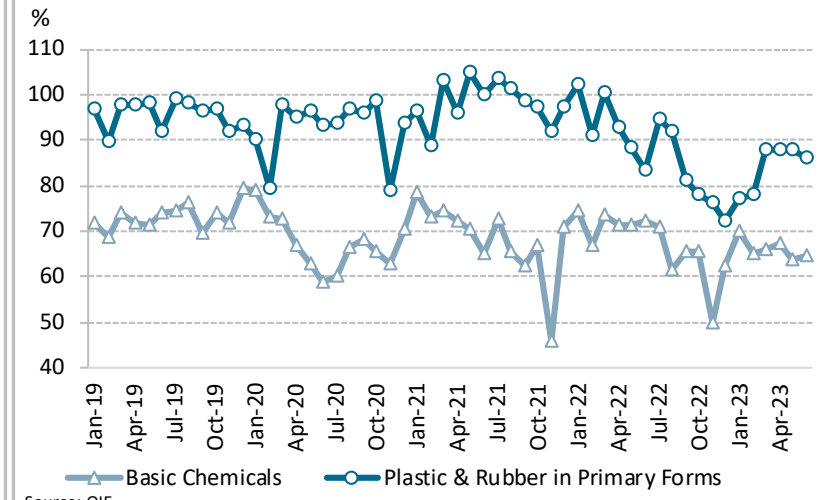
### Upstream



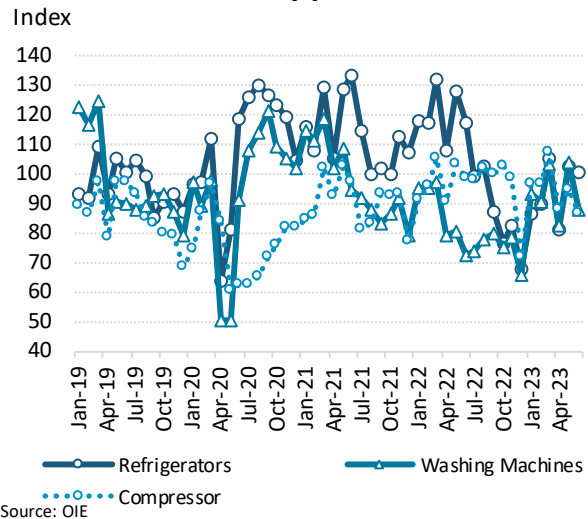
### Downstream



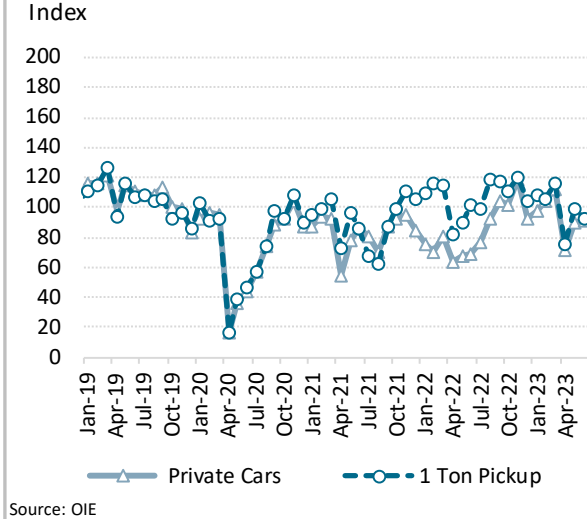
## Capacity Utilization



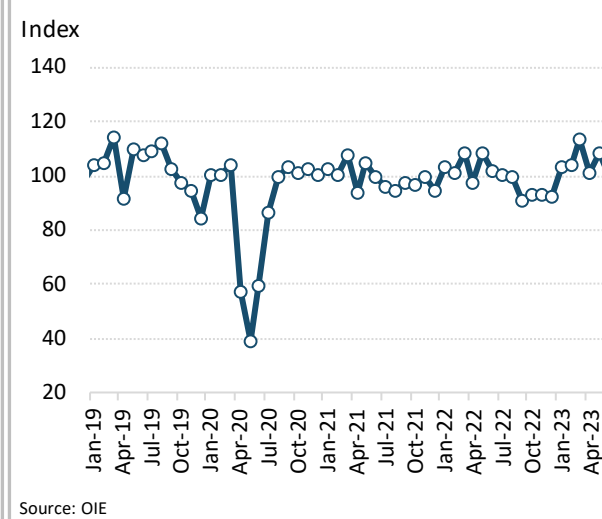
## Electrical Appliance MPI



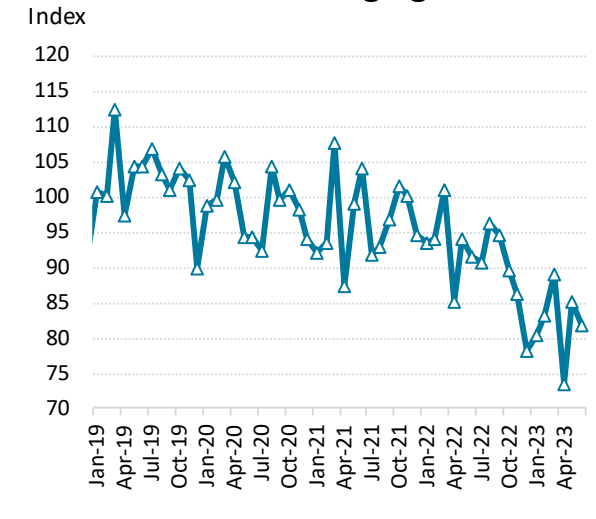
## Automobile MPI



## Tire MPI

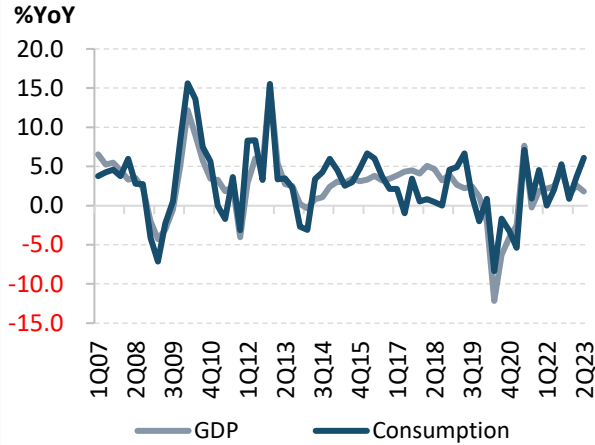


## Plastic Packaging MPI



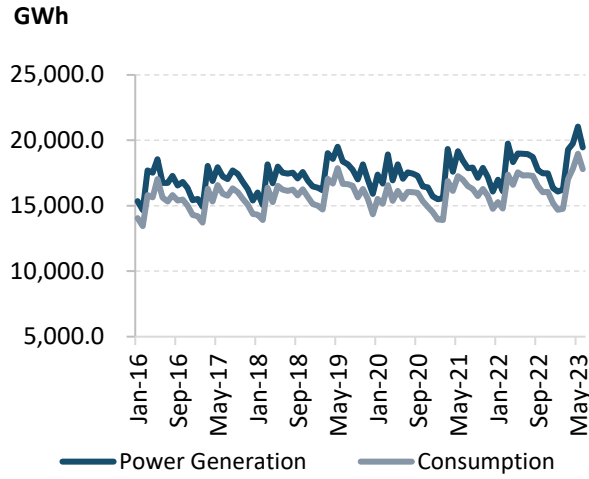
# 30. Power Generation (ผลิตไฟฟ้า) [1/2]

### GDP & Electricity Consumption



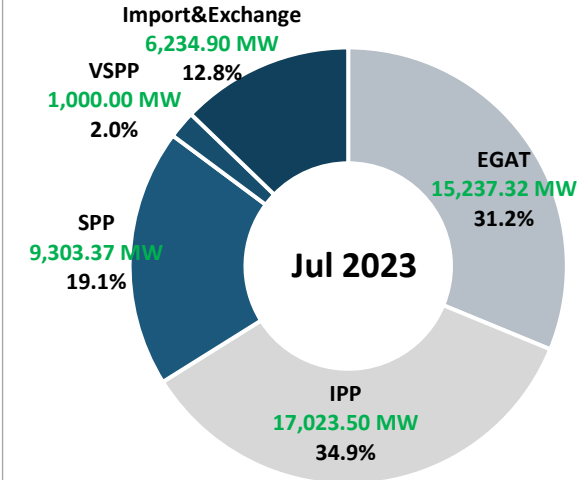
Source : EPPO

### Electricity Consumption

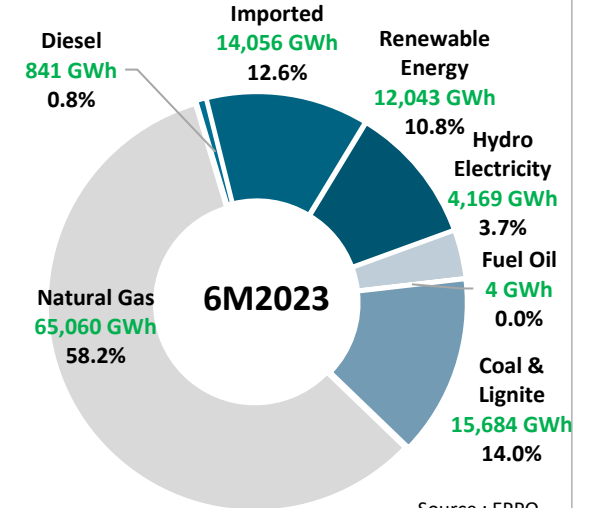


Source : EPPO

### Installed Generation Capacity

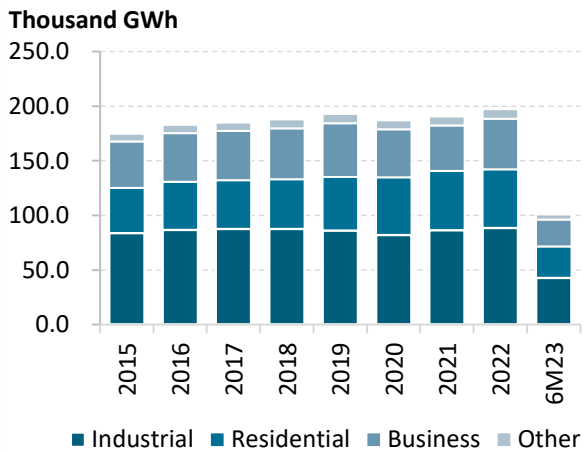


### Power Generation by Fuel



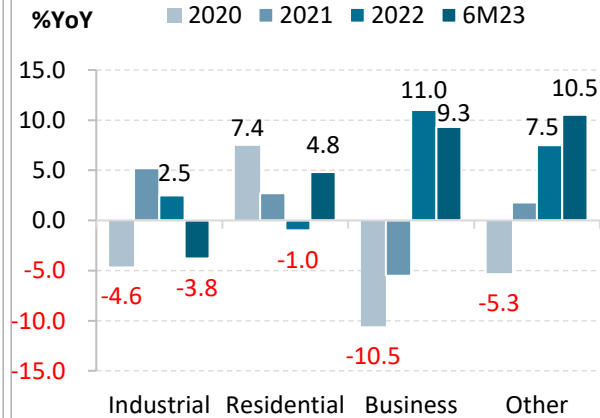
Source : EPPO

### Electricity Consumption by Sector



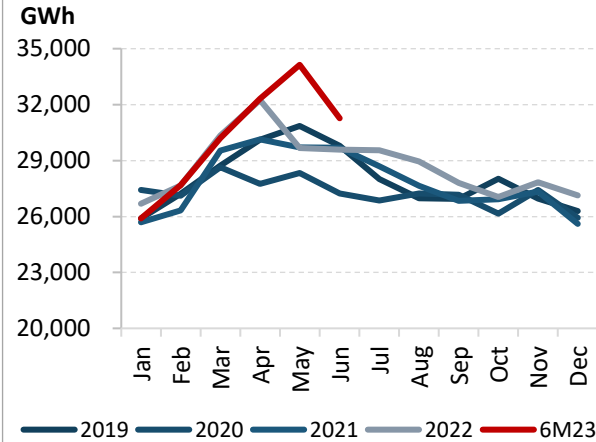
Source : EPPO

### Electricity Consumption by Sector (Growth)



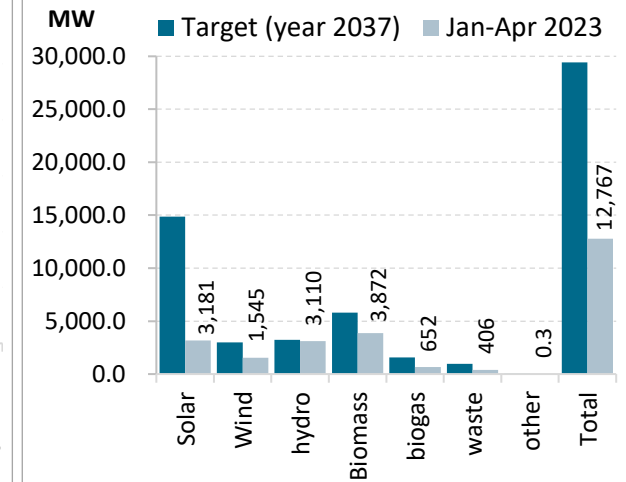
Source : EPPO

### Peak Demand



Source : EPPO

### Performance on Alternative Energy



Source : DEDE

# 30. Power Generation (ผลิตไฟฟ้า) [2/2]

## Electricity Consumption

Unit : Gwh

Category	2020	2021	2022	6M23	%YoY
Industrial	82,158	86,427	88,574	42,809	-3.7
Residential	52,860	54,290	53,747	28,782	-6.9
Business	43,950	41,529	46,097	24,633	5.1
Agriculture	417	398	335	301	23.9
Government and Non-Profit	204	201	216	112	-1.2
Others	3,872	3,829	4,219	2,325	9.5
Free of Charge	3,586	3,794	4,068	2,080	5.4
<b>Total</b>	<b>187,046</b>	<b>190,468</b>	<b>197,256</b>	<b>101,043</b>	<b>-2.1</b>

Source : EPPD

## Power Generation by Fuel

Unit : Gwh

Category	2020	2021	2022	6M23	%YoY
Natural Gas	113,859	113,113	114,637	65,060	-6.3
Coal&Lignite	36,823	36,065	35,523	15,684	-5.2
Imported	29,551	33,356	35,472	14,056	-4.3
Renewable Energy	20,529	21,927	21,876	12,043	10.0
Hydro Electricity	4,540	4,540	6,599	4,169	27.1
Diesel	97	294	1,626	841	198.9
Fuel Oil	624	422	105	4	37.8
<b>Total</b>	<b>206,023</b>	<b>209,717</b>	<b>215,838</b>	<b>111,857</b>	<b>-2.3</b>

Source : EPPD

## Renewable Energy Consumption for Power Generation by Fuel Type

Unit : MW

Target 2037	Target 2037	2020	2021	2022	3M2023
Solar	12,139	2,979.24	2,982.68	3,135.16	3,136.19
Hydro-floating Solar	2,725	-	45.00	45.00	45.00
Biomass	5,790	3,517.38	3,773.67	3,765.46	3,872.46
Wind	2,989	1,506.73	1,546.32	1,545.32	1,545.32
Biogas	1,565	557.24	572.72	651.99	652.00
Municipal Waste	900	333.68	348.48	371.09	371.09
Industrial Waste	75	-	-	34.43	34.43
Small Hydro Power	308	190.39	190.39	191.75	191.75
Large Hydro Powe	2,920	2,919.66	2,919.66	2,918.40	2,918.40
Other	0.30	0.30	0.30	0.30	0.30
<b>Total</b>	<b>29,411</b>	<b>12,005</b>	<b>12,379</b>	<b>12,659</b>	<b>12,767</b>

Source : DEDE

## Peak Demand

Unit : MW

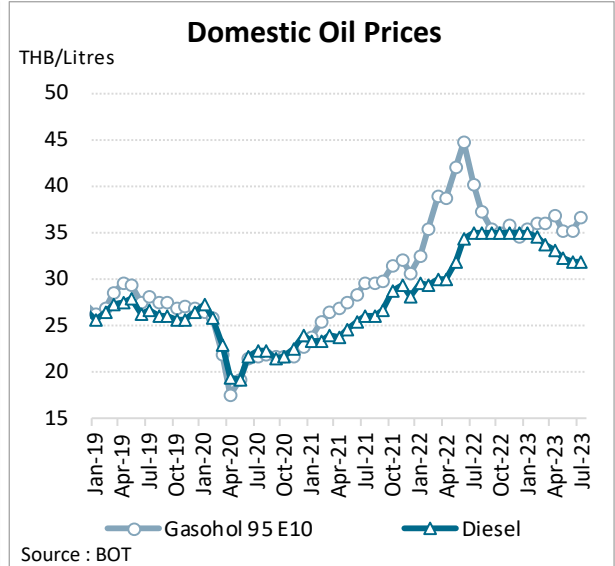
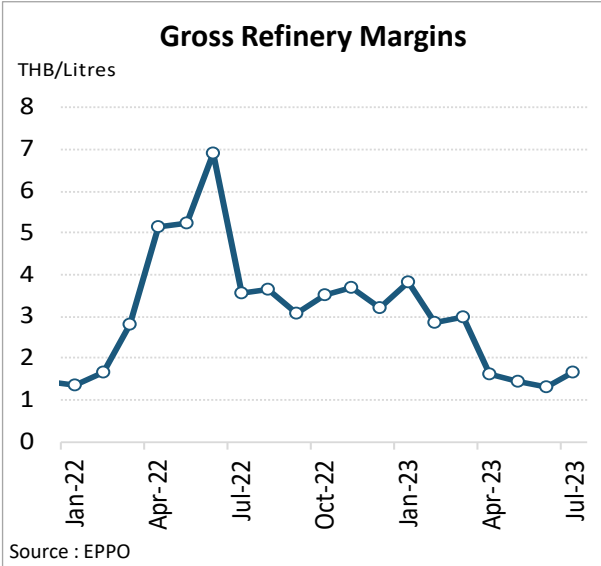
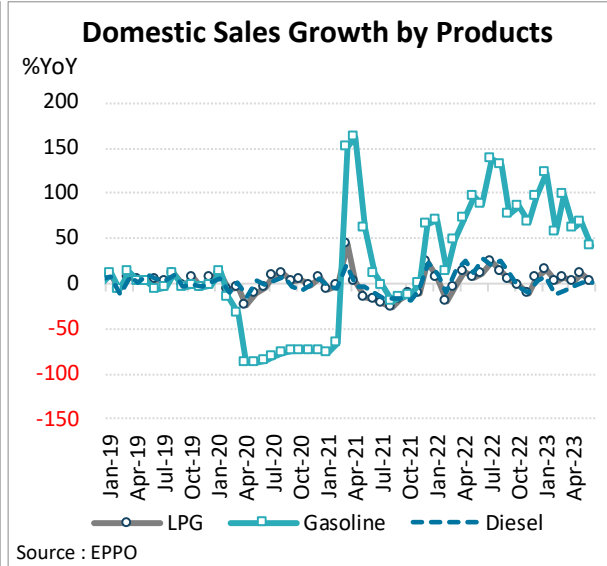
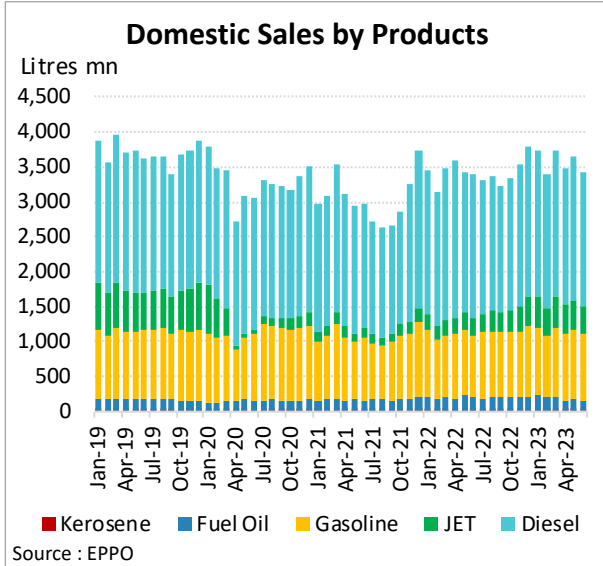
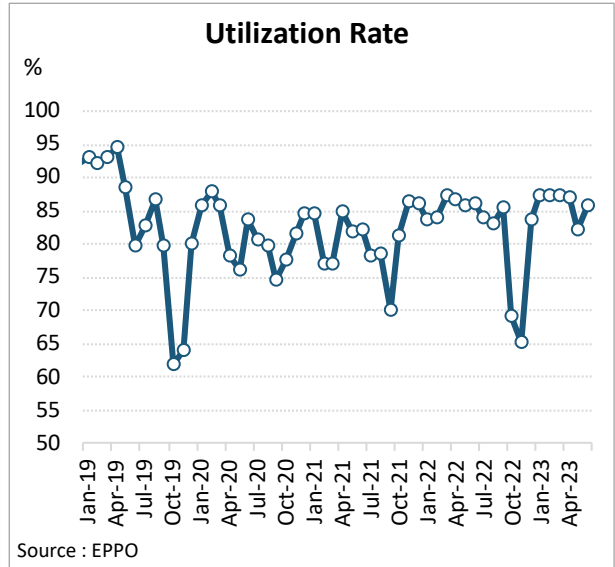
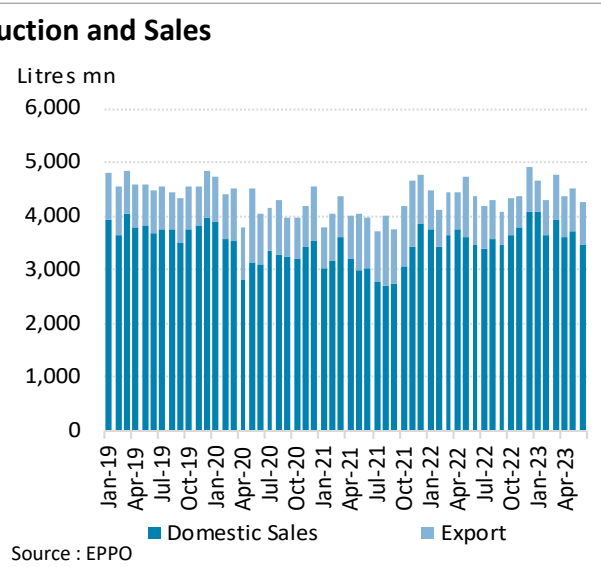
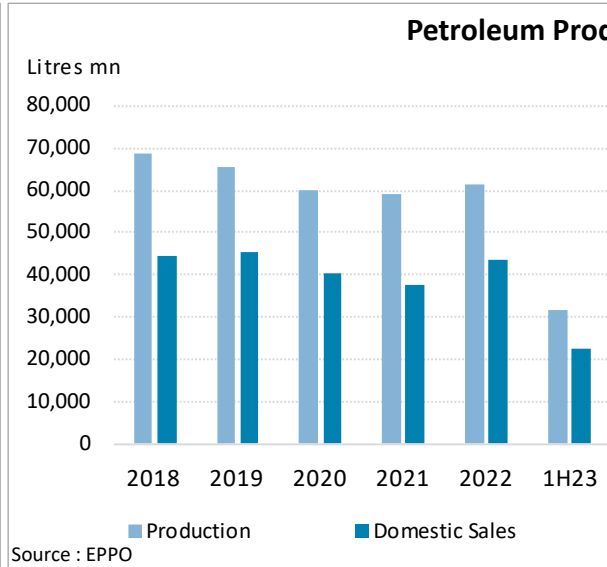
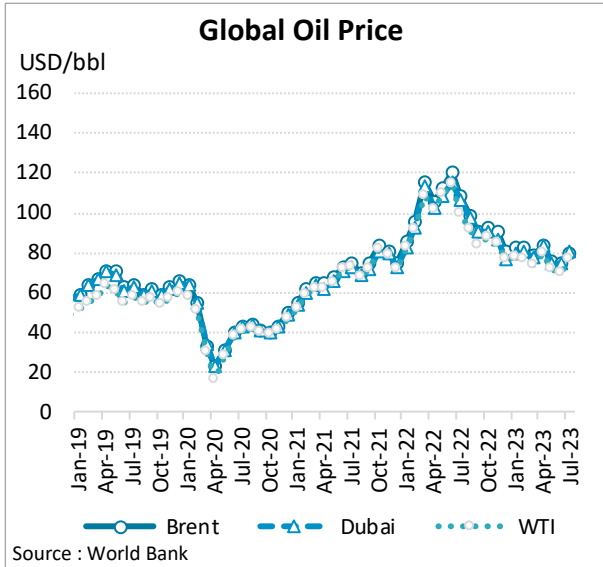
	2019	2020	2021	2022	3M23
Jan	25,898	27,423	25,686	26,688	25,896
Feb	27,215	27,112	26,319	27,673	27,687
Mar	28,722	28,637	29,537	30,349	30,213
Apr	30,120	27,747	30,135	32,255	32,324
May	30,853	28,328	29,702	29,675	34,131
Jun	29,800	27,240	29,692	29,594	31,279
July	28,015	26,855	28,691	29,558	-
Aug	26,987	27,235	27,642	28,952	-
Sep	26,937	27,159	26,841	27,808	-
Oct	28,026	26,162	26,920	27,042	-
Nov	26,958	27,433	27,347	27,833	-
Dec	26,295	25,924	25,597	27,125	-
<b>Max</b>	<b>30,853</b>	<b>28,637</b>	<b>30,135</b>	<b>32,255</b>	<b>34,131</b>

## Power Generation

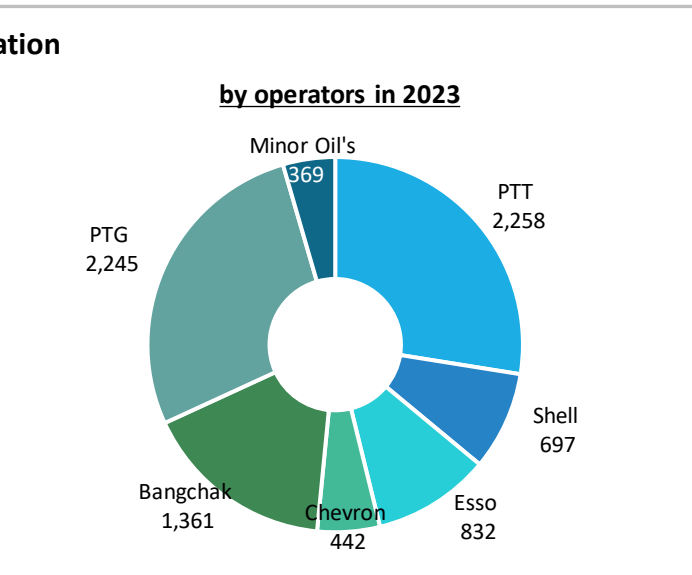
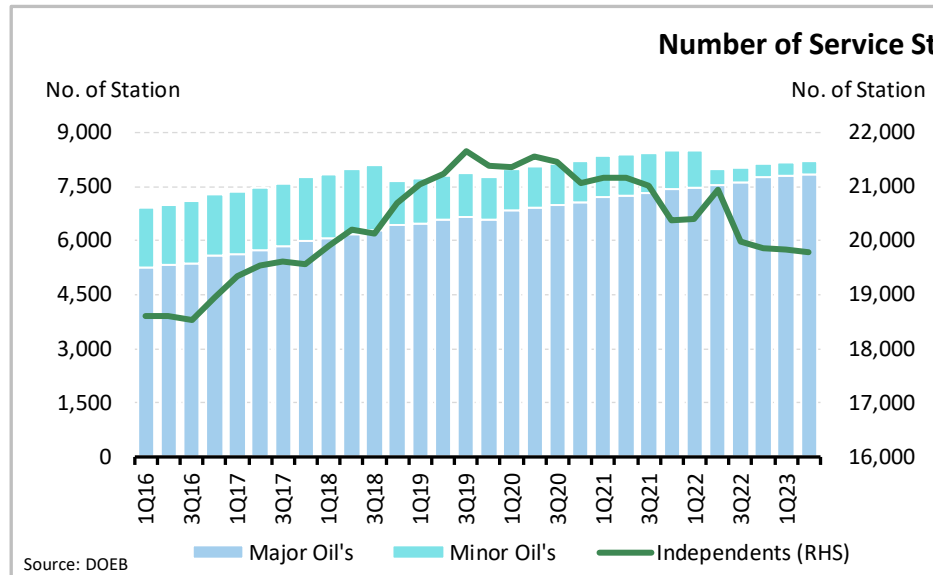
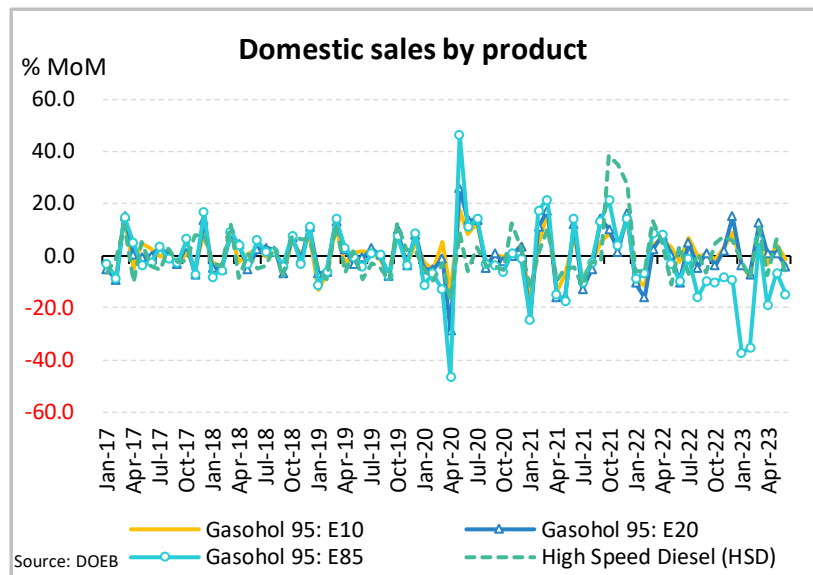
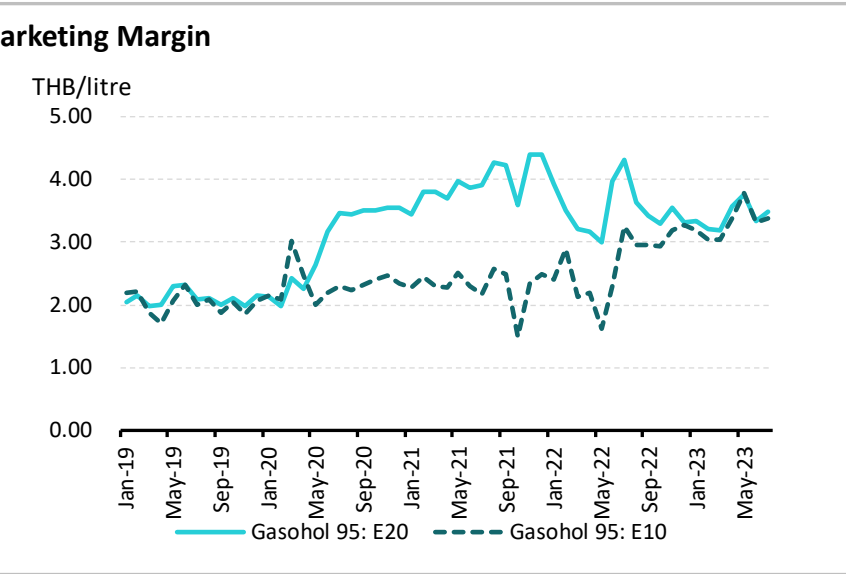
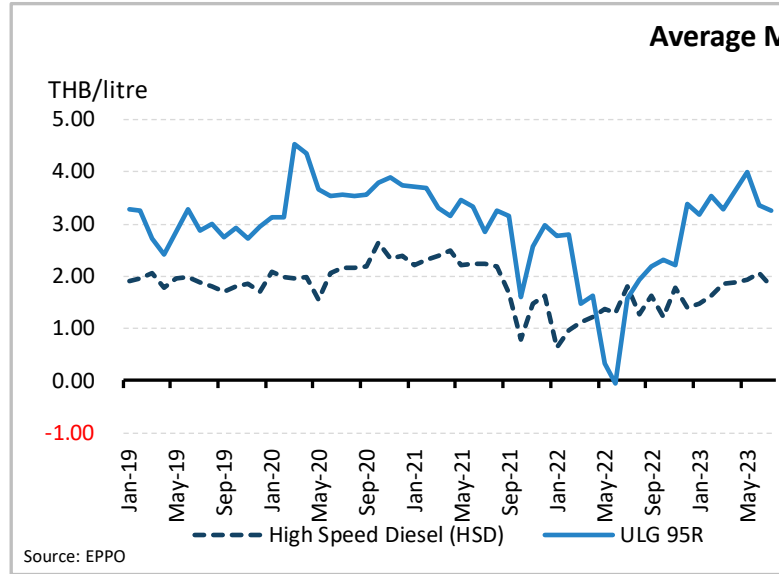
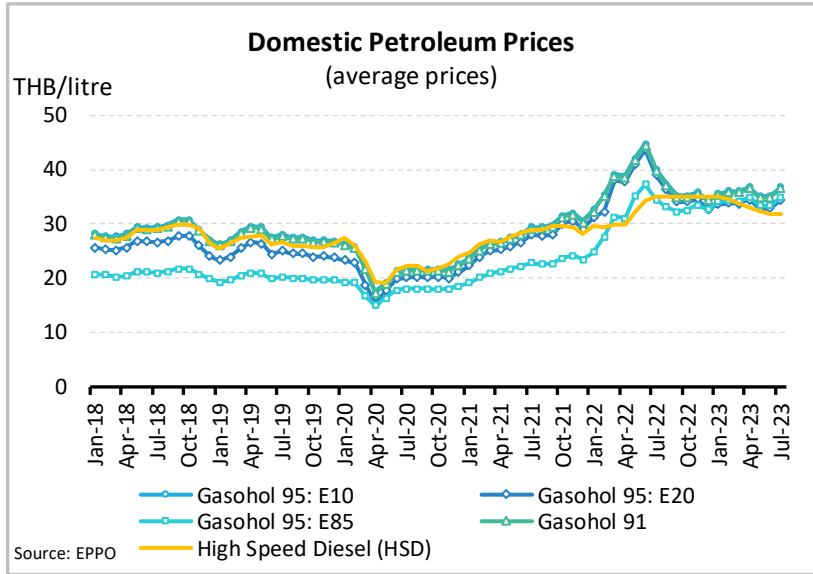
Unit : Gwh

	2019	2020	2021	2022	3M23
Jan	16,374	17,383	15,499	16,991	16,082
Feb	16,178	16,699	15,558	16,099	16,235
Mar	19,020	18,925	19,344	19,739	19,292
Apr	18,582	16,933	17,605	18,333	19,754
May	19,491	18,170	19,169	19,000	21,041
Jun	18,377	17,066	18,450	18,971	19,452
July	18,168	17,542	17,875	18,943	-
Aug	17,754	17,445	17,920	18,730	-
Sep	17,014	17,279	17,138	17,728	-
Oct	18,164	16,480	17,882	17,484	-
Nov	17,007	16,387	17,204	17,476	-
Dec	15,920	15,713	16,074	16,345	-
<b>Total</b>	<b>212,050</b>	<b>206,023</b>	<b>209,717</b>	<b>215,838</b>	<b>111,857</b>

# 31. Refinery (โรงกลั่นน้ำมัน)

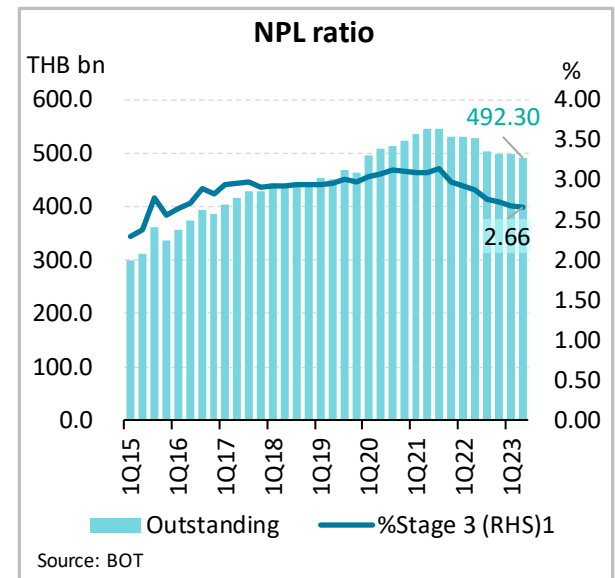
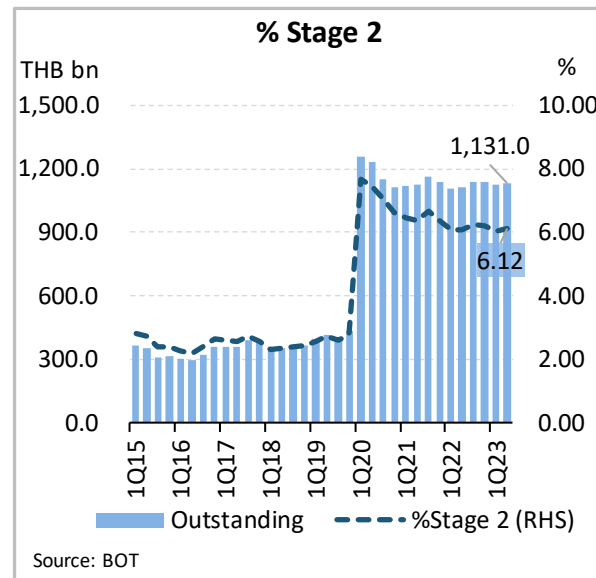
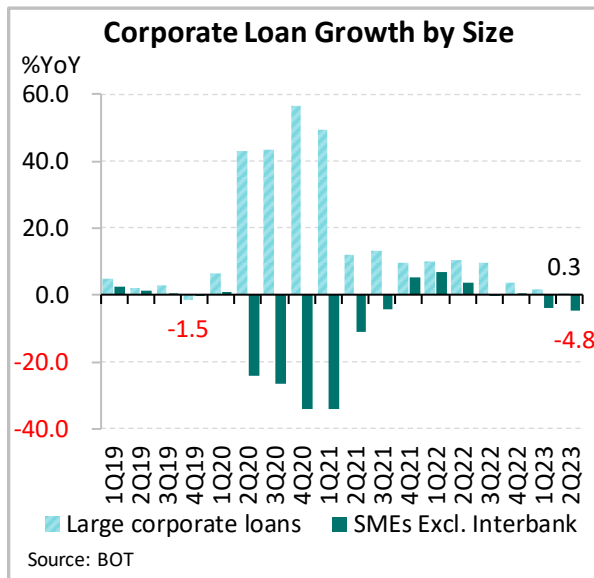
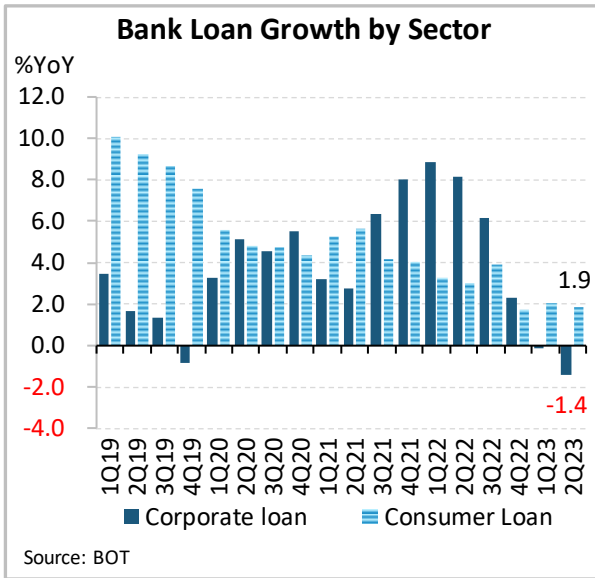
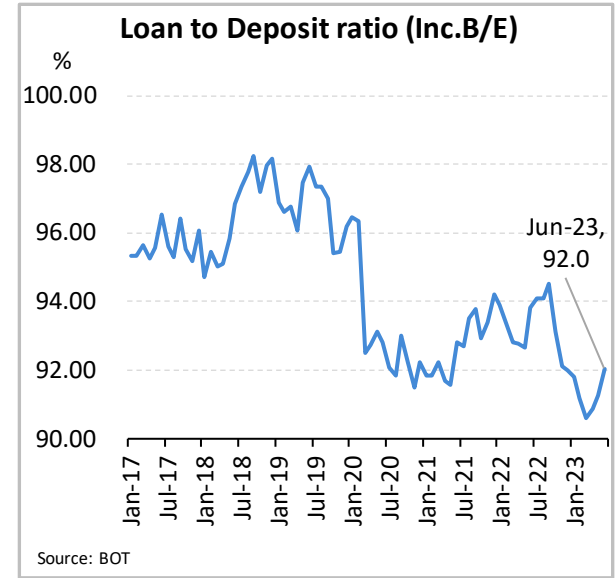
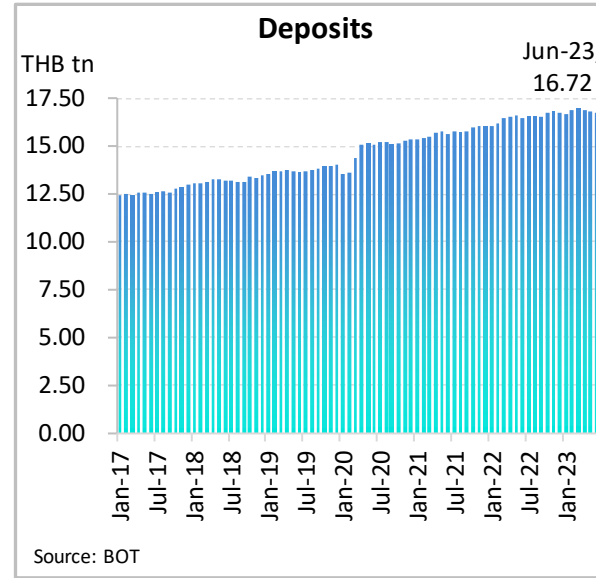
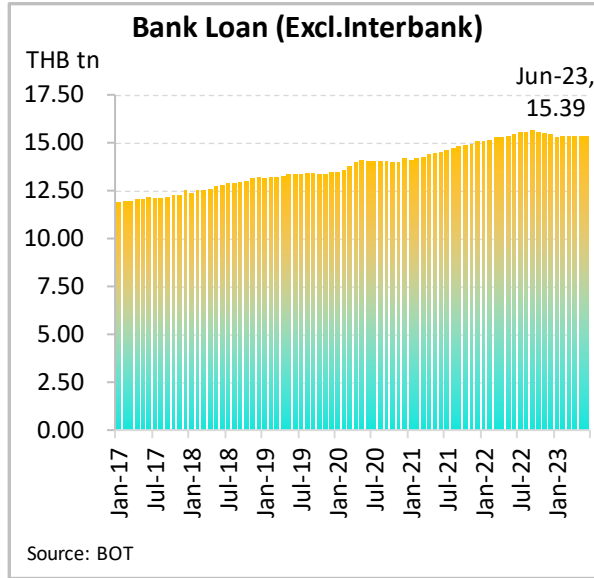
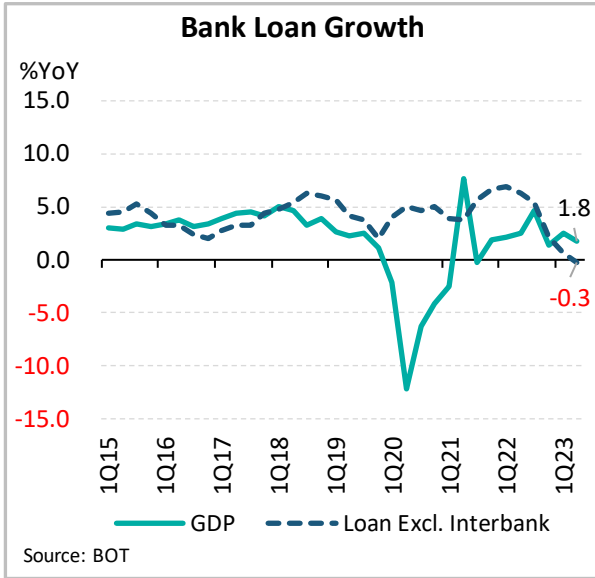


# 32. Service Station (สถานีบริการน้ำมันเชื้อเพลิง)





# 33. Banking (ธนาคาร)





# End of Presentation

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## Disclaimer

ข้อมูล บทวิเคราะห์ และการแสดงความคิดเห็นต่างๆที่ปรากฏอยู่ในรายงานฉบับนี้ ได้จัดทำขึ้นบนพื้นฐานของแหล่งข้อมูลที่ได้รับมาจากแหล่งข้อมูลที่เชื่อถือได้ เพื่อใช้ประกอบการวิเคราะห์ภาวะเศรษฐกิจและอุตสาหกรรมซึ่งเป็นเอกสารภายในของธนาคารแลนด์ แอนด์ เฮ้าส์ จำกัด (มหาชน) เท่านั้น ทั้งนี้ธนาคารฯ จะไม่รับผิดชอบความเสียหายใดๆทั้งปวงที่เกิดขึ้นจากการนำข้อมูล บทวิเคราะห์ การคาดหมาย และความคิดเห็นต่างๆ ที่ปรากฏในรายงานฉบับนี้ไปใช้ โดยผู้ที่ประสงค์จะนำไปใช้ต้องยอมรับความเสี่ยง และความเสียหายที่อาจเกิดขึ้นเองโดยลำพัง