

THAILAND INDUSTRY OUTLOOK 2024-26

# Automobile Industry

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Krungsri Research

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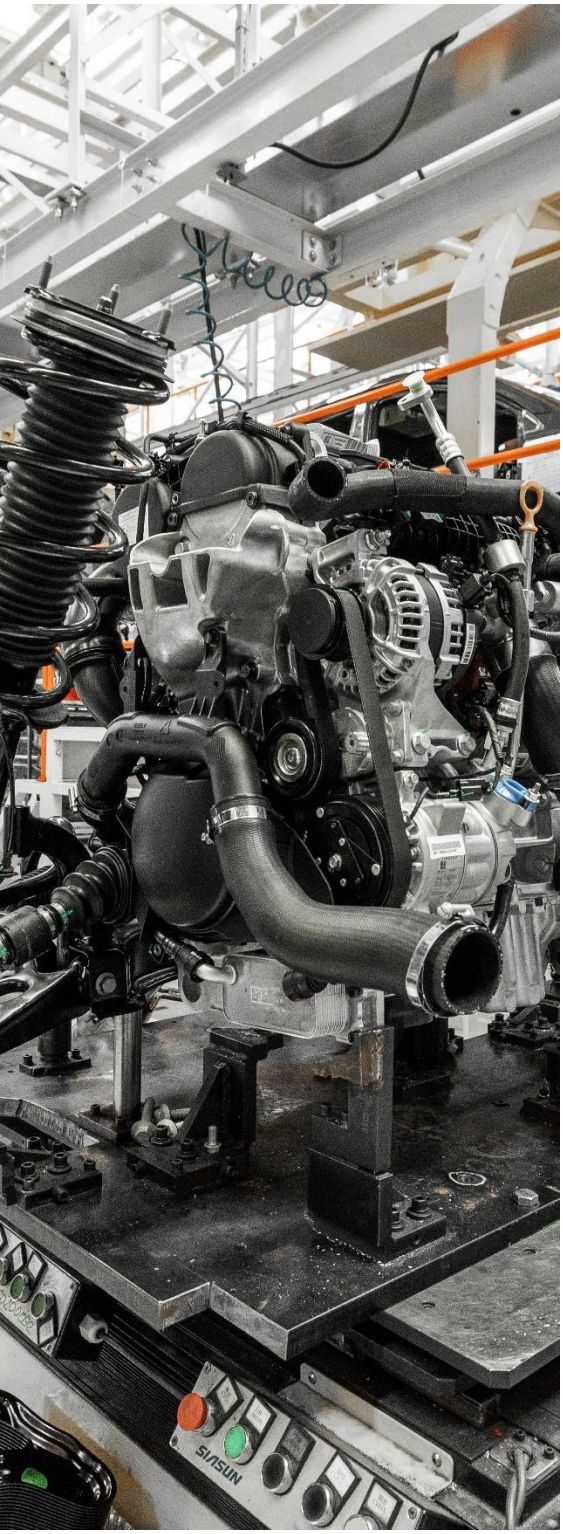
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# EXECUTIVE SUMMARY



**Auto production is forecast to drop by -3.5% to -2.5% annually from 2024 to 2026 as a result of weakness in the domestic market through 2024 and greater competition from imported EVs. However, output should improve somewhat in 2025 and 2026. Domestic sales in 2024 will decline by -4.5% to -3.5%** due to tightening credit conditions and weak consumer spending power, as a result of the high cost of living and elevated levels of household debt levels, **but would gradually recover in 2025-2026** in response to: (i) ongoing growth in the tourism sector, rising investment, and an uptick in business activity; (ii) the positive impacts of La Niña on agricultural yields; (iii) aggressive sales promotions, an intensifying price war in the BEV segment, and the development of the new ICE models needed to compete against EVs; and (iv) continuing expansion in domestic BEV sales, thanks to the EV 3.5 measures and improvements in their average range per charge. **Exports will fare better, growing by an average of 1.0-2.0% annually over the next three years. Overseas sales will remain flat or possibly contract slightly in 2024.** Economic growth and rising investment in export markets will mean that **sales will bounce back in 2025 and 2026.** In particular, the ASEAN market will benefit from rising investment in manufacturing facilities from Chinese and Japanese players.

## Krungsri Research view

Auto manufacturers will be exposed to risk arising from strong competition and the effects of ongoing price wars. Both the domestic and export markets will contract sharply in 2024, but the situation is expected to improve in 2025 and 2026.

- **Manufacturers of ICE-powered passenger vehicles** will face constraints due to a decline in purchasing power throughout 2024 from high fuel costs, tighter loan approvals, the declining popularity of eco-cars, and the impact on production costs of the new Euro 5 and Euro 6 measures. Despite this, the segment should return to low levels of growth in 2025 and 2026 as spending power improves.
- **Manufacturers of EVs** will benefit from the rising popularity of these, especially of HEVs and BEVs, supported by government assistance (i.e., the EV 3.5 measures and vehicle excise duties that favor HEVs), widening consumer acceptance of EV technology, a growing recognition of the importance of the environmental issue, and the falling cost of EV batteries.

- **Manufacturers of 1-tonne pickups** will have to contend with a combination of weak spending power among low- to middle-income earners, which caused lenders to become more prudent in the release of new credit, and the impacts of the El Niño on agricultural yields, which has then impacted order of pickups. However, an acceleration in spending on infrastructure in 2025 and 2026 will help in part to lift demand.
- **Manufacturers of other commercial vehicles (trucks, buses, and minivans)** will see sales rise on stronger investment, the continuing recovery in the tourism industry, and ongoing growth in e-commerce.



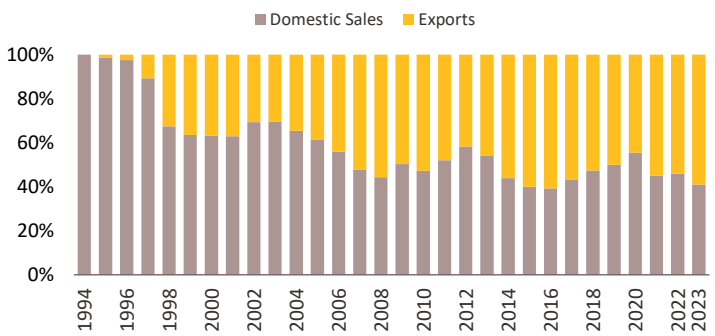
# Overview

The auto industry has long been the recipient of government support. Investment promotion schemes targeting the auto assembly industry have taken a wide range of forms including tax breaks for investors, local content requirements that have then helped to spur the development of Thai auto supply chains, the promotion of foreign direct investment and technology transfer from multinational companies to domestic players, and the encouragement of production for export. As a result, dependency on overseas markets has steadily grown and the industry's center of gravity has moved from the domestic to export markets (sales to the latter grew over 2007-2023, averaging 53% of the total through this period) (Figure 1). These changes have also been driven by policies that have attempted to funnel investment into the manufacture of local 'product champions', that is, the production of vehicle categories where Thai supply chains offer the domestic industry a competitive advantage, though these product champions have changed over several periods in the past, as the followings.

### Promoting the production of 1-tonne pickups

- Through the period 1997-2008, the government encouraged the production of 1-tonne pickups, a class of commercial vehicle that is typically diesel-powered, and by putting in place policies to encourage large global manufacturers to establish pickup production facilities in Thailand, the authorities made this class of vehicle the country's number one 'product champion'. Official efforts were also undertaken to stimulate the domestic market for these, for example, by keeping the price of diesel below that of gasoline and cutting duty on pickups to 3%, which compared to rates of 30-50% for regular cars or passenger vehicles. As a result, sales of 1-tonne pickups grew substantially and at one time commercial vehicles accounted for over 70% of all Thai production.

**Figure 1: Thai Vehicle Domestic Sales and Exports**




Source : The Federation of Thai Industries (FTI), Krungsri Research

### Promoting the production of eco cars

Over 2009 to 2015, the government's focus moved to the country's second 'product champion', that is, 'eco cars' or smaller-engined, fuel-efficient autos. To encourage interest from major producers, the government put in place a series of tax incentives that aimed to attract greater investment, while specifying conditions that set export targets that needed to be met to qualify for these tax breaks. These incentives came in the form of 'Eco car Phase I' (with effect from 2009) and 'Eco car Phase II' (which came into effect in 2015) (see Table 1). In addition to this, other factors have also helped to expand the domestic market for eco cars, including: (i) improvements in gasoline engine technology that are allowing increasing use of ethanol-based fuels (or 'gasohol'); (ii) the decision by the Thai government to support the domestic consumption of biofuels by subsidising gasohol prices; (iii) the inclusion of eco cars in the categories of vehicles included in the 2012-2013 first-car buyer scheme, thus temporarily allowing buyers to reclaim the vehicle duty on purchases of these[1/];

1/ Under the first-car buyer scheme, vehicle duty (up to a value of THB 100,000) was refunded to individuals buying their first automobile, provided that they kept possession of that vehicle for the next 5 years. The scheme ran from September 16, 2011 to December 31, 2012 and covered vehicles with a value of up to THB 1 million, including passenger vehicles with engines not over 1,500 cc, regular pickups and pickups with double cabs, though the government failed to specify delivery times in the project's legislation.

and (iv) from 2016, the reform of vehicle duty, which has henceforth been calculated on the vehicle's $CO_2$ emissions and the size of its engine, with the result that the duties levied on low-emission eco cars was cut from 17% to 12-15%. However, these rates will expire in 2025 and from 2026, duty will be set at 13% for eco cars that release fewer than 100 grams of $CO_2$ per 100 kilometers (as per phase II of the eco car program) and that have at least two of six advanced driver-assistance systems (ADAS) installed. Rates will then increase by 1% every two years to reach 15% in 2030, thus returning duties to close to where they had been a decade and a half earlier. For cars without ADAS installed, duty will rise to 25% in 2026 and then to 30% in 2030 (Table 3).

**Table 1: Comparison of Eco-car Investment Promotions**

| | Phase 1 | Phase 2 |
|---|---|---|
| **Product Condition:** | EURO 4 | EURO 5 |
| Clean | CO2≤ 120g/km | CO2≤ 100g/km |
| Economy | FC≤ 5L/100km | FC≤ 4.3L/100km |
| Safe | UNECE R94, 95 | UNECE R94, 95, 13H |
| **Investment Condition:** | ≥100,000 units/year | ≥100,000 units/year |
| Real Production | (from the 5th year of operation) | (from the 4th year of operation) |
| Engine production | Investment engine manufacturing | |
| Option & Capital | Package≥5,000 Million Baht | Package≥6,500 Million Baht<br>(phase 1 ≥5 Million Baht) |
| **Incentives:** | | |
| Corporate Income Tax | 8-year exemption | 6-year or 7-year* or 8-year* exemption<br>(*for auto parts manufacturing development) |
| Import duty on auto parts | tax deduction of 90% | tax deduction of 90% |
| Machinery Tax & Other privileges | Exempted from import duty on machinery for all zones +other rights<br>under BOI rules (tax break for 50% corporate income tax) | |
| **"Excise Tax"** based on size of engines | Benzine 1,300 cc / Diesel 1,400 cc | Benzine 1,300 cc / Diesel 1,500 cc |

Source: Thailand Board of Investment (BOI), collected by Krungsri Research

## Promoting the production of electric vehicles

Following Thailand's signing of the 2016 Paris Agreement, or more formally, the United Nations Framework Convention on Climate Change, the country committed itself to reaching net zero carbon emissions over 2065 to 2070. In pursuit of this, the government is attempting to accelerate the energy transition within the transport sector, in particular by promoting the increased use of electric vehicles (EVs). In detail, the transformation of the transport sector is being driven by the National EV Policy Committee, which has laid out a roadmap for promoting the increased production and use of ZEVs (zero emission vehicles) that will unfold through three stages. Stage one, the target is for 10% of newly manufactured cars and pickups to be EVs, and for these to account for 30% of newly registered vehicles by 2025. Stage two, these targets rise to respectively 30% and 50% by 2030, and then, in stage three, by 2035, the goal is that 50% of newly manufactured cars and pickups and 100% of new registrations should be EVs (Table 2). To support this and to encourage growth in the EV market and stronger investment in EV production, the government has rolled out the EV 3.0 (2022-2025) and EV 3.5 (2024-2027) measures, which provide subsidies of respectively THB 70,000-150,000 and THB 50,000-100,000 to buyers of new EVs while also cutting EV import duties and revising vehicle excise rates. In addition, these policies require that auto manufacturers importing BEVs for distribution to the Thai market produce BEVs domestically in a fixed ratio according to a set timetable (Table 4) (for more information on the EV 3.0 and EV 3.5 measures, please see Industry Outlook 2024-2026: Electric Vehicle Industry)

**Table 2: Thailand's Goal for Production and Use of Zero Emissions Vehicle (ZEV) 2025-2035**

| ZEV Production & Use | Type | Goal (units per year) | | |
|---|---|---|---|---|
| | | 2025 | 2030 | 2035 |
| **Production** (% of total automobile production) | Passenger car/ Pickup | 225,000 (10%) | 725,000 (30%) | 1,350,000 (50%) |
| | Motorcycle | 360,000 (20%) | 675,000 (30%) | 1,850,000 (50%) |
| | Bus/Truck | 18,000 (33%) | 34,000 (47%) | 84,000 (87%) |
| **Use** (% of total new registered cars ) | Passenger car/ Pickup | 225,000 (30%) | 440,000 (50%) | 1,154,000 (100%) |
| | Motorcycle | 360,000 (20%) | 650,000 (40%) | 1,800,000 (100%) |
| | Bus/Truck | 18,000 (23%) | 33,000 (40%) | 83,000 (100%) |

Source: The National Electric Vehicle Policy Committee, Krungsri Research

**Table 3 : Excise Tax Structure by Type Effective 2026 Onwards**

**Passenger Cars**

| Type | $CO_2$ | Excise Tax Rate | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | At least 2 out of 6 Advanced Driver – Assistance Systems (ADAS) must be installed | | | | | | Not in compliance | | | |
| | | Effective from 2026 | | Effective from 2028 | | Effective from 2030 | | Effective from 2026 | | Effective from 2030 | |
| | | ICE | HEV | ICE | HEV | ICE | HEV | ICE | HEV | ICE | HEV |
| Engines ≤ 3,000 cc. | ≤ 100 g/km | 13% | 6% | 14% | 8% | 15% | 10% | 25% | 15% | 30% | 20% |
| | 101-120 g/km | 22% | 9% | 24-27% | 11% | 26% | 13% | 25% | 15% | 30% | 20% |
| | 121-150 g/km | 25% | 14% | 27% | 16% | 29% | 18% | 25% | 15% | 30% | 20% |
| | 151-200 g/km | 29% | 19% | 31% | 21% | 33% | 23% | 35% | 25% | 40% | 30% |
| | > 200 g/km | 34% | 24% | 36% | 26% | 38% | 28% | 35% | 25% | 40% | 30% |
| Engines > 3,000 cc. | Indefinitely | Effective from 2026 | | | | | | | | | |
| | | ICE | | | | | HEV | | | | |
| | | 50% | | | | | 40% | | | | |
| | Electric Range and Oil tank | At least 2 out of 6 ADAS must be installed | At least 4 out of 6 ADAS must be installed | | Not in compliance | | | | | | |
| | | PHEV | BEV | FCEV | PHEV | | BEV | | FCEV | | |
| | | Effective from 2026 | Effective from 2022 | Effective from 2026 | Effective from 2026 | Effective from 2030 | Effective from 2022 | Effective from 2026 | Effective from 2026 | | |
| Engines ≤ 3,000 cc. | Electric Range≥ 80 km and Oil tank ≤ 45 L | 5% | 2% | 1% | 15% | 20% | 8% | 10% | 5% | | |
| | Electric Range< 80 km and Oil tank > 45 L | 10% | | | | | | | | | |
| Engines > 3,000 cc. | Indefinitely | PHEV | BEV | FCEV | PHEV | | BEV | | FCEV | | |
| | | 30% | 2% | 1% | 30% | | 8% | 10% | 5% | | |

**Pickup**

| Type | $CO_2$ | Excise Tax Rate | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | At least 1 out of 6 Advanced Driver – Assistance Systems (ADAS) must be installed | | | | | | Not in compliance | | |
| | | Effective 2026-2035 | | | | | | | | |
| | | Other fuel | | | B 20 | | | B 20 and other fuel | | |
| | | Single cab | Space cab | Double cab | Single cab | Space cab | Double cab | Single cab | Space cab | Double cab |
| Engines ≤ 3,250 cc. | ≤ 185 g/km | 3% | 4% | 8% | 2% | 3% | 6% | 15% | 15% | 15% |
| | 186-200 g/km | 4% | 6% | 10% | 3% | 5% | 9% | 15% | 15% | 15% |
| | > 200 g/km | 5% | 8% | 13% | 4% | 7% | 12% | 17% | 17% | 17% |
| Engines > 3,250 cc. | Indefinitely | Single cab, Space cab and Double cab | | | | | | | | |
| | | B 20 and other fuel | | | | | | | | |
| | | 50% | | | | | | | | |
| | Electric Range and Oil tank | Indefinitely | At least 2 out of 6 ADAS must be installed | | | | Not in compliance | | | |
| | | PHEV | BEV | | FCEV | | PHEV | | BEV | FCEV |
| | | 2022-2035 | Effective | Effective | Effective | Effective | Effective from 2022 | | Effective | Effective |
| | | Double cab | from 2022 | from 2026 | from 2022 | from 2026 | Space cab | Double cab | from 2022 | from 2022 |
| Pick up car | Indefinitely | 5% | 0% | 2% | 0% | 1% | 15% | 17% | 10% | 5% |

**Pickup Passenger Vehicle (PPV)**

| Type | $CO_2$ | Excise Tax Rate | |
|---|---|---|---|
| | | Effective 2026-2035 | |
| | | Other fuel | B 20 |
| Engines ≤ 3,250 cc. | ≤ 185 g/km | 18% | 16% |
| | 186-200 g/km | 20% | 18% |
| | > 200 g/km | 25% | 23% |
| Engines > 3,250 cc. | Indefinitely | B 20 and other fuel | |
| | | 50% | |
| | Electric Range and Oil tank | PHEV | |
| | | Effective 2026-2035 | |
| PPV | Indefinitely | 10% | |

Source: The Excise Department, Krungsri Research

**Table 4 : Measures to Support Purchases and Production Compensation for Imports Under EV 3.0 and EV 3.5**

**EV 3.0**

| | Passenger Car | | Pick-up Truck | Motorcycle |
|---|---|---|---|---|
| **Specification** | Price ≤ 2 Mn THB **Battery Capacity : 1-30 kWh** | Price ≤ 2 Mn THB **Battery Capacity : ≥ 30 kWh** | Price ≤ 2 Mn THB **Battery Capacity : ≥ 30 kWh** | Price ≤ 0.15 Mn THB |
| **Cash Subsidy** | **70,000** THB/Unit | **150,000** THB/Unit | **150,000** THB/Unit | **18,000** THB/Unit |
| **Specification** | Price ≤ 2 Mn THB **Battery Capacity : ≥ 10 kWh** | Price **2-7 Mn THB** **Battery Capacity : ≥ 30 kWh** | Price ≤ 2 Mn THB **Battery Capacity : ≥ 30 kWh** | Price ≤ 0.15 Mn THB **Battery Capacity ≥ 50 kWh** |
| **Excise Tax** | 2% (reduced from 8%) | | 0% (reduced from 10%) | 1% |
| **Import Tariff** | Up to 40% Reduction | Up to 20% Reduction | No reduction | No Reduction |
| **BEV Import : BEV Production in Thailand** | **1 : 1** for the production by 2024<br>**1 : 1.5** for the production by 2025<br>(Production compensation must be the same model as imported for passenger cars with price between 2-7 Mn THB) | | | |

**EV 3.5**

| | Passenger Car | | Pick-up Truck | Motorcycle |
|---|---|---|---|---|
| **Specification** | Price ≤ 2 Mn THB **Battery Capacity : 1-50 kWh** | Price ≤ 2 Mn THB **Battery Capacity : ≥ 50 kWh** | Price ≤ 2 Mn THB **Battery Capacity: ≥ 50 kWh** | Price ≤ 0.15 Mn THB |
| **Cash Subsidy** | **50,000** THB/Unit | **100,000** THB/Unit | **100,000** THB/Unit | 10,000 THB/Unit |
| **Specification** | Price ≤ 2 Mn THB **Battery Capacity : ≥ 10 kWh** | Price **2-7 Mn THB** **Battery Capacity : ≥ 50 kWh** | Price ≤ 2 Mn THB **Battery Capacity : ≥ 50 kWh** | - |
| **Excise Tax** | 2% (reduced from 8%) | | 0% (reduced from 10%) | No Reduction |
| **Import Tariff** | Up to 40% Reduction | Up to 20% Reduction | No reduction | No Reduction |
| **BEV Import : BEV Production in Thailand** | **1 : 2** for the production by 2026<br>**1 : 3** for the production by 2027<br>(Production compensation must be the same model as imported for passenger cars with price at over 2 Mn THB) | | | |

Source : Board of Investment (BOI)

In 2022, prior to the implementation of the EV 3.0 measures, the Thai auto industry had a total production capacity of around 3.9 million vehicles annually[2/]. This was split approximately 40% passenger vehicles and 60% commercial vehicles, though more than 90% of the latter was accounted for by 1-tonne pickups, with some 80% of all manufacturing capacity operated by Japanese players. However, as a result of the introduction of the EV 3.0 and EV 3.5 schemes, as of April 2024, EV production capacity had expanded by some 600,000 units (Table 5), almost all of which is from Chinese auto assemblers. However, due to the rising popularity of EVs and stiff price competition, some manufacturers that had not yet brought new EV models to the market (e.g., Suzuki and Subaru), changed their business model and switched to importing autos for distribution to the domestic market rather than producing these locally. This then cut production capacity by around 60,000 vehicles per year[3/].

As of 2023, total production of all vehicles by the Thai auto industry was sufficient to place it 10th in the world rankings, 5th in Asia, and 1st in the ASEAN zone. By volume, the domestic auto market is the 18th largest in the world, the 6th largest in Asia, and the 2nd largest in the ASEAN zone (Figure 2). The market is divided into the following segments.

**Passenger vehicles/cars**: These accounted for 37.7% of domestic sales as of 2023, with this total split between 18.4% vehicles with an engine capacity greater than 1,500 cc. (14.8% sales of vehicles with an engine capacity smaller than 1,500 cc., eco-car included), and 4.5% EVs. For exports, passenger vehicles comprised 57.9% of the total value of exports, and these were considered around 50-60% of all vehicles coming off Thai production lines. The main export markets are in the ASEAN region, Australia, and the Middle East.

2/ From investment plans announced by Thailand-based auto manufacturers.

3/ As of 2012, Suzuki, the 10th biggest distributor of autos to the Thai market, had a local production capacity of 60,000 vehicles/year, but by 2023, this had shrunk to just 7,579 (BBC, 2024).

**Table 5: Capacity of BEVs Planned to Produce in Thailand by Brand as of April 2024**

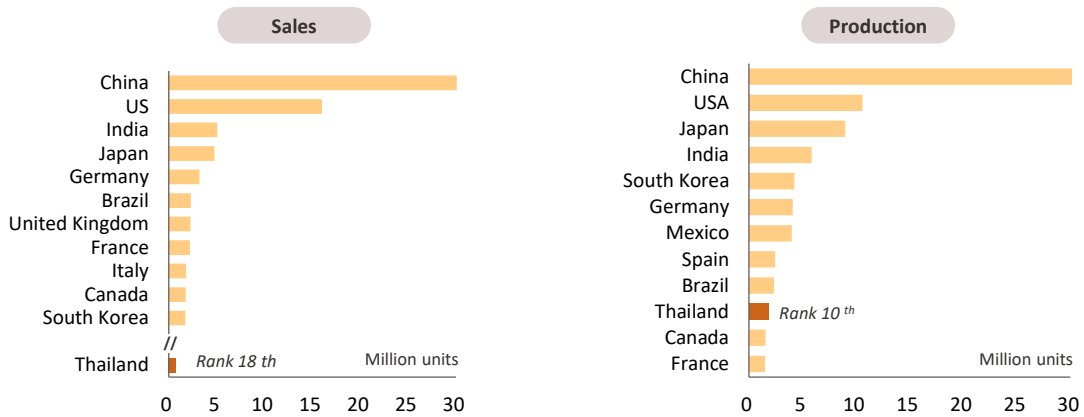
| Companies/ Brands | Nationality | Investment Value (THB, mn) | BEV Production Capacity per Year | Year of Production |
|---|---|---|---|---|
| MG | Chinese | 10,000 | **100,000** | Q1 2024 |
| GWM | Chinese | 22,600 | **100,000** | Q1 2024 |
| NETA | Chinese | | **20,000** | Q1 2024 |
| BYD | Chinese | 17,891 | **150,000** | June 2024 |
| GAC AION | Chinese | 6,400 | **100,000** | July 2024 |
| VOLT | Chinese | 400 | **4,000** | by 2024 |
| Horizon Plus | Thai/Taiwan | 36,100 | **50,000** | by 2024 |
| CHANGAN | Chinese | 8,862 | **100,000*** | Q1 2025 |
| Chery | Chinese | 6,500 | **50,000**** | by 2025 |

Source: Compiled by Krungsri Research

Note: * In the first phase, CHANGAN plans to produce 58,000 BEVs and 36,000 PHEVs per year, respectively, and is preparing to expand production capacity to 200,000 units per year in the next phase.

** Chery plans to expand production capacity to 80,000 XEVs per year.

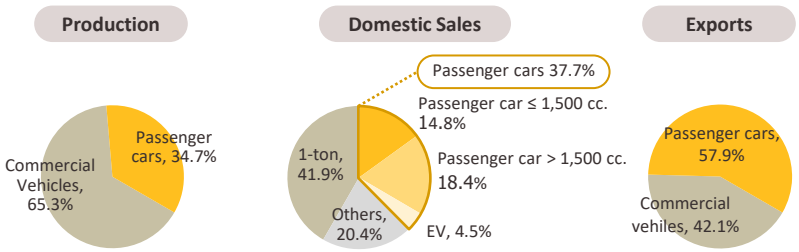
**Figure 2: Vehicle Production and Sales by Country (2023)**




Source : International Organization of Motor Vehicle Manufacturers (OICA), 2023, Krungsri Research

**Commercial vehicles**: As of 2023, these represented 62.3% of all vehicles distributed to the domestic market (41.9% 1-tonne pickups and 20.4% other commercial vehicles such as trucks, buses, and minivans). 42.1% of total export value was generated from the sale of commercial vehicles (Figure 3), most of which came from the export of 1-tonne pickups (50-60% of output is of these) and for which the most important markets are Australia, Malaysia, and the Philippines. Sales of other commercial vehicles were less important, accounting for some 10-15% of total output of these.

**Figure 3: Proportion of Thai Vehicle Production, Sales and Exports by Type in 2023**

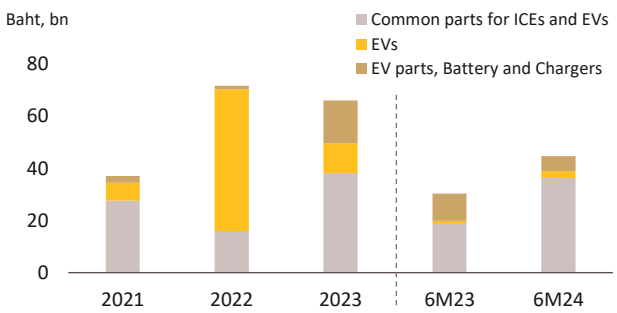



Source : The Federation of Thai Industries (FTI), Ministry of Commerce (MOC), DLT, Krungsri Research

## Promoting investment in the auto industry

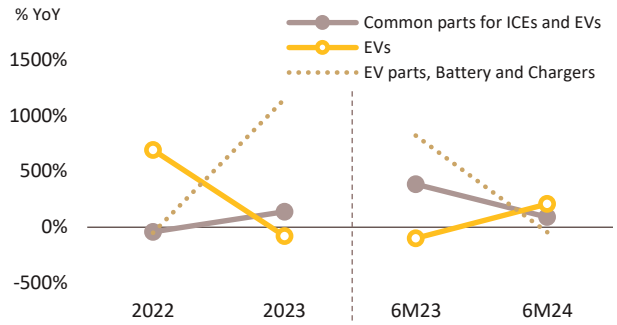
**Over the first half of 2024**, a transition period between the EV 3.0 measures (though EV manufacturers that had previously benefited from import-promotion measures were required to compensate for these with increased domestic production) and the EV 3.5 measures (which continue to provide subsidies to new EV manufacturers), investments in the auto industry continued to pick up. Thus, the value of investments approved for official support rose 47.4% YoY to THB 44.7 billion, while the number of investment projects was up 50.6% YoY to 122. The value of investments going specifically to the manufacture of EVs jumped 207.3 % YoY to USD 2.5 billion, or 5.6% of all capital inflows to the industry. These investments are generally being made by new companies that have benefited from the EV 3.5 scheme and are being used to build out the new assembly lines required by companies planning to step up domestic production over 2026 and 2027 (to meet the requirement to compensate for imports with Thailand-based production). Official supported investments in the production of auto parts also surged 90.9% YoY to THB 36.3 billion, and although investment in the production of batteries and other parts slumped -43.9% YoY (to THB 5.9 billion), this was due to the comparison with the high baseline set a year earlier. (figures 4-7)

**Figure 4 : Investment Value of Auto and Parts Projects Approved by BOI**



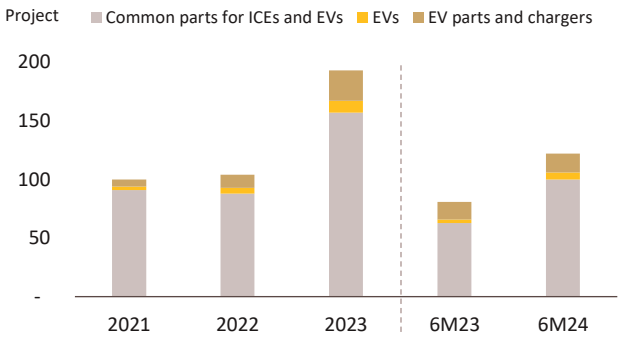

Source: BOI, Krungsri Research

**Figure 5 : Growth of Auto and Parts Investment Value Approved by BOI**



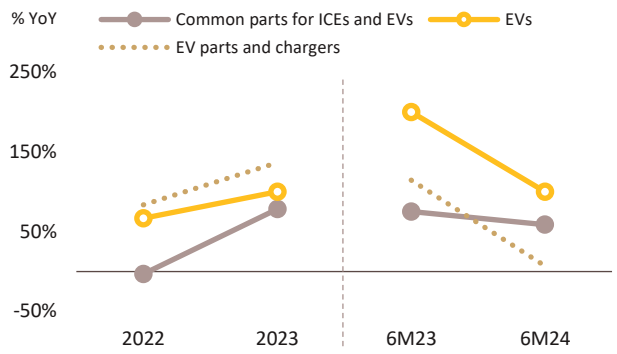

Source: BOI, Krungsri Research

**Figure 6: Number of Auto and Parts Projects Approved by BOI**




Source: BOI, Krungsri Research

**Figure 7 : Growth of Auto and Parts Projects Approved by BOI**

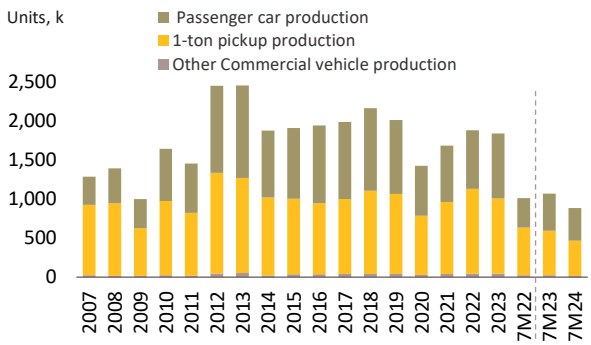



Source: BOI, Krungsri Research

# Situation

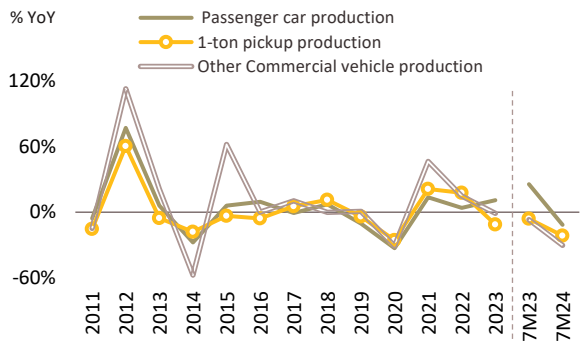
**Over 7M24, total outputs by the auto industry slumped -17.3% YoY to 886,069 vehicles** (Figure 8 and Figure 9) on softness in both the domestic and international markets. This came despite the boost to production provided by an uptick in investment in new chip production facilities that then helped to clear earlier problems with the supply of the semiconductors demanded by the auto assembly industry. Indeed, research by SEMI World Fab Forecast (2024) shows that globally, 42 new semiconductor production projects will get underway in 2024 (up 281.8%), with in order, China, Taiwan and the US the three most important chip-producing nations[4/] (Figure 10).

**Figure 8: Thailand Domestic Vehicle Production**



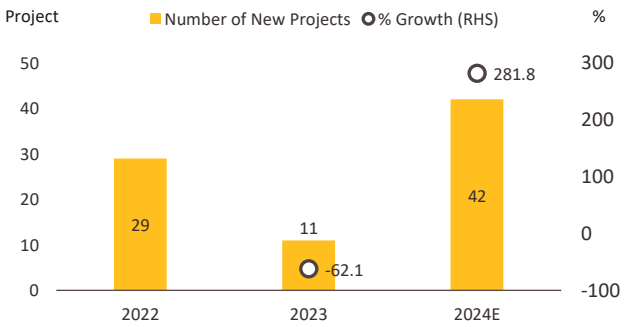

Note: Passenger car production includes passenger cars and PPVs.
Other commercial vehicle production includes buses, trucks and vans
Source : The Federation of Thai Industries (FTI), Krungsri Research

**Figure 9: Growth of Thailand Domestic Vehicle Production**




Note: Passenger car production includes passenger cars and PPVs.
Other commercial vehicle production includes buses, trucks and vans
Source : The Federation of Thai Industries (FTI), Krungsri Research

**Figure 10 : Global Semiconductor Project Forecast**



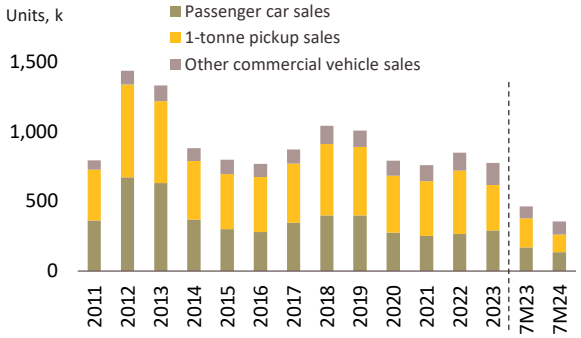

Source: SEMI World Fab Forecast (2567)

- **Output of passenger vehicles dropped -11.7% YoY to 419,570 vehicles.** Weak purchasing power and increasing consumer interest in EVs (partly to offset high fuel costs undercut the eco car market and triggered a **-12.7% YoY slide in output of vehicles in the sub-1,500 cc category (down to 220,650 units)**. Likewise, the economy's sluggish performance also encouraged buyers in the **over-1,500 cc category** to postpone purchases, and so production of these **fell -1.8% YoY to 68,554 vehicles.** This occurs even with 52.7% YoY increasing in HEV production (mostly in the over 1,500 cc. segment) to 110,632 units, as a result of consumer transitioning from ICE-powered vehicles to EVs. In the meantime, domestic output of **BEVs also rose to 5,505 vehicles**, but domestic production accounted for only some 7% of the 84,195 units imported for distribution to the domestic market over 2022 and 2023 (these imports will need to be matched in a ratio of 1-1.5 each with domestically produced units by the end of 2025).

4/ In 2024, production of the chips used in auto assembly in China, Taiwan, the US, Europe and the Middle East, and Southeast Asia will rise to respectively 8.6, 5.7, 3.1, 2.7, and 1.7 billion wafers monthly (increases of respectively 13.1%, 4.2%, 6.0%, 3.6% and 4.0%) (SEMI World Fab, 2024).

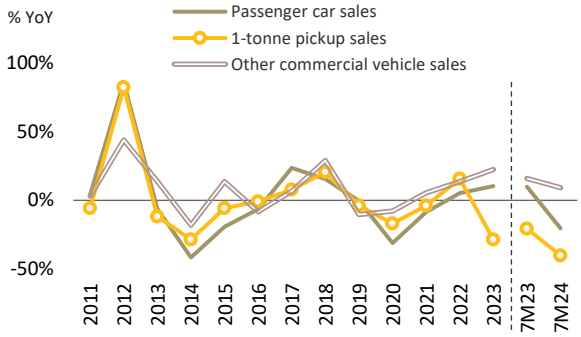
- **Production of 1-tonne pickups totaled 449,500 vehicles in the period, down -21.4% YoY** on a drop off in demand on both domestic and overseas markets. Output of single-cab pickups, which are generally used for commercial purposes, was down -29.0% YoY (to 88,323 units), while production of double-cab vehicles, which fill a variety of roles, fell -19.3% YoY to 361,177 vehicles.
- **A total of 16,999 other commercial vehicles came off Thai production lines in the period. Output was thus down -30.3% YoY**, though because sales of these are overwhelmingly to the domestic market, declines were caused by the weakness of home rather than overseas demand. Production of buses, trucks, and minivans was thus down -87.8%, -37.0% and -3.0% YoY to respectively 10, 12, 214 and 4,775 vehicles.

**Figure 11: Thailand Domestic Vehicle Sales**




Note: Other commercial vehicle sales include buses, trucks and vans
Source : The Federation of Thai Industries (FTI), Krungsri Research

**Figure 12: Growth of Thailand Domestic Vehicle Sales**




Note: Other commercial vehicle sales include buses, trucks and vans
Source : The Federation of Thai Industries (FTI), Krungsri Research

These declines were mirrored in the **-23.7% YoY fall off in the domestic sales of vehicles, which therefore shrank to a total of 354,421 units** (Figure 11 and Figure 12). The situation for individual segments was as follows.

1) **Sales of passenger vehicles slipped to 135,897 units, down -20.3% YoY** on weaker demand in the ICE segment. The latter is particularly dependent on the strength of purchasing power at mid and lower-end price points, especially from new entrants to the labor market, but this has been impacted by the run-up in the cost of living, elevated oil prices, the rise in borrowing costs, and the increasing care exercised by lenders over the release of new auto loans. Demand for SUVs did better in the period and since these are typically larger, more expensive vehicles, sales have expanded in step with the more rapid growth in the purchasing power of wealthier buyers. Based on data on registrations of new vehicles recorded by the Department of Land Transport over the first seven months of 2024, domestic sales were split between the different types of engine/fuel as described below (Table 6).

    - **ICE-powered vehicles**: New registrations crashed -34.9% YoY to 215,337 vehicles. Sales were undercut by weak domestic spending power, which was itself eroded by a combination of the high cost of living, elevated oil prices, and the recent cycle of rate hikes. ICE vehicles are also falling out of favor as consumers increasingly worry about the high cost of fuel and the environmental impacts of internal combustion engines, and so buyers are switching to HEVs and BEVs as the range of new models gradually improves.
    - **HEV passenger vehicles**: New registrations surged to 83,400 vehicles, up 61.4% YoY. This segment benefits from the natural advantages of HEVs, which combine the benefit from both ICE vehicles and EVs that attract consumers looking to cut both their fuel bills and their emissions. In addition, the market is in a transitionary stage, and with the supply of charging stations still insufficient and many buyers concerned about the limited range of the BEVs currently on sale, demand is being diverted to the HEV segment. Sales have benefited further from the range of HEV models that are now available, a result in particular of stiff competition between the major Japanese manufacturers and the expanding supply of low-cost BEVs.

5/ As of 2024, some BEVs in the THB 0.8-1 million band now have a range in excess of 400 km/charge (as per the UN Worldwide Harmonized Light Vehicle Test Procedures (WLTP)).

**Table 6: New Registration of Passenger Cars by Engine**

| | | 2019 | 2020 | 2021 | 2022 | 2023 | 7M23 | 7M24 |
|---|---|---|---|---|---|---|---|---|
| ICE | units | 712,139 | 557,868 | 511,139 | 569,491 | 501,038 | 330,761 | 215,337 |
| | % YoY | 2.6% | -21.7% | -8.4% | 11.4% | -12.0% | -5.8% | -34.9% |
| HEV | units | 26,424 | 29,379 | 34,325 | 63,470 | 84,366 | 51,666 | 83,400 |
| | % YoY | 32.3% | 11.2% | 16.8% | 84.9% | 32.9% | 39.7% | 61.4% |
| BEV | units | 650 | 1,268 | 1,943 | 9,584 | 75,715 | 36,574 | 41,993 |
| | % YoY | 1040.4% | 95.1% | 53.2% | 393.3% | 690.0% | 921.3% | 14.8% |
| PHEV | units | - | - | 7,060 | 11,330 | 11,692 | 7,243 | 5,717 |
| | % YoY | - | - | - | 60.5% | 3.2% | 7.8% | -21.1% |

Source : Department of Land Transport (DLT), Krungsri Research

- **BEV passenger vehicles**: New registrations were up 14.8% YoY to 41,993 vehicles, but with the EV 3.0 stimulus measures terminating in January, and with this, the transition to EV 3.5 and less generous subsidies for purchases of new vehicles, sales fell by an average of -14.8% YoY over February to July. As elsewhere in the market, sales were also hurt by the sluggishness of the economy, the rise in the cost of living, and stricter lending for auto loans. However, more positively, sales of BEVs were lifted by the increasing number of models on the market (as of March 2024, 54 different EVs made by 25 manufacturers were on sale in Thailand) and their steadily improving range[5/].
- **PHEV passenger vehicles**: Having grown 7.8% YoY in 2023, sales of these dropped -21.1% YoY over 7M24, falling to just 5,717 vehicles. The PHEV segment is suffering from the fact that PHEVs and BEVs share many similarities, most notably in how they are charged, but the combined effect of government efforts to stimulate the BEV market and stiff competition on price between BEV manufacturers has been to make BEVs the more attractive choice. In addition, manufacturers are tending not to develop new PHEV models.

2) **124,562 1-tonne pickups were distributed to the domestic market over 7M24, a fall of -40.1% YoY**. The market has been badly affected by the sharp increase in NPLs among low- to mid-income borrowers, especially among those working in the agricultural sector, for whom the El Niño and resulting drought and fall in yields has amplified pre-existing financial stresses resulting from the rise in the cost of living, persistently high levels of household debt, and the increase in the interest charged on auto loans. Data from the Credit Bureau for 5M24 show that there are 2.8 million outstanding loans on pickups and that these have a combined value of THB 990 billion. Within this, 0.43 million loans (15.6% of the total) are more than 90 days in arrears, and these have a total outstanding value of THB 140 billion (13.9% of the total); these figures represent jumps of respectively 28.7% YoY and 39.0% YoY (BTimes, 23 July 2024).

3) **Sales of other commercial vehicles climbed 9.1% YoY to 93,962 vehicles**, split between the following.

- **Four-wheel-drive commercial vehicles**: 76,320 vehicles were distributed to the domestic market in 7M24, up 23.8% YoY on heavier sales of four-wheel-drive pickups. This segment is dependent on the purchasing power of mid- to upper-income buyers, and as this improved, sales rose.
- **Buses, trucks, and minivans**: In this segment, sales slumped -28.0% YoY to just 17,642 vehicles. Sluggish economic conditions weighed on investment, manufacturing and trade, and so expansion in demand for transport and distribution services fell relative to the strong growth seen over 2020-2023, when the e-commerce sector was growing rapidly.

Worries over the elevated level of non-performing auto loans in Q2 has encouraged lenders to restrict the release of new credit, and this is weighing on growth in the domestic auto market. Although at just THB 25.31 billion, or 2.3% of the total, both the value and the share of NPLs to total debt is relatively low in the auto loan segment compared to other types of personal debt (Figure 13), over 2019-2024, the value of non-performing auto loans has grown by 8.4% CAGR, which is faster than all other types of personal loans. There is also a further risk that debts currently classified as special mention loans (SMLs) will in future mature into fully fledged NPLs; at present these account for 15.1% of all outstanding auto loans (or a value of THB 169.36 billion), and over 2019-2024, these grew by 17.0% CAGR.

Moreover, while a combination of debt holidays, debt restructuring, and tighter lending conditions has slowed the rate of growth in NPLs and SMLs since 2023 (Figure 15), financial institutions continue to be wary about approving new auto loans. This is reflected in the Diffusion Index for auto loan approvals, which remained negative through Q2 and which continues to fall.

**Figure 13: NPL of Auto Loans Compared to Other Consumer Loans**

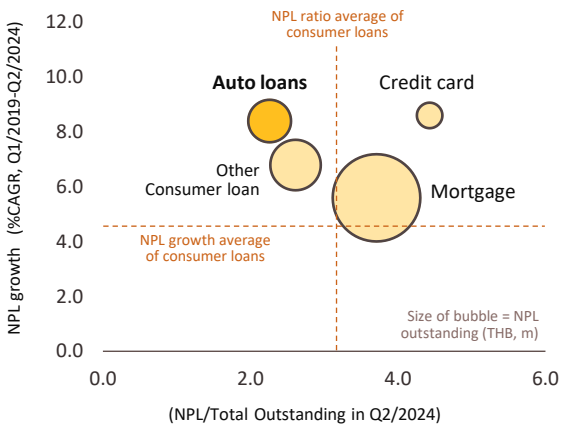



**Figure 14: NPL to Total Outstanding (NPL Ratio)**

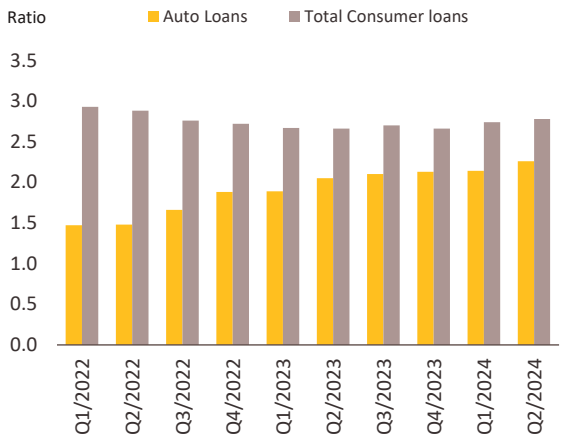
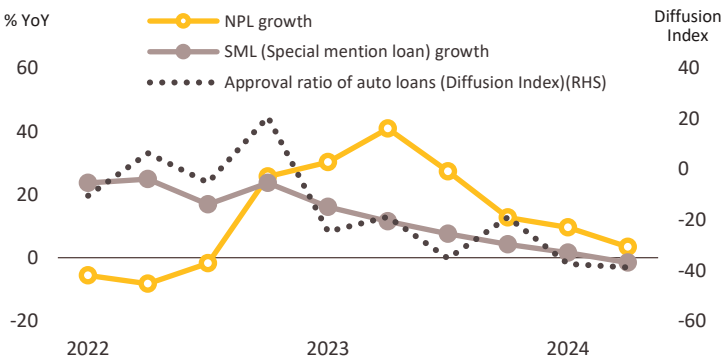



**Figure 15: NPL and SML growth in Auto Loan Outstanding**

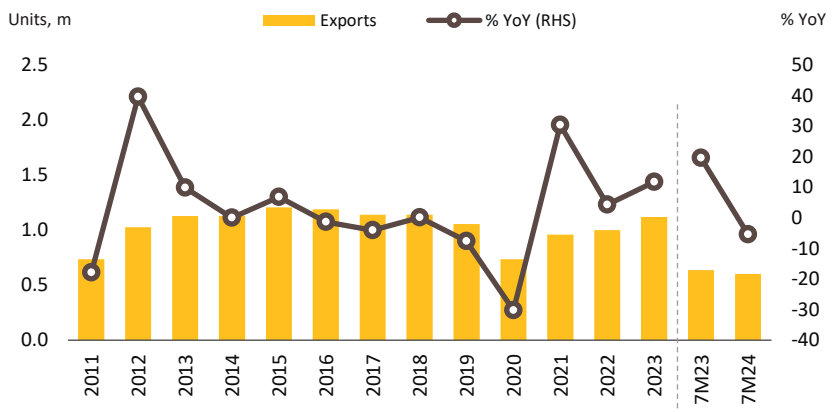



Source: Bank of Thailand (BOT)

**7M24 exports were down -5.4% YoY to 602,576 vehicles** (Figure 16), with receipts from these sales likewise edging down -3.8% YoY to USD 12.2 billion. Declines were seen in both the passenger and commercial vehicle segments, for which income declined by respectively -3.9% and -3.6% YoY (or to totals of USD 7.1 billion and USD 5.1 billion), resulting from softening economic conditions in export markets. The contraction was also due to comparison with the high baseline set in 7M23, when exports surged 19.6% YoY on loosening supply chains and easing problems with chip shortages that then allowed manufacturers to ramp up production and so clear backorders carried over from 2022. Nevertheless, despite this overall decline, some export markets performed well, most notably the 11.4% YoY jump in sales into the Australian market (with a 31.1% share of all auto export value, the country is Thailand's largest overseas market) (Figure 17). In particular, sales into Australia of passenger vehicles and of pickups, buses and trucks did well, strengthening by respectively 20.4% and 4.7% YoY.

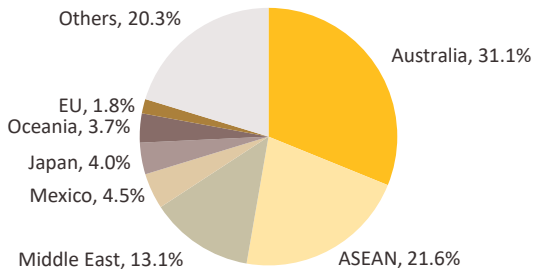
However, differences emerge when export sales are split by vehicle type. Thus, while export value slipped -8.9% YoY to USD 6.31 billion for **ICE-powered passenger vehicles** (a result of baseline effects and the surge in output as manufacturers rushed to fill backorders and meet pent-up demand carried over from a year earlier), for **HEVs and PHEVs**, this jumped 29.9% YoY to USD 0.59 billion as consumers interested in EVs hesitated to fully commit to BEVs and so compromised on HEVs instead. Overseas sales of **BEV passenger vehicles** also performed exceptionally well, generating receipts worth USD 0.19 billion (up 4,435.2% YoY) to broadly mirror the 58.7% CAGR for global registrations of new EVs maintained over 2020-2023 (IEA, 2024). In particular, sales have benefited from: (i) stronger supply through 2024 as auto assemblers including MG, GWM, NETA and BYD began the domestic production of BEVs that appeal to consumers and that meet international standards; and (ii) growing global consumer familiarity with and knowledge about BEVs.

**Figure 16: Automobile Exports**




Source: The Federation of Thai Industries (FTI)

**Figure 17: Thailand's Vehicle Export Value by Destination (7M2024)**




Source : Ministry of Commerce (MOC), Krungsri Research

**Table 7: Export Value and Growth**

| USD, mn | 2022 | 2023 | 7M23 | 7M24 |
|---|---|---|---|---|
| Passenger ICEs | 10,662.6 | 11,781.5 | 6,924.9 | 6,311.9 |
| Passenger HEVs and PHEVs | 499.9 | 1,020.1 | 451.6 | 586.5 |
| Passenger BEVs | 2.3 | 6.2 | 4.2 | 191.5 |
| Passenger ICEs % YoY | | 10.5% | 20.6% | -8.9% |
| Passenger HEVs and PHEVs % YoY | | 104.1% | 76.5% | 29.9% |
| Passenger BEVs % YoY | | 172.9% | 233.6% | 4,435.2% |

Source : Ministry of Commerce (MOC), Krungsri Research



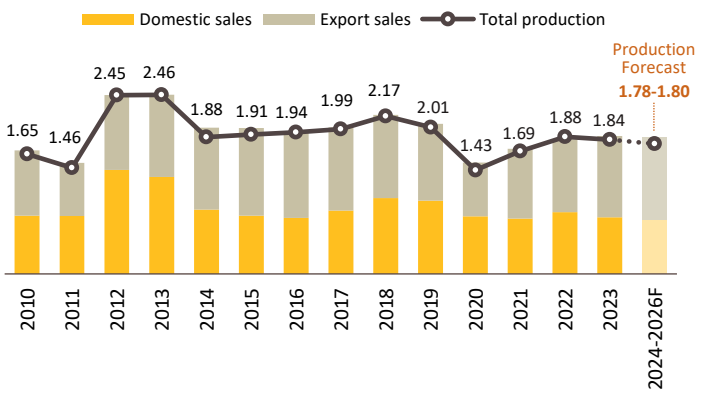
# Outlook

**Auto Production is expected to decrease by -3.5 to -2.5% annually to a total of 1.78-1.80 million vehicles per year** (figure 18 and table 8). This will come under pressure from a shrink in the domestic sales in 2024 and the import of some 100,000 EVs over 2024 and 2025, especially of low-cost Chinese models, which will add to competitive pressures within the market (Bangkok Business News, 11 July 2024, data from the Excise Department and the Ministry of Commerce).

Nevertheless, domestic production should return to growth in 2025 and 2026 on: (i) the uptick in investment in new semiconductor fabs made by leading global manufacturers, which has now helped to clear earlier supply shortage problems. However, the US-China tech war and the restrictions placed by US authorities on exports of semiconductors and high-tech machinery for chip productions may lead to periodic supply chain disruptions; (ii) cuts to vehicle excise duty for HEVs that will then encourage manufacturers that can develop HEVs (generally incumbents) to increase the scale of their investments in Thailand-based production facilities over 2024-2027[6/]; (iii) the requirement that companies benefitting from the EV 3.0 and EV 3.5 schemes compensate for earlier imports made under these programs by increasing domestic production over 2024-2025 and 2026-2027 respectively, which will then boost xEV production capacity from new xEV players by 600,000 vehicles annually from 2025 onwards (with an initial production target of around 500,000 units annually); and (iv) an improving economic outlook at home and in export markets that will lift auto sales in 2025 and 2026.

**Figure 18: Thai Auto Production and Sales Forecast**

(Units, m)




Source: The Federation of Thai Industries (FTI), Forecast by Krungsri Research

**Table 8: Thai Auto Production and Sales Growth Forecast**

| | | 2020 | 2021 | 2022 | 2023 | Avg 2024-2026F |
|---|---|---|---|---|---|---|
| Production | units, m | 1.43 | 1.69 | 1.88 | 1.84 | 1.78-1.80 |
| | % YoY | -29.1% | 18.1% | 11.7% | -2.2% | (-3.5) - (-2.5)% |
| Domestic Sales | units, m | 0.79 | 0.76 | 0.85 | 0.78 | 0.74-0.75 |
| | % YoY | -21.4% | -4.2% | 11.9% | -8.7% | (-4.5) - (-3.5)% |
| Exports | units, m | 0.74 | 0.96 | 1.00 | 1.12 | 1.13-1.20 |
| | % YoY | -30.2% | 30.4% | 4.3% | 0.5% | 1.0-2.0% |

Source: The Federation of Thai Industries (FTI), Forecast by Krungsri Research

6/ To qualify for these incentives, companies are required to invest at least THB 3 billion over 2024-2027 in the manufacture of at least 3 high-value products as specified by the BOI, though these may be replaced with investments in a number of mid-value products, again as specified in the BOI regulations. Companies also need to install at least 4 of 6 smart safety devices in their vehicles. HEVs that emit respectively less than 100 g/km or 101-120 g/km of $CO_2$ will then see their excise duty held at 6% and 9% over 2028-2032 (otherwise, this will increase at a rate of 2% annually from 2028 onwards).

Through the coming three years, **the number of vehicles distributed to the domestic market is expected to contract by between -4.5% and -3.5% annually, bringing sales to a total of around 0.74-0.75 million vehicles per year. However, sales will slump by -20.5% to -19.5% in 2024** on the back of: (i) still-weak consumer spending power, eroded by the high cost of living and elevated levels of household debt, that may increased the NPLs and special mention loans (SMLs) proportions, forcing lenders to remain prudent on auto loan approvals; (ii) the impacts of the recent El Niño on the agricultural outputs and the resulting tendency of farmers to postpone purchases of commercial vehicles; (iii) delays to spending on government-backed infrastructure construction projects, which has then dragged on demand for transportation services in the provinces; and (iv) the enforcement of the Euro 5 standards for diesel vehicles in 2024[7/] that put upward pressure on production costs and prices for related ICE-powered vehicles

Following the decline in sales in 2024**, the situation should recover over 2025 and 2026** supported by improving demand from recovery in business activity and investment. The tourism sector also continues to recover, with the number of foreign arrivals forecast to return to its pre-Covid level in 2025, adding to demand for passenger vehicles. Similarly, an increase in spending on infrastructure construction will boost demand for the commercial vehicles, while the transition to La Niña conditions will lift rainfall, raise yields, and expand demand for the pickups used by farmers to transport their goods. In addition, other factors tending to support growth in demand will include (i) the extensive use of marketing promotions and strong competition on price within the BEV segment itself, and the development of new ICE passenger models as manufacturers of these fight EV producers for market share[8/]; (ii) the downward trend in auto repossessions[9/], thereby allowing used car prices to rise and encouraging some consumers to make purchases of new vehicles once they can realize a better price for their current car; and (iii) the ongoing impacts of the EV 3.5 measures, which will tend to stimulate additional domestic demand for these, and the development of newer and better performing models, in particular concerning their range per charge.

**Exports are forecast to rise by 1.0-2.0% per year to a total of 1.13-1.20 million vehicles annually.** However, exports will be flat or slightly decline in 2024. Allianz Research's 2024 analysis shows that globally, registrations of new autos will be up by just 1.9% in the year (down from 11.3% in 2023, when the easing of bottlenecks in semiconductor supply chains and improving outlook for the world economy helped to release pent-up demand). Headwinds will come in the form of softening purchasing power, especially in China and Europe, although the volume of exports from Thailand will tend to accelerate over 2025 and 2026 due to economic growth and investment conditions improvement in target markets overseas. In particular, the ASEAN zone will benefit from increasing investment in local production facilities that will come from Chinese and Japanese players looking to hedge against ongoing geopolitical risk.

Exports of ICE-powered vehicles will benefit from the fact that major chip manufacturers have invested considerable sums in new semiconductor production facilities, allowing auto assemblers to clear the backlog of orders and of demand generally in overseas markets. Deloitte (2020) sees global sales of ICE-powered vehicles peaking in 2025 at 81.7 million units, at which point sales of EVs will begin to make inroads into the market for ICE vehicles. For Thailand-based manufacturers, exports to Australia are especially exposed to risk. With average sales of around 0.2 million annually (Reuters, 6 March, 2024), this is Thailand's most important overseas market but new Australian environmental controls that aim to cut $CO_2$ emissions will be enforced from 2025 onwards, and this will impact the market for ICE vehicles, especially pickups, which may not meet these new standards. However, exports of EVs will accelerate as global demand strengthens, and in the ASEAN zone, growth is forecast to run at 16-39% CAGR over 2021-2035 (EY Research, 2023).

7/ A study by the Ministry of Energy presented to a meeting of the National Environment Board shows that the enforcement of the Euro 5 measures will increase costs by around THB 25,000 per vehicle.

8/ Recent intense competition on price has not only impacted BEV prices, but has also helped to bring these down for HEVs and ICE-powered vehicles. Prices for some auto models have thus fallen by THB 88,000-140,000, while distributors have in addition been forced to offer potential buyers other non-price incentives (source: Daily News, 1 July, 2024).

9/ As a result of both tighter lending conditions and debt restructuring arrangements, repossessions fell from a monthly high of 27,000 to 23,000 in June 2024 (source: Prachachat 12 June, 2024).

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