



澳門大學  
UNIVERSIDADE DE MACAU  
UNIVERSITY OF MACAU

# BYD AUTO

## Financial Overview

### Financial Strength and Market Outlook

⑧ Group: CPFA

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# 1. Company Overview

## 1.1 Introduction



### Founding Background

BYD was founded in 1995 by Wang Chuanfu, initially focusing on rechargeable batteries, later expanding into EVs, becoming a global leader in new energy.

### Mission and Vision

BYD's mission is to drive sustainable development through innovation, with the vision to lead the global new energy revolution and achieve a green future.

### Globalization Strategy

BYD actively expands into international markets, promoting new EVs and technologies across major regions including Asia, Europe, and the Americas.

## 1.1 Introduction

### KEY INFORMATION ABOUT BYD



Company  
BYD



Market Capital  
¥692.70 billion  
(\$95.5 billion)



Public or private  
Public



Headquarter  
Shenzhen, China



Profit  
¥4.57 billion  
(\$630 million)



CEO  
Wang Chuan-Fu



Foundation  
1995



Revenue  
¥124.94 billion  
(\$17.23 billion)



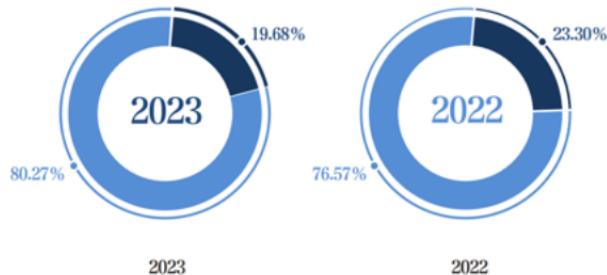
Number of  
Employees  
704,000

01

### Electric Vehicles

#### REVENUE BREAKDOWN BY PRODUCT CATEGORIES

- Mobile handset components, assembly service and other products
- Automobiles and related products, and other products



02

### Batteries

Closely connected to its overarching mission of promoting sustainable transport and energy solutions, positioning it as a leader in the global transition to green technology.

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### Rail Transit

04

### Electrification of Public Transportation

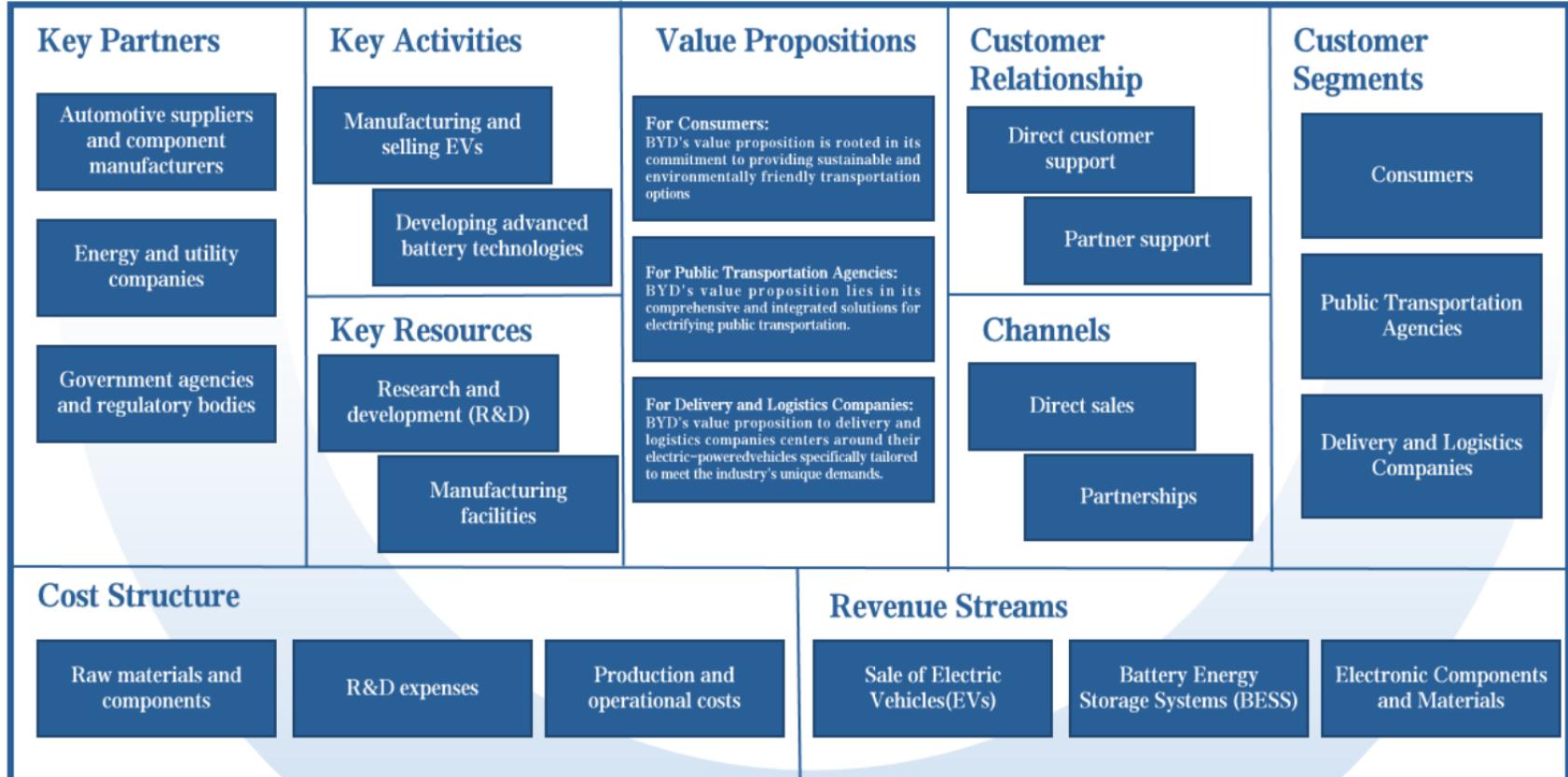
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### Electronics

05

### Solar Power

# 1.3 Business Model Canvas



## MISSION STATEMENT OF BYD



To change the world by creating a complete, clean-energy ecosystem that reduces the world's reliance on fossil fuels.

Greenhouse Gas Emissions in 2023:

Category	Unit	2021	2022	2023
Scope I- greenhouse gas emission (CO <sub>2</sub> equivalent)	Ton	315,610	550,932	931,915.86
Scope II- greenhouse gas emission (CO <sub>2</sub> equivalent)	Ton	4,903,502	7,511,038	11,409,538.71
Total greenhouse gas emission (CO <sub>2</sub> equivalent)	Ton	5,219,112	8,061,970	12,341,454.57
Greenhouse gas emission intensity	Ton/RMB10,000 revenue	0.24147	0.19011	0.20490

Source: 2023 BYD CORPOATE SOCIAL RESPONSIBILITY REPORT

## 2. Macroeconomic

## 2.1 National Strategy and Policies



Support in terms of policy has clearly decreased, and the policy dividend period in our country has ended. However, the refinement of policy goals is driving high-quality industry development, and the strategic layout is now more comprehensive.

### Trend of Financial Support for NEVs



#### Stimulate Individual Consumption

Tax Incentives and Subsidies



#### Refined Policies to Promote Technological Advancement

Major Projects in Key Areas Such as Lithium-ion Batteries Under Construction



#### Improvement of Supporting Facilities

Charging Infrastructure Development

#### Promote Development of New Energy Vehicle Companies

Financial Support

#### New Energy Vehicle Battery Swapping Model

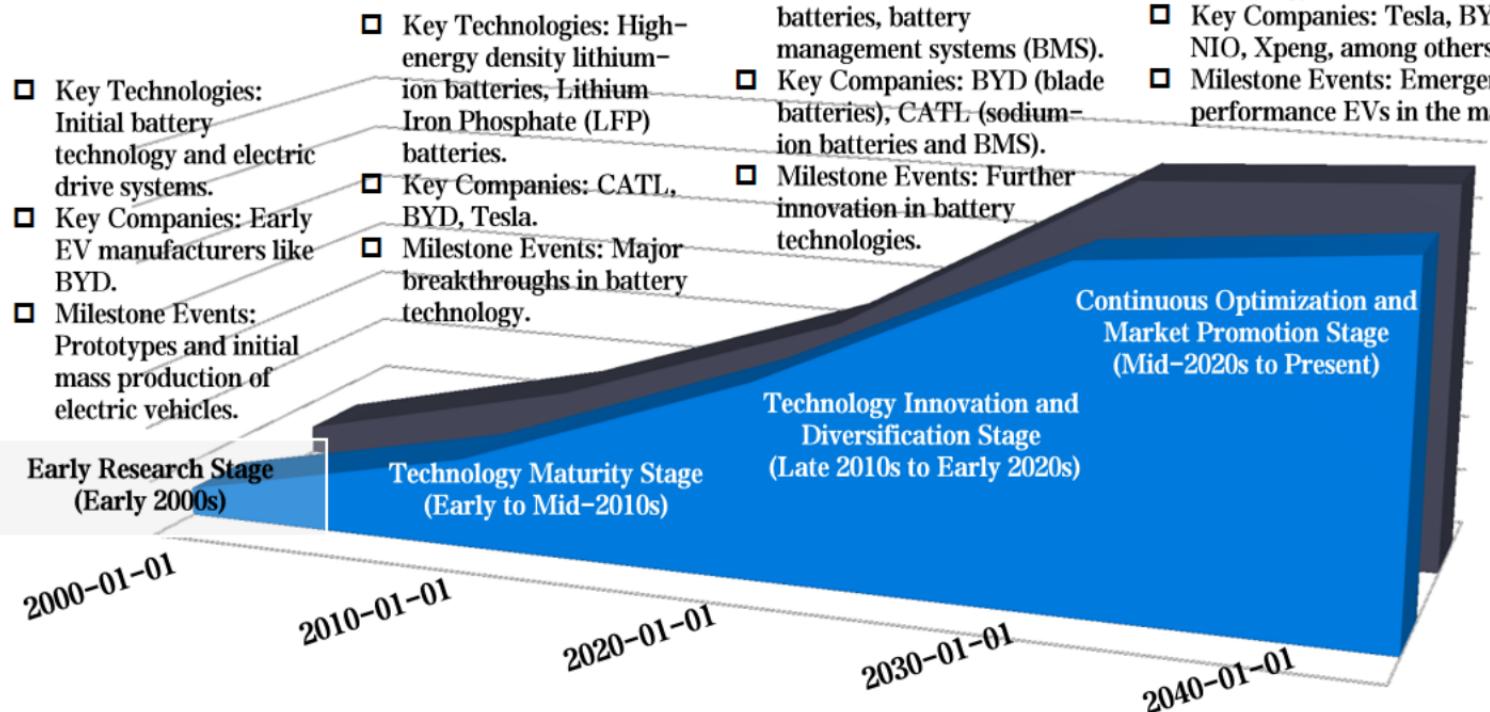
Promote Deep Integration of New Energy Vehicles and Energy

#### Rural Revitalization

Promote the Popularization of New Energy Vehicles in Rural Areas

## 2.2 NEV Development Stages

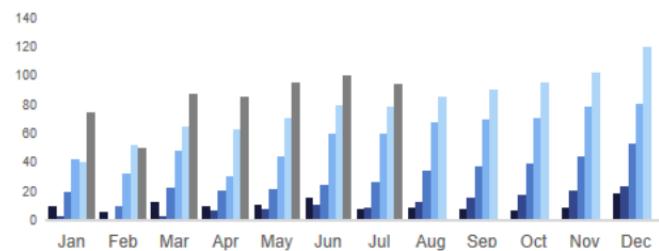
The tech-led era has ended. Now, competition centers on supply chain strength, including cost, value, speed, and inventory management.



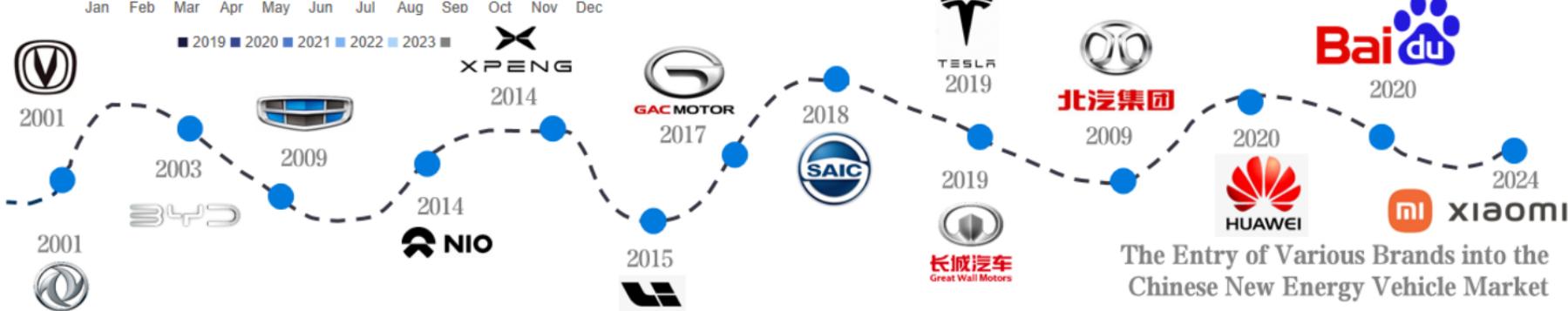
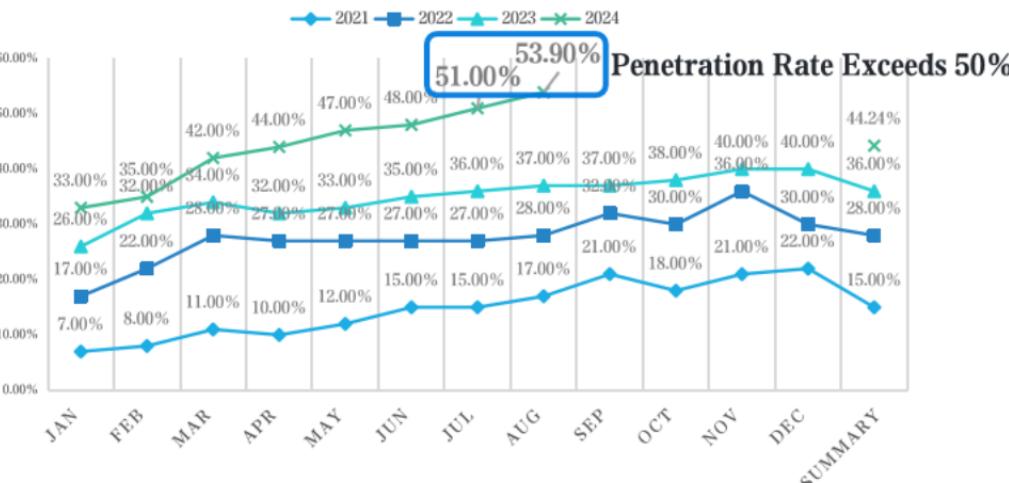
## 2.3 Domestic Market Cycle

With advancements in technology and improvements in charging infrastructure, market demand and competition have increased, prompting major automakers and industry giants to enter the new energy vehicle sector.

**China's New Energy Vehicle Sales**  
(Unit:10000)



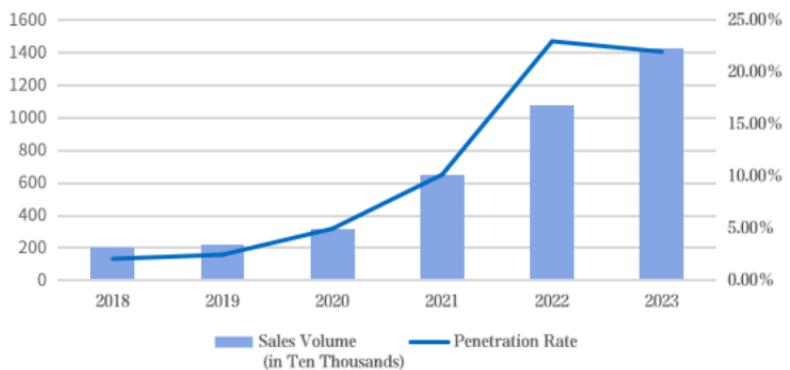
### DOMESTIC PENETRATION RATE OF NEW ENERGY PASSENGER CARS



## 2.4 National Strategy and Policies

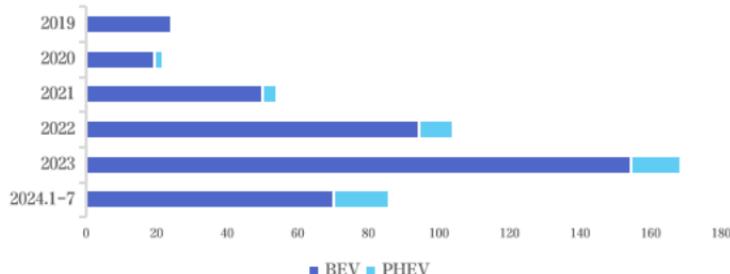
In 2023, despite ongoing pressures from Europe and the US, global economic downturns, and geopolitical risks, Chinese automakers achieved an export volume of **5.22 million vehicles**, surpassing Japan to become the world's largest car exporter. China's new energy passenger vehicle exports reached **1.761 million units** in 2023, an increase of 605,000 units from 2022, with a **growth rate of 49.6%**.

**Global New Energy Vehicle Sales and Penetration Rate**

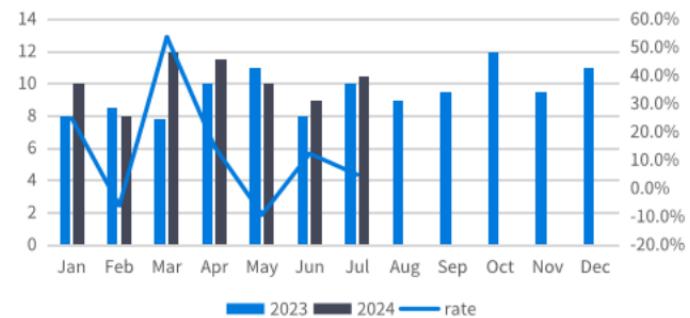


With increasing consumer environmental awareness and the maturation of new energy vehicle technology, global demand for these vehicles is expected to continue rising.

**China's New Energy Passenger Vehicle Exports (UNIT: 10000)**



**Current Situation of Export Volume and Growth Rate**



## 2.5 Passenger vehicle new four modernization index

The new four modernization index of passenger vehicles is an indicator that reflects the comprehensive performance of the passenger vehicle market in terms of **electrification, intelligence, connectivity, and sharing**.

Connectivity  
Index: 23.7



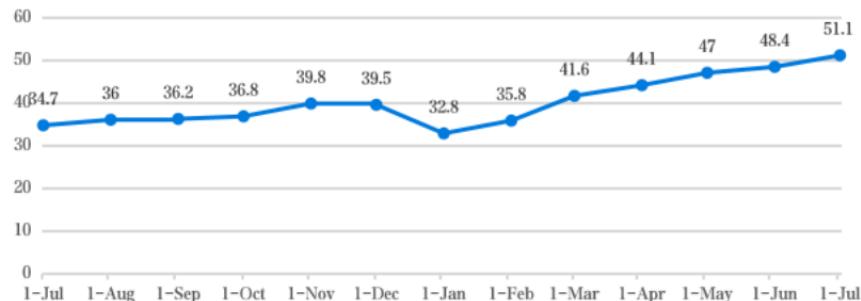
New Four Modernization Index for July 2024

Intelligent  
Index: 4.2

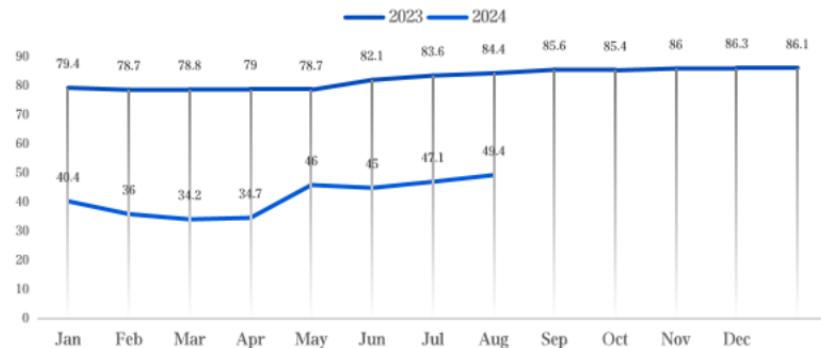
Electrification  
Index: 51.1

This index helps track technological advancements and market trends, guiding industry development and investment decisions, and informing consumers about the latest vehicle innovations.

Electrification Index

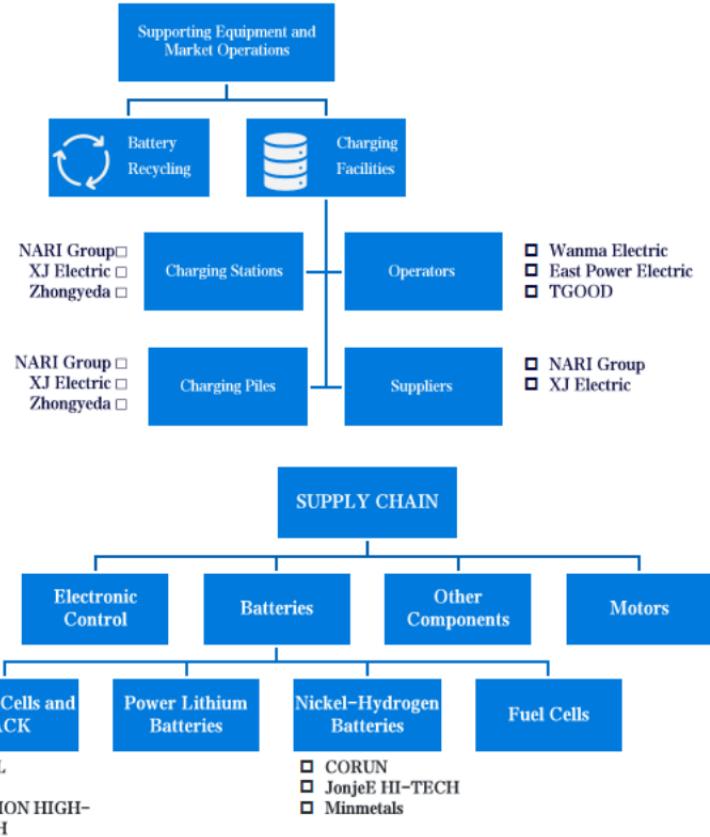
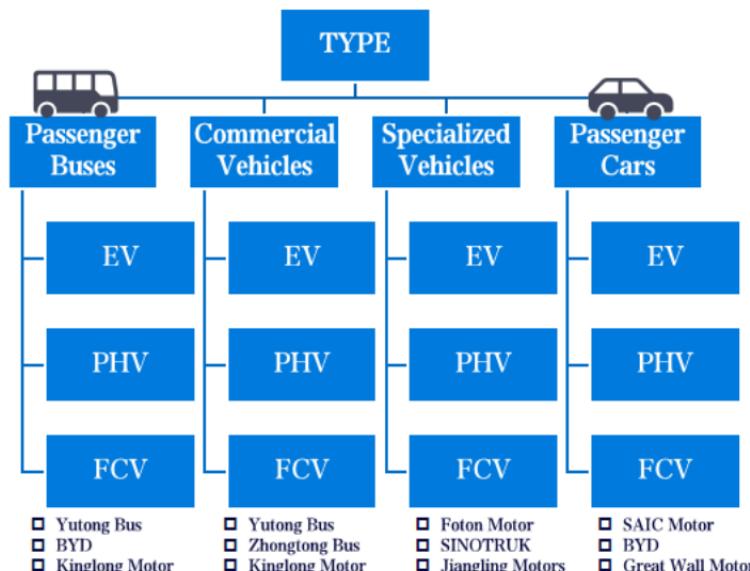


Passenger vehicle new four modernization index



## 2.6 New Energy Vehicle Supply Chain & Type

In the new energy vehicle industry, core component development is becoming separate from automakers. Vehicle manufacturers can source batteries, controls, and motors from others, and partner with firms for smart hardware and driver assistance chips. This lowers entry barriers and provides more growth opportunities. Additionally, services like charging stations and battery swap stations are becoming more crucial in the industry.



## 2.7 Market share

**1-7 Months of 2024: Retail Sales and Market Share of Domestic New Energy Manufacturers**

NO.	Manufacturer	Jan-Jul 2024	Jan-Jul 2023	YoY Growth	Market Share
1	BYD Auto	1,700,262	1,385,455	22.7%	34.1%
2	Geely Auto	363,532	175,533	107.1%	7.3%
3	Tesla China	324,544	325,528	-0.3%	6.5%
4	Changan Auto	308,085	170,883	80.3%	6.2%
5	SAIC-GM Wuling	253,971	211,919	19.8%	5.1%

**1-7 Months of 2024: Retail Sales and Market Share of Chinese Automotive Manufacturers**

NO.	Manufacturer	Jan-Jul 2024	Jan-Jul 2023	YoY Growth	Market Share
1	BYD Auto	1,700,262	1,385,455	22.7%	14.7%
2	FAW-Volkswagen	885,693	986,233	-10.2%	7.7%
3	Geely Auto	877,309	673,879	30.2%	7.6%
4	Changan Auto	736,265	748,726	-1.7%	6.4%
5	SAIC Volkswagen	599,091	632,512	-5.3%	5.2%

Data sourced from CPCA

### 3. Company Analysis

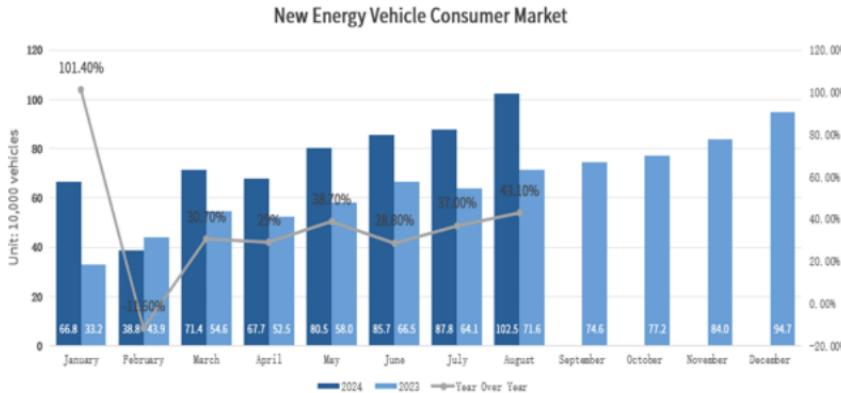
## 3.1 Porter Five Forces Analysis

### Potential Entry Riva

In the graph, we can see that the demand for new energy vehicles in 2024 has increased compared to 2023 except for the month of February. It can be seen that the domestic demand for new energy vehicles is rising day by day.

August 2024 Sales Ranking of New Vehicle Manufacturing Forces						
	Vehicle Manufacturer	August	July	Month Over Month	August 2023	Year Over Year
1	理想汽车	48122	51000	-5.6%	34914	37.8%
2	广汽埃安	35355	35238	0.3%	45029	-21.5%
3	鸿蒙智行	33699	44090	-23.6%	5018	571.6%
4	零跑汽车	30305	22093	37.2%	14190	113.6%
5	蔚来汽车	20176	20498	-1.6%	19329	4.4%
6	深蓝汽车	20131	16721	20.4%	14736	36.6%
7	极氪汽车	18015	15655	15.1%	12303	46.4%
8	小鹏汽车	14036	11145	25.9%	13690	2.5%
9	哪吒汽车	11005	11015	-0.1%	12103	-9.1%
10	小米汽车	10000+	10000+	-	-	-

Unit: Vehicle



### Entry of new manufacturers:

According to August 2024 sales statistics, the “dark horse” leapmotor has gained momentum, surpassing the 30,000-unit mark for the first time in its history.

### 3.1 Porter Five Forces Analysis

#### Competitors in the same industry

- (1) Geely is the top seller of 200,000+ pure electric cars
- (2) LIXIANG occupies the lion's share of the SUV market
- (3) Xiaomi Auto's entry
- (4) Tesla's strength still leads

#### Customer bargaining power

In terms of the bargaining power of buyers, consumers in the new energy vehicle market are more sensitive to price, especially in the context of the gradual retreat of the subsidy policy, the bargaining power of buyers may be further enhanced.

#### Bargaining power of suppliers

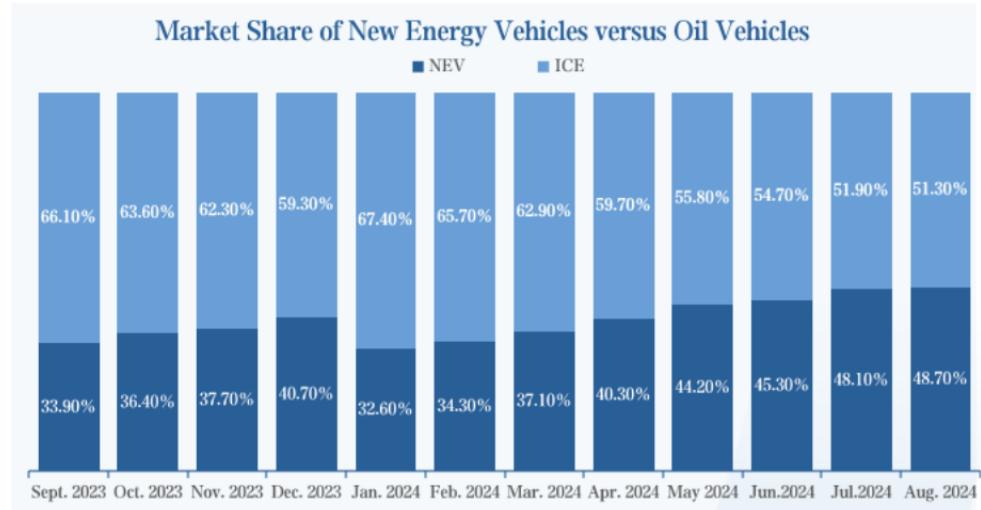
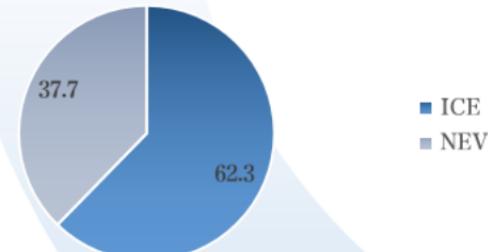
As competition in the new energy vehicle market intensifies, suppliers may raise prices or lower product quality, which will pose challenges to BYD's cost control and product quality.

## 3.1 Porter Five Forces Analysis

### Threat of Substitutes

The consumer market for oil vehicles is still huge and the market share is still very high.

2023-7-2024-7 Domestic auto sales ratio of oil vehicles to new energy sources



According to the domestic sales data of automobiles from July 2023 to July 2024, the current one-year sales of oil vehicles accounted for 62.3%, still occupying more than half of the automobile consumer market share

## 3.2 SWOT

### Strength

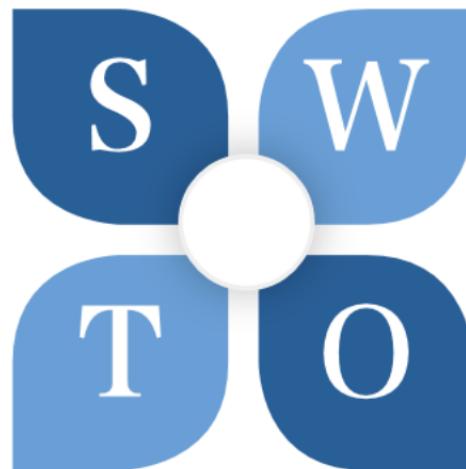
- 1、e<sup>4</sup> Platform
- 2、DMO technology platform
- 3、The blade battery
- 4、The brand matrix is rich
- 5、The scale of sales is large

### Threatness

- 1、The support policy is ended
- 2、More competitors

### Weakness

- 1、Lack of intelligent driving ability
- 2、Lack of coverage of the 20w-35w market



### Opportunity

- 1、Demand grows fastly
- 2、The technology is improving fastly

### 3.3 Core Competence Competition

#### The blade battery

In the field of electric vehicles, the high energy density and long life characteristics of blade batteries will bring longer range and more stable performance to electric vehicles. By adopting blade batteries, the charging time of electric vehicles will also be effectively shortened, thus improving the convenience of use.

Comparison of the main performance of lithium iron phosphate battery and lithium ternary battery		
	Ternary lithium battery	Lithium iron phosphate battery
Cost	High	Low 🌟
Safety (High Temperature Resistance)	Poor	Good 🌟
Cycle life	Short	Long 🌟
Energy density	High	Low
Charging performance	Good	Poor
Low Temperature Resistance	Good	Poor

1. High energy density

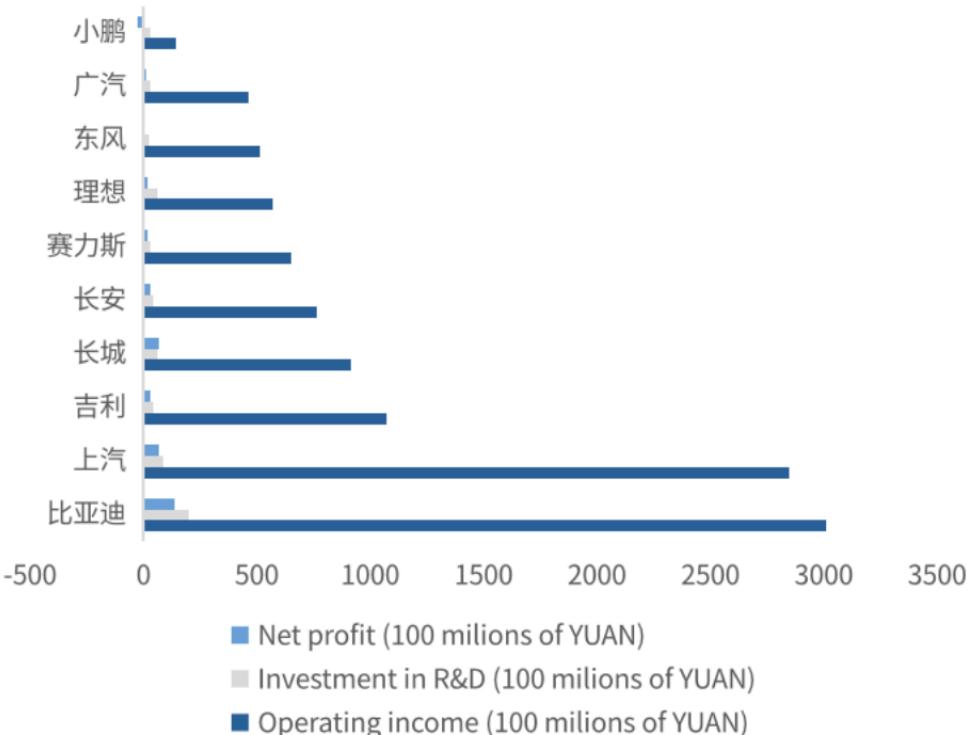
2. High safety:

3. Long lifespan

4. Easy to maintain

### 3.3 Core Competence Competition

#### Huge investment in R&D



In 2023, BYD's R&D investment amounted to **39.92 billion** yuan, a year-on-year increase of **97.4%**. In the first half of the year, R&D investment of **19.67 billion** yuan ranked first in the A-share market..

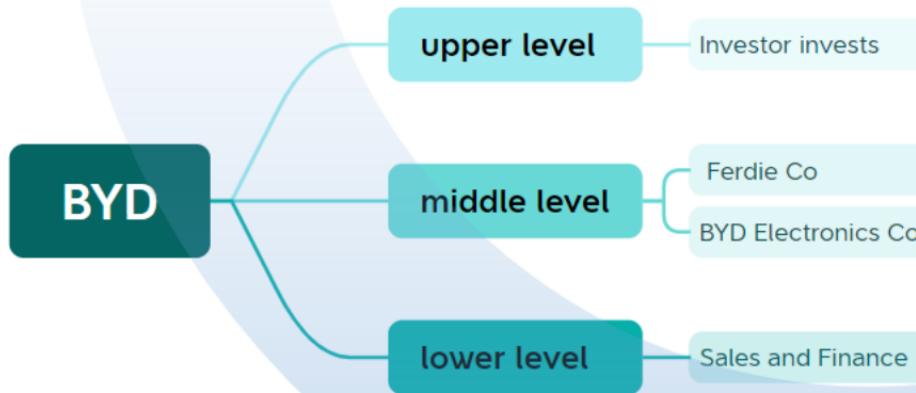
Ranking of R&D Expenses of A-share Listed Companies in the First Half of 2024

Rank	Enterprise	R&D expenses (in billions of dollars)
1	比亚迪	196.2
2	中国建筑	175.0
3	中兴通讯	127.3
4	中国移动	119.7
5	中国交建	98.6
6	中国石油	96.6
7	中国中铁	92.2
8	中国铁建	86.1
9	宁德时代	85.9
10	中国电建	83.1

### 3.3 Core Competence Competition

#### Deep integration

From the upstream raw materials to the midstream important parts and components and vehicle manufacturing, and then to the downstream infrastructure, automotive services and aftermarket, BYD has basically realized the full coverage of the new energy vehicle industry chain.



#### e<sup>4</sup> Platform

Easy quadrilateral” platform in order to accommodate the front and rear axle four independent motor, it is in the middle of the front and rear axle is the position of the differential, each put a set of integrated system, integrated with the left and right two motors + two motor controllers + left and right two reducer success. Solved the motor volume is too large wheel position no way to accommodate, if the motor size is too small, and there is insufficient power output problem.

### 3.3 Core Competence Competition

## Comprehensive product matrix

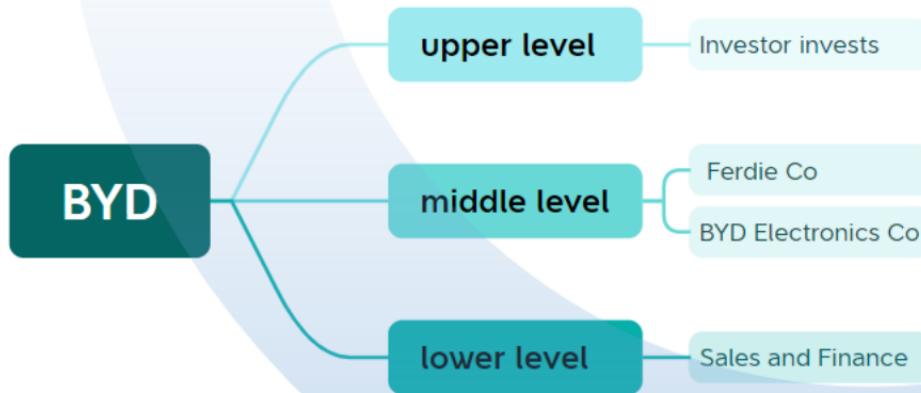
From the upstream raw materials to the midstream important parts and components and vehicle manufacturing, and then to the downstream infrastructure, automotive services and aftermarket, BYD has basically realized the full coverage of the new energy vehicle industry chain.

Core Data of Domestic Mainstream Vehicle Enterprises in the First Half of 2024 BYD Major Product Layout - Plug-in Hybrid Market									
Price level	Sedan		SUV					MPV	
>1 million								仰望U8	
500,000-1,000,000									
400,000-500,000									腾势D9
300,000-400,000							腾势N8	豹5	
250,000-300,000									
200,000-250,000	海豹	汉	护卫舰07	唐					
150,000-200,000			宋PLUS	宋Pro					
100,000-150,000	驱逐舰05	秦PLUS							
<100,000									
Brand	海洋	王朝	海洋	王朝	腾势	方程豹	仰望	腾势	

### 3.3 Core Competence Competition

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## 3.4 ESG



2019



### 3.4 ESG

- Ultra-fast electric four-wheel drive
- "542" technology
- Bidirectional inverter charging and discharging technology
- Special starting battery and management system for electric vehicle
- DM 3 generations

2020

- DM-p technology platform
- Special starting iron battery and power management system for new energy vehicles
- DM-i Super hybrid
- Blade battery technology



2021

- ◆ Set up a carbon emission control committee, officially opened the company-wide carbon peak, carbon neutrality control charter
- ◆ Lithium iron phosphate starting battery and power management system
- ◆ E platform 3.0

2022

- Successfully built the first zero-carbon park headquarters of a Chinese auto brand
- The first car company to stop the production of fuel vehicles
- AURO P efficient photovoltaic modules
- the 9th time to top China's new energy passenger car annual sales champion
- DM-p king hybrid
- CTB battery body integration technology

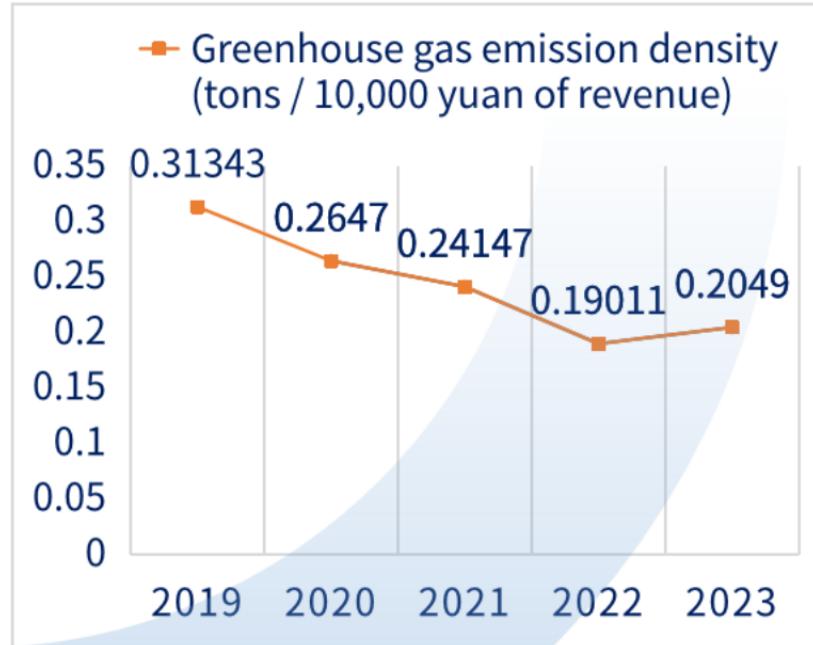
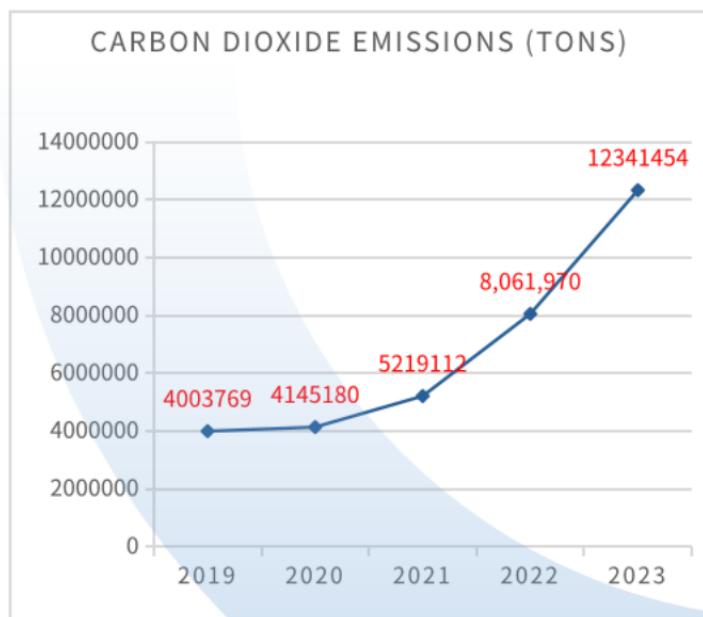
2023

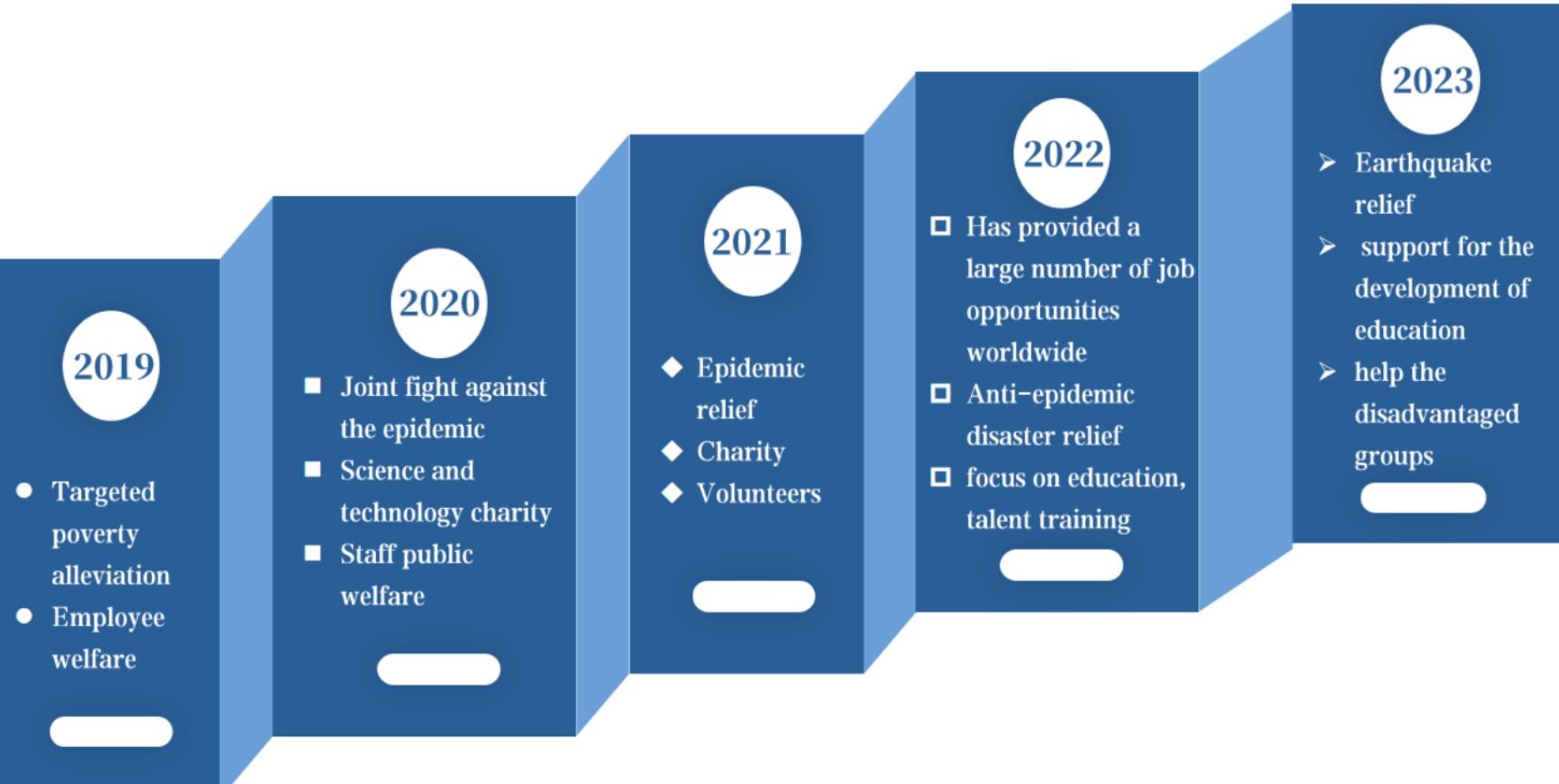
- Rubik's Cube energy storage system
- AURO N high-efficiency photovoltaic modules
- BYD new energy passenger cars China sales crown + world sales crown
- Yunchariot+DMO super hybrid off-road platform + "God's Eye" advanced intelligent driving assistance system + "Yi Sifang Technology platform" +Smart low-carbon cloud bus+TACS third generation vehicle communication train autonomous operation system

### 3.4 ESG



Although BYD's carbon dioxide emissions from 2019–2023 increased year by year, its carbon dioxide emissions per 10,000 yuan of revenue decreased year by year, except for a weak rebound in 2023 compared with 2022. This reflects BYD's efforts to control carbon emissions





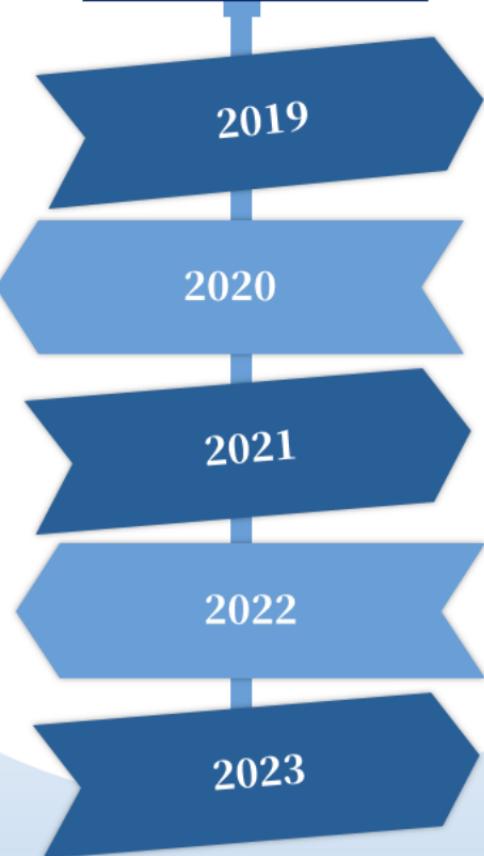
### 3.4 ESG



## Governance

- More small and medium-sized shareholders participate in shareholders' meetings
- Sales satisfaction management
- Dealer training

- ◆ Its transparency and governance structure are rated A by MSCI
- ◆ Won two firsts in J.D. Powell's 2022 China Auto Dealer Satisfaction Study
- ◆ The NPS value of customer sales and service satisfaction has been continuously improved
- ◆ 2022CAACS champion
- ◆ First launch of QIT
- ◆ Continued implementation of QCC and in-depth development

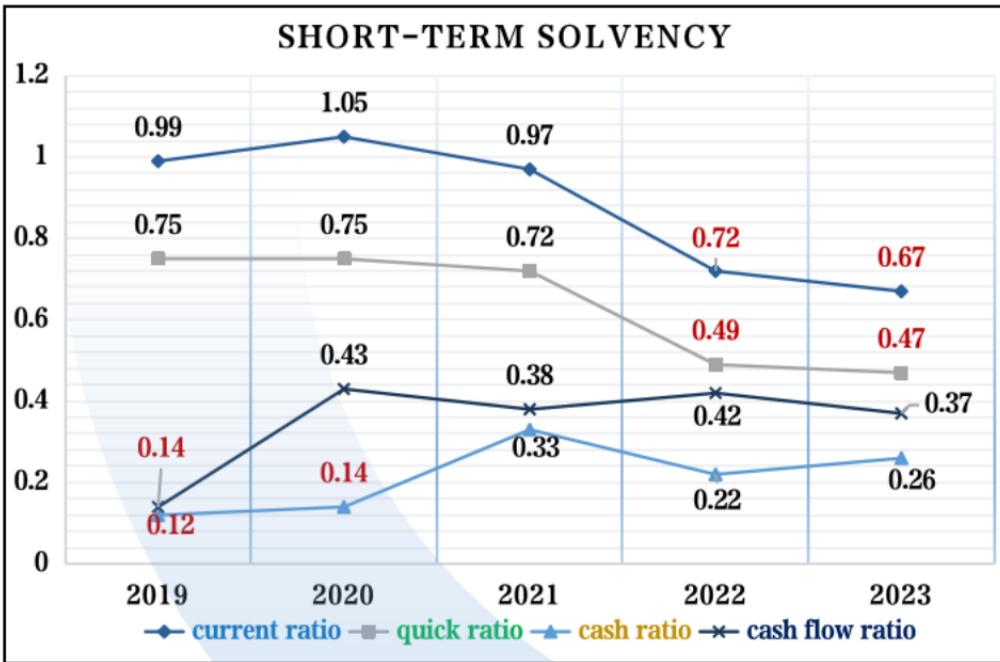


- Sales satisfaction management
  - Supplier management – Optimize and update a series of systems such as BYD Supplier Requirements
  - Talent training and development
- 
- ◆ Introduction of NPS+ Product quality management system
  - ◆ Employee care: BYD pays attention to the training and development of employees and provides diversified training and development opportunities for employees
- 
- Supplier life cycle management
  - Pay attention to dividend policy, reward shareholders
  - Sound recall mechanism
  - Push QIT, continue to implement QCC and carry out in-depth

## 4. Financial Ratio Analysis

## 4.1 Solvency

BYD



Combining with BYD's current ratio, quick ratio, cash ratio and cash flow ratio from 2019 to 2023, it is interesting that the current ratio and quick ratio are relatively ideal at the beginning, and then gradually not ideal, while the cash ratio and cash flow ratio are the reverse, not ideal at the beginning but ideal at the end.

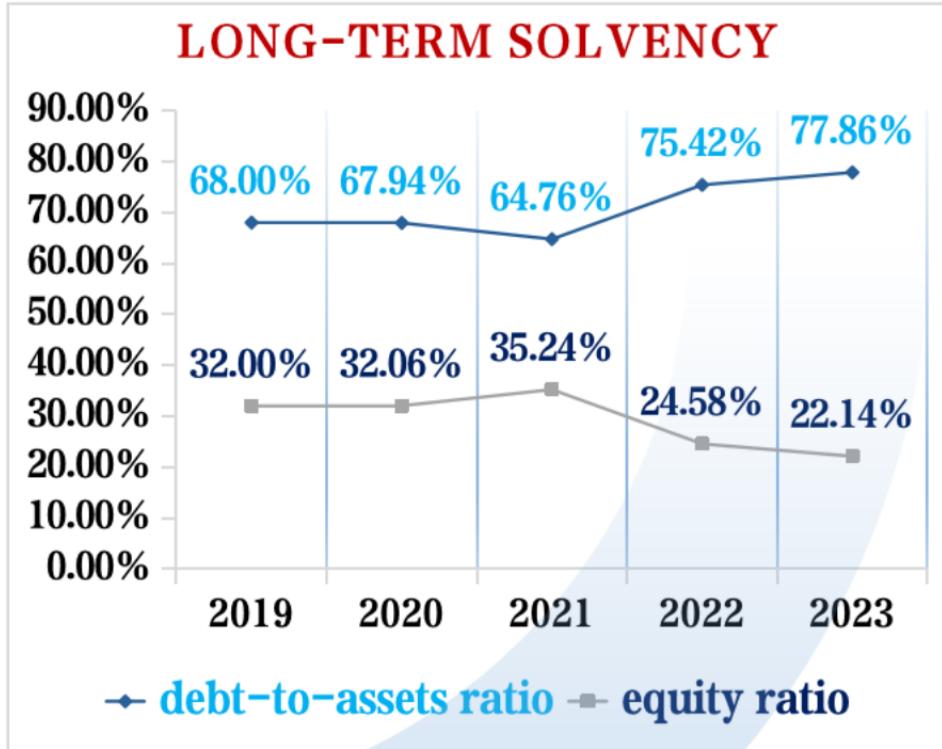
In the past five years, BYD's current liabilities have grown rapidly. The steady growth of cash flow provides strong support for BYD's short-term debt repayment ability, which is not weak, but we cannot ignore the potential financial risks indicated by the continuous reduction of current ratio and quick ratio.

## 4.1 Solvency



Considering BYD's debt to assets ratio, shareholders' equity ratio, debt to equity ratio, debt service coverage ratio and interest coverage ratio from 2019 to 2023, all these indicators except the interest coverage ratio are unsatisfactory due to BYD's high debt, indicating that BYD's long-term debt repayment ability is relatively weak.

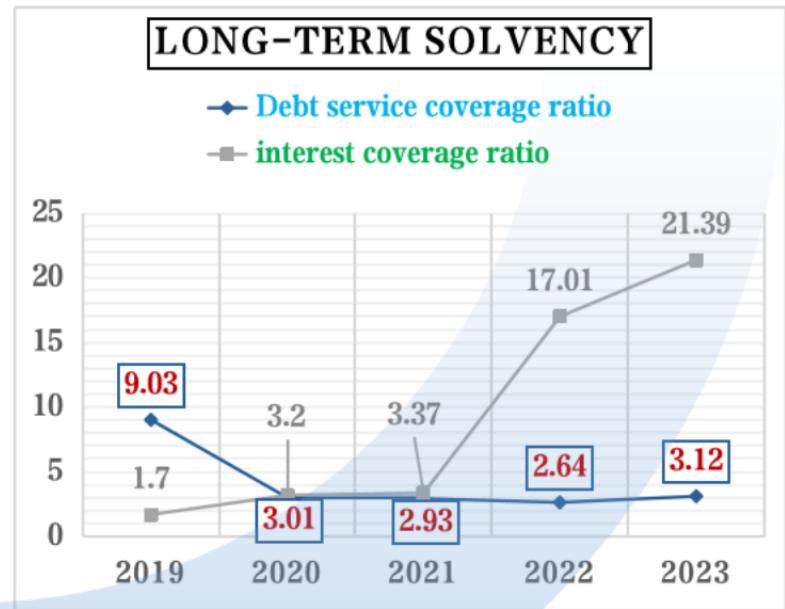
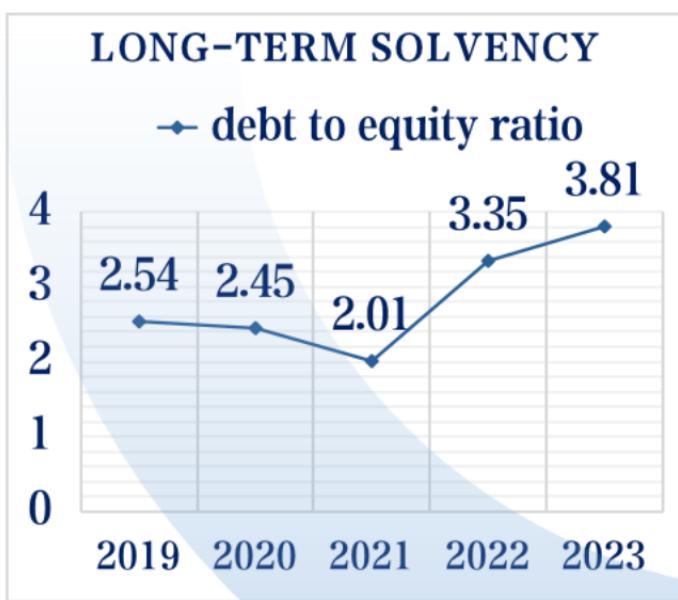
However, taking into account the superior interest coverage ratio, BYD's profitability is still very strong, so in general, BYD's long-term solvency faces a certain degree of challenges, but the financial risk is not very high.



## 4.1 Solvency



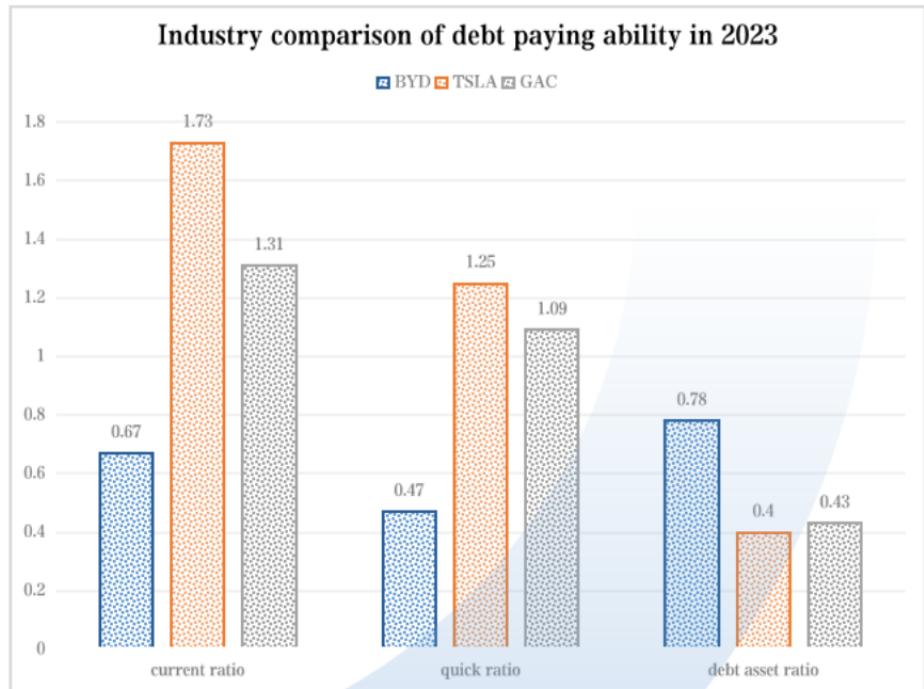
From the perspective of BYD's short-term solvency and long-term solvency, many indicators of BYD are not satisfactory due to its high debt, and BYD's solvency is challenged to some extent. However, the healthy cash flow and excellent profitability of BYD provide strong support for BYD's solvency. Therefore, on the whole, BYD's solvency is not weak, but it can not be said that strong, there is a certain financial risk, investors need to consider this factor.



## 4.2 Industry Comparison of Debt Paying Ability

BYD's long-term debt repayment level is stronger than that of Tesla and GAC.

Its ability to repay short-term debt is weak. with the expansion of BYD's development scale, BYD's debt is also increasing. Although obtaining appropriate loans is conducive to enterprises to exert financial leverage effect and obtain more profits.at the same time, financial risks generated by borrowing should also be paid attention to.

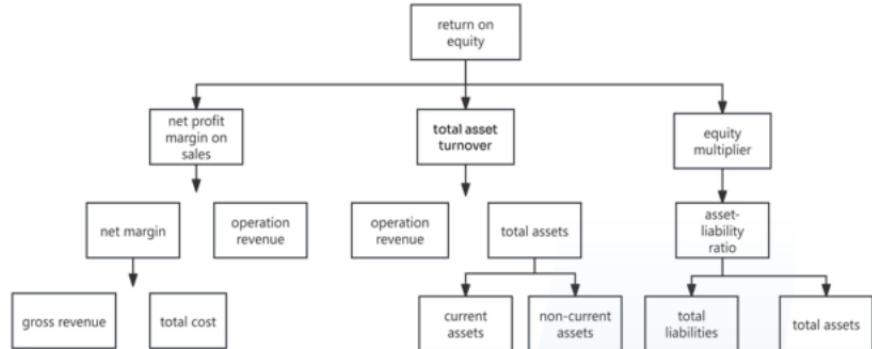


## 4.3 The DuPont Analysis

BYD's return on equity has shown a fluctuating upward trend in the past five years, and has not continued to rise with market expansion and technological change.

The change of return on equity is consistent with the net profit rate on equity, and the fluctuation range is basically the same.

Coincidentally, the increase and decrease of total asset turnover and equity multiplier are also basically consistent with the above changes.



Year	2019	2020	2021	2022	2023
return of equity	3.38%	9.46%	4.55%	18.20%	24.21%
net profit margin on sales	1.66%	3.84%	1.84%	4.18%	5.20%
total asset turnover	0.65	0.79	0.87	1.07	1.03
equity multiplier	3.13	3.12	2.84	4.07	4.52

## 4.4 Control Variable Analysis

The impact ratio of BYD's net profit rate on sales is the factor with the highest impact ratio and the direction is consistent with the change direction of return of equity in the current year.

The second is the total asset turnover, which is basically positively correlated with the change of return of equity.

The equity multiplier, whose impact ratio is basically consistent with the overall trend of change, but its impact ratio of the business range from 2021 to 2022 soared sharply, but this feature does not have reference in the ranking of impact factors, so its impact level should be listed as the lowest of the three.

Project/Year	R	R-value variation	Substitute N	value of influence	Substitute T	value of influence	Substitute E	value of influence
2019	3.38%	-	-	-	-	-	-	-
2020	9.46%	6.08%	7.81%	4.33%	9.50%	1.69%	9.46%	-0.04%
2021	4.55%	-4.91%	4.54%	-4.92%	4.99%	0.45%	4.55%	-0.44%
2022	18.20%	13.65%	10.33%	5.78%	12.70%	2.37%	18.20%	5.50%
2023	24.21%	6.01%	22.65%	4.45%	21.80%	0.85%	24.21%	2.41%

R, N, T and E represent return of equity, Net profit rate on sales, Total Assets Turnover and Equity Multiplier

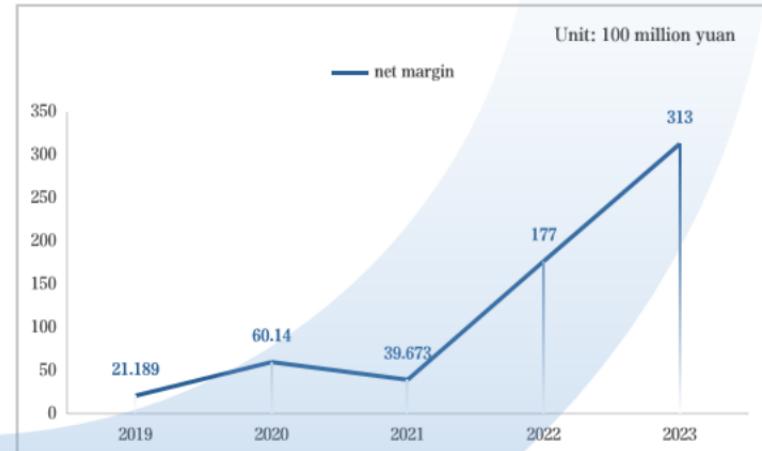
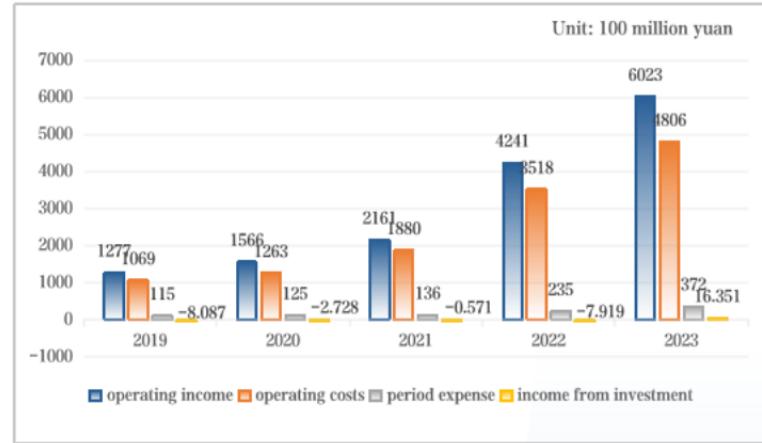
In general, BYD's return of equity's influencing factors are sorted according to the weight and correlation level as follows:  
**net profit rate on sales > total asset turnover > equity multiplier.**

## 4.5 Net Profit Margin on Sales

BYD's net profit has a very different performance, and it can be generally divided into two stages.

Before 2021, its operating costs and period expenses change more sharply than revenue, and the increase in sales volume does not bring the same proportion of profit increase.

2022 is a turning point, operating revenue nearly doubled from the previous year, net profit reached an increase of nearly 4.5 times, but its net profit margin on sales is only 0.34 percentage points higher than the next high point . its operating costs and period expenses are nearly the same proportion of sales revenue growth.

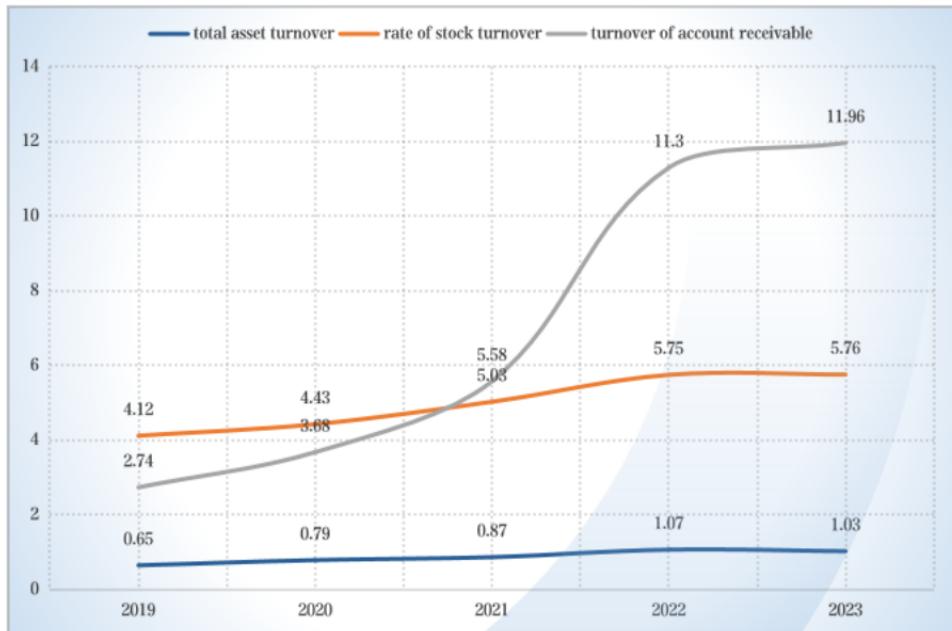


## 4.6 Total assets Turnover

BYD's total asset turnover has risen steadily overall, and the trend of changes in operating income is roughly the same.

In recent years, the stock turnover rate of BYD has increased but the overall level needs to be improved.

The turnover rate of BYD's accounts receivable continues to rise, and the growth rate is extremely fast, which indicates that the recovery speed of BYD's accounts receivable is accelerated.



## 4.7 Industry Comparison of Operation Capacity

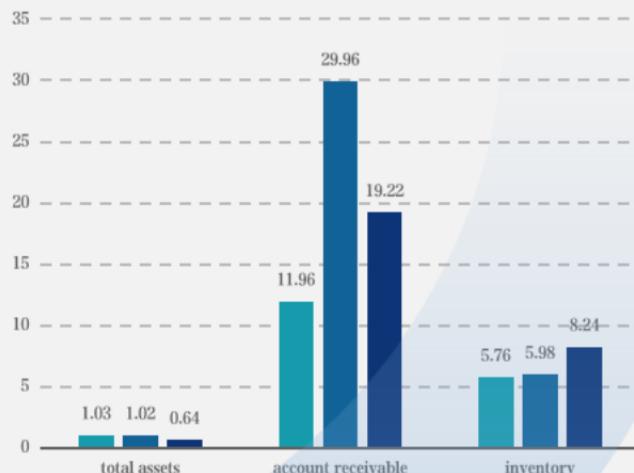
First of all, its market share is increasing year by year, and the size and business volume of the company are also rising, which makes the capital return slow, and leads to the reduction of accounts receivable turnover rate.

Secondly, BYD may also have certain shortcomings in credit management and collection efficiency, resulting in a long recovery cycle of accounts receivable.

From the perspective of inventory turnover, BYD cars are inferior to GAC and Tesla in this index. With the increase of BYD cars sales year by year, BYD should take active measures to solve the current predicament.

Industry comparison of operation capacity in 2023

BYD TSLA GAC



## 4.8 Equity Multiplier

BYD's equity multiplier has remained at about 3.85, The asset-liability ratio has remained above 64% for a long time, which proves that BYD's financial leverage level is high and its solvency is weakened and took a higher financial risk.

By referring to the influence of equity multiplier on its net interest rate on equity and the steady rise of its profitability index, it can be found that the increase of leverage can play a positive role in the overall profitability, indicating that operators can help enterprises seize more investment opportunities when using financial leverage.

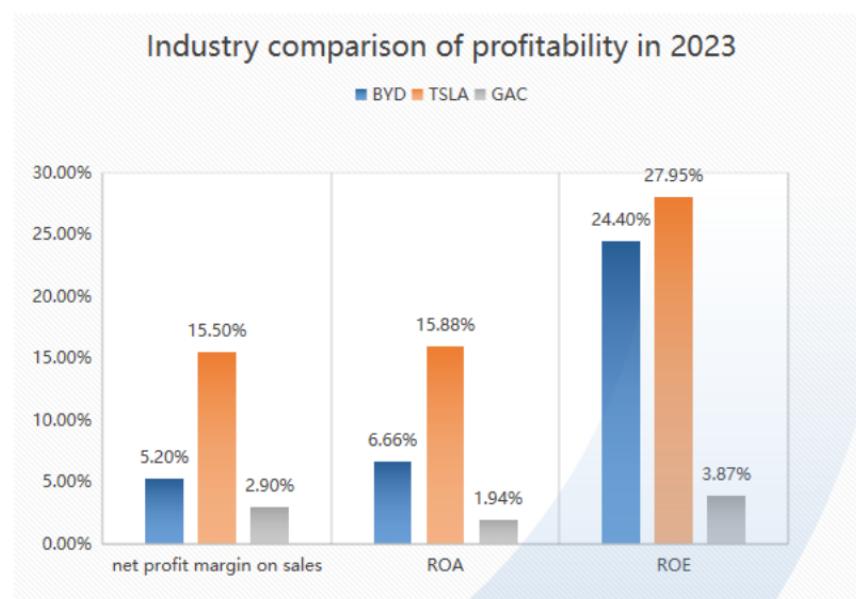


## 4.9 Industry Comparison of Profitability

The low net profit rate of BYD sales is mainly caused by its low main cost or low operating income, which is closely related to the cost leadership strategy that it has always pursued.

At the same time, because its main financing method is borrowing, its net interest rate on total assets is not high. However, in terms of return on equity, BYD has overstepped back in terms of return on equity by virtue of its excellent sales performance.

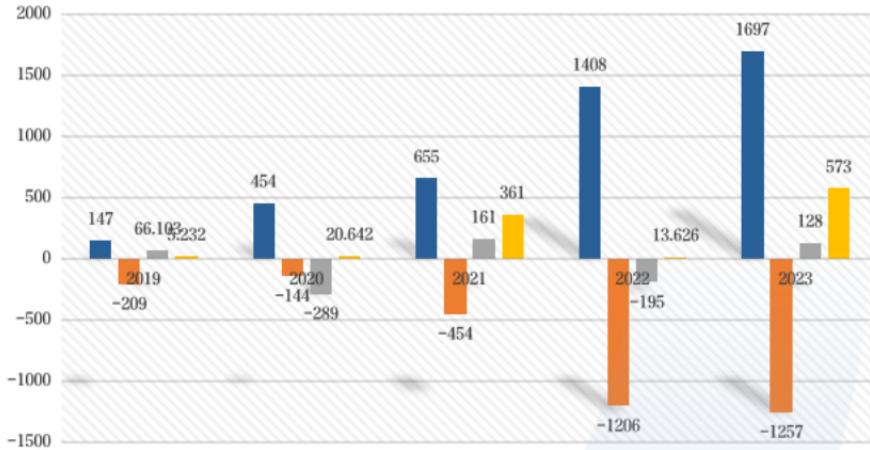
In general, BYD's profitability is still a little gap compared with the head car manufacturers, but it is already at a good level in the entire industry, especially in ROE and even beyond Tesla.



## 4.10 Cash Flow Analysis

Unit: 100 million yuan

■ from operating ■ from investment ■ from financing ■ total net increase



The net cash flow generated by BYD's operating activities increased representing the steady improvement of BYD's ability to use its economic resources to generate cash flow.

The cash flow generated by BYD's investment activities is in a state of loss all the year round and has a trend of increasing loss.

The cash flow generated by BYD's financing activities hovered between positive and negative , we learned that its main cash financing method was borrowing, and the repayment of debt and interest at the same time of cash inflow also caused a large amount of cash expenditure.

The net increase of its cash and cash equivalents are basically improving, which demonstrates BYD's ability to obtain cash and pay cash, enhancing investors' confidence in investment and creditors' confidence in get returns.

## 4.11 Development Capacity



### DEVELOPMENT CAPACITY

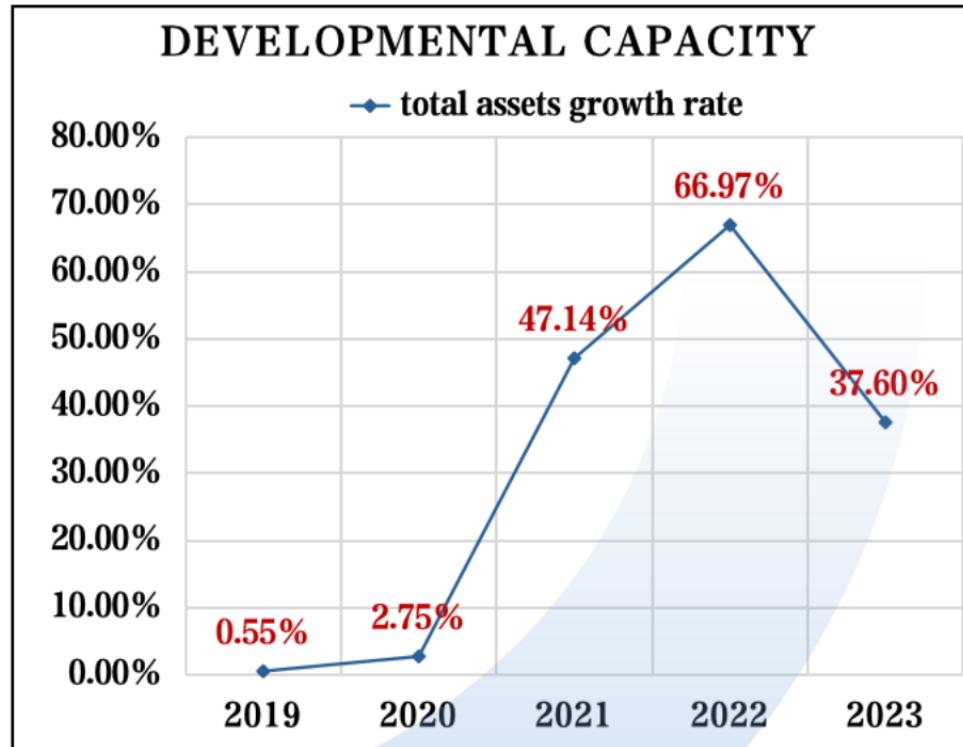


From BYD's sales growth rate in 2019–2023, the indicator continues to increase in 2019–2022, rising from -1.78% in 2019 to 96.2% in 2022, although it falls to 42% in 2023, it still reflects BYD's strong market expansion and development capabilities, and there is still a lot of potential.

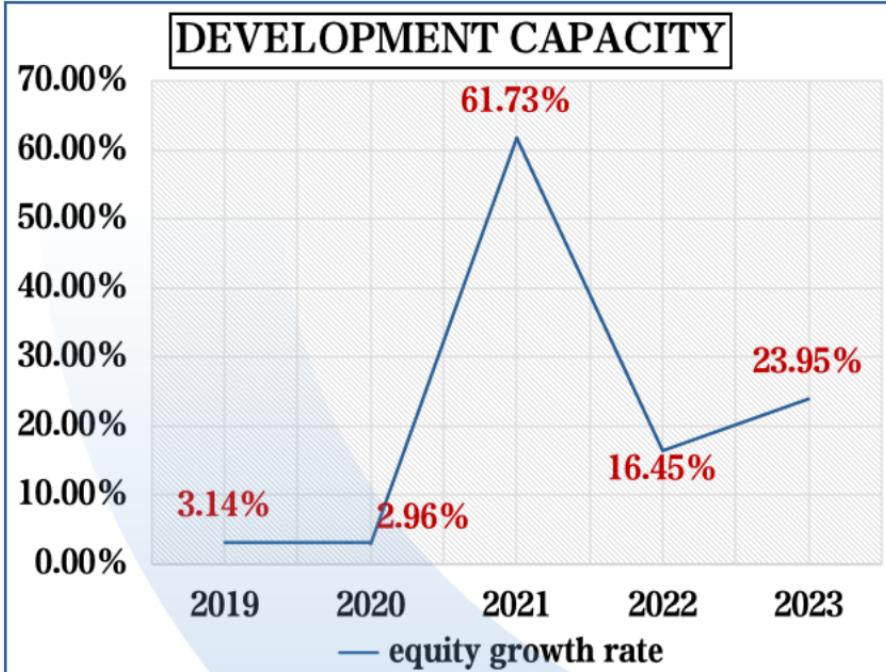
## 4.11 Development Capacity



From the perspective of BYD's asset growth rate in 2019–2023, the indicator continues to increase in 2019–2022, rising from 0.55% in 2019 to 66.97% in 2022, although it falls to 37.60% in 2023, it is still ideal. This reflects BYD's strong market expansion ability and development ability, and there is still great potential.



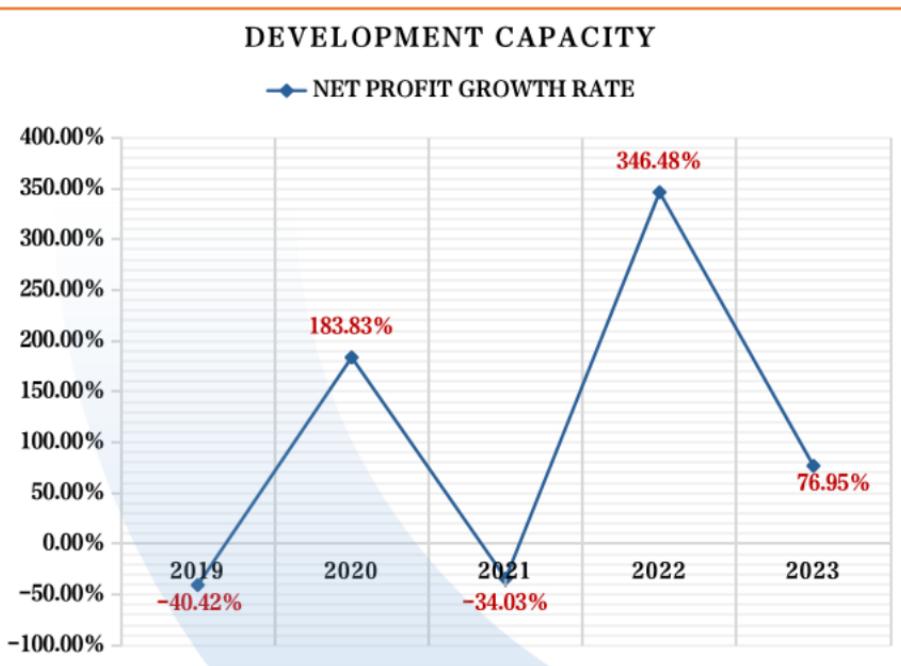
## 4.11 Development Capacity



From the perspective of the equity growth rate of BYD shares in 2019–2023, the indicator has maintained positive growth in the past five years, which is lower in 2019–2020, respectively, 3.14% and 2.96%, soaring to 61.73% in 2021, and falling back to 16.45% and 23.95% in the following two years.

Overall, the growth rate of equity capital is positive and high, indicating BYD's strong capital accumulation ability and development potential, but its sudden decline in 2022 compared with 2021 may indicate that the company is facing financial difficulties or market challenges, combined with a large increase in BYD's debt in 2022 further corroborates this possibility.

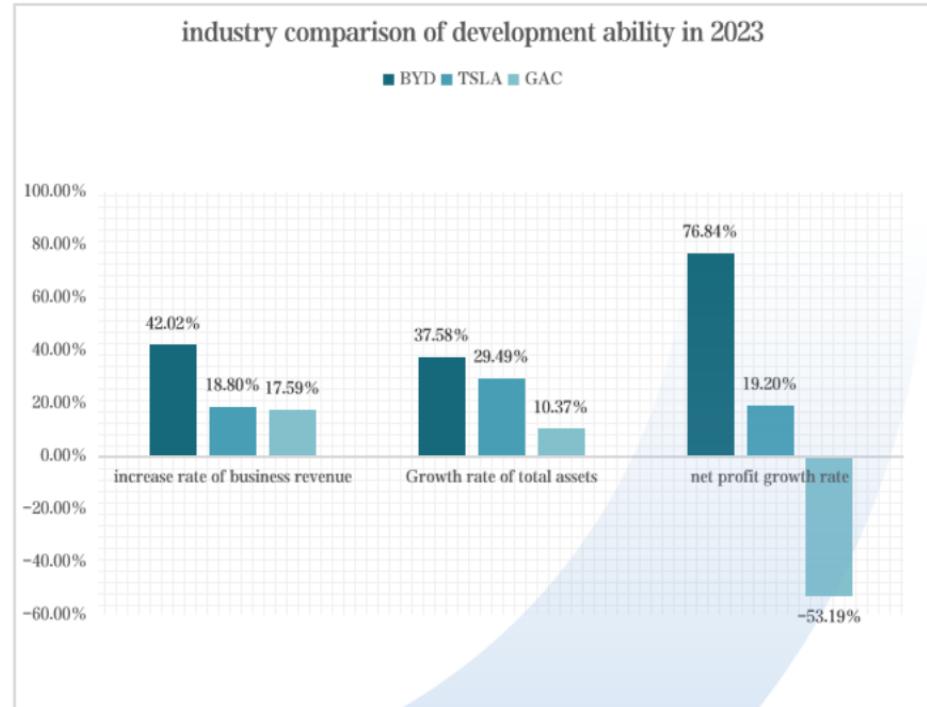
## 4.11 Development Capacity



From the perspective of BYD's net profit growth rate in 2019–2023, in addition to negative growth in 2019(-40.42%) and 2021(-34.03%), respectively, BYD's net profit has significantly positive growth in 2020, 2022–2023, especially in 2022, and even reached the amazing figure of 346.48%. Combined with the fact that BYD's debt in 2022 has almost doubled compared with 2021, while the net profit growth has reached 346.48%, indicating that BYD's large amount of debt has played a positive role in promoting BYD's profitability. In this way, BYD's high debt and unsatisfactory solvency indicators cannot simply be seen as the existence of financial risks or poor solvency of BYD, and the extremely high net profit has largely eliminated these potential hidden dangers.

## 4.12 Industry Comparison of Development Ability

BYD ranked first in operating income growth rate, total asset growth rate and net profit growth rate. Its operating income growth rate is more than twice that of Tesla and GAC. Especially in the growth rate of net profit, BYD compared to Tesla with nearly four times the absolute advantage.



## 4.13 DCF Valuation

### Income Statement

BYD HKEX:1211  
Currency: CNY in Millions

Year	2018	2019	2020	2021	2022	2023
Revenue	130055	127739	156598	216142	424061	902315
	+2%	+2%	+23%	+38%	+96%	+2%
Gross Profit						
Cost of Revenue	-110109	-107899	-127659	-190241	-356871	-488526
Gross profit	19946	19839	28939	25901	57190	113789
	+1%	+1%	+46%	+10%	+159%	+3%
Operating Income						
Operating Expense	-12410	-13619	-17704	-19527	-46614	-79276
Selling General & Administration Expense	-8926	-8411	-10253	-11998	-26745	-41447
Research & Development	-4426	-4961	-6760	-7389	-17821	-36988
Depreciation & Amortization	-1448	-1959	-2240	-2539	-3332	-5962
Other Operating Expenses	2291	1713	1550	2199	1283	5121
Operating Income	7035	6220	11235	6374	20576	34512
	+9%	+17%	+81%	+43%	+223%	+38%
Pre-Tax Income						
Interest Income Expense	-3222	-3901	-4030	-1817	1034	5469
Non-Recurring Items	-72	-7	-119	75	-68	122
Gain/Loss on Disposition of Assets	0	0	361	-190	-865	-1144
Total Other Income	144	119	-565	76	803	310
Pre-Tax Income	4386	2431	3883	4518	21080	37269
	+22%	+45%	+83%	+34%	+87%	+77%
Net Income						
Tax Provision	-829	-312	-869	-551	-3367	-5925
Income from Continuing Operation	3556	2119	6014	3967	17713	31344
Income to Minority Interest	-776	-504	-1780	-922	-1091	-1303
Net Income (Common)	2780	1364	6010	3045	16616	30001
	+22%	+51%	+94%	+24%	+146%	+81%

Operating income fluctuated but rebounded sharply in 2022 (223%) and continued growing in 2023 (68%), indicating efficient cost management despite increased operating expenses, especially in R&D and selling, general, and administrative expenses.

Pre-tax income and net income saw large improvements, particularly in 2022 and 2023, with pre-tax income growing by 367% in 2022 and 77% in 2023, while net income showed remarkable gains of 446% in 2022 and 81% in 2023.

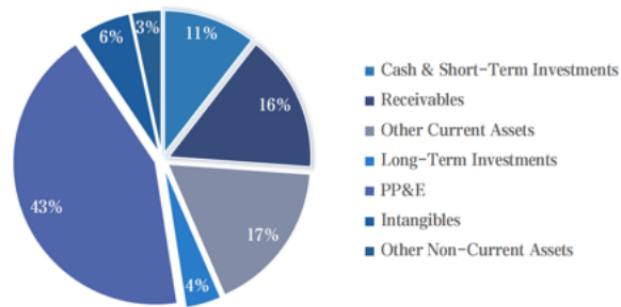
In summary, BYD experienced significant revenue and profit growth, particularly in the last two years, driven by efficient cost control and strong demand for its products. However, rising expenses, particularly in R&D and operating costs, could be a point to watch for future profitability.

## 4.13 DCF Valuation

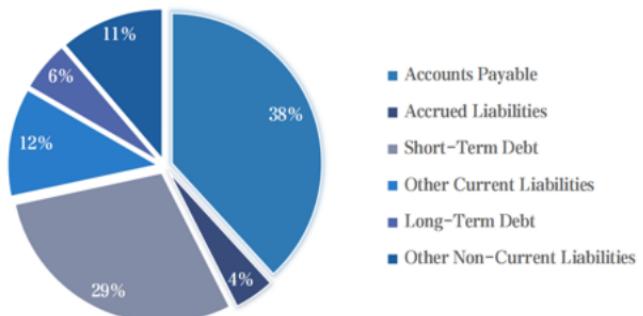
### Balance Sheet Decomposition

BYD	Billion CNY
Assets	686.2B
Current Assets	298.4B
Cash & Short-Term Investments	72B
Receivables	107.2B
Other Current Assets	119.2B
Non-Current Assets	387.8B
Long-Term Investments	27.8B
PP&E	295.3B
Intangibles	41.5B
Other Non-Current Assets	23.2B
Liabilities	543.5B
Current Liabilities	452.7B
Accounts Payable	207.5B
Accrued Liabilities	23.6B
Short-Term Debt	158.2B
Other Current Liabilities	63.4B
Non-Current Liabilities	90.7B
Long-Term Debt	29.5B
Other Non-Current Liabilities	61.2B

### Balance Sheet Decomposition Assets



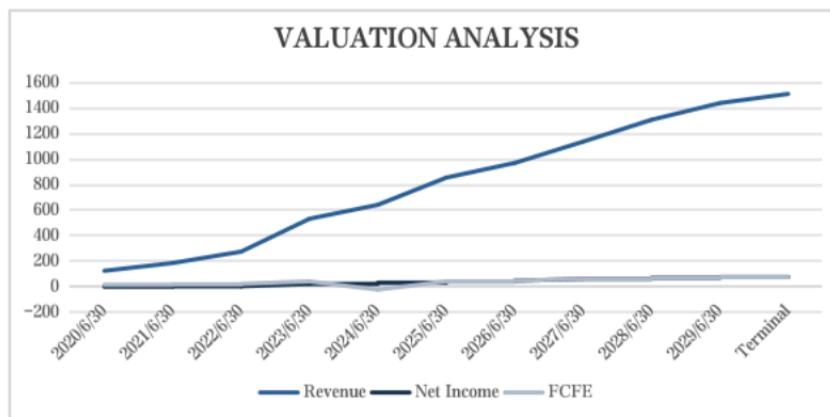
### Balance Sheet Decomposition Liabilities



## 4.13 DCF Valuation

**FCFF = EBIT – Taxation + Depreciation & Amortization – Changes in Working Capital – Capital expenditure**

in Billions	Historical Financials					Forecasted Financials					
	2020/6/30	2021/6/30	2022/6/30	2023/6/30	2024/6/30	2025/6/30	2026/6/30	2027/6/30	2028/6/30	2029/6/30	Terminal
<b>Revenue</b>	126	187	276	534	643	856	971	1138	1309	1440	1512
<b>Net Income</b>	1.56	3.66	5.47	24	33	42	49	62	71	78	82
<b>FCFE</b>	17	19	24	43	-21	43	50	62	70	76	78



## 4.13 DCF Valuation

Cost of Equity =  $R_f + \text{Beta} * \text{ERP}$

$$6.81\% = 2.14\% + 1.15 * 4.06\%$$

WACC = Cost of Equity \* Equity Weight + Cost of Debt \* Debt Weight

$$6.44\% = 6.81\% * 79\% + 5\% * 21\%$$



$$[FCF * (1 + g)] / (d - g)$$

- FCF = free cash flow for the last forecast period
- g = terminal growth rate
- d = discount rate (which is usually the weighted average cost of capital)

## 4.13 DCF Valuation

	CNY in Billions					
China Life Insurance Co Ltd	2024	2025	2026	2027	2028	Terminal
<b>NET INCOME</b>						
Revenue	856	971	1138	1309	1440	1512
Net Margin	4.85%	5.09%	5.44%	5.43%	5.43%	5.42%
<b>Net Income</b>	<b>41</b>	<b>49</b>	<b>62</b>	<b>71</b>	<b>78</b>	<b>82</b>
<b>FREE CASH FLOW TO EQUITY</b>						
<b>FCFF</b>	<b>43</b>	<b>50</b>	<b>62</b>	<b>70</b>	<b>76</b>	<b>78</b>
<b>PRESENT VALUE</b>						
Discount Rate	6.81%	6.81%	6.81%	6.81%	6.81%	6.81%
<b>Present Value</b>	<b>40</b>	<b>44</b>	<b>51</b>	<b>54</b>	<b>55</b>	<b>829</b>

40+44+51+54+55+829+1073

Present Value to DCF Value	
Present Value	1073
Equity Value	1073
/ Shares Outstanding	2.9
DCF Value	370

Stock is Undervalued



## 4.14 Risk Analysis



**Has negative Free Cash Flow**

Free Cash Flow is negative and equals -1.5B



**Trading near 52-week high**

Current stock price is 254.99 CNY. 52-week low: 167 CNY, 52-week high: 264.06 cNY.



## 4.15 Limitations & Prospects

### Suggestions:

#### Adjust Capital Structure

BYD should optimize its asset and liability structure, adopt diversified financing methods, and flexibly use internal and external channels to enhance capital efficiency and reduce financial risks.



#### Control Costs

Control costs by optimizing operations and cutting unnecessary expenses, while maintaining innovation. The company should also use efficient sales strategies to boost profit margins.



#### Enhance Brand Marketing

Refine its brand positioning, increase promotions, and strengthen its market leadership. Using customer feedback to improve service systems will enhance the brand image.



#### Leverage Policy Advantages

Capitalize on national EV development policies, especially by expanding into second- and third-tier cities. Align its market strategies with policy directives to accelerate electric vehicle adoption.



## 4.15 Limitations & Prospects



### Prospects



#### Leadership in the EV Industry:

Its ongoing research and innovation, especially in battery technology and autonomous driving, will ensure a competitive edge in the market.

#### Market Expansion and Global Reach:

As demand grows, the company's business footprint will steadily increase, further boosting market share.

#### Brand Image Enhancement:

BYD will further optimize its brand strategy by improving service quality and responding to consumer feedback. This will help build a strong brand image and enhance brand recognition and reputation.

#### Capitalizing on Policy Advantages:

The company will seize opportunities from electrification and smart technology trends to maintain its leadership in both technology and market.

#### Cost Control and Profitability:

By optimizing its capital structure, enhancing cost control, and improving capital utilization efficiency, BYD will sustain its profitability and achieve long-term sustainable growth.



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