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Department of Sociology, Economic
Theory and International Processes
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GRADUATION THESIS

on

Global Development of International Coffee Market

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Department of Sociology, Economic Theory and International Processes
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ASSIGNMENT
FOR THE GRADUATION THESIS OF

Master's degree student Zhu Yidan, group 23ЭЭВам1, full-time mode of study

1 The topic of the graduation thesis: "Global Development of International Coffee Market"

was approved by the university order
dated «__» _____ 20__ no. _____

2 The deadline for the Master's degree student to complete the graduation thesis is 11.06.2025.

3 The input data for the graduation thesis is the regulatory and legal framework, scientific literature and reference books, and Internet data.

4 The list of issues to be studied includes the market dimensions and competitive patterns in the coffee industry, analysis of financial statements and economic changes in the coffee market.

5 The list of visuals contains tables and figures.

6 The date of setting the assignment is 7.09.2023.

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The assignment was accepted by Master's degree student _____ / Dubina A.Sh. /
(signature) (full name)

Schedule for completing the graduation thesis

№ п/п	Content of the thesis	Deadline for completion	Due date, signature of the academic adviser
First year of study			
1	Substantiating of the research topic and methodology, subject and object of research	1.09.2023 – 31.10.2023	
2	Framing the scientific concept of research	1.11.2023 – 18.12.2023	
3	Collection of scientific literature for the thesis	19.12.2023 – 15.01.2024	
4	Substantiating the relevance, concept, and novelty of the research	16.01.2024 – 19.02.2024	
5	Framing of a detailed plan and layout of the research	20.02.2024 – 12.03.2024	
6	Studying new literature sources within the topic of the thesis	13.03.2024 – 26.03.2024	
7	Conducting theoretical research within the first chapter of the thesis	27.03.2024 – 30.04.2024	
8	Preparing the first chapter of the thesis	1.05.2024 – 30.06.2024	
Second year of study			
9	Conducting analytical research within the second chapter of the thesis	1.09.2024 – 22.10.2024	
10	Preparing the second chapter of the thesis	23.10.2024 – 24.12.2024	
11	Conducting analytical research within the third chapter of the thesis	25.12.2024 – 25.02.2025	
12	Preparing the third chapter of the thesis	26.02.2025 – 21.04.2025	
13	Preparing the introduction and conclusion	22.04.2025 – 12.05.2025	
14	Completing the graduation thesis	13.05.2025 – 26.05.2025	
15	Handing in the thesis for compliance control and antiplagiat	27.05.2025 – 9.06.2025	
16	Getting acquainted with the feedback and review	10.06.2025	
17	Presenting the written thesis	11.06.2025	

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Summary

The graduation thesis comprises 98 pages, 3 chapters, 14 figures, 15 tables, 60 sources, 0 annexes.

KEY WORDS: International Coffee Market; Financial Analysis; Economic Change.

The target of research is to further investigate and study the application and trends of the international coffee market in modern global economic development. Reflect the development trend of the future global economy in the complex economic chain.

The methodological framework of the paper is formed by the complex of theoretical and practical methods such as analysis, synthesis, a systematic approach, statistical and comparative methods.

The results of research include:

1. The market dimensions and competitive patterns in the coffee industry are investigated;
2. It is proved that international cooperation between global coffee market is becoming increasingly important in the context of the globalization of the world economy and the growth of international trade;
3. Problems and competitive relationship in the development of international cooperation in the field of coffee market and economic relations have been identified and substantiated;
4. The main directions and recommendations for the Global Development of International Coffee Market are proposed.

The theoretical basis of the research was the works of leading experts in the field of international coffee market and international economic relations. For The disclosure of the topic was also studied and used the works of researchers: Philip K., He Y., Jia B., Liu G, Meng G, Wang J., Xu X.Q., Ni H.F., Jiang Y.X., Chen Z.Ch., Bu L., Zhang S.T., Zhong, C., Jiang, Z., Schlermon., Chen J., Fan Y.T., Guo B., Zhang T.Y., Yu Zh.H., Xu Y.C, Liu X.Y., Zhang Y.X., Zhao Sh., Xiong X.X., Chen J.J. Hu Y. , Liang A.N., Song H.Y., Meng L., Sun J.Zh., Zhou M., Zhou Y.Q. and others.

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Introduction

As a Russian student from China, during my time here to study, I found Russian coffee everywhere. Large and small supermarkets, shopping malls, government work areas, corners of streets, attractions and parks all have self-service coffee machines, and even some coffee-flavored snacks. Exaggerate, wherever there are people, there is coffee. In addition, there are many specialist coffee shops and hotel bars with a wide variety of coffee options on the menu. Compared with Russia, China also has many kinds of coffee, many brands and many shops, and I am one of the coffee lovers. It is strange to say that when I was in high school, some classmates drank coffee to prevent themselves from getting sleepy, and they thought it tasted a little bitter at that time. Later, I accidentally drank a latte with fruit flavor, which I still like very much until now. It also made me realize that coffee has not only one taste, and later, I gradually found that each store's coffee has a different taste even if it has the same name. The variety of coffee flavors, brands, and co-branded promotions makes me love coffee more and more. Therefore, I have a strong interest in the current situation and development of the coffee market in China, Russia and even the whole world.

First of all, the following is the research background of this paper:

Globalization and consumption upgrading: With the development of economic globalization, coffee, which was originally a regionally strong drink, has gradually gone to the world and become a popular drink around the world. The trend of consumption upgrading is obvious, and consumers' requirements for coffee quality, taste, production technology and other aspects are constantly improving, which promotes the further segmentation and upgrading of the coffee market.

Popularization of coffee culture: Coffee is not only a drink, but also a reflection of culture and lifestyle. On a global scale, coffee culture is constantly popularizing and deepening, affecting more and more People's Daily life. Especially in some countries and regions in North America, Europe and Asia, coffee has become an indispensable part of People's Daily life.

Market competition and brand development: The international coffee market is highly competitive, with many well-known brands such as Starbucks, Nestle, Lavoza, etc., all

ving for market share. At the same time, the rise of emerging markets and new brands has also brought more vitality and opportunities to the market.

Sustainable development and promotion of environmental awareness: With increasing environmental awareness, consumer demand for sustainably and ethically sourced coffee has increased. A growing number of coffee brands are promising to use fairtrade, organically certified beans and adopt eco-friendly packaging to appeal to sustainably-minded consumers.

Secondly, the following is the research significance of this paper:

Understand market trends and opportunities: By studying the international coffee market, we can deeply understand the development trend, competition pattern and potential opportunities of the market, and provide valuable reference information for investors and decision makers.

Guide enterprise strategic planning: Enterprises can make more scientific and reasonable strategic plans, including product positioning and marketing strategies, by studying the international coffee market, so as to improve market competitiveness.

Promote the development of the coffee industry: Research on the international coffee market is helpful to promote the sustainable and healthy development of the coffee industry. The transformation, upgrading and sustainable development of the coffee industry can be promoted by optimizing the supply chain, improving production efficiency and innovating products.

Promote international exchanges and cooperation: The study of international coffee market can also promote the exchange and cooperation between countries, promote the spread and popularization of coffee culture, and enhance the understanding and friendship between people of all countries.

To sum up, the research background and significance of the international coffee market are very significant. Through in-depth research on the international coffee market, we can better grasp the market dynamics and development trends, provide valuable reference information for investors, business decision makers and coffee industry practitioners, and promote the sustainable and healthy development of the coffee industry.

At last, the research status of the international coffee market can be analyzed from multiple aspects such as market size, consumption trend, industry chain dynamics and future prospects.

The global coffee market has maintained steady growth in recent years. The global coffee market size has exceeded \$500 billion in 2023 and is expected to continue growing at a compound annual growth rate (CAGR) of about 6% in the coming years. This growth is mainly driven by the increasing coffee consumption in regions such as North America, Europe, and Asia. Among them, the North American market is driven by specialty coffee and coffee shop culture, the European market is more focused on ready-to-drink coffee and premium coffee products, while the Asian market, especially China and Japan, has seen explosive growth in coffee consumption over the past few years.

The rise of specialty coffee: Consumers are increasingly concerned about the quality, origin and preparation of coffee, which has driven the rapid development of the specialty coffee market. Specialty coffee not only offers high-quality coffee beans, but also emphasizes unique flavor and drinking experience.

Rising Demand for ready-to-drink coffee and portable coffee products: With the accelerating pace of modern life, the demand for ready-to-drink coffee and portable coffee products has increased significantly. This trend is not only driving the expansion of the ready-to-drink coffee market, but also driving brands to constantly innovate and launch more enriched and personalized products.

Increasing demand for Sustainability and ethical sourcing: Consumer demand for sustainably and ethically sourced coffee is also increasing year by year. A growing number of coffee brands are promising to use fairtrade, organically certified beans and adopt eco-friendly packaging to appeal to sustainably-minded consumers.

Rising coffee bean prices: In recent years, international coffee futures prices have continued to rise due to weather-related production cuts in Brazil and other major coffee producing countries, as well as asset speculation and other factors. This trend has also affected domestic coffee producing areas, such as Yunnan fresh coffee fruit purchase prices also doubled year on year.

Expansion of coffee chain brands: Starbucks, Costa, Tim Hortons and other large coffee chain brands continue to expand their global footprint, especially in the Asian market, especially in the Chinese market, they have carried out large-scale store expansion.

Digital transformation: The coffee industry is accelerating digital transformation, using big data, artificial intelligence and other technologies to optimize supply chain management, improve production efficiency, improve consumer experience and other aspects.

Market size continues to grow: The global coffee market is expected to continue to grow in the coming years, especially in emerging markets such as Asia.

Innovation and technological advancement: With the further development of science and technology, the coffee market will usher in more innovative products and technologies. For example, the application of cold brew coffee technology makes the taste of coffee more mellow, and the emergence of smart coffee machines makes the coffee preparation at home and office more convenient and professional.

Sustainable Development: Coffee brands will continue to achieve sustainable development of the industry by using environmentally friendly materials, reducing waste, and promoting sustainable cultivation.

To sum up, the international coffee market shows the characteristics of continuous growth of market scale, diversified consumption trend, complex dynamic industry chain and broad future prospects. At the same time, coffee brands also need to constantly innovate and adapt to market changes to meet the personalized needs of consumers.

The research significance of this paper includes five aspects: promoting globalization, promoting consumer facilitation, enhancing enterprise competitiveness, promoting economic growth and coping with risks and challenges. The significance of studying the international coffee industry is to promote the innovation and upgrading of coffee brands and related industries in the world, reduce the cost of circulation, provide the best service to consumers, and achieve the highest profits and benefits.

Chapter 1 Market Dimensions and Competitive Patterns in the Coffee Industry

1.1 The market Dimension of the Coffee Industry

Growing Trends in Dimensions of the Global Coffee Market

The growth trend of the global coffee market is characterized by diversification, regionalization and consumption upgrading. The following is a detailed analysis in terms of market size, consumption trends, regional dynamics, drivers and challenges:

Overall Growth: The global coffee market size will be approximately \$ 460 billion in 2023 (Statista) and is expected to reach \$ 850 billion by 2030, at a compound annual growth rate (CAGR) of approximately 8.5 % (Grand View Research).

Market Segments: Freshly ground coffee: Dominating the market (over 40 % share), benefiting from growing demand for specialty coffee (e.g., hand-brewn, cold brew).

Ready-to-drink coffee (RTD): Fastest growth (over 10 % CAGR), with Asia Pacific as the main driver.

Instant coffee: still a significant share (mainly in developing countries), but growth is slowing.

Quality upgrade: consumers are more concerned about the origin of coffee beans, roasting process and sustainability (such as "single origin" and "certified organic" labels).

Demand for wellness: rise of low-sugar, plant-based (oat milk, almond milk), functional coffee (added collagen, probiotics).

Convenience driven: significant growth in capsule coffee, readyto-drink coffee, and online subscription services such as Blue Bottle and Nespresso.

Experience economy: The third wave of coffee has popularized "coffee culture" and cafes have become social Spaces (such as Starbucks' "third space" concept).

North America (mature markets): The United States is the world's largest consumer (annual per capita consumption of about 4.2 kg), with a clear trend toward high-end coffee (specialty coffee accounts for more than 20 %).

Europe (traditional markets): The Nordic countries have the highest per capita consumption (12 kg/year in Finland), and Western Europe focuses on environmentally friendly packaging and fair-trade certification.

Asia Pacific (growth engine): China's coffee market has grown at a CAGR of more than 15 % (the scale will exceed 200 billion yuan in 2023), with the rise of local brands such as Luckin and Manner. Japan and South Korea have high penetration of ready-to-drink coffee, and the production and consumption in Southeast Asia (Vietnam, Indonesia) are growing in line with each other.

Latin America (production + consumption in parallel): Brazil and Colombia dominate global raw bean supply, with domestic consumption in Brazil increasing by 5 % annually (driven by urbanization).

Middle East & Africa: Domestic consumption increased in producing countries such as Ethiopia and Kenya, while young populations drove demand in the United Arab Emirates and Saudi Arabia.

Urbanization and rising incomes: The middle class in emerging markets is expanding, and coffee is moving from a "luxury" to an everyday drink.

Chain brand expansion: Starbucks, Tim Hortons and other companies have accelerated their distribution in Asia (for example, the number of stores in China has exceeded 6,000).

Digitalization and e-commerce: Increased penetration of online retail (e.g. Amazon, Tmall) and food delivery services (e.g. Meituan, Uber Eats).

Sustainability: Carbon neutral coffee, circular packaging (Nestle has committed to using 100% renewable materials by 2030).

The global coffee market is transforming from "volume" to "quality", with growth driven by emerging demand in the Asia-Pacific, high-end innovation and sustainable development. Companies need to balance supply chain resilience, regionalization strategies and consumer experience to address the twin challenges of climate change and increased competition [2, p. 65].

Differences in Coffee Market Dimensions Across Regions

The global coffee market is significantly heterogeneous across regions, with distinct differences in consumer culture, market structure, drivers and challenges. The following is a comparative analysis of the differences in major regions from the dimensions of consumption habits, market size, growth drivers and competition pattern: (Figure 1.1).

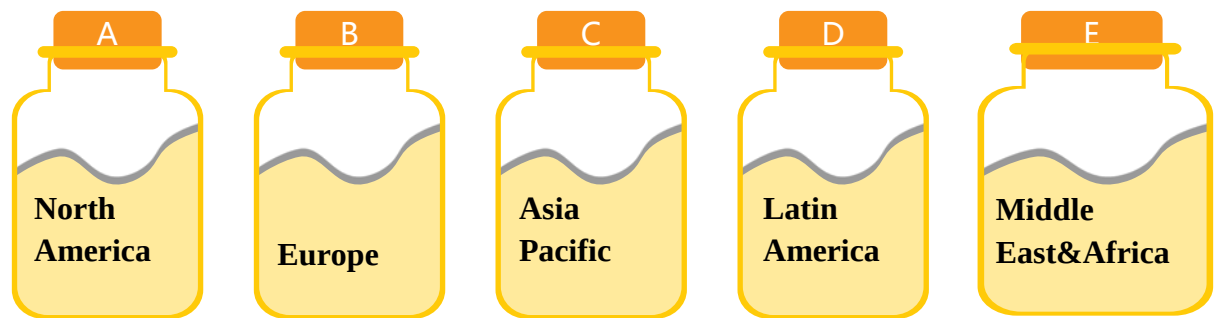


Figure 1.1 – Distribution of the global coffee market across major geographies [25, p. 1]

North America (mature market): Premium and convenience.

Consumer culture: Home of the third wave of coffee, consumers seek provenance, roasters, and personalized experiences (e.g., Blue Bottle, Intelligentsia). 4.2 kg per capita annual consumption (US), with high frequency consumption covered by convenience stores and chain brands (Starbucks, Dunkin').

Market Structure: Freshly ground coffee accounts for more than 50 %, and capsule coffee penetration is high (Nespresso accounts for 30% of US households). Fast growth in ready-to-drink coffee (RTD) (8 % CAGR), featuring healthy concepts (e.g., Stumptown Cold Brew).

Europe (traditional markets): High penetration and green transition.

Consumer culture: cafes as public Spaces (such as Italian Espresso bar culture), the per capita consumption in Northern Europe is the highest in the world (12 kg/year in Finland). European consumers prefer organic, Rainforest Alliance certified coffee (more than 25 % in Germany).

Market Structure: The share of instant coffee is low (< 10 %), freshly ground coffee is the mainstream, and the penetration rate of home coffee machines is high (80 % of German households own). The growth of ready-to-drink coffee is slow (traditional hot drink culture is deeply rooted).

Asia Pacific (Engine of Growth): Polarization and Indigenous Innovation.

Consumer culture: Emerging markets such as China and India are shifting from tea culture to coffee socialization (for example, Lucken's "raw coconut latte" has exploded among young people). a pan's ready-to-drink coffee accounts for 40 % of the market (canned coffee culture), while Korea's convenience store coffee accounts for over 60 %.

China's high growth: Market size will exceed 200 billion yuan in 2023, with fierce competition between local brands (Luckin, Manner) and foreign ones (Starbucks, % Arabica).

Production is growing in tandem with consumption in Southeast Asia: domestic consumption in Vietnam (the world's second largest exporter) is up 7 percent a year, and the Indonesian middle class is driving the expansion of chain brands. Latin America (production + consumption parallel): Cost-sensitive and localized demand.

Consumer culture: Low-cost instant coffee dominates in producing countries such as Brazil and Colombia (over 60 % of instant coffee in Brazil), but urbanization is driving demand for fresh mills (15 % annual growth in boutique cafes in Sao Paulo). Per capita consumption in Brazil is 6 kg/year, with a high proportion of home cooking.

Export-oriented economy: Brazil accounts for 35 % of the global supply of raw beans, but the international competitiveness of local brands is weak.

Low chain brand penetration: Starbucks has less than 200 stores in Brazil (compared with 6,000 + in China).

Middle East and Africa (Emerging markets): Religious Influence and Youth.

Consumer culture: Cafes in Arab countries became social centers for men (e.g., Turkish coffee rituals), and women's consumption surged after Saudi Arabia liberalized gender restrictions. Ethiopia (the birthplace of coffee) promotes the export of specialty coffee, and Kenya's AA grade coffee is popular in Europe and the United States.

High-end and affordable: Dubai, UAE, prefers luxury coffee shops (%Arabica, Bateel), while Egypt is dominated by instant coffee (over 70 %).

There is a big gap in ready-to-drink coffee: The Middle East RTD market is in its early stages (18 % growth in 2023).

Mature markets (Europe and the United States) need to rely on high-end and sustainable development to maintain growth, and the space for innovation is limited. Emerging markets (Asia Pacific, Middle East) can expand rapidly through localized products (such as tea and coffee fusion) and digital channels (delivery, subscription). Producers (Latin America, Africa) need to balance export dependence with domestic consumption upgrading, and enhance the added value of the industrial chain (such as deep processing, branding). Regional differences will push coffee companies to adopt "Hyper-local" strategies, such as developing non-alcoholic coffee drinks for the Middle East or coconut coffee bases in south-east Asia.

As the upstream of the industrial chain, the global annual output of coffee beans is about 10 million tons (ICO data), with Brazil, Vietnam and Colombia leading the supply. Global coffee bean transaction volume exceeded US \$30 billion in 2023 and is expected to reach US \$ 45 billion in 2030 (CAGR 5.8 %), driven by premium demand; Coffee powder accounts for about 35 % of global coffee consumption (instant coffee powder predominates), with a high share in developing countries (e.g., instant coffee in India accounts for 70 % of the market). CAGR around 3 % (2023-2030), part of the market is replaced by capsule coffee, fresh ground; Capsule coffee market size to reach \$12 billion in 2023, CAGR 7 % (driven by convenience, dominated by Europe and the United States); Hanging ear coffee is an emerging category in Asia (with an annual growth rate of over 20 % in China), which is a convenient choice between fresh ground and instant. [25, p. 25].

The segments of the global coffee market are intertwined and have their own characteristics, reflecting the complex interaction between consumption habits, technological innovation and regional culture, with coffee beans, ground coffee, capsule coffee and ear-hang coffee as the core.

The coffee bean market has shown a clear trend of polarization in recent years. On the one hand, the wave of specialty coffee is driving a surge in demand for high-end coffee beans, with consumers' attention to single-origin, micro-batch roasting and traceability labels continuing to rise. For example, single-taste beans such as Ethiopia's Yeja Shefi and Colombia's Geisha command a significant premium in North America and Europe, while brands such as Starbucks Reserve and Blue Bottle enhance origin stories through

subscription services or in-store experience stores. Commodity-grade coffee beans, such as Brazil's robusta, on the other hand, still dominate global trade, but prices are heavily influenced by climate fluctuations and supply chains. A 40 per cent jump in 2023 Arabica coffee futures due to frosts in Brazil and higher logistics costs exposed a high level of vulnerability in the ingredients market. At the same time, technological penetration is changing the traditional way beans are distributed, with blockchain-based provenance systems such as IBM Food Trust being used by companies such as Starbucks to improve supply chain transparency, and localising strategies from small roasters such as the US "microroasting" brand seeking to bypass middlemen and connect consumers directly with growers.

As the core product of the processing link, the market differentiation of coffee powder is more complex. Instant coffee powder is still the main force in the developing world market, especially in India, Southeast Asia and other places, low price and convenience make it occupy more than 70% of the market share. [25, p. 2]. Global brands such as Nestle and Maxwell House maintain their edge by subsidising channels and localising flavours, such as Masala-style instant coffee in India. However, in developed markets, where instant coffee's "cheap, low quality" label has been replaced by ground and capsule coffee, growth has slowed to less than 3 per cent. In response to the consumption upgrade, there is innovation within the instant coffee powder category: freeze-drying technologies (such as the three-and-half "Super Instant" series) appeal to young consumers by retaining the fresh-ground flavor, while functional additions (such as probiotics and collagen) try to break into the healthy drink track. There is even the emergence of "professional grade" instant coffee in the Japanese market. Brands represented by UCC blur the boundary between instant and fresh ground through fine grinding process.

With its standardized flavor and convenience, capsule coffee occupies more than 30 % of the market in European and American households, but environmental controversies such as the low recycling rate of aluminum shells (only 30 % in Europe) have forced the transformation. Nespresso plans to achieve fully renewable aluminum capsules by 2025, and Illy has launched biodegradable plant-based capsules to break the situation. As an Asian characteristic category, hanging ear coffee fills the gap between fresh grinding and instant

solution with the convenience of instant flushing and filtering. The annual growth rate of the Chinese market is more than 20 %. Brands such as Three and a Half, Yongpu and so on have built it into a "lightweight substitute for fresh grinding" in the office scene, while the Japanese canned coffee culture has given birth to the double track of ready-to-drink and hanging ear.

Regional differences profoundly shape the competition pattern of market segments. In North America, the quality of Coffee bean consumption and home roasting culture coexist, giving rise to customized D2C platforms such as Trade Coffee. The convenience penetration rate of capsule caffeine is high, but it is questioned by environmental protection. European consumers are willing to pay a 20 % premium for certified organic coffee beans, and the popularity of home coffee machines has led to freshly ground coffee dominating the market, with instant coffee accounting for less than 10 %; The Asia-Pacific market shows a step penetration, with Japan's canned ready-made drinks accounting for 40 % of the share, China's Luckin and Manner promoting the surge in coffee bean imports, and the outbreak of ear coffee in the office scene; As the production hinterland of Latin America, Brazil accounts for more than 60 % of instant coffee, but the annual growth of boutique cafes in Sao Paulo is 15 %, showing the budding of local consumption upgrading. High-end and affordable instant beans coexist in the Middle East. Ethiopia promotes the export of boutique beans, while Egypt accounts for more than 70 % of instant beans. Religious and cultural restrictions coexist with weak supply chains [3, p. 213].

In the future trend, technological innovation and sustainable pressure are intertwined. In coffee beans, AI-powered personalised recommendations could disrupt traditional wholesale models, and climate change forces growers to switch to disease-resistant varieties or vertical farming experiments; Coffee powder and capsules are facing a packaging revolution. Nestle plans to switch to recyclable materials by 2025, and accelerate the research and development of biodegradable capsules. Smart devices such as Spinn coffee machines could reshape consumers' reliance on ground coffee by connecting to coffee bean subscription services to integrate grinding and brewing. However, supply chain resilience is still a common challenge. Geopolitical conflicts and inflationary pressure force companies to balance local procurement (such as Starbucks' Yunnan base) with cost control, while

consumer demand for carbon neutral coffee will continue to force the green transformation of the whole industrial chain from planting to packaging.

1.2 Competitive Patterns in the Coffee Market

Market Shares and Competitive Strategies of Major Coffee Brands

The global coffee market presents a competitive pattern of "giant monopoly + regional fragmentation". Starbucks maintains the No. 1 position with approximately 36 % of the global market share of fresh ground coffee (2023). Its core strategy is to integrate the "third space" experience with digital: increasing customer engagement through membership (180 million members worldwide) and optimizing convenience through mobile orders (25 % of U.S. sales). Nestle has a 24 % global market share with Nespresso, a strategy focused on product diversification (e.g., plant-based coffee, functional instant) and acquisitions (the acquisition of Blue Bottle complements the boutique line). JDE Peet's (parent company of Maxwell and Peet's Coffee) ranked third with a share of 12 %, reducing costs by controlling the whole industry chain (from planting to retail) and promoting "carbon neutral coffee beans" in Europe to bind environmentally friendly consumer groups.

In the regional market, Lavazza (Italy) and illy (European high-end) occupy more than 30 % of the European market share of fresh grinding through local cultural marketing (such as sponsoring art exhibitions); Luckin Coffee has made a counterattack in China with "cost-effective + popular products" (such as raw coconut latte) [24, p. 8]. In 2023, Luckin Coffee has more than 12,000 stores and a market share of 18 % (China's fresh ground coffee market). Its core strategy is digital drive (App orders account for more than 90 %) and supply chain efficiency optimization (self-built roasting plants to reduce turnover cycle).

The following is a detailed competitive strategy analysis of major global and Chinese coffee brands, covering core dimensions such as brand positioning, product innovation, marketing strategies and channel layout:

The core strategy is the third space experience + brand culture premium. The product strategy is to focus on high-end freshly ground coffee, and continue to launch seasonal

drinks (such as pumpkin latte, cherry blossom series); Expand non-coffee categories (tea, light food, alcoholic drinks) to attract non-coffee users.

The pricing strategy is a high premium (about 30-40 yuan for a latte) to strengthen the positioning of "light luxury".

Channel strategy is more than 36,000 stores around the world, focusing on the layout of the first and second tier cities in the core business district. Innovative stores include Reserve Roastery and Starbucks Now to meet the convenience needs.

Marketing Strategy:

Membership system: 180 million members around the world, through points, exclusive offers to enhance repurchase.

Cultural marketing: co-artists, environmental themes (such as discounts on reusable cups).

Differentiation: Emphasizing the "coffee social scene", providing free Wi-Fi and comfortable seating to create a third office/social space.

Core strategy is digital drive + cost-effective explosive products. The product strategy focuses on the "large single product" strategy (such as the annual sales of raw coconut latte of 100 million cups), and the rapid iteration of local flavors; Launch low-priced basic models (9.9 yuan in American), with high-priced new products (such as soy sauce lattes) to drive up gross margins.

Pricing strategy: The price band is concentrated at 10-20 yuan, and the mass market is seized through subsidies.

Channel strategy: "Small store model": 80 % are self-pickup stores, which reduce rental costs and cover office buildings, campuses and other scenarios.

Digital operation: App orders account for more than 90 %, and user data drives precision marketing.

Marketing Strategy: Social fission: the first cup is free, pull new coupons, quickly get customers.

Cross-boundary co-branding: creating hot topic models with brands such as Moutai and Coconut Trees.

Differentiation: Abandon the "third space" and focus on functional consumption to win with efficiency and cost performance.

The core strategy is full category coverage + global supply chain. Product strategy: instant coffee market share of the world's first (about 30 %), focusing on convenience; Expand premium lines (Nespresso capsule coffee) and Nescafe Ready-to-Drink coffee.

Pricing strategy: Tiered pricing: instant coffee as low as 1 yuan/piece, capsule coffee for the middle and high-end (3-5 yuan/piece).

Channel strategy: Omni-channel penetration: full coverage of supermarkets, convenience stores, e-commerce and vending machines.

Sinking market: covering third-tier and fourth-tier cities with low-priced products in small packages.

Marketing Strategy: Emotional marketing: the classic advertising slogan "taste great" strengthens national brand awareness.

Technical endorsement: emphasis on freeze-drying technology and cold extraction technology to enhance product image.

Differentiation: Reduce costs with supply chain advantages to meet the needs of home, office and other scenarios.

The core strategy is the ultimate experience of specialty coffee. The product strategy is to sell only coffee beans roasted within 48 hours, mainly freshly ground and hand-washed; Limited seasonal beans (such as rare producing areas in Ethiopia) appeal to coffee lovers.

Pricing strategy: High-end pricing (about 40 - 60 yuan for a cup of hand), standard luxury.

Channel strategy: Selected stores: only 100 + stores worldwide, located in art districts, historic buildings, emphasizing "aesthetic space".

Online direct sales: sell coffee beans and surrounding areas on the official website to maintain the brand tone.

Marketing Strategy: Minimalist design: The stores are dominated by white and log colors to reinforce the "pure" image.

Story marketing: the founder "coffee geek" is set up to spread the culture of boutique coffee.

Differentiation: Abandon scale, focus on niche high-end market, and build the image of "Apple of coffee".

The core strategy is localization integration + cost-effective package. The product strategy includes coffee + warm food combination (such as Tianquball and bagel), which ADAPTS to the breakfast scene; Localization in China: Salted egg yolk latte, red ginseng energy coffee, etc.

Pricing strategy: 15-25-yuan price with preferential package (coffee + food from 15 yuan).

Channel strategy: Rapid store expansion: open 500+ stores in China in 3 years, focusing on new first-tier cities.

Flexible stores: standard stores, Tims Go (small stores), e-sports themed stores.

Marketing Strategy:

Sports marketing: sponsorship of NBA and NHL, binding "vitality" label.

Private domain operation: enterprise WeChat community pushes coupons to improve the repurchase rate.

Differentiation: Create an all-weather consumption scene with the combination of "coffee + warm food".

The core strategy is the ultimate cost performance + environmental protection concept. Product strategy has its own cup minus 5 yuan, the main concept of environmental protection; Basic coffee 10–15-yuan, quality standard boutique cafe.

Channel strategy: Micro stores: the average area is 10 m², reducing rental costs. Focus on Shanghai, Shenzhen and other super first-tier cities, open stores intensively to form brand awareness.

Marketing Strategy: Word of mouth: Rely on the community of coffee lovers and reduce advertising.

Co-branded breaking the circle: a pop-up store in cooperation with luxury brands such as LV and Helena.

Differentiation: Use "small shop model" to realize the parity of boutique coffee and attract high frequency consumption of white-collar workers.

The Rise and Challenges of Emerging Coffee Brands. Emerging brands are rapidly entering the market with differentiated positioning:

Specialty coffee brands: For example, Blue Bottle (Japan) and %Arabica (China) attract young groups through "extreme experience + aesthetic design". The average daily sales of Blue Bottle's single store are three times higher than that of Starbucks, but the over-reliance on location in first-tier cities (30 % of the rental cost) limits the expansion speed.

Local disrupter: Luckin Coffee broke Starbucks' pricing system with "takeaway coffee + social fission", Manner (China) reduced the cost of a single cup to less than 10 yuan with the strategy of "small store model + bring your own cup 5 yuan less", and the valuation exceeded 3 billion US dollars in 2023.

Functional Innovation brand: US brand Cometeer achieves "frozen coffee capsules" with ultra-low temperature extraction technology, which retains fresh ground flavor and extends shelf life to 18 months. Sales will increase by 150 % YoY in 2023.

The challenges focus on three areas: supply chain weaknesses: Emerging brands mostly rely on third-party OEM (such as Sandunwan is produced by overseas factories in the early stage), facing capacity fluctuations and quality control risks;

User retention problem: strong dependence on popular products (for example, Luckin coconut latte used to account for 40 % of sales), and the repurchase rate is vulnerable to the impact of competing products;

Capital pressure: Blue Bottle was forced to accelerate profitability after being acquired by Nestle, resulting in some store closures; Arabica will close 15% of its inefficient stores in 2023.

Competition and Cooperation in the Coffee Supply Chain

The complexity and vulnerability of coffee supply chain promote the upgrading of corporate competitive strategy (Figure 1.2).

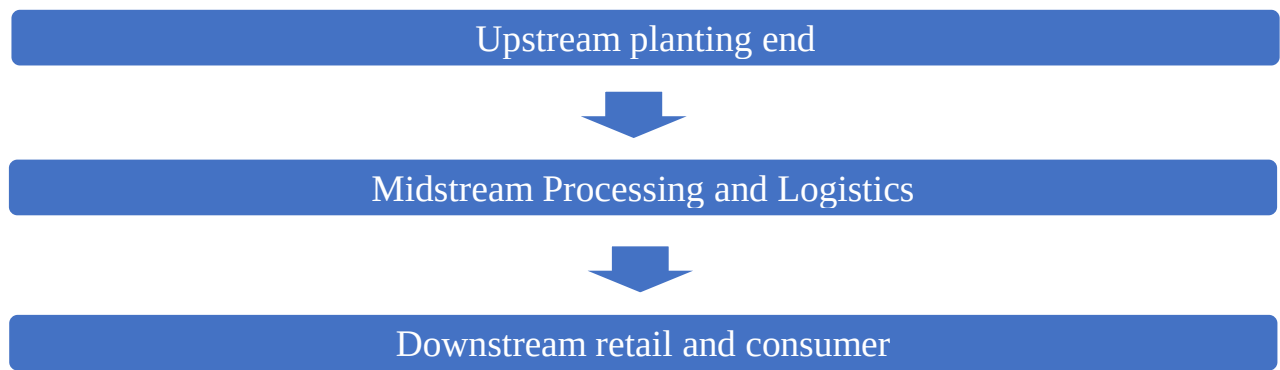


Figure 1.2– Coffee Supply Chain [23, p. 172]

Competition: Giants compete for high-quality beans through direct trade (such as Starbucks "Coffee Farmer Support Center"). The Ethiopian government will auction raw beans in Gera Estate in 2023, and Starbucks will win the competition with a 30 % premium;

Collaboration: Nestle has partnered with the Rainforest Alliance to train half a million farmers, committed to 100 % sustainable coffee by 2030, and partnered with JDE Peet's to set up a "Coffee Disease Resistance Fund" to tackle the threat of leaf rust.

Technological competition: Starbucks invested in blockchain provenance (IBM Food Trust) to improve transparency, Lavazza developed nitrogen lock fresh packaging to extend the shelf life of coffee powder.

Logistics alliance: Luckin and SF Express jointly built a "coffee cold chain warehouse" to shorten the delivery time to 2 hours; Cooxupe, Brazil's largest exporter, has signed a long-term deal with Maersk to lock in shipping costs against price fluctuations.

Data competition: Starbucks cooperated with Alibaba to open up the online and offline membership system, and Luckin realized low-cost repurchase through private domain traffic (enterprise wechat community);

Eco-friendly bundle: Nespresso has partnered with Terracycle to recycle capsules, offering customers a \$10 coupon for every 100 capsules they return, increasing the recycling rate to 40 % by 2023.

The global coffee market competition presents a dual-track pattern of "giant monopoly + regional innovation". Starbucks, Nestle and other giants consolidate their advantages through the control of the whole industry chain (planting traceback, retail digitalization) and ecological barriers (membership system, capsule system), while

emerging brands such as Luckin and Manner subdue traditional pricing with "popular products+extreme efficiency", while Blue Bottle and Arabica compete for the high-end market with boutique experience. Supply chain competition and cooperation: upstream competition for high-quality bean source (Starbucks direct trade), midstream technology game (blockchain traceability, freeze-drying process), downstream environmental protection bundling (capsule recycling program). Future success will depend on the synergy of supply chain resilience, localized innovation and sustainable transformation.

Chapter 2 Analysis of Financial Statements in the Coffee Market

2.1 Background of the Three Coffee Companies

Coffee is a beverage made from roasted and ground coffee beans. As one of the three major beverages in the world, it is popular with cocoa and tea in the world. Around the world, people are drinking more and more coffee. The resulting "coffee culture" is full of every moment of life, whether at home, in the office, or in various social occasions, people are tasting coffee, and it is gradually associated with fashion, modern life, work and leisure. Internationally famous coffee brands include Nestle Coffee, Starbucks and McDonald, among others . The following coffee brands all have high visibility and market share in the coffee market. Introduction to Starbucks [24, p. 111].

Establishment time and headquarters: Starbucks Corporation was founded in 1971 and is headquartered in Seattle, Washington, USA. Originally co-founded by Jerry Baldwin, Gordon Bowker, and Zev Siegl, it focuses on selling high-quality coffee beans and coffee equipment.

Core business and brand positioning: Starbucks is centered on the concept of a "third space" (a social place between home and office), offering freshly ground coffee, tea, baked goods and light meals with a focus on the consumer experience. The brand's iconic green mermaid logo and store designs have become global cultural ICONS.

Development history. 1987 Transition: Howard Schultz buys Starbucks and transforms it into a coffee shop chain model, borrowing from Italian cafe culture. 1992 Listed: Listed on the Nasdaq exchange, starting global expansion.

Global presence: By 2023, Starbucks has more than 36,000 stores in 85 countries and regions around the world, making it the world's largest coffee chain brand.

The economic status of Starbucks in the international coffee market

Market Size and Financial performance. Revenue and profit: In fiscal 2023 (ending Oct. 1), Starbucks reported total revenue of \$ 35.9 billion, up 12 % year over year; Net profit was about \$ 4.2 billion, driven by store expansion and higher customer prices.

Global store distribution: The Americas (mainly the US) accounted for about 70 % of revenue, the Asia Pacific (China as the core) accounted for 18%, and Europe, Middle East and Africa accounted for 12 %.

Market share: accounts for about 40 % of the global chain Coffee market, ahead of competitors such as Luckin Coffee, Costa Coffee, etc.

Core Market dynamics. China Market: With more than 7,000 stores by 2023, China is the second largest market. But faced with local competition from Luckin Coffee, which has more than 10,000 stores, Starbucks responded through digital marketing and market expansion.

Emerging markets: Accelerate entry into potential markets such as India and Southeast Asia (Vietnam and Indonesia), and reduce risk through joint venture model.

Challenge and competition. Cost pressures: Volatility in coffee prices and rising Labour costs, particularly in the US and Europe, are squeezing margins.

Impact of emerging brands: Luckin is overtaking in the Chinese market with the strategy of "cost-effective + digital", while local boutique cafes in Europe are diverting consumers.

Changing consumer preferences: As health trends drive demand for plant-based beverages (such as oat milk), Starbucks needs to continue to innovate its product line.

Strategic adjustment and innovation. Digitalization and membership system: Global Star Club members have exceeded 31 million, mobile orders account for 26% (2023 data), and user engagement is enhanced through APP.

Sustainable development: Commit to achieving "resource positive benefits" (e.g. promoting reusable cups and carbon-neutral supply chains) by 2030.

Product diversification: Launch non-coffee categories (e.g. tea, cold brew, co-branded products) and expand the proportion of food sales (25 % of revenue).

Starbucks maintains its market leadership through brand strength, global presence and digital innovation, but it needs to cope with competition in emerging markets, cost pressures and changing consumer trends. Its future growth will rely on the effectiveness of emerging market penetration, product differentiation, and sustainability strategies.

Introduction to McDonald

Establishment time and headquarters: McDonald's Corporation was founded in 1955 and is headquartered in Chicago, Illinois. Founded and propelled by Ray Kroc to become a global fast-food chain giant, it began as a drive-thru in 1940 by brothers Richard and Maurice McDonald.

Core business and brand positioning: McDonald's focuses on "fast service, standardized products, and family friendliness". It sells fast food products such as hamburgers, French fries, and fried chicken, and dabble in the coffee market through its McCafe sub-brand. Its brand's iconic golden arches and "Happy Meal" culture have become a symbol of the global fast-food industry.

Development history. 1967 Internationalization: First stop in Canada, start global expansion, currently covering more than 120 countries and regions, more than 41,000 stores (2023 data).

Launched McCoffee in 2009: entered the market with affordable coffee, and compared to Starbucks and other chain brands.

Digital transformation: Since the 2010s, self-service ordering machines, mobile payment and delivery cooperation (such as with Uber Eats) have been promoted to improve consumption convenience.

McDonald's economic status in the international coffee market. Market Size and Financial Performance. Overall revenue as a percentage of coffee business: Total revenue of \$ 25.49 billion in 2023, net profit of about \$ 8.48 billion, coffee business (McCoffee) to account for about 6 % till 8 % of revenue (about \$ 1.5 - \$2 billion). Store penetration: McCafe covers 90 % of McDonald's stores in the world, takes advantage of the low-cost expansion of the existing fast-food network, and the price of a single cup of coffee is only 1/3 to 1/2 of Starbucks.

Market share: accounts for about 5 %-7 % of the global chain coffee market, mainly focusing on the flat price coffee segment, competing with Dunkin' Donuts and Tim Hortons.

Core Market dynamics. European and American markets: McCafe attracts office workers in Europe and the United States through the combination of "breakfast + coffee", and coffee sales in the US market will grow by 10 % annually (2020-2023).

Asia Pacific Markets: China: McCafe will seize the sinking market through the strategy of "9.9-yuan fresh ground coffee". The number of stores will exceed 2,500 in 2023 and plan to increase to 4,000 in 2024, directly competing with Luckin and Kuti Coffee.

Australia: McCafe is the largest local coffee chain brand, market share more than Starbucks. Competitive Advantages and challenges [23, p. 18].

Advantages: Cost and Convenience: Relying on McDonald's store network, there is no additional rent and labor costs, and 24-hour service coverage.

Low price strategy: Prices as low as \$ 1- \$ 3 for a single cup of coffee to attract price-sensitive consumers.

Challenge: Limited brand awareness: consumers still regard it as "fast coffee", and it is difficult to high-end. Intensified competition: Brands such as Luckin and Costa squeeze market space at both ends of cost performance and quality.

Strategic adjustment and innovation. Product upgrades: Launch specialty coffee lines (e.g., single-origin coffee), cold brew lines, and introduce plant-based options such as oat milk.

Digital integration: Push coffee coupons through McDonald's APP, and 30% of coffee orders come from mobile terminals (2023 data).

Localized marketing: Launched coconut coffee in Southeast Asia, and promoted Christmas limited edition in Europe to enhance regional appeal.

With its huge fast-food network and low-price strategy, McDonald's occupies a leading position in the affordable segment of the international coffee market, but its brand positioning limits the high-end development. Future growth will depend on product innovation (e.g., specialty coffee), expansion in emerging markets (particularly China and Southeast Asia), and further use of digital tools to increase coffee sales penetration. Differentiated competition with specialty brands such as Starbucks is still the core topic.

Introduction to Restaurant Brands International Inc. and Subsidiaries

Establishment time and headquarters: Restaurant Brands International Inc. (RBI), founded in 2014 and headquartered in Toronto, Canada and Miami, Florida, USA, is led by 3G Capital, a Brazilian private equity fund, It was formed by buying Burger King and

Canadian coffee chain Tim Hortons, followed by US fried chicken brand Popeyes Louisiana Kitchen in 2017 and Firehouse Subs in 2021.

Core business and brand portfolio: RBI is the third largest fast-food group in the world (after McDonald's and Yum!) with four major brands under its umbrella: 1. Burger King: The world's second largest burger chain. 2. Tim Hortons: Canadian national coffee chain, mainly coffee, doughnuts and light food. 3. Popeyes: featuring Louisiana-style fried chicken. 4. Firehouse Subs: American sandwich chain.

Brand positioning [5, p. 231]. Tim Hortons: With "affordable, convenient and community" as the core, it focuses on the low-end coffee market and emphasizes local cultural identity (such as Canadian hockey themed marketing).

Multi-brand synergy: Reduce costs through shared supply chains, digital platforms and multinational franchise networks.

Development history 2014: 3G Capital acquires Tim Hortons for about \$ 11 billion, merging with Burger King to form RBI. 2017: Acquisition of Popeyes for \$ 1.8 billion to expand the fried chicken track. 2021: Acquired Firehouse Subs for US \$ 1 billion to strengthen the diversified layout of fast food.

Global expansion: By 2023, RBI has more than 30,000 stores in more than 100 countries, including more than 5,500 Tim Hortons stores (about 30 % outside Canada).

RBI Economics in the International Coffee Market (with Tim Hortons at its core)

Market Size and Financial Performance

Overall revenue: In 2023, RBI's total revenue will reach \$ 7.41 billion and net profit will be about \$ 1.58 billion, of which Tim Hortons will contribute about 50 % of revenue (about \$ 3.7 billion).

Share of coffee business: Tim Hortons' coffee and related beverages account for more than 65% of its total sales and are RBI's main carrier in the coffee market.

Global store distribution:

Canada: More than 4,000 stores, accounting for about 60% of the local coffee market.

US: Over 800 stores (2023), with plans to accelerate expansion through Burger King joint stores.

Emerging markets: Gradually penetrated by China (about 600), India (over 200), and the Middle East (mainly Saudi Arabia and the United Arab Emirates).

Core Market dynamics. Canadian market: Tim Hortons is the absolute leader, but faces competition from local boutique cafes (such as Second Cup) and Starbucks, maintaining share by introducing cold brew coffee, plant-based drinks (oat milk).

US markets: Positioned as a "Canadian national brand" that attracts price-sensitive consumers with a "coffee + donut" mix, but with less than 3 % market share, well below Dunkin' (35 %) and Starbucks (43 %).

Launch the "Tims Go" convenient store model in 2023, focusing on gas stations, airports and other scenarios.

China Market: A joint venture with Tencent and Descartes Capital, which features "coffee + warm food" (bagels, burritos), but has not expanded as fast as Luckin (10,000 stores) and Starbucks (7,000+ stores). Close some loss-making stores in 2023 and shift to refined operations in higher-tier cities [25, p. 18].

Competitive Advantages and challenges. Advantages: Supply Chain integration: Reduce coffee bean and packaging costs by leveraging RBI's global sourcing network.

Localized marketing: Binding hockey culture in Canada, launching "maple latte" and other regionally limited products in China.

Franchise model: More than 99 % of stores are franchise, reducing capital expenditure risk.

Challenge: Brand recognition Limitations: Outside of Canada, Tim Hortons is considered an "exotic brand" and needs to reinvent its cultural identity.

Fierce market competition: Affordable segment: Beaten by McDonald's McCafe (\$ 1 coffee) and Dunkin'. High-end: It's hard to compete with Starbucks and Blue Bottle.

Product homogeneity: The speed of coffee innovation lags behind Luckin and Starbucks.

Strategic adjustment and innovation. Product Line expansion: Cold-brew coffee, plant-based drinks (oat milk, almond milk) and seasonal options (pumpkin spice).

Increase the proportion of warm food (such as breakfast sandwiches) and increase the unit price of customers.

Digitalization and membership system: Tim Hortons has more than 12 million members (2023) and offers coupons and points through the APP.

Cooperation with delivery platforms (such as Meituan and Uber Eats), which accounted for more than 25 % of delivery orders.

Expansion in emerging markets: India: In partnership with local giant Tata Group, featuring "low price coffee + Indian style snacks".

Middle East: Rapid store opening through franchising in Saudi Arabia and the UAE, focusing on the shopping mall scene.

Restaurant Brands International Inc. Through Tim Hortons in the international coffee market to occupy the low and medium price segment, especially in Canada has a monopoly position. However, its globalization process faces challenges such as insufficient brand recognition, lagging product innovation and intensified competition in emerging markets. Future growth will rely on the following strategies:

1 Strengthen localization in emerging markets (such as China, India, the Middle East) to avoid head-to-head competition with Starbucks and Luckin.

2 Accelerate digitalization and product upgrading and narrow the experience gap with leading brands.

3 Leverage multi-brand synergies (e.g., joint Burger King stores) to reduce expansion costs and increase coffee sales penetration.

Whether Tim Hortons can break through the "Canadian label" and become a truly global coffee brand remains a key issue for RBI in the international coffee market.

2.2 Analysis of Financial Changes of Three Major Coffee Companies

In this chapter, we will compare the financial indicators of the coffee industry companies Starbucks, McDonald's and Tianhao Coffee. Trend analysis focuses on the rise and fall of the three major coffee companies in a consecutive period of time. The specific analysis is as follows: profitability sales Margin (%) (Table 2.1).

Table 2.1 – Sales (Operating) Margin (%)

Sales (operating) Margin (%)							
	2019	2020	2021	2022	2023	2024	Summary of Trends
Starbuck	15.38 %	6.64 %	16.77 %	14.32 %	16.32 %	14.95 %	Sharp fluctuations and high-cost pressure
McDonald	42.45 %	38.13 %	44.59 %	40.42 %	45.69 %	45.19 %	Stable leading, the scale effect is significant
Restaurant Brands International Inc. and Subsidiarie	35.82 %	28.62 %	32.74 %	29.18 %	29.21 %	28.78 %	Continued decline, low expansion efficiency

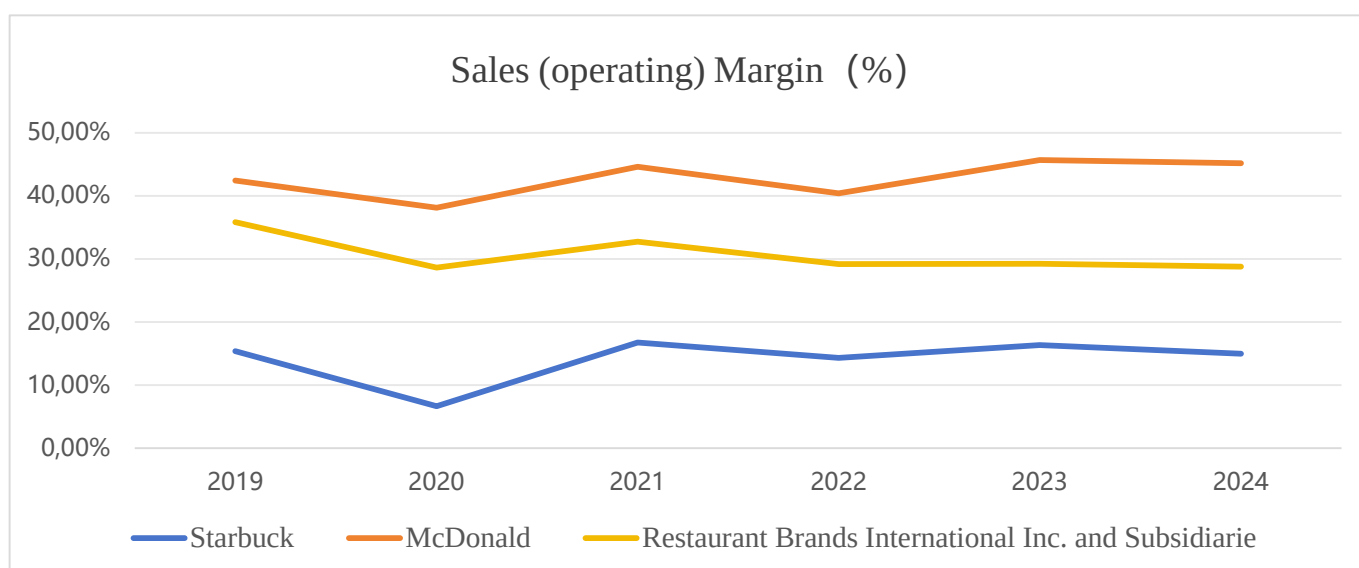


Figure 2.1 – Sales (operating) Margin (%) [22]

This section includes data and trend analysis. The data analysis is mainly from the coffee company to the coffee industry, individual to the whole, to understand the average financial level in the coffee industry.

Combining the data in Table 2.1 and Figure 2.1, we can see that:

The influence of characteristics and trends of coffee consumption groups demand for youth and quality : Starbucks: Featuring high-end freshly ground coffee and "third space" experience, attracting young consumers who care about quality and scene. However,

its direct business model leads to high operating costs (rent, manpower). In 2020, the gross profit margin plunged to 6.64 % (the impact of COVID-19 store closures), and rebounded to 16.77 % in 2021 (the proportion of digital orders increased), but the subsequent fluctuations are obvious (14.95 % in 2024). Reflect cost pressure and intensified competition in the high-end market (such as Lucken's low price impact).

McDonald's: providing affordable coffee through McCafé, and relying on the scale effect and supply chain advantages of the fast-food channel, gross margin is stable at 38 % to 45 %. Its cost-effective positioning meets the demand of mass consumption, and the gross margin in 2023 will reach 45.69 %, showing the advantage of fast-food model in cost control.

Demand for convenience and cost performance: food and Beverage Brands International (RBI): Its Tim Hortons has been expanding rapidly with the "coffee + fast food" model, with a high initial gross margin (35.82 % in 2019), but the proportion of franchise is over 95 %, and the decentralized management of franchise stores leads to uneven cost allocation. Gross margin fell to 28.62 % in 2020 (the epidemic hit franchisees), and further fell to 28.78 % in 2024, reflecting the decline in single store benefits under rapid expansion.

Impact of consumption scenarios and business models. Direct business model vs franchise: Starbucks: Although direct sales can enhance brand experience, the cost is rigid. The decrease in gross margin 14.32 % in 2022 is directly related to the increase in coffee bean prices and labor costs. The pressure was partly relieved by the launch of high-margin products, such as cold brew, but in 2024 it was still below 2019 levels.

McDonald's: Fast food business is complementary to coffee, large-scale procurement (such as coffee beans and dairy products) reduces costs, store reuse (coffee and meal sharing equipment) improves efficiency, and gross margin remains industry-leading for a long time (45.69 % in 2023). The franchise model has accelerated expansion, but franchisees' profit margins have been squeezed (brand licensing fees have to be paid) and competition in emerging markets (such as Lucking and Manner in China) has led to continued low gross margins. Product Structure and Cost control: Starbucks: relies on ready-made drinks with high unit price, but the cost of raw materials accounts for a high proportion (coffee bean

price fluctuations), and the fluctuation range of gross margin from 2020 to 2024 is 10 %, with weak ability to resist risks.

McDonald's: Coffee complements the fast-food business with low marginal cost and stable gross margin (only 7.5 % fluctuating from 2020 to 2024). Over-reliance on franchisee revenue (high percentage of royalties) and lack of control over terminal costs have contributed to a continued decline in gross margins (cumulative decline 7 % from 2019 to 2024).

Under the trend of quality and cost performance differentiation of consumer groups, Starbucks is subject to the high-cost model, while McDonald's holds the top spot by virtue of its scale advantage. RBI needs to solve the management shortcomings of franchise model to stop the decline of gross margin (Table 2.2).

Table 2.2 – Net Profit Margin [14]

Net Profit Margin (%)							
	2019	2020	2021	2022	2023	2024	Summary of Trends
Starbuck	13.58 %	3.9 5%	14.4 5%	10.18 %	11.46 %	10.40 %	Sharp fluctuations and high-cost pressure
McDonald	28.20 %	24.63 %	32.4 9%	26.64 %	33.22 %	31.72 %	Stable leading, the scale effect is significant
Restaurant Brands International Inc. and Subsidiarie	11.48 %	9.78 %	14.6 0%	15.50 %	16.95 %	12.15 %	Continued decline, low expansion efficiency

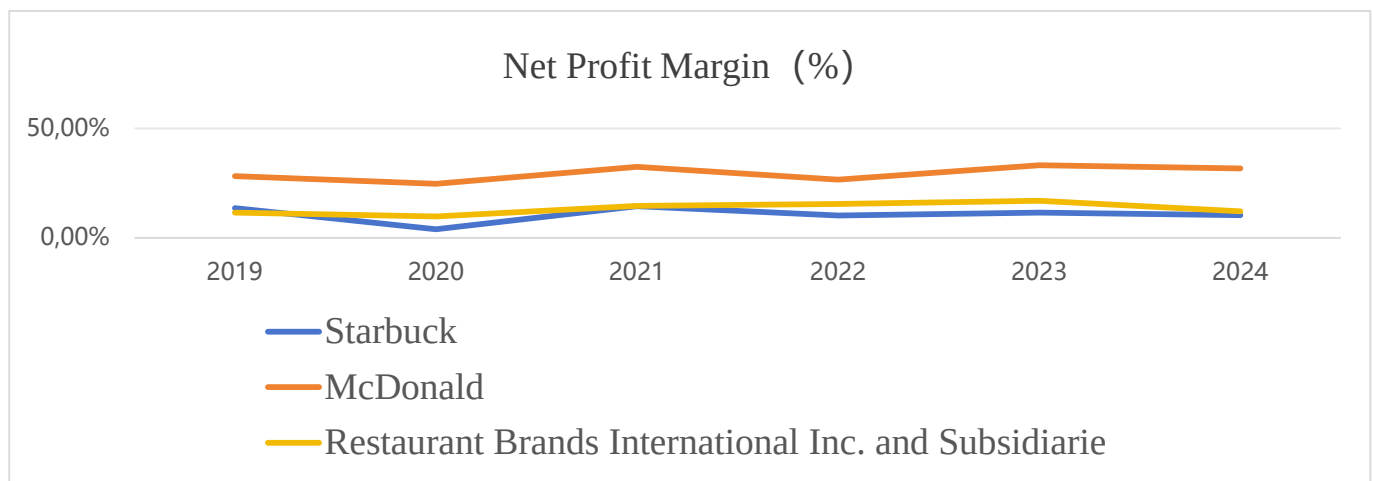


Figure 2.2 – Net Profit Margin (%) [15]

High-end and experience requirements : Starbucks: targeting the high-end market and relying on the "third space" experience to attract young consumers, but the direct sales model leads to high operating costs (rent, labor, raw materials). The net profit margin plunged to 3.95 % in 2020 (the impact of COVID-19 store closures), rebounded to 14.45 % in 2021 (the proportion of digital orders increased to 30 %), but fell back to 10.40 % in 2024. Reflecting the rigidity of its cost structure (such as rising coffee bean prices, increasing labor costs) and the competitive pressure of low-price brands such as Luckin.

McDonald's: Through McCafé to meet the popular demand, fast food business and coffee complementary, large-scale procurement (coffee beans, dairy products) and store reuse (coffee and meal sharing equipment) significantly reduce costs. In 2023, the net profit margin will reach 33.22 %, reflecting its efficient supply chain and cost control ability.

Demand for convenience and cost performance: food and Beverage Brands International (RBI): Tim Hortons is expanding rapidly with a "coffee + fast food" model, accounting for more than 95 % of franchises. Net profit margin increased from 11.48 % to 16.95 % from 2019 to 2023 (initial franchise fee revenue growth), but plummeted to 12.15 % in 2024, reflecting fragmented franchisee management (such as increased competition in emerging markets), declining single store efficiency and pressure on brand licensing fee sharing.

Impact of consumption scenarios and business models. Direct business model vs franchise model: Starbucks: Although the direct business model strengthens the brand

experience, it has a high proportion of fixed costs and a weak ability to resist risks. The decrease in net profit margin 10.18 % for 2022 is directly related to the higher cost of coffee beans (20 % YoY for international coffee beans in 2022). McDonald's: Fast food business provides steady cash flow, coffee as a low marginal cost complementary product, long-term leader in net margins (2020-2024 average 29.5 %). The peak of net margin 32.49 % in 2021 was due to post-pandemic consumption recovery and package promotion strategy.

Accelerating franchise model expansion, but franchisees' profit margins are squeezed (brand licensing fees of 5 % – 6 % of revenue), combined with competition from emerging markets (e.g. Lucking, Manner in China), resulting in net margin volatility (2024 12.15 %).

Product Structure and Cost control: Starbucks: relies on high unit price ready-made drinks (e.g., 30 % premium for cold brew coffee), but raw material costs account for more than 25 %, and net margins fluctuate wildly (range: 10.5 % from 2019 to 2024). McDonald's: coffee is sold in tandem with core meals (burgers, fries), with low marginal cost and strong stability of net profit margin (range only 8.59 % from 2020 to 2024). Over-reliance on franchisee revenue, weak end cost control, and declining net margin in 2024 reflect inefficiencies in expansion (e.g., single-store revenue growth in China slowing to 5 %) (Table 2.3).

Table 2.3 – Reward Rate of General Assets (%)

Reward Rate of General Assets (%)								
	2017	2018	2019	2020	2021	2022	2023	2024
Starbuck	125.66 %	80.55 %	62.91 %	26.38 %	77.72 %	70.77 %	129.50 %	110.00 %
McDonald	281.64 %	355.84 %	682.96 %	217.61 %	184.97 %	169.39 %	236.47 %	290.36 %
Restaurant Brands International Inc. and Subsidiaries	48.66%	60.90 %	52.58 %	31.43 %	63.32 %	89.01 %	102.72 %	82.57 %

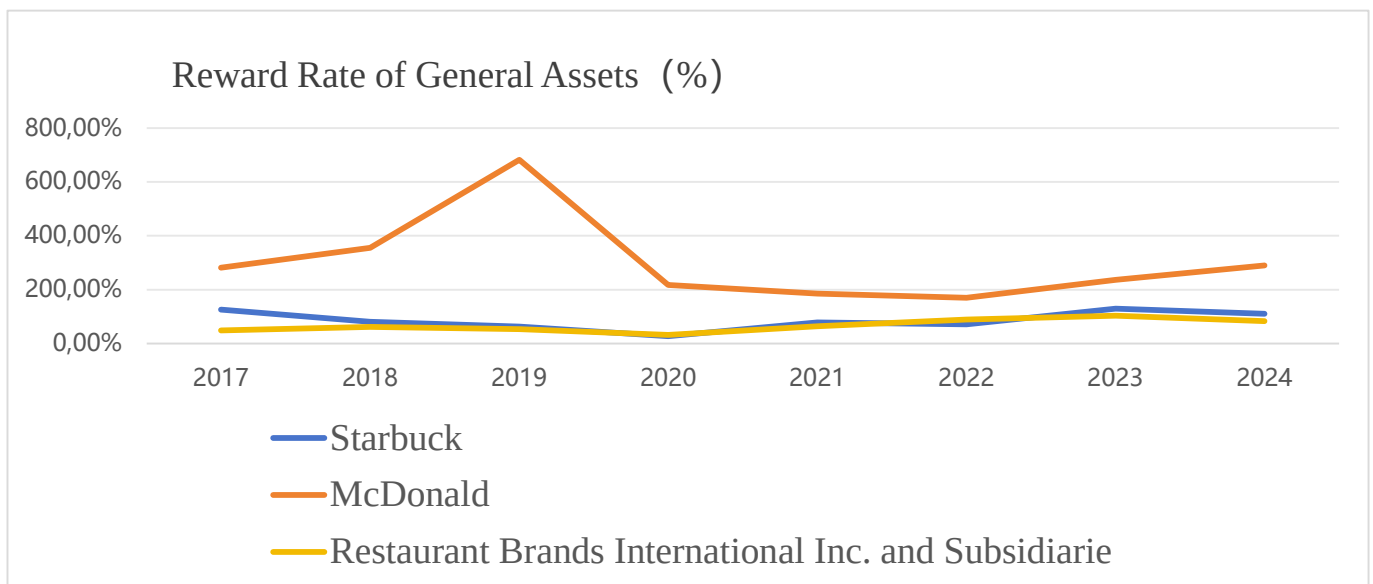


Figure 2.3 – Reward Rate of General Assets (%) [12]

Under the differentiation of consumer groups (high-end and cost-effective) and business model differences, McDonald's remains at the top of profitability by virtue of scale effect and cost control, Starbucks needs to break through the cost bottleneck, and RBI needs to solve the management shortcomings of franchise model. In the future, digitalization and supply chain optimization will be the common focus of competition for the three companies.

Starbucks: It focuses on high-end market and "third space" experience to attract high net worth consumers, but the direct business model leads to high investment in assets (store decoration and equipment purchase). From 2017 to 2019, the return decreased from 125.66 % to 62.91 %, reflecting that the expansion of assets outpaced the growth of profits. In 2020, due to the epidemic, the return rate plunged to 26.38 %, but rebounded to 129.50 % in 2023 (asset optimization and digital order proportion increased).

McDonald's: Meet popular needs through McCafé, relying on fast food stores to reuse assets (coffee machines and dining equipment are shared), with high asset utilization. In 2019, the return rate soared to 682.96 % (possibly due to asset impairment adjustment or one-time gain) and remained in the range of 150 % – 300 % for a long time, reflecting its advantage of asset-light operation.

Demand for convenience and cost performance: food and Beverage Brands International (RBI): Its Tim Hortons has been expanding rapidly under the franchise model, with low initial returns (48.66 % in 2017), but rising to 102.72 % in 2023 (scale effect due

to the surge in the number of franchised stores). However, it will fall to 82.57 % in 2024, reflecting the declining benefits of single stores in emerging markets (such as China) and the rising management costs of franchisees.

Impact of consumption scenarios and business models. Direct business model vs franchise model: Starbucks: The direct business model requires continuous investment in assets (such as a global store network), and the rate of return is volatile. It rebounded to 77.72 % in 2021 thanks to post-pandemic consumption recovery and the promotion of high-margin products such as plant-based drinks, but fell to 110.00 % in 2024, indicating intensified competition in the high-end market (such as boutique brands such as Blue Bottle).

McDonald's: The fast-food business is highly coordinated with coffee, and the asset reuse rate is maximized (coffee machines are shared with burger production lines). The unusually high 682.96 % return in 2019 May be due to asset sales (such as divested overseas businesses) or financial adjustments. The long-term return rate is stable at the top of the industry (2024, 290.36 %), verifying the efficiency of its business model.

Franchise model relies on franchisee investment (asset-light) but balances brand licensing fees with franchisee support costs. The decline in return rate 31.43 % in 2020 is related to the impact of the epidemic on franchisees' cash flow, and the subsequent recovery depends on the expansion of emerging markets (such as India and Southeast Asia).

High asset investment (e.g., Reserve Roakhouse) leads to volatile returns, but optimizes asset structure by closing inefficient stores (400 globally) in 2023 to drive record returns.

Improve asset turnover through digital upgrading (self-service ordering machines, AI supply chain), and the rate of return in 2023, 236.47 % reflects technology-driven efficiency improvement.

Reliance on franchisees for expansion but over-fragmented asset layout (e.g., intense competition in China) leads to declining returns in 2024, requiring stronger regional concentration.

Under the differentiation of consumer groups (high-end experience and cost performance) and business model differences, McDonald's holds the top spot with extreme asset efficiency, Starbucks needs to balance asset investment and profit growth, and RBI

needs to solve the regional management problem of franchise model. In the future, asset lightweighting and technology empowerment will be key competitive dimensions to improve returns.

Starbucks has the advantage of a premium brand positioning and "third space" experience to attract high-net-worth consumers, with a record high ROA of 129.50 % in 2023.

The challenges are that the direct operation model leads to rigid costs, sharp fluctuations in gross profit margin and net profit margin (the net profit margin in 2020 is only 3.95 %), and the efficiency of asset investment is greatly affected by market fluctuations; McDonald's (McDonald) has the advantage of extremely efficient business model, remarkable synergistic effect between fast food and coffee, industry-leading net profit margin of 33.22 % and return on total assets of 682.96 %, and strong ability to resist risks. Total Asset Turnover (Table 2.4).

Table 2.4 – Total Asset Turnover

Total Asset Turnover							
	2019	2020	2021	2022	2023	2024	Summary of Trends
Starbuck	4.63	6.68	5.38	6.95	11.30	10.58	Technology-driven, efficiency breakthrough
McDonald	12.83	8.84	5.69	6.36	7.12	9.15	Fluctuation adjustment, to release the potential
Restaurant Brands International Inc. and Subsidiarie	4.58	3.21	4.34	5.74	6.06	6.80	While maintaining stability, there are rising regional risks looming

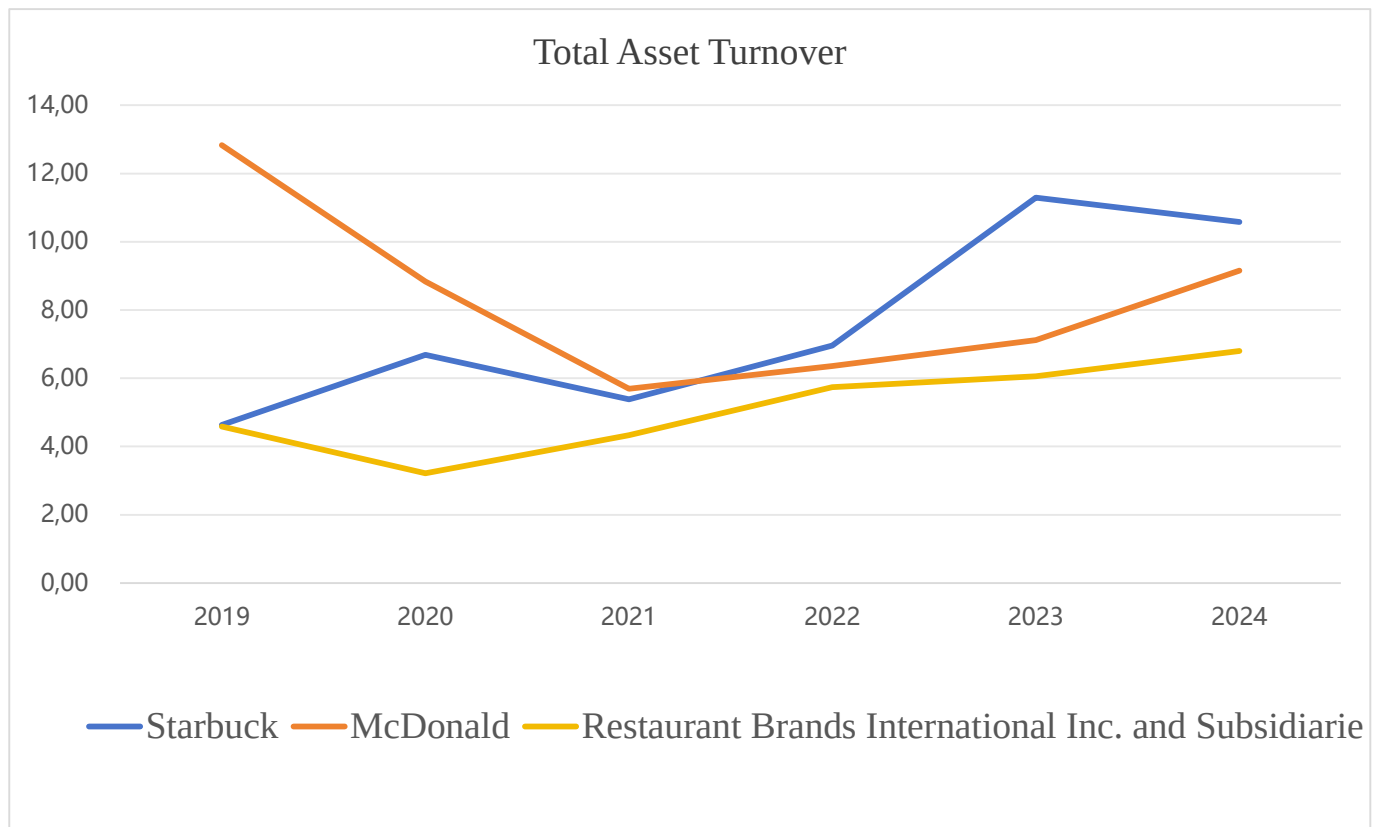


Figure 2.4 – Total Asset Turnover [12]

Starbucks: targeting the high-end market and relying on the "third space" to attract high net worth consumers, the direct business model requires high investment in assets (store decoration and equipment). From 2019 to 2024, asset turnover soared from 4.63 to 10.58, reflecting its significant optimization of asset efficiency through digital orders (accounting for more than 30 %) and closing inefficient stores (closing 400 stores globally in 2023). 2023 peak 11.30 Thanks to the promotion of plant-based drinks and other high-margin products, improve the revenue of single store.

Meet the popular demand through McCafé, fast food business and coffee coordination, asset reuse (coffee machine and meal equipment sharing) theory should improve the turnover rate, but the data fluctuations are obvious. In 2020, it plunged to 8.84 (the impact of the epidemic closure), and then gradually rose to 9.15 (2024) through supply chain optimization and digital upgrade (self-service ordering machine, AI inventory management), showing the resilience of the fast-food model.

Food and Beverage Brands International (RBI): Its Tim Hortons expanded under a franchise model, with asset-light operations driving a steady increase in turnover from 4.58

(2019) to 6.80 (2024). The surge in the number of franchise stores (e.g., store growth of more than 30 % in China) brings economies of scale, but the slowdown in 2024 reflects declining efficiencies for individual stores in emerging markets (e.g., increased competition in China).

Impact of consumption scenarios and business models. Starbucks: Direct business model requires continuous asset investment, but improves turnover efficiency through technology empowerment (APP orders, automation equipment). 2023 turnover rate 11.30 is the industry benchmark to verify the refined operation capability of the high-end market. The synergistic effect between fast food and coffee has not been fully released, and the turnover rate will fluctuate (6.36-9.15) after 2020 May be related to strategic adjustment (such as divestment of non-core assets), so asset allocation needs to be further optimized.

Franchise model reduces asset burden, but decentralized management of franchisees leads to limited growth in turnover rate (2024 6.80). Regional concentration (such as focus on North America and India) needs to be strengthened and supply chain management unified to improve efficiency.

The decline in turnover 5.38 in 2021 was related to store reopening costs after the pandemic, and the subsequent rebound was achieved through asset lightweight (reducing investment in large reserve stores).

Turnover rate 7.12 will recover in 2023 thanks to package promotion (coffee + breakfast) to improve customer traffic and asset reuse rate.

The jump in turnover 5.74 in 2022 is directly related to the rapid expansion of franchise stores in emerging markets (such as Southeast Asia), but beware of over expansion risks.

Under the differentiation of consumer groups (high-end experience and cost performance) and business model differences, Starbucks has achieved a leap in turnover through digitalization and asset optimization, McDonald's needs to release the potential of synergies, and RBI needs to avoid the regional management risks of franchise model. In the future, asset lightweight, technology empowerment and supply chain integration will be the core policies to improve turnover efficiency. Accounts Receivable Turnover (Table 2.5).

Table 2.5 – Accounts Receivable Turnover

Accounts Receivable Turnover							
	2019	2020	2021	2022	2023	2024	Summary of Trends
Starbuck	30.15	26.62	30.92	27.44	30.38	29.80	Stable and efficient, digitally driven
McDonal d	9.61	9.10	12.40	10.96	10.25	10.88	Fluctuation adjustment, need to optimize the account period
Restaura nt Brands Internati onal Inc. and Subsidiar ie	10.63	9.27	10.49	10.59	9.38	12.04	Management improvement, potential to be released

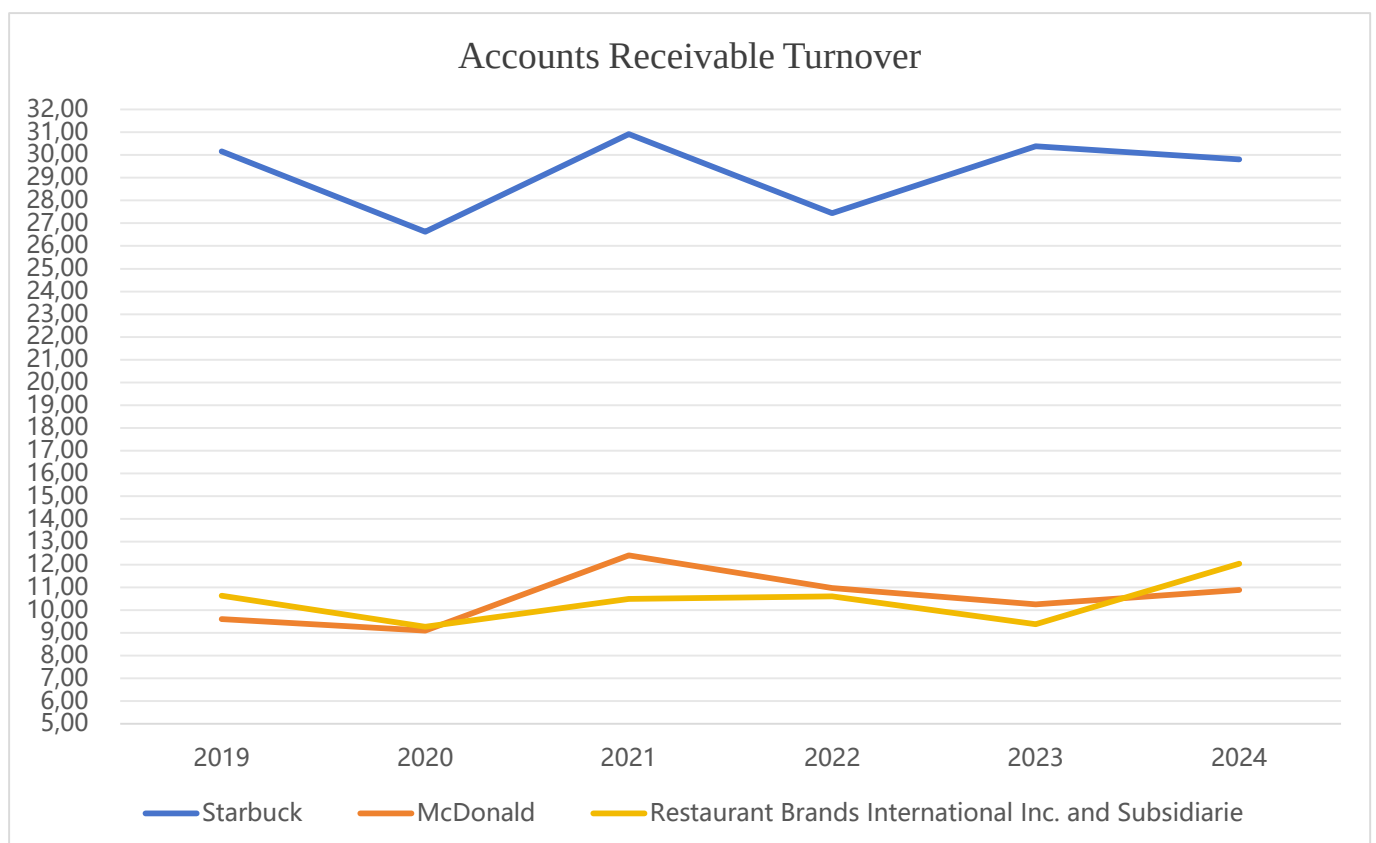


Figure 2.5 – Accounts Receivable Turnover [12]

Combining the data in Table 2.5 and Figure 2.5, we can see that:

High-end and instant payment demand :

Starbucks: For high-end consumers who focus on brand experience, the proportion of prepaid and digital payment (APP orders account for more than 30 %) is high, and the accounts receivable turnover is stable in the range of 25-31 in the long term (29.80 in 2024). In its "third space" scenario, consumption is mainly to the store, the account period is short, and the capital is recovered quickly.

Popularity and demand for credit payment:

McDonald's: The fast-food business relies on the mass market, and some corporate customers (such as airports, office buildings) adopt payment on time, resulting in low accounts receivable turnover (2024 10.88). In 2021, it briefly increased to 12.40 (optimized supply chain account period after the epidemic), but the overall is still subject to the franchisee credit sales model.

Food and Beverage Brands International (RBI): Its Tim Hortons is mainly franchised, and franchisees have demand for settlement during the account period. The turnover rate fluctuates in the range of 9-11 from 2019 to 2023. In 2024, it jumped to 12.04, reflecting its strengthening of franchisee account period management (such as shortening the settlement cycle) or reducing the proportion of credit sales.

2 Impact of consumption scenarios and business models

Direct business model vs franchise model:

Starbucks: Strong control over terminal payment under direct operation mode, high proportion of digital payment (mobile order prepayment), significantly leading accounts receivable turnover (2023 30.38).

McDonald's: The fast-food business is coordinated with coffee, but the account period management of franchisees is decentralized. In 2020, the turnover rate drops to 9.10 (the epidemic affects the cash flow of franchisees), and gradually rises through the optimization of supply chain finance.

3 RBI: The franchise model, which relies on franchisee collaboration, will increase turnover to 12.04 in 2024, likely due to unified settlement systems (e.g. mandatory electronic payments) and an increase in the proportion of cash transactions in emerging markets (India, Southeast Asia).

Payment method and account period management:

Starbucks: Reduce the proportion of receivables through membership system (Star Enjoy card) and APP binding prepayment, and the peak turnover rate in 2021 is 30.92.

McDonald's: Corporate customers (such as delivery platforms) have a long account period, which slows down turnover. Therefore, dynamic account period policies (such as early payment discounts) need to be adopted to improve capital efficiency.

RBI: Improvement in turnover in 2024 or related to the implementation of digital tools (unified payment platform for franchisees), reducing manual reconciliation delays.

Under the differences in payment habits of consumer groups (high-end instant payment vs mass credit payment) and business models, Starbucks maintains efficient turnover by virtue of digitalization and direct sales model, McDonald's needs to balance the flexibility of franchisees' account period, and RBI releases potential through management improvement. In the future, payment tool innovation and refined account period management will be the key to improve capital efficiency. Days Sales Outstanding (Table 2.6).

Table 2.6 – Days Sales Outstanding [22]

Days Sales Outstanding							
	2019	2020	2021	2022	2023	2024	Summary of Trends
Starbuck	12.11	13.71	11.81	13.30	12.01	12.25	Stable and efficient, digitally driven
McDonald	38.00	40.10	29.43	33.30	35.62	33.56	The pressure of account period is great, which needs fine management
Restaurant Brands International Inc. and Subsidiarie	34.33	39.38	34.79	34.45	38.93	30.31	Management improvement, initial potential

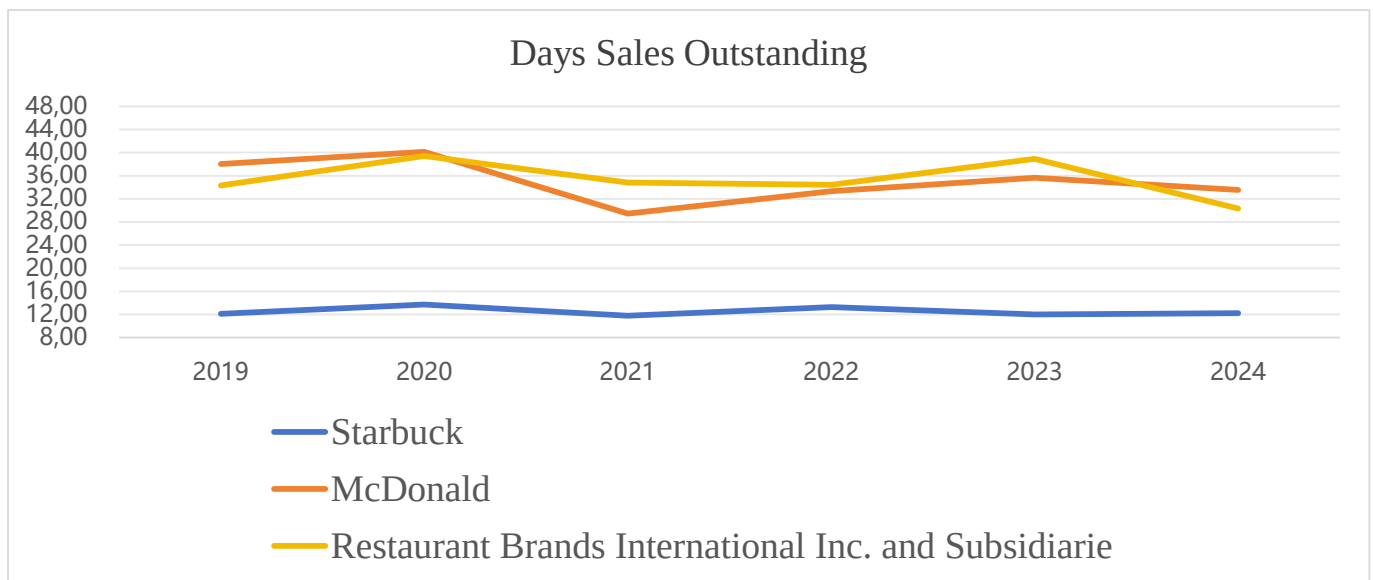


Figure 2.6 – Days Sales Outstanding [12]

Combining the data in Table 2.6 and Figure 2.6, we can see that:

High-end and instant payment demand :

Starbucks: Positioning in the high-end market, consumers mainly focus on instant payment (APP orders account for more than 30 %), DSO is stable at about 12 days in the long term (12.25 days in 2024). In its "third space" scenario, the proportion of in-store consumption is high, the account period is very short, and the capital recovery efficiency is leading in the industry.

Popularity and demand for credit payment:

McDonald's: The fast-food business relies on the mass market, and some corporate customers (such as airports, office stores) adopt billing period settlement, resulting in a high DSO (33.56 days in 2024). It briefly fell to 29.43 days in 2021 (tightened credit policies after the pandemic), but rebounded to 35.62 days in 2023, reflecting the pressure on franchisees to manage their account period.

Food and Beverage Brands International (RBI): Tim Hortons is a franchise business, and franchisees need to pay a share fee according to the contract, so there is a demand for the account period. DSO fluctuates between 30-40 days and falls to 30.31 days in 2024, likely due to the increase in the proportion of cash transactions in emerging markets (such as India and Southeast Asia) and the promotion of digital settlement tools.

Direct business model vs franchise model:

Starbucks: Under the direct operation mode, it has strong control over the payment process, and digital prepayment (star card and APP order) accounts for a high proportion. DSO is significantly lower than that of peers (12.01 days in 2023).

McDonald's: The fast-food business is coordinated with coffee, but the account period of franchisees is decentralized (some stores need to pay share to the headquarters), and the account period of B2B customers (delivery platform) is long, resulting in high DSO.

RBI: The management of franchisees' account period under the franchise model is complex, and the improvement of DSO in 2024 (30.31 days) is due to the implementation of a unified electronic payment system (such as forcing franchisees to use the platform for settlement).

Payment method and Credit policy:

Starbucks: binding prepayment through membership system to reduce the proportion of receivables, DSO in 2021 as low as 11.81 days, to verify the effectiveness of its digital strategy.

McDonald's: It needs to balance the flexibility of franchisees' account period with financial efficiency. In 2020, DSO increased to 40.10 days (cash flow affected by the epidemic), which was partially improved through dynamic account period policies (such as early payment discount).

RBI: DSO optimization for 2024 reflects management improvements (e.g. shortening settlement cycle to within 30 days), subject to vigilance against franchisee liquidity risks in emerging markets (e.g. delayed payment collection at some outlets in Southeast Asia).

Under the differences in payment habits of consumer groups (high-end instant payment vs mass credit payment) and business models, Starbucks maintains efficient capital recovery by relying on direct operation and digitalization, McDonald's needs to optimize franchisee account period management, and RBI releases franchise potential through technology. In the future, innovation of payment tools and refinement of account period management will be the key competitive dimensions to improve asset quality.

Starbucks has the advantage of leading the industry with high-end positioning and digital payment (APP orders account for more than 30 %), asset turnover ratio (11.30 in 2023) and accounts receivable management efficiency (DSO is stable at about 12 days). The

challenges include high asset investment in direct business model, large fluctuations in return on total assets (only 26.38 % in 2020), and continuous optimization of store network and cost structure.

McDonald's advantage is the significant synergy effect between fast food and coffee, total asset turnover (9.15 in 2024) and scale effect to support high profitability (net profit margin 33.22 %). The challenges include decentralized account period management of franchisees, DSO being higher than 30 days for a long time (33.56 days in 2024), and low capital recovery efficiency.

The differentiation of payment habits of consumer groups (high-end instant payment vs mass credit transaction) and business model differences jointly defines the asset quality pattern. In the future, efficiency improvement will rely on technology empowerment and refined management. Debt risk interest Coverage (Table 2.7).

Table 2.7 – Interest Coverage

Interest Coverage								
	2017	2018	2019	2020	2021	2022	2023	2024
Starbuck	-44.70	-22.80	-12.32	-3.57	-10.37	-9.56	-10.67	-9.62
McDonald	10.37	8.99	8.08	6.01	8.73	7.76	8.56	7.78
Restaurant Brands International Inc. and Subsidiarie	3.39	3.58	3.77	2.80	3.72	3.56	3.52	4.19

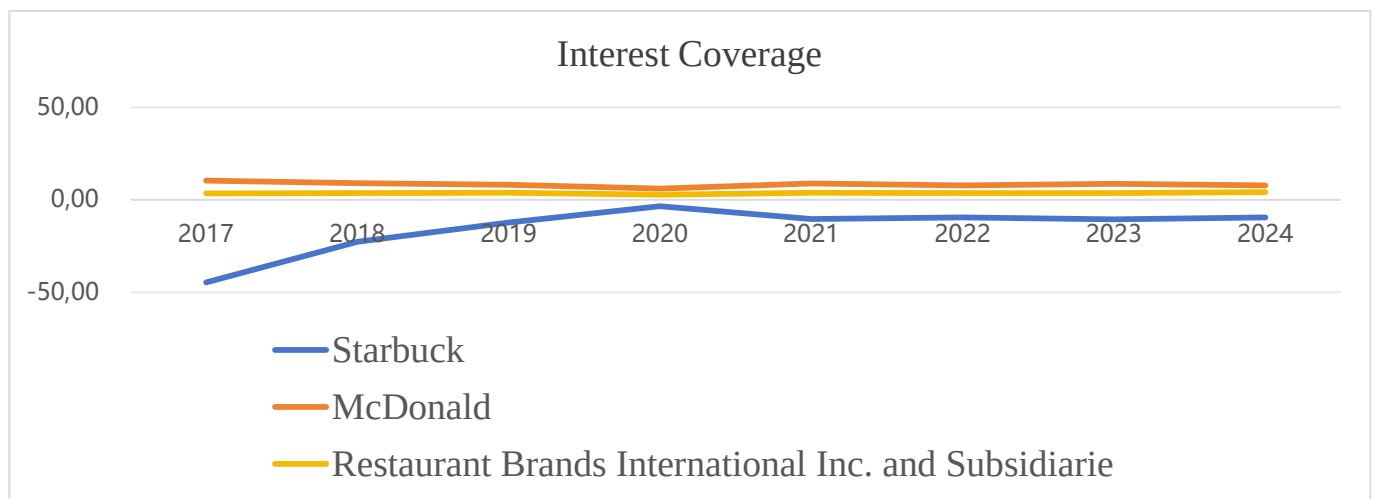


Figure 2.7 – Interest Coverage [12]

Combining the data in Table 2.7 and Figure 2.7, we can see that:

Starbucks is extremely risky with debt.

Data performance: The interest coverage ratio continued to be negative (2017: -44.70, 2024: -9.62), indicating that the earnings before interest and tax (EBIT) could not cover the interest expense for a long time, and the operating loss was serious.

Consumer groups and trend impact:

Premiumization and cost pressure: Starbucks is positioned at the high end of the market and relies on store experience and quality, but high operating costs (such as rent, labor, and coffee bean procurement) are putting pressure on margins. While younger groups seek quality, consumers may turn to more cost-effective brands in times of economic volatility.

Strong scene dependence: Starbucks revenue depends on offline store consumption, and dine-in is limited during the epidemic. The increase in the proportion of takeout may increase costs (such as delivery expenses) and further reduce profits.

Risk points: Continued losses may exacerbate the snowball effect of debt, and we need to be alert to a liquidity crisis.

2. McDonald's (MCD) has low debt risk

Data performance: interest coverage ratio is stable between 6.01 and 10.37, with strong solvency.

Consumer groups and trend impact:

Diversification and scale effect: McDonald's focuses on fast food, with coffee (such as McCafé) as a supplementary category, relying on a huge store network and low-price strategy to attract mass consumer groups. When the economy is down, its cost performance advantage is more prominent.

Advantages of convenient scenes: mature models such as Drive-thru and takeout, adapt to fast-paced consumer demand, diversify income sources (catering + coffee), and have strong risk resistance.

Risk points: Pay attention to whether the profit margin of coffee business is squeezed by market competition (such as the impact of low-price brands such as Luckin).

Restaurant Brands International (RBI) has medium debt exposure

Data performance: The interest coverage ratio is stable between 2.80-4.19, but the lowest value in 2020 (2.80) is close to the margin of safety (usually ≥ 3).

Consumer groups and trend impact:

Multi-brand risk diversification: It owns Tim Hortons, Burger King and other brands. Tim Hortons positions itself as a popular coffee in Canada and other markets, relying on high-frequency consumption. But global expansion, such as in China, could increase capital spending.

The mid-market is highly competitive: it balances quality with price, and if it fails to differentiate (for example, if it lacks product innovation), it may be squeezed at both ends by Starbucks and lower-priced brands.

Risk points: Cost structure needs to be optimized to improve profit margin and avoid further decline in interest coverage ratio.

Starbucks has high debt risk and needs to ease the pressure through store closure optimization, cost reduction or financing; McDonald's risks are manageable, but it needs to be wary of coffee competition; RBI needs to strengthen brand synergies to improve earnings stability. The industry as a whole need to pay attention to the dual challenges of consumption downgrade and rising costs. Debt-to-Equity Ratio (Table 2.8).

Table 2.8 – Debt-to-Equity Ratio (%)

Debt-to-Equity Ratio (%)								
	2017	2018	2019	2020	2021	2022	2023	2024
Starbuck	163.46 %	1964.99 %	408.37 %	476.28 %	689.83 %	421.26 %	468.22 %	520.63 %
McDonald	88.45 %	47.51 %	44.10 %	78.99 %	87.37 %	63.33 %	145.72 %	101.69 %
Restaurant Brands International Inc. and Subsidiarie	748.23 %	1025.64 %	726.95 %	879.37 %	866.92 %	739.42 %	651.12 %	636.30 %

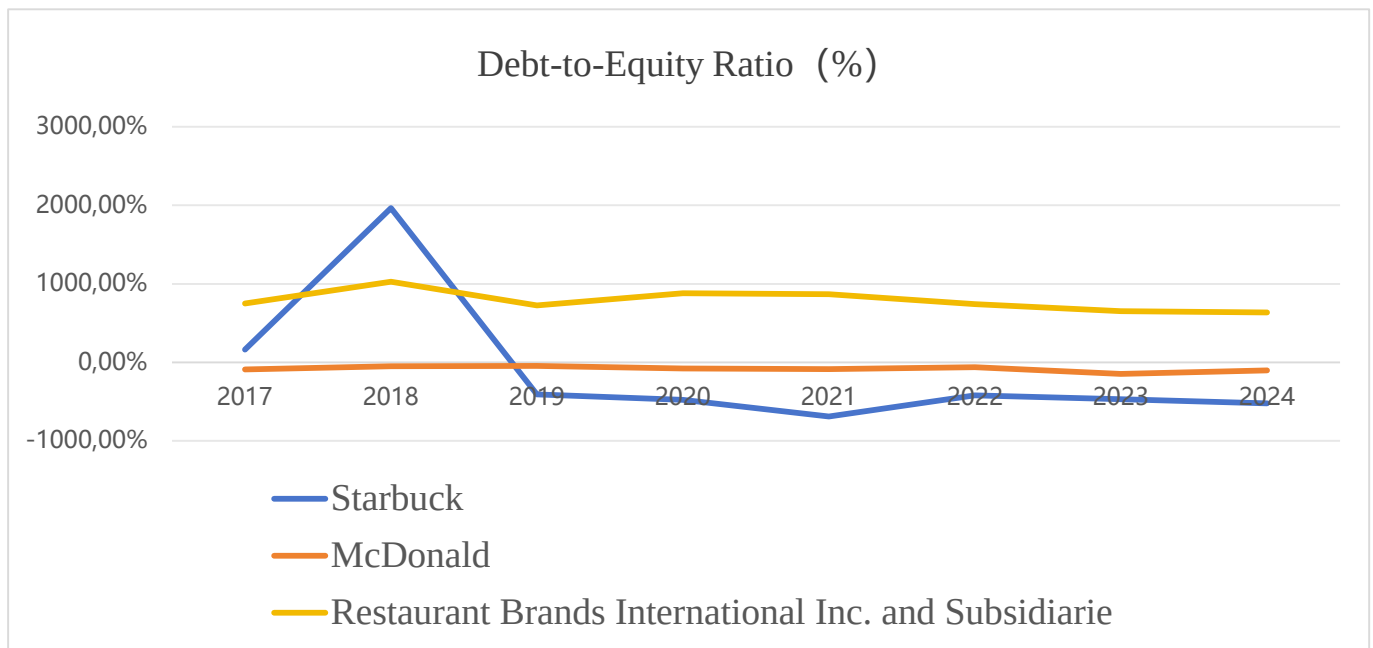


Figure 2.8 – Debt-to-Equity Ratio (%) [12]

Combining the data in Table 2.8 and Figure 2.8, we can see that:

Starbucks is extremely risky with debt

Data performance: The asset-liability ratio fluctuates extremely and continues to be negative (2018:1964.99%, 2020: -520.63%), indicating that the company is long-term insolvent, the total liabilities far exceed the assets, and the financial structure is seriously unbalanced.

Consumer groups and trend impact:

High-end positioning and cost pressure: Starbucks relies on brand premium and offline experience, but high operating costs (rent, labor, coffee bean procurement) cannot support profitability in times of economic fluctuations or consumption downshifts. Younger groups seek quality, but competitors that focus more on value for money, such as Lucking, risk diverting customers.

Scenario dependence risk: offline stores account for a high proportion of revenue, cash flow is tight due to dine-in restrictions during the epidemic, and the increase in the proportion of takeout further increases distribution costs and exacerbates losses.

Risk points: Insolvency may trigger a liquidity crisis or bankruptcy restructuring, requiring store closures, financing or asset sales to ease the pressure.

McDonald's (MCD) debt risk medium to high risk

Data performance: The asset-liability ratio continues to be negative (2024: -101.69 %), but the absolute value is lower than Starbucks, and the fluctuation is small, reflecting the negative shareholders' equity but relatively stable financial structure.

b. Consumer groups and trend impact:

Diversification and scale effect: McDonald's takes fast food as the core and McCafé as the supplementary category, relying on the global store network and low-price strategy to attract mass consumer groups. In an economic downturn, its "rigid demand + cost-effective" model is more resilient.

Strong scenario adaptability: mature models such as Drive-thru and takeout adapt to fast-paced consumer demand, diversify income sources and reduce risks of a single business.

Risk points: Negative shareholders' equity indicates long-term reliance on debt financing, and debt repayment pressure may become prominent if core business growth slows or interest rates rise.

Restaurant Brands International (RBI) has medium debt exposure

Data performance: The asset-liability ratio is extremely high but decreasing year by year (2017:748.23 % – 2020:636.30 %), indicating that the company relies on debt expansion, but gradually optimizes its capital structure in recent years.

Table 2.9 – Debt-to-Assets Ratio (%)

Debt-to-Assets Ratio (%)								
	2017	2018	2019	2020	2021	2022	2023	2024
Starbuck	62.01 %	95.13 %	132.42 %	126.55 %	116.93 %	131.09 %	127.13 %	123.75 %
McDonald	8.55 %	9.06 %	7.62 %	11.75 %	7.46 %	7.54 %	12.22 %	7.00 %
Restaurant Brands Internation al Inc. and Subsidiarie	78.51 %	82.04 %	80.95 %	83.66 %	83.43 %	81.24 %	79.78 %	80.34 %

Consumer groups and trend impact:

Multi-brand risk diversification: Tim Hortons is positioned in the middle market and relies on high-frequency consumption (such as the Canadian market), but global expansion (such as the Chinese market) requires continuous capital investment, driving up debt.

Fierce competition in the middle market: balance between quality and price, if it cannot be differentiated (such as insufficient product innovation), it may be squeezed by both high-end brands (Starbucks) and low-price brands (Lucking).

Risk points: High debt ratio may lead to a sharp increase in interest expense when interest rates rise or the economy recessions, and it is necessary to improve cash flow by improving operating efficiency or divesting non-core assets.

Starbucks' debt risk is extremely high, and it needs to radically adjust its financial structure; McDonald's business is sound but negative shareholders' equity hidden dangers; RBI needs to balance expansion with solvency. The industry as a whole is facing the dual

challenges of consumption grading (high-end downgrade and rise of cost performance) and rising costs. Enterprises need to improve their ability to resist risks through differentiated positioning, cost optimization and digital transformation. Debt-to-Assets Ratio (%) (Table 2.9).

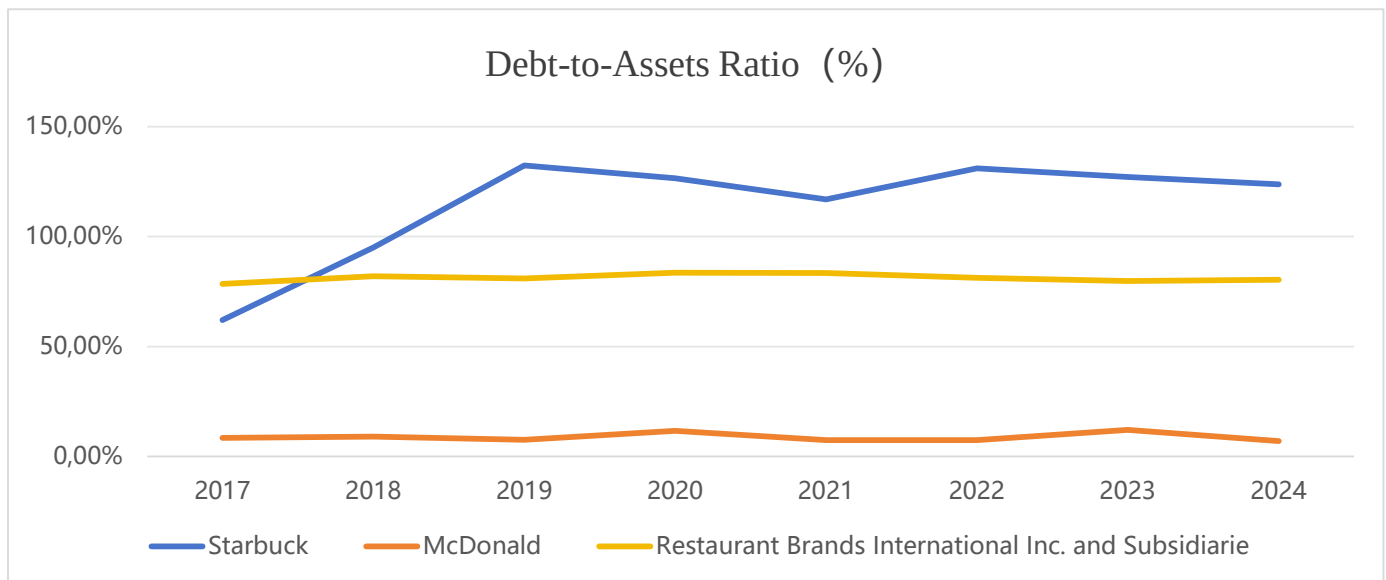


Figure 2.9 – Debt-to-Assets Ratio (%) [12]

Combining the data in Table 2.9 and Figure 2.9, we can see that:

Starbucks is extremely risky with debt

Data performance: The debt-asset ratio climbed from 62.01 % in 2017 to 123.75 % in 2024, and peaked at 132.42 % in 2019, indicating that the ratio of debt to assets continued to expand and the risk of financial leverage was significant.

Consumer groups and trend impact:

Premium positioning and cost sensitivity: Starbucks relies on brand premium and offline experience, but high operating costs (rent, labor, coffee beans) are difficult to compress in times of economic fluctuations. Although young groups pursue quality, they may turn to cost-effective brands such as Lucking under the trend of consumption downgrade, resulting in income pressure.

Scenario dependence and cost contradiction: offline stores account for a high proportion of revenue, and dine-in is limited during the epidemic. Although the increase in

the proportion of takeout alleviates some pressure, the increase in distribution cost further erodes profits (the reference interest coverage rate is negative for a long time).

Risk points: A debt-to-asset ratio of more than 100 % means insolvency, which may trigger debt default or asset restructuring if cash flow continues to deteriorate.

Data performance: The debt-asset ratio is always below 12 % (2024: 7.00 %), indicating that the assets are mainly supported by shareholders' equity and the debt financing ratio is extremely low.

Rigid demand attribute and scale effect: McDonald's takes fast food as the core and coffee (McCafé) as the supplementary category, relying on the global store network and low-price strategy to attract mass consumer groups. Its "necessity + cost performance" model is more resilient in economic downturns.

Strong scenario adaptability: mature models such as Drive-thru and takeout (high digital penetration), diversify revenue sources and reduce risks of a single business.

Risk points: Although the debt-to-asset ratio is low, the previous debt-to-equity ratio is negative (shareholders' equity is negative), which may reflect historical losses or abnormal capital structure. It is necessary to pay attention to whether the profitability of the core business is stable.

Restaurant Brands International (RBI) : Medium-high debt risk

Data performance: The debt-asset ratio was stable in the range of 78 %-83 % (2024: 80.34 %), which was slightly higher than the industry average level, but showed a slight downward trend in recent years (2017:78.51 % → 2020:80.34 %), indicating the gradual optimization of capital structure.

Multi-brand risk diversification: Tim Hortons is positioned in the middle market (such as the high-frequency consumer scenario in Canada), but global expansion (such as the Chinese market) requires continuous capital investment, driving up debt.

Competitive squeeze in the mid-market: If differentiation cannot be achieved through product innovation (such as healthy drinks) or supply chain optimization, it may be squeezed by both high-end brands (Starbucks) and low-price brands (Luckin), affecting debt paying ability.

Risk points: A high debt-to-asset ratio may increase the interest burden in the event of rising interest rates or a recession, requiring reduction of leverage through operational efficiency improvements (such as digitization of stores) or divestiture.

Consumption classification (high-end downgrade and rise of cost performance) and cost pressure (rent, manpower, raw materials) will continue to test the financial resilience of enterprises, differentiated positioning and fine operation is the key to break the situation.

Operating Growth. Sales (operating) Growth Rate (%) (Table 2.10).

Table 2.10 – Sales (operating) Growth Rate (%)

Sales (operating) Growth Rate (%)							
	2018	2019	2020	2021	2022	2023	2024
Starbuck	-6.08 %	5.01 %	-61.70 %	211.97 %	-5.22 %	27.13 %	-7.87 %
McDonald	-7.64 %	2.80 %	-19.25 %	41.40 %	-9.51 %	24.29 %	0.56 %
Restaurant Brands International Inc. and Subsidiarie	10.4 9 %	4.69 %	-29.15 %	32.14 %	1.01 %	8.06 %	17.94 %

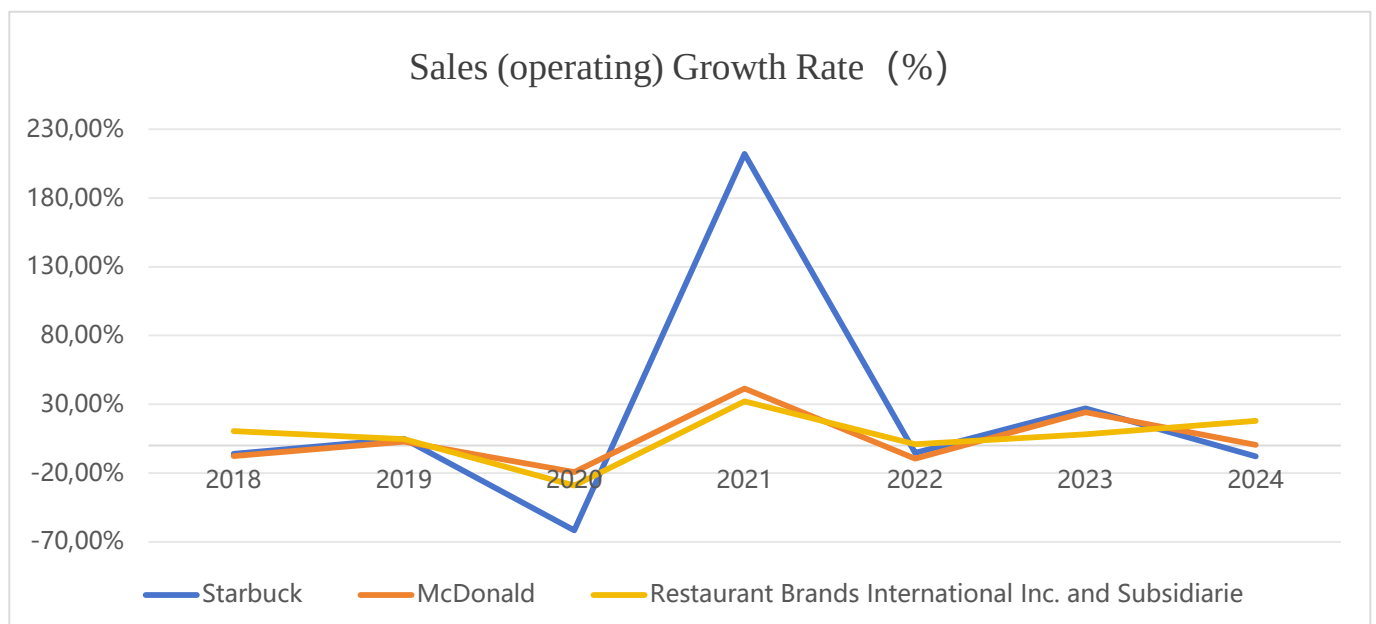


Figure 2.10 – Sales (operating) Growth Rate (%) [10]

Combining the data in Table 2.10 and Figure 2.10, we can see that:

Young consumer base and demand for experience: Starbucks achieved super-high growth of 211.97 % in 2021, likely thanks to its "third space" positioning, which attracts young consumers who focus on experience. During the epidemic, Starbucks accelerated its online development (such as App ordering and delivery cooperation) to meet consumers' demand for convenience and safety. However, the growth rate will fluctuate after 2022 (e.g. 7.87 % in 2024), reflecting intensified competition in the high-end market or cost pressure in stores, and the need to further optimize the product mix (such as launching plant-based drinks, cold extracted coffee and other healthy products).

Driven by price sensitivity and convenience: McDonald's coffee business, as a fast-food accessory, relies on its large fast food customer base and "drive-through" service to attract price-sensitive consumers through low-price meals during the pandemic (such as 41.40 % growth in 2021). However, it will only grow by 0.56 % in 2024, indicating that its coffee business may face a growth bottleneck and need to strengthen independent coffee product lines (such as McCafe) or co-branded marketing (such as seasonal limited drinks) to increase consumption frequency.

Multi-brand strategy and regional expansion: Restaurant Brands International (RBI, which owns Tim Hortons and other brands) will achieve solid growth of 17.94 % in 2024, thanks to multi-brand synergies and expansion in emerging markets (such as Tim Hortons' rapid store opening in China). Through localized products (such as milk tea fusion coffee) and franchise model, it accurately covers different consumption scenes (such as community stores and office buildings), which is in line with the sinking trend of coffee consumption.

Differentiated performance of coffee consumption scenarios and modes:

Online and takeout scene: Starbucks' 2021 growth spurt was driven in part by digital inputs (such as membership systems and exclusive delivery services), while McDonald's relied on the natural take-out nature of the fast food channel. RBI has strengthened the proportion of online orders in the breakfast scene through Tim Hortons' "coffee + light food" portfolio.

Health and Sustainable Consumption Trends: In recent years, Starbucks has introduced oat milk and low-sugar options to meet the needs of health; RBI brands appeal to environmentally conscious consumers with a portfolio of plant-based foods, such as Tim Hortons' Beyond Meat products. Failure to continue to innovate may lead to insufficient growth momentum (e.g., Starbucks' negative growth in 2024). Revenue Growth Rate (%) (Table 2.11).

Table 2.11 – Revenue Growth Rate (%)

Revenue Growth Rate (%)					
	2020	2021	2022	2023	2024
Starbuck	-11.28 %	23.57 %	10.98 %	11.55 %	0.56 %
McDonald	-10.09 %	20.90 %	-0.17 %	9.97 %	1.67 %
Restaurant Brands International Inc. and Subsidiarie	-11.33 %	15.52 %	13.3 5%	7.95 %	19.71 %

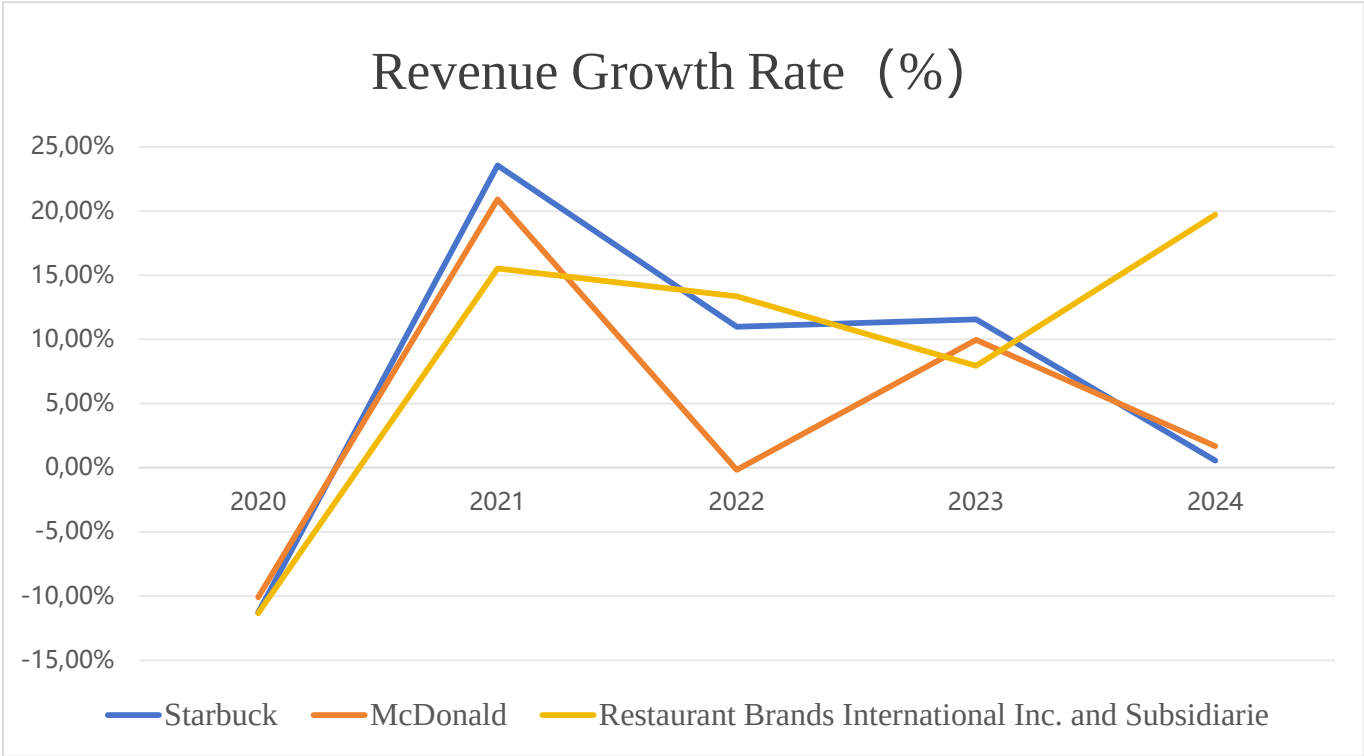


Figure 2.11 – Revenue Growth Rate (%) [12]

Combining the data in Table 2.11 and Figure 2.11, we can see that:

Demand for younger and healthier people drives growth: Starbucks achieved a significant growth of 23.57 % in 2021, which is closely related to its accelerated digital transformation (such as App ordering, membership system) and healthy products (oat milk, low-sugar drinks), which meet young consumers' demand for convenience and health. However, the growth rate will drop sharply to 0.56 % in 2024, which may require further optimization of product innovation (such as functional coffee) and sinking market layout due to saturated competition in the high-end market (such as the rise of Luckin and Manner) and cost pressure in stores; McDonald's 20.90 % growth in 2021 benefited from the natural strengths of the fast food scene (such as the "drive-through" service) and lower-priced coffee packages (such as the breakfast coffee mix) that appeal to price-sensitive consumers. However, the negative growth of 0.17 % in 2022 reflects the overall volatility of the fast food industry, and it is necessary to strengthen McCafe brand independence and coffee subscription service to improve stickability; RBI(which owns Tim Hortons and other brands) leads the growth with 19.71 % in 2024, mainly due to multi-brand synergies (such as Burger King coffee business) and expansion in emerging markets (such as Tim Hortons' surge in stores in China), covering community and office scenes through a "coffee + roast" portfolio, Accurately match the sinking trend of coffee consumption.

Online and scene integration: After the epidemic, coffee consumption has become significantly online. Starbucks has consolidated the high-end market through membership system and exclusive delivery services, but the weak growth rate in 2024 exposes its single scene (relying on store experience). McDonald's grabs the commuting scene by relying on the nature of fast food take-out, but needs to enhance the independence of coffee business to avoid marginalization. RBI has strengthened the breakfast and afternoon tea scene with Tim Hortons' "light food + coffee" model, which has been supported by an increase in the proportion of online orders (such as the partnership with Meituan).

Differentiated performance of coffee consumption scenarios and modes:

High-end experience vs. affordable high frequency: Starbucks relies on the "third space" premium, but the lack of growth in 2024 (0.56 %) suggests that growth in the

premium segment has peaked; McDonald's is embedded in the fast food scene with affordable coffee (10 – 15 yuan per unit), but it needs to cope with the competition of convenience store coffee (such as family surging customers); RBI has covered the mid-market through Tim Hortons' cost-effective strategy (unit price of 15 – 25 yuan), with 19.7 1 % growth in 2024 to verify the effectiveness of its model.

Regional expansion and localization: RBI has opened stores quickly in Asian markets (such as China), combining localised products (milk tea coffee, red bean buns) to attract a younger crowd; Faced with the impact of local brands (such as Luckin) in the Chinese market, Starbucks needs to accelerate its descent into third-tier and fourth-tier cities. The global layout of McDonald's coffee business is weak, relying on the existing fast-food network, and the regional penetration is insufficient.

Pressure for sustainability and innovation: Starbucks has launched eco-friendly cups and plant-based foods in recent years, but the low growth in 2024 reflects the insufficient efficiency of innovation transformation; RBI strengthens health labelling through plant-based Meat products (Tim Hortons with Beyond Meat); McDonald's coffee innovation lags behind (such as the lack of seasonal drinks), need to differentiate to break the situation. Net Income Growth Rate (%) (Table 2.12).

Table 2.12 – Net Income Growth Rate (%)

Net Income Growth Rate (%)							
	2018	2019	2020	2021	2022	2023	2024
Starbuck	56.63 %	-20.34 %	-74.21 %	352.36 %	-21.85 %	25.69 %	-8.82 %
McDonald	14.10 %	1.71 %	-21.49 %	59.50 %	-18.13 %	37.11 %	-2.90 %
Restaurant Brands International Inc. and Subsidiarie	-2.24 %	5.07 %	-24.42 %	72.43 %	20.29 %	18.06 %	-14.20 %

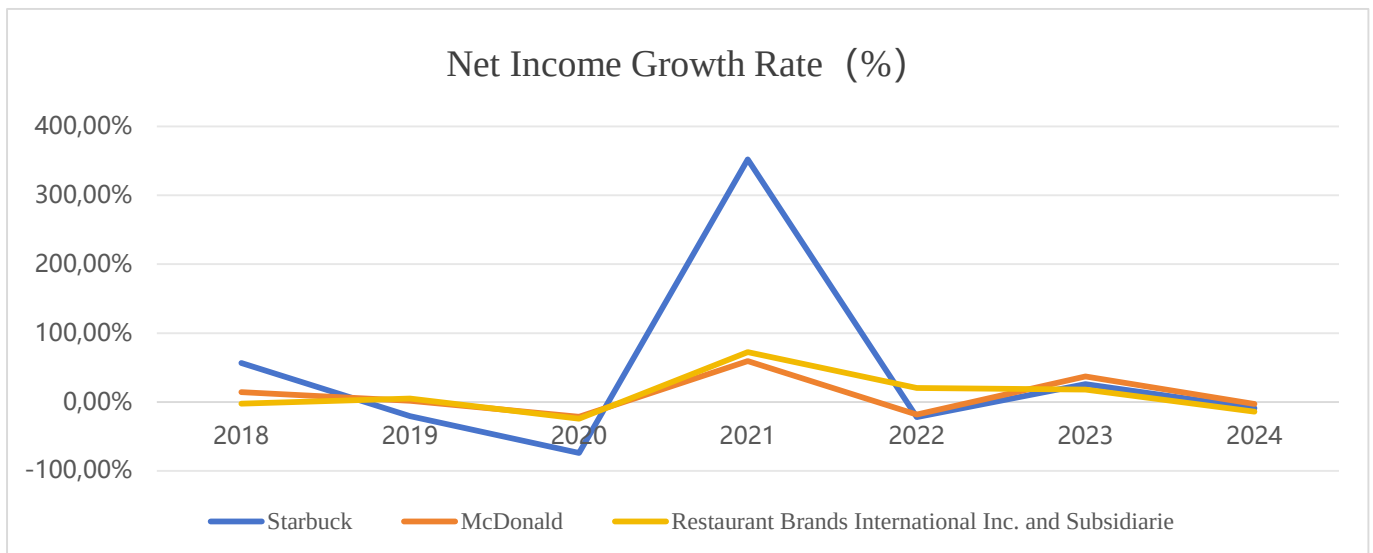


Figure 2.12 – Net Income Growth Rate (%) [31]

Combining the data in Table 2.12 and Figure 2.12, we can see that:

Impact of high-end experience and healthy demand on Starbucks: Starbucks' net profit growth rate in 2021 was as high as 352.36%, mainly due to online transformation (such as App ordering, membership system) and cost optimization measures (such as closing inefficient stores) after the epidemic. Its healthier products, such as oat milk and low-sugar drinks, also cater to young consumers' desire for quality and health. However, in 2024, the net profit will decrease to 8.82 %, reflecting the intensified competition in the high-end market (such as the rise of local brands such as Luckin and Manner) and the rising operating costs of stores, and the need to improve profitability through sinking market layout (such as community stores) and innovative products (such as functional coffee).

Restriction of fast-food scene and price-sensitive consumption on McDonald's: McDonald's coffee business is attached to the fast food system, and its net profit increased 59.50 % in 2021, thanks to the coverage of low-price meals (such as breakfast coffee combination) and "drive-through" service to commuting scenarios. But net profit fell to -2.90 % in 2024, indicating that its coffee business lacks independence and is unable to withstand the overall volatility of the fast-food industry, such as raw material price increases. McCafe needs to strengthen its brand image (such as seasonal drinks) and explore subscription services to increase user engagement.

Double-edged sword effect of multi-brand strategy and regional expansion on RBI: RBI's (Tim Hortons and other brands) 2021 net profit growth 72.43 % is due to expansion in emerging markets (such as Tim Hortons' surging store count in China) and localization strategy of "coffee + roasting" portfolio (such as milk tea coffee). However, net profit declined to -14.20% in 2024, exposing supply chain management pressures caused by over-reliance on the franchise model (such as uneven quality of regional stores) and homogeneous competition (such as price wars with local coffee brands). It is necessary to deepen local innovation (such as regional limited taste) and optimize supply chain efficiency.

Differentiated performance of coffee consumption scenarios and modes:

Conflict between online and experience economy: Starbucks relies on "third space" premiums, but the decline in net profit in 2024 shows that it has too much cost pressure in offline scenarios and needs to balance experience with efficiency (such as adding food delivery stores). McDonald's is naturally embedded in coffee consumption through fast food take-out scenarios, but it needs to enhance the independence of coffee business to avoid marginalization. RBI's Tim Hortons covers breakfast and afternoon tea through a "light food + coffee" model, and an increased share of online orders (such as with Meituan) is key to its growth. [08, p. 512].

Regional market fragmentation and challenges: Starbucks is facing fierce competition from local brands (Luckin, Manner) in China, and sinking into third-tier and fourth-tier cities is the direction of breaking the situation; RBI is expanding rapidly in Asian markets, but needs to address the risks of insufficient localisation (such as product fit); McDonald's coffee business has a weak global layout, relying on the existing fast food network, and it is difficult to break through regional restrictions.

The game between sustainability and cost pressure: Starbucks has promoted eco-cups and plant-based foods in recent years, but the high cost of innovation has weighed on profits; RBI attracts eco-friendly consumers with plant-based Meat products (Tim Hortons in partnership with Beyond Meat) but supply chain complexity increases; McDonald's coffee business innovation lags behind, and differentiation strategies (such as co-branded IP) are needed to reduce cost sensitivity.

Combined with sales, revenue and net profit growth data and coffee consumption trends, the performance of the three companies presents the following common characteristics and challenges:

Post-pandemic rebound and subsequent weakness: Generally high growth in 2021 (such as Starbucks net profit 352.36 %, RBI revenue 19.71 %), thanks to online transformation and consumption recovery; After 2022, the growth rate will slow down or turn negative (for example, Starbucks' revenue will only increase by 0.56% and McDonald's net profit will only increase by 2.90 % in 2024), reflecting intensified market competition and cost pressure.

Differentiation of consumption scenarios and modes: (Starbucks) relies on brand premium, but is limited by insufficient sinking and the impact of affordable brands such as Luckin; (McDonald's) on low prices and convenience, but lack of innovation led to marginal growth; RBI) has seized the market through multi-brand and localization (such as Tim Hortons China), but supply chain and homogeneity risks are prominent.

Core challenges and future directions: Continue to innovate products (e.g., plant-based drinks) and optimize online services (membership system, subscription model); Starbucks needs to reduce store costs, McDonald's needs to increase the independence of its coffee business, RBI needs to strengthen supply chain management; Penetrate into third-tier and fourth-tier cities (Starbucks), deepen regional characteristics (RBI), and explore the integration of coffee and fast food scenes (McDonald's).

2.3 Impact of Economic Changes on Enterprise and Industry Indexes

From 2017 to 2025, the economic changes of the international coffee industry are influenced by multiple factors, including climate change, the impact of the pandemic, geopolitics, sustainability trends and the evolution of consumption patterns. The following is an analysis of key events and trends: Key Events that have Occurred and Potential Future Influencing Factors.

The impact of climate change and natural disasters on the coffee market is profound and complex, involving multiple levels of production, supply chain, price volatility, and global market structure [5, p. 132]. The following is a detailed analysis:

a. Impact on coffee production

Temperature increase: Coffee (especially Arabica varieties) is sensitive to temperature, and the optimal growth temperature is 15-24° C. Global warming has increased temperatures in traditional producing areas such as Brazil, Colombia, Ethiopia, forcing the growing areas to migrate to higher elevations, but the available land is limited.

Changes in precipitation patterns: droughts (such as the severe drought in Brazil in recent years) and heavy rains (such as floods in Central America) alternate, affecting flowering, fruiting and the spread of pests and diseases, resulting in reduced production.

Extreme weather events: hurricanes (such as the 2017 Central American hurricane), frosts (such as the 2021 Brazilian frost) directly destroy coffee farms and take years to recover.

High temperature and drought accelerate ripening of coffee fruit and reduce flavor complexity; Excessive rainfall leads to the spread of mildew, such as coffee rust, and an increase in the proportion of poor-quality beans.

Warming expands active areas for pests (such as coffee fruit Codling) and pathogens (such as coffee leaf rust). For example, leaf rust in Central America caused a 20 percent yield loss in 2012.

Extreme weather events often trigger short-term price spikes. For instance, Arabica futures hit a fresh 7-year high after the 2021 frost in Brazil.

Prolonged supply instability leads to a reduction in global inventories and an upward shift in price hubs.

25 million smallholder farmers globally account for 80 % of coffee production, but lack the finance and technology to address climate risks. They may be forced to abandon or switch to other crops after disasters, further reducing supply.

Traditional production areas shrink, new production areas (such as Yunnan, China, Hawaii, USA) gradually emerge, but it takes time to establish a supply chain.

The increased proportion of Robusta varieties with high temperature resistance characteristics may change the market taste preference.

Cost increase: irrigation, shade trees, pest control increase production costs, which are passed on to the retail end.

Trade disruption: Extreme weather damages transport infrastructure (e.g. ports, roads) and delays deliveries.

Changes in consumer behavior: High prices may dampen demand or drive demand for certification of "climate-friendly coffee" (such as Rainforest Alliance certification).

Breeding drought tolerant and disease resistant varieties (such as the development of rust resistant varieties in Ethiopia).

Promotion of climate-smart agriculture: shade cultivation, drip irrigation techniques, soil water conservation practices.

International organizations (such as the FAO) fund climate adaptation projects, such as providing disease-resistant seedlings to farmers in Latin America.

Disaster insurance and futures contracts help farmers hedge risks.

Carbon credit schemes encourage coffee farms to sequester carbon (such as planting shade trees) while attracting environmentally friendly consumers.

Companies such as Nestle and Starbucks invest in climate resilience projects, such as providing technical training to farmers or sourcing sustainable coffee directly.

Market polarization: high quality arabica may become a luxury product and the mass market relies on robusta or blended beans.

Changing geographical pattern: Large countries such as Brazil and Vietnam maintain their advantages through technological investment, while small countries face greater challenges.

Rise of substitutes: Plant-based beverages (such as oat milk) or functional drinks may divert some demand.

Climate change is reshaping every part of the global coffee industry, raising costs and risks from the field to the cup. Addressing this challenge will require concerted efforts by governments, businesses, and consumers-technological innovation, sustainable practices,

and fair-trading systems will be key. In the future, the coffee market may become less of an economic issue and more of a litmus test for climate justice and global cooperation.

Supply chain disruptions: Port congestion, rising transportation costs (sea freight costs doubled year-on-year in 2021), resulting in delays in raw bean delivery.

Shifting consumption patterns: Coffee consumption at home is growing (retail packaging sales are up), but cafe revenues are plunging (e.g., Starbucks saw a 38% drop in global revenues in Q2 2020).

The impact of economic and trade fluctuations on the international coffee market is reflected in multiple dimensions such as price, supply chain, trade pattern and consumer behavior. The following is the system analysis:

Coffee futures are denominated in dollars. When the currencies of producing countries such as the Brazilian real and the Vietnamese dong fall, exporters push down their dollar prices to maintain local currency revenues, boosting export volumes in the short term but squeezing profits in the long term. A 20% devaluation of the Brazilian real in 2019 pushed international coffee prices down 15%, but farmers' incomes plummeted.

When the euro and yen depreciate, the cost of imports in major consumer markets such as Europe and Japan rises, which may restrain the volume of purchases. A weaker yen in 2022 led to an 8 per cent year-on-year decline in Japanese coffee imports.

Tariff increases directly increase trade costs. For example, US tariffs on Vietnamese robusta coffee (2018) forced Vietnam to turn to Middle Eastern markets.

Green barriers such as the EU's "Carbon Border Adjustment Mechanism" (CBAM) require coffee production to meet carbon emission standards, and small and medium-sized farmers face the risk of elimination.

The Red Sea shipping crisis (2023-2024) led to a 300 % increase in freight rates on Asia-Europe routes, delays in coffee exports from Ethiopia and Yemen, and European roasters turning to Latin America for sourcing.

The African Continental Free Trade Area Agreement (AFCFTA) promotes the internal circulation of coffee in Kenya and Uganda, reducing dependence on Europe and the United States.

When the economy turns down, consumers cut back on specialty coffee and coffee shops and turn to cheap instant coffee or home brews. During the 2008 financial crisis, global sales of freshly ground coffee fell 12 per cent, while sales of instant coffee rose 5 per cent.

Expanding middle class in emerging markets such as China and India is driving the demand for coffee, but economic fluctuations (e.g. real estate bubble, debt crisis) may interrupt the growth trend.

The coffee futures market is highly liquid and hedge funds use news such as weather and trade policy to hype up prices. During the 2021 Brazilian frost, Arabica futures holdings surged 40% and prices spiked 80 % in the short term.

Under extreme volatility, futures hedging strategies of coffee farmers and traders may not cover actual losses, exacerbating financial risks.

Producers explore new consumer markets: Brazil exports coffee beans to Southeast Asia, and Vietnam expands sales to the Middle East.

Consumer countries establish a multi-source procurement system: European companies purchase from Africa and Latin America at the same time to spread risk.

Exchange rate hedging instruments such as forward contracts lock in profits and the government provides export credit insurance.

The International Coffee Organization (ICO) pushed for the creation of a price stabilization fund to buffer against market shocks.

Enterprises such as Starbucks and Lavazza directly invested in plantations to control upstream costs; Ethiopia has improved its premium capacity through the "Yega Shefi" geographical indication certification.

f. Long-term structural change

Trade power shift: multinational corporations in consuming countries control pricing power through futures markets and sustainability certification, while the bargaining power of producing countries decreases.

Competition for substitutes: Economic fluctuations accelerate market share gains for alternatives such as tea and energy drinks (e.g., global tea market will grow by 7% in 2023, compared with 3% for coffee) [24, p. 8].

Regionalized supply chains: Geopolitical conflicts drive "nearshore sourcing," such as the United States reducing its dependence on Vietnam and increasing Colombian coffee imports.

The relationship between economic and trade fluctuations and the international coffee market is characterized by "high sensitivity and strong transmission". Unlike natural factors such as climate change, trade risks can be partially mitigated through policy coordination, financial instruments, and supply chain resilience, but the combined effects of systemic crises (such as global stagflation and escalating trade wars) need to be monitored. In the future, the coffee industry will rely more on data-driven dynamic risk management, as well as new governance mechanisms such as South-South cooperation and regional trade alliances.

EU Anti-Deforestation Act (passed in 2023): Requiring imported coffee to prove it does not involve forest destruction, forcing producers such as Brazil and Vietnam to adjust their supply chains.

Carbon Neutral pledge: Starbucks and other companies have pledged to be "resource positive" by 2030, promoting renewable agriculture and carbon footprint tracking.

Rising Coffee consumption in China: Luckin Coffee's rapid expansion (more stores than Starbucks China in 2021) is driving demand growth in the Asia-Pacific market.

Ready to-drink Coffee (RTD) explosion: The global RTD market is growing at an annual rate of over 10% (2020 – 2023), with Nestle and Coca-Cola increasing their presence.

El Nino returns (2023 – 2024): could cause drought in Brazil and heavy rains in Southeast Asia, further disrupting supply chains.

Long-term temperature rise: The International Coffee Organization predicts that the world's suitable coffee growing area may decrease by 50 % by 2050, increasing the risk of short-term capacity fluctuations.

Global inflation and weak demand: If the economic downturn continues, premium coffee demand may be dampened, but affordable brands (such as instant coffee) may benefit.

Exchange rate volatility: Currency depreciation in producing countries may intensify price competition during the Fed rate hike cycle.

Block chain traceability application: IBM and other companies promote supply chain transparency to meet EU regulations.

Vertical farming and disease resistant varieties: Gene editing technologies such as CRISPR may improve disease resistance, but are costly for small farmers to apply.

Geopolitics and Trade Policy. Escalation of trade barriers: If trade frictions between China and the United States or between Europe and the United States intensify, coffee tariffs or logistics channels (such as Red Sea shipping security) may be affected.

Regionalizing supply chains: Firms may shift to "nearshore sourcing," such as Europe increasing imports from East Africa (Ethiopia, Uganda).

Evolution of consumption trends. Healthy and Functional coffee: Probiotic, adapt original coffee products attract younger consumers (such as the Four Sigmatic brand).

Plant-based versus alternative competition: Popularity of oat milk coffee (plant-based milk market could reach \$ 40 billion in 2025) could squeeze traditional latte share.

Labor force and production cost. Labor shortage in Latin America: Tighter immigration policies have led to a shortage of pickers, driving mechanized harvesting (80 percent in Brazil but only 30 percent in Colombia).

Fair Trade Certified premium: Consumers are willing to pay a higher price for "ethical coffee" (about 20 – 30 % premium for certified coffee).

These events have jointly promoted the economic changes of the international coffee industry in the past few years. The coffee industry will face the triple challenges of "rising costs, differentiated demand and compliance pressure". Technological innovation and the growth of emerging markets have all affected the production, price, market competition pattern and development trend of the industry.

Chapter 3 Analysis of Economic Changes in the Coffee Market

3.1 The changing Trend and Related Policies of Related Industries

The changing trend of coffee industry is not only reflected in the consumer end, but also penetrates into the upstream and downstream segments of the industry chain. The following is a classification of six core industries, including planting industry, processing industry, retail industry, equipment manufacturing industry, packaging and logistics industry, and peripheral derivative industry, to analyze their changing trends in recent years:

Coffee farming. Research and development of disease-resistant, heat/drought-tolerant coffee species (such as F1 hybrids) to cope with climate change-induced production losses (30 % of Brazil's production was lost to frost in 2021). Global organic coffee acreage will grow by 8% annually (1.2 million hectares by 2023), with Colombia and Ethiopia leading the push for Rainforest Alliance certification. Boutique coffee brands such as Blue Bottle cut out the middlemen and contract directly with plantations, raising farmers' incomes by up to two times the market price. Drones monitor pests and diseases and sensors optimize irrigation, boosting yields by 15 % on a large Brazilian estate. Mechanical picking equipment is popular in Brazil and Vietnam, reducing labor dependence (labor costs from 60 % to 40 %).

Coffee processing industry (roasting and deep processing). Customized roasting of coffee beans from single estates and special treatments (such as anaerobic fermentation) to meet the needs of the high-end market. Small urban roasters (e.g. M2M in China, % Arabica in Japan) shorten the supply chain and offer fresh beans "within 48 hours of roasting". Use low-temperature extraction + ultra-autoclaving technology to extend the shelf life of ready-to-drink coffee (such as Japan UCC). The antioxidant (chlorogenic acid) extracted from coffee grounds is used in health care products, and the added value is increased by more than 50 %.

Coffee retailing (offline and online). Blue Bottle and Peet's emphasize "barista interaction + experiential consumption", and the customer unit price is over 50 yuan. Luckin and Lucky Coffee cover the sinking market at a price of 10-15 yuan, and the number of

stores has increased by more than 200 % in several years. Bookstores (Sisyver Vector coffee) and convenience stores (family surging coffee) are embedded in coffee services to improve the efficiency of the floor. Monthly delivery of custom roasted beans (such as American Trade Coffee), repurchase rate of more than 60 %. In 2013, the GMV of Dou yin coffee category in China increased by 300 %, and freeze-dried powder and ear bag became explosive products.

Coffee equipment manufacturing. Eversys of Switzerland and Dr. Ka of China support AI to adjust grinding/extraction parameters, saving 30 % labor cost. Luckin "Rui Xigou", coffee zero robot fresh coffee machine stationed in office buildings/airports, single daily sales of more than 200 cups. Delong, platinum rich (Breville) 5000 – 10,000 yuan model sales increased by 25 % annually, the rise of family cafes. Wacaco Nanopresso hand presses and Starbucks co-branded capsule machines dominate the outdoor scene.

Packaging and logistics industry. Lavazza launched corn-based coffee capsules and Nestle 100 % renewable paper coffee bags. Nespresso recycles 30 % of its aluminium capsules globally into bike parts. The cold chain loss rate of raw beans from Ethiopia to Shanghai dropped from 15 % to 5 %. The IBM Food Trust platform tracks the flow of Yunnan coffee beans and raises the premium by 20 per cent.

Surrounding derivative industry. Coffee form in Germany uses coffee grounds to make cups with a heat resistance of 160° C. South Korea's Innisfree has launched a coffee grounds mask, while Japan's Yongpu has developed coffee grounds cookies. Colombia's Coffee Triangle receives more than half a million visitors a year, offering a pick-roasting experience. Shanghai Coffee Fest and Bangkok World of Coffee have become interactive platforms for brand marketing and consumers.

The coffee industry is evolving from a single agricultural product to a compound ecosystem covering the primary, secondary and tertiary industries. The upgrading of technology, environmental protection and consumer demand is the core force driving the change.

Governments' policies in the coffee industry cover agricultural support, trade management, sustainable development, quality supervision and other dimensions, aiming to safeguard the competitiveness of their own industries, promote farmers' incomes and

respond to changes in the global market. Specific policy cases by country/region are listed below:

Price Guarantee Scheme (PGPAF): The government sets a minimum purchase price for coffee and provides farmers with a price difference subsidy when the market price is below cost (the subsidy is budgeted at US \$ 250 million in 2023).

Climate Disaster Response Fund: After 2021 frosts reduced coffee production by 30 %, the government allocated \$ 180 million to rehabilitate damaged estates and promote cold-tolerant coffee species (such as Conilon).

Export tax reduction: The export duty on raw beans will be reduced from 9 % to 4 % (2022) to encourage the maintenance of international market share (35 % of global export volume).

100 % Colombian Coffee "certification: The National Association of Coffee Producers (FNC) administers geographical indications, and exported coffee must pass quality tests at a premium of 10 % – 15 %.

Rural Credit Program: Low-interest loans with an annual interest rate of 5% (below the market rate of 8 %) are provided to small farmers for the purchase of organic fertilizers and water-saving irrigation equipment.

Coffee rust control: The government distributes free disease-resistant coffee seedlings (such as the Castillo variety), reducing the area affected by the disease by 40 % in 2023.

Centralized processing policy: coffee farmers are required to sell their raw beans to government-designated processing plants (such as Vinacafe) for unified roasting and export, reducing the outflow of low-priced raw materials.

Tax incentives: 50 % corporate income tax reduction for coffee exporters (2020 – 2025), driving instant coffee to over 20 % of the global market share.

"Replanting program": Subsidize farmers to cut down aging robusta trees and replace them with higher-yielding varieties (such as TR4), which increase yields by 25 % per unit area.

Protection of geographical indications: Yirgacheffe, Sidamo and other producing regions are certified as geographical indications in the European Union, which prohibits the use of names by non-local growers.

Coffee tourism subsidy: The government will provide 30 % financial subsidy for the transformation of the estate into tourism facilities to attract tourists to participate in the "bean-to-cup" experience (tourism revenue will increase by 18 % in 2023).

Exchange reforms: Elimination of mandatory trading of coffee on the Ethiopian Commodity Exchange (ECX) in 2022, allowing farmers to sign up directly with overseas buyers and increasing price transparency.

EU Zero Deforestation Act (effective 2023): Requires imported coffee to provide a certificate of "no deforestation grown", and exporters from Brazil, Indonesia and other countries to submit satellite monitoring data.

Carbon Tariff (CBAM) pilot: A surtax on carbon emissions in coffee processing (fully implemented by 2026) to push companies to use renewable energy for roasting.

Organic certification subsidy: A subsidy of 200 euros per hectare for coffee farmers who have obtained the EU organic certification (such as the Lavazza supply chain cooperative estate in Italy).

FDA Control of coffee acrylamide: It requires the content of acrylamide (a potential carcinogen) to be marked on roast labels, and Starbucks and other enterprises switch to low temperature slow roast process to reduce the risk.

African Growth and Opportunity Act (AGOA): Elimination of tariffs on coffee imports from Ethiopia, Kenya and other African countries, resulting in a 12 % increase in East African coffee exports to the US in 2023.

"Coffee children" labor ban: The import of coffee beans picked by child labor is banned, and several estates in Honduras and Guatemala are blacklisted.

Yunnan Coffee Industry Support: The Ministry of Finance allocated RMB500 million (2021 – 2025) to support the upgrading of processing equipment in Pu 'er and Baoshan production areas, aiming to increase the utilization rate of local coffee beans from 20 % to 40 %.

Tax incentives for cross-border e-commerce: A reduction in the postal tax on imported coffee beans (from 15 per cent to 9 per cent) to promote the entry of high-end beans such as Geisha into the market.

"Green Cafe" certification: Shanghai and Shenzhen provide subsidies of up to

100,000 yuan to cafes that use energy-saving equipment to reduce the use of disposable cups and utensils.

Automation subsidy: METI subsidizes 30 % of equipment costs for companies that introduce robot cafes (such as QB House Coffee) to alleviate labor shortages.

Freeze-dried Coffee Research and Development Fund: Allocated 2 billion yen (2023) to support UCC, AGF and other enterprises to develop low-temperature extraction technology to extend the freshness period of ready-to-drink coffee.

"Silver barista" training: The Ministry of Health, Labour and Welfare funds people over the age of 55 to participate in barista training to fill the gap in the young workforce (an additional 2,000 elderly workers will be added in 2023).

International Coffee Organization (ICO) Price Stabilization Mechanism: Adjustment of global supply and demand through export quotas (e.g., a proposed 10 % freeze on Brazilian exports in 2022 to stem price declines).

Fairtrade certification: The European Union and the Canadian government provide tax relief to enterprises purchasing fair trade coffee (such as 2 % corporate income tax reduction in Canada).

Central American Free Trade Agreement (CAFTA): The United States exempts Costa Rica and Honduras from tariffs, contributing to more than 60 percent of Central America's exports to the United States.

The policies of various countries are shifting from single industry support to "agriculture-environment-trade" collaborative governance, and the globalization characteristics of the coffee industry force the deepening of inter-governmental cooperation mechanism.

Changing trends and policy changes in the coffee-related industry are shaping a more complex and dynamic global market. With the intensification of the climate crisis, the production model of traditional coffee producing areas is facing restructuring. Brazil, Colombia and other major producing countries have supported the promotion of drought and disease resistant coffee varieties through policies, and encouraged farmers to adopt climate-smart technologies such as shade planting and water-saving irrigation to cope with frequent extreme weather. At the same time, international organizations and multinational

enterprises are accelerating their involvement in the upstream of the supply chain, such as Starbucks' "Coffee Farmer Support Center" and Nestle's "NESCAFE Program," which improve the productivity of smallholder farmers through technical training and capital investment. Some producing countries are pushing for certification of geographical indications (such as Ethiopia's Yeja Shefi) and cooperative alliances to gain a greater say in the value chain.

On the consumer side, the sophistication of developed markets contrasts sharply with the ubitization of emerging markets. Consumer demand for single-origin, carbon-neutral certified coffee in Europe and the United States has driven up retail prices, while chain brands of ready-made coffee in emerging markets such as China and India have been expanding like crazy. Luckin Coffee has surpassed Starbucks in the number of stores in China, while Chai Point in India is competing for the market through a hybrid model of "coffee + tea". [25, p. 16]. This stratification of consumption has prompted producers to restructure their exports, with Vietnam increasing the proportion of robusta beans processed into instant powder and Brazil launching microbatches of farm beans aimed at the high-end market. At the policy level, the EU's Carbon Border Adjustment Mechanism (CBAM) and the US Forest Act are reshaping trade rules, requiring imported coffee to provide a full carbon emissions and deforestation risk assessment. This is forcing countries such as Indonesia and Peru to establish digital traceability systems, but high compliance costs may drive small producers out of the international market.

Technological innovation and capital flow further intensify industry transformation. Blockchain technology has been applied to trace the entire chain from planting to retail, with Japan's UCC Ujima Coffee using iota devices to monitor real-time data from its Guatemalan estate, while Brazil's coffee exchange has launched financial instruments based on weather derivatives to help farmers hedge climate risk. [24, p. 65]. In the capital markets, the M&A boom of private funds for specialty coffee brands (such as JDE Peet's acquisition of Intelligentsia) has paralleled the rise of coffee tech start-ups (such as molecular coffee startup Atomo), reflecting the industry's anxiety over disruption to traditional models. At the same time, the contradiction between the slowing growth of global coffee consumption and structural overcapacity is gradually emerging. Data from the International Coffee

Organization (ICO) shows that the global inventory to consumption ratio will rise to an eight-year high in 2023, which has prompted Vietnam, Colombia and other countries to restrict the export of low-quality beans through policies and turn to the development of coffee tourism, biofuels and other derivative industries. In this multi-dimensional transformation, the coffee industry is redefining its value - from pure agricultural trade to a composite ecosystem that integrates climate governance, technological revolution and cultural symbols.

3.2 Future Development Trends

In recent years, the global coffee consumption territory is expanding rapidly from the traditional European and American markets to emerging regions such as Asia, Africa and the Middle East. Technological innovation and product upgrading of the coffee market are comprehensively reshaping the industry pattern from planting, processing, retail and consumption scenes, and promoting the evolution of coffee from traditional drinks to scientific, healthy and sustainable direction. As the second most traded commodity in the world (after oil), the coffee industry's industrial chain involves planting, processing, logistics, retail and other links, which has a profound impact on the ecological environment and social equity. In recent years, consumers, companies and governments are promoting the transformation of the coffee industry to a low-carbon, circular economy and social responsibility through technological innovation, certification systems and policy guidance.

Technological Innovation and Product Upgrading in the Coffee Market

Precision Agriculture and disaster resistance technology: Large Brazilian estates use drones equipped with multispectral sensors to monitor coffee tree health in real time and provide early warning of pests and diseases (reducing pesticide use by 20 %). Castillo, a rust-resistant variety, in Colombia, and drought-tolerant "gene-edited coffee trees" in Ethiopia are expected to reduce climate-induced yield losses by 30 % by 2050. Japanese startup Infar has developed an indoor vertical coffee farm that uses LED lighting and hydroponics to produce 40 percent more coffee per plant.

Deep processing technology breakthrough: Nestle, a Swiss company, uses carbon

dioxide supercritical technology to extract coffee oil, preserving flavor while removing impurities (for high-end freeze-dried coffee). Chameleon Cold Brew, an American brand, uses vacuum freeze-drying technology at -40°C to convert cold brew into instant powder, extending its shelf life to 2 years. Germany's Probat launched an AI roasting machine that automatically adjusts the curve by monitoring bean temperature, color and gas release in real time, reducing human error (improving flavor consistency by 90%).

Ready-to-drink coffee (RTD) innovation: Starbucks "Nitrogen Cold Brew" is a new favorite among young consumers by injecting nitrogen at high pressure to form a dense foam with a taste similar to that of craft beer. AGF Blendy in Japan launched "Collagen latte", and VitaCup in the United States added vitamin B12 and antioxidants to target healthy people. Coffee Beer, a British brand that combines cold-brew coffee with craft beer, saw sales grow 45 per cent in 2023.

Iteration of home and portable products: Nestle Nespresso Vertuo identifies categories through capsule barcode, automatically matches water quantity and temperature, and supports customized concentration (sales will exceed 10 million units in 2023). Wacaco Nanopresso is only palm size, manually pressurized Italian concentrate extraction, meet the needs of outdoor scenes. The semi-"super solution" technology of Sandun realizes the instant solution of cold water in 3 seconds. In 2023, the sales volume on Tmall will exceed 50 million cups, with a repurchase rate of 35 %.

Unmanned and automation: China Luckin "Ruixigou" unmanned fresh coffee machine, support App order, AI recognition to take cups, single daily sales of more than 300 cups. America's Cafe X robotic arm, which completes order-made-delivery in 90 seconds with an error rate of less than 0.1%, has been deployed at San Francisco airport. Starbucks China App dynamically recommended "hot latte" or "iced shake tea coffee" through user historical data and weather factors, and the conversion rate increased by 18 %.

Upgrade of digital experience: Zepeto platform in South Korea has opened a virtual Starbucks, where users can customize virtual images to buy NFT coffee and exchange them for physical drinks offline. Moyee Coffee in Ethiopia uses blockchain to record the whole process of raw beans from planting to roasting, so consumers can scan the code to check their carbon footprint.

Green production and recycling: Germany's Kaffeeform mixes waste coffee grounds with bio-resin to make biodegradable coffee cups, resistant to high temperature and waterproof. Dutch Man met Bril Koffie has been certified as carbon neutral by the European Union by using a solar-powered roaster to reduce carbon emissions by 70 % per kilogram of coffee beans. Brazil has developed a recycling system for coffee processing wastewater, reducing water consumption per ton of coffee processing from 20 tons to 5 tons.

Eco-friendly packaging revolution: Cupffee launched a coffee cup made of wheat bran, which can be eaten or naturally degraded after drinking and costs 15% less than paper cups. Lavazza Eco Caps, which are made from sugarcane fibre and break down naturally in four months, will account for 30% of its total capsule sales in 2023.

Synthetic biology generates "lab coffee cells" that avoid the resource consumption of traditional cultivation (such as the pilot production of VTT Research center in Finland). From planting prediction (climate model), baking algorithm to consumer side demand analysis, the whole industry chain is digitized. The home coffee machine is connected to the Internet and automatically adjusts the caffeine content and flavor based on the user's health data, such as heart rate and sleep.

Technological innovation is deconstructing the traditional boundaries of the coffee industry -- agricultural science and technology to ensure the stability of the supply chain, deep processing technology to expand product form, digital reconstruction of consumer experience, environmental protection technology to respond to social issues. In the future, coffee will not only be a drink, but also a carrier of technology, health and sustainability concepts. Enterprises need to take technology as a fulcrum to leverage a more segmented and higher value-added market space.

Geographic Expansion of Coffee Consumption and Opportunities in Emerging Markets

The number of coffee stores in China's third-tier cities has increased by more than 60% annually (Luckin and Lucky Coffee mainly focus on 1 –15 yuan price). 2023 ready-to-drink Coffee accounted for 45% (Nongfu Spring "carbon people", energy forest "Never Coffee"). Manner "small store mode", Seesaw "creative special" to seize the first-tier city boutique market.

Southeast Asia Indonesia Kopi Kenangan (valued at more than \$1 billion) covers young white-collar workers with "cost-effective + digital ordering". Cafe Amazon Thailand (owned by Thai Oil Group) relies on a network of gas stations and convenience stores, with annual sales of more than 300 million cups. Vietnam's "egg coffee" and Singapore's "coconut latte" have become tourist punching symbols.

Coffee consumption in India is growing by 8 % annually (80 grams per capita in 2023), with Cafe Coffee Day (1,500 stores) dominating the affordable market. Blue Tokai is tapping into middle-class households with its subscription-based coffee beans.

(2) Middle East and North Africa: The Young Demographic Dividend

Coffee shops in Saudi Arabia and the United Arab Emirates have become the core places for young people to socialize. Starbucks has more than 2,000 stores in the Middle East. Launched "date latte", "spice mocha" and other holiday limited drinks, monthly sales increased by 30 %.

North Africa Morocco "Cafe Clock" integrates Berber culture to create an experience space of "coffee + traditional music".

In East Africa, Ethiopia consumes 2.5 kilograms of coffee per person a year (far more than it exports), and boutique cafes have sprung up in the capital, Addis Ababa. Kenya launched a "coffee estate walking tour", where tourists participate in picking and roasting, driving sales of surrounding products.

West Africa Nigeria instant coffee market grew by 12 % year on year (Nestle Nescafe accounted for 70 % share), dominated by household consumption.

Brazil sees 25 percent growth in coffee shop count in 2023, with Starbucks launching "Acai Berry Latte" blend of indigenous fruit.

Starbucks Mexico, local brand Cielito Querido compete for office takeout market, with 5 coffee shops per square kilometer in Mexico City.

Young population structure: The population aged 20 – 35 in Asia and Africa accounts for more than 40%. Generation Z has a higher acceptance of coffee than traditional tea (the frequency of coffee consumption in China's Generation Z is 3.5 times a week).

Urbanization and expansion of the middle class: Urbanization rate in Southeast Asia increases by 1.5 % annually, and white-collar groups in Jakarta and Bangkok drive the

demand for coffee in office buildings.

Digitalization and delivery infrastructure: The penetration rate of coffee delivery in Gojek in Indonesia and Meituan in China reaches 35 %, and the grab-and-go mode (such as Luckin's "quick-pick store") is suitable for high-paced life.

Local cultural integration and innovation: products such as "spice coffee" from the Middle East and "turmeric latte" from India reduce the cost of education in the market.

Coordination between capital and industrial chain: Sequoia Capital invested in Kopi Kenangan, Indonesia, while Luckin of China sank to the county-level market relying on the advantages of supply chain.

Logistics costs in Africa account for 40 % of the retail price (compared with 15 % in Europe), and Ethiopian coffee exports are transshipped through the port of Djibouti. Annual per capita consumption of Indian tea is still 20 times that of coffee, and consumption habits need to be cultivated for a long time. Vietnam has restricted exports of raw beans (requiring local processing) and Turkey has imposed a 30 % luxury tax on coffee.

It is suggested that first-tier cities should focus on quality and the third space (%Arabica, Blue Bottle). Sinking market high-cost performance + intensive store opening (Luckin, Lucky coffee). The Middle East offers non-alcoholic coffee cocktails (adapted to Islamic culture). India develops "Masala coffee" (a blend of spiced tea elements). Joint ventures with local giants (such as Nestle's distribution network with Indonesia's Indofood). Empowering local brands (Starbucks licensed its technology to Vietnam's Central Plains Coffee). Build App membership system (such as private domain traffic operation of Kopi Kenangan in Indonesia). Use social e-commerce (TikTok live sells earbags).

The expansion of coffee consumption in emerging markets is not simply a copy of the European and American model, but requires deep integration into local culture, infrastructure and consumption habits. Enterprises need to capture structural opportunities in demographic dividend, digital wave and cultural integration with the two-wheel drive of "global supply chain + local operation". Over the next decade, Asia and Africa are likely to account for more than 70 % of the increase in global coffee consumption, becoming new engines of growth for the industry.

Gene editing to create heat-tolerant, disease-resistant varieties (such as the Conilon

CLR-1 developed by Embrapa in Brazil) is expected to be rolled out to 30 % of production areas by 2030. Blockchain + the Internet of Things tracks carbon emissions, and AI optimates logistics paths (Danone's coffee brand uses algorithms to reduce transport energy consumption by 15 %, for example). Closed-loop capsule recycling system: Nespresso has a global recycling rate of 35 % and aims to achieve 100% renewable capsules by 2030. NFT carbon credits: Consumers who buy low-carbon coffee can earn NFT credits that can be exchanged for limited access to nearby or plantation visits.

The sustainable development of the coffee industry needs to cross the "green divide" - the contradiction between the environmental standards of developed countries and the production reality of emerging markets. Companies need to balance short-term costs (such as a 20 % increase in the cost of switching to degradable packaging) with long-term brand value. Governments need to guide the transformation through carbon taxes, subsidies and other policies, while consumers drive market change by "voting with their wallets". In the future, coffee may become the world's first carbon neutral agricultural track, but its success depends on deep collaboration and technological innovation in all links of the industrial chain.

The coffee industry is undergoing a profound transformation from field to cup. Technological innovation has reshaped production and consumption patterns – AI baking, nitrogen cold extraction, blockchain traceability and other technological means promote product upgrading and efficiency improvement; The geographical boundaries of consumer markets continue to expand, with emerging markets such as Asia and Africa becoming growth engines driven by young populations, urbanization and localized innovation, while giving rise to cultural fusion products such as "soy sauce latte" and date palm coffee. However, behind this prosperity lies the challenges of climate crisis, resource consumption and social equity: the northward migration of coffee belt threatens the ecology of producing areas, packaging waste and carbon emissions need to be solved, and the income imbalance of coffee farmers calls for a fairer trade system. In the future, the industry needs to find a sustainable path in technology empowerment – from the research and development of weather resistant varieties, circular economy to carbon neutrality certification, which requires not only the coordination of upstream and downstream of the industrial chain, but

also the pressure of "green voting" by consumers. Coffee is no longer just a drink, but a complex carrier of technology, business and human values in the tide of globalization. Only by balancing growth and responsibility can this ancient industry continue to smell of change.

Conclusion

The global coffee market drives international trade, creates economic value, and drives employment in the industrial chain. The consumer side meets diversified needs, drives technological innovation and sustainable development, promotes global coffee cultural exchange, and forms a mutually beneficial and win-win industrial ecology. In today's international environment, the study of the international coffee market is indispensable. This paper analyzes and summarizes the international coffee market, analyzes some possible challenges in the current international coffee market, and puts forward some relevant suggestions and countermeasures, and studies and analyzes the current situation and development trend of the international coffee market.

Below is a comprehensive analysis of the financial and operating conditions of Starbucks, McCafe (owned by McDonald's) and Restaurant Brands International (RBI, which includes Tim Hortons and other brands) for the period 2019 – 2024, taking into account the trends in the coffee industry and the impact of the external environment. The analysis is based on publicly available annual report data, industry reports and macroeconomic context.

McCafes (McDonald's) revenue contribution: Coffee accounts for about 6 % of McDonald's total sales (about \$ 2.4 billion in 2023), with growth driven by a low-price strategy (\$1 coffee) and bundling (breakfast packages); Cost advantage: Relying on the scale

effect of McDonald's 38,000 stores worldwide, the marginal cost is low, and the net profit margin is stable at 20 % – 22 %.

RBI (Tim Hortons), which is regional differentiation: The Canadian market accounts for 70 % of revenue, with global revenue of US \$ 5.4 billion (CAGR 4.5 %) in 2023, below the industry average; Margin pressure: Net margin fell from 12 % in 2019 to 9 % in 2023, mainly due to international expansion costs (increased to 600 stores in China) and lagging supply chain integration.

Focus on how block chain traceability, smart agricultural equipment, bioengineering (such as disease-resistant gene editing) and other technologies are reshaping the coffee industry chain. This paper studies the impact of baking automation and cold brew technology innovation on product standardization and flavor control, analyzes the application potential of AI in demand prediction and personalized customization, and discusses the risk of marginalization of small farmers caused by technology monopoly.

In summary, the future research direction can further study the relationship between the financial status of enterprises and economic factors in the international coffee industry, explore the application of different research perspectives and methods, and improve the precision and accuracy of the financial evaluation of the coffee industry.

References List

- 1 Bu L., Zhong K., Chen J. Coffee industry continues to "taste fresh", seek strange taste to grab the market // Sanxiang City News. 2025. № 7. P. 2 – 28.
- 2 Chen Z.Ch., Zhao Sh. Why Yunnan Coffee is popular in the international market // Global Times. 2025. № 7. P. 3–25.
- 3 Chen J. Research on the Development model of Starbucks Company // Modern Marketing (The Next ten-day Issue). 2024. № 9. P. 110 – 112.
- 4 Fan Y.T., Yu Zh. H., Xu Y.C, Liu X.Y., Zhang Y.X. Structural design of the intelligent coffee robot // Technology and Innovation. 2024. № 7. P. 64 – 67.
- 5 Guo B., Zhang T.Y. Coffee industry welcome new round competition point // Beijing Business Daily. 2025. № 3. P. 1–2.
- 6 Gao N., Lou Z., Yang S. Evaluation on the competitiveness of world coffee industry and countermeasures of China // South Rural China. 2023. № 1. P. 15–23.
- 7 Guo X., Zhang H. Launch the first instant iced coffee Nestle to seek new growth point // Beijing Business Daily. 2023. № 6. P. 5–29.
- 8 Hu Y., Xiong X. X., Chen J.J. Solving the low-end Lock-in Dilemma of Global Value Chain by relying on market scale: Based on the case study of Chinese coffee industry // Southern Economics. 2025. № 3. P. 117–141.
- 9 He Y. Starbucks Next Chain Coffee market Competition upgrade // China Business Daily. 2024. № 6. P. 4–6.
- 10 He Peiling. Coffee market price war rampant low price is not the only way out // China Food. 2023. № 7. P. 80–81.
- 11 Is "coffee +" good or bad? // China Food News. 2025. № 7. P. 3–17.
- 12 Jia B. How long can the price war of 9.9 yuan continue with the soaring price of coffee beans // China Business. 2025. № 3. P. 16–17.
- 13 Jiang Y. X. Rise of new forces Coffee market competition is increasingly fierce // China Business Daily. 2024. № 4. P. 1–11.
- 14 Li R.S., Liang A.N. Rise of China's coffee industry // Securities Daily. 2025. № 2. P. 3–29.

- 15 Lu Y. W. Coffee bean "Price" soaring // International Finance News. 2025. № 9. P. 1–6.
- 16 Liu X. The price of coffee beans has been rising for a year // International Business Daily. 2025. № 4. P. 2–24.
- 17 Liu G. Chinese Market coffee fever: Review and Prospect // China Trade News. 2023. № 7. P. 12–28.
- 18 Liu X. Coffee track is very attractive cross-border integration "drink" new trend // China Foreign Trade. 2023. № 2. P. 60–61.
- 19 Meng L. Self-promotion has become a new trend of coffee consumption // Business Watch. 2024. № 13. P. 18–20.
- 20 Meng G. Whether the strategy of price war and parity can win the market for fresh ground coffee // China Food Industry. 2023. № 8. P. 27–28.
- 21 Meng G. Products beyond price need to be innovated in fresh ground coffee track // Chinese Food. 2023. № 9. P. 90–91.
- 22 Meng G. Ready-made coffee should also "share a cup of soup" // Food Industry. 2023. № 3. P. 58–59.
- 23 Meng L. Self-pickup and takeout become a new trend of coffee consumption // Business Review. 2024. № 13. P. 18–20.
- 24 Ni H.F. Cross-border integration stimulates new vitality in the market // Business Watch. 2024. № 11. P. 6–9.
- 25 Philip K. Kotler on Marketing. M.: Zhejiang People's Publishing House. 2002. 314 p.
- 26 Philip K. Marketing Management. M.: Shanghai People's Publishing House. 2003. 350 p.
- 27 Ready-made Coffee expands new Sales channels outside home Market // China Food News. 2024. № 7. P. 1–7.
- 28 Song H.Y. Competition in coffee industry is white-hot // China Business Times. 2024. № 4. P. 3–19.
- 29 Song, X. How do "small beans" string up big industries? // Xinhua Daily. 2023. № 10. P. 11–12.

- 30 Sun J.Zh. Coffee battle sinking cost control into core competitiveness // China Business News. 2023. № 3. P. 6–12.
- 31 Schlermon. Coffee trading heats up again // Futures Daily. 2023. № 7. P. 11–13.
- 32 Wang L.L. New changes have emerged in China's coffee market // China's Foreign Trade. 2024. № 1. P. 52–53.
- 33 Wang L. Brand Communication. M.: Hebei People's Publishing House. 2005
- 34 Wang J. A coffee bean's ambition // Chinese Brand. 2024. № 2. P. 78–79.
- 35 Xiong Z., Wu Y., Wu X. The Collision of Innovation City and Coffee City // Shenzhen Special Zone Daily. 2024. № 1. P. 9–17.
- 36 Xu X. Small Coffee bean big market in China // Economic Information Daily. 2024. № 6. P. 4–8.
- 37 Xiao W. The scale of national coffee market is expected to exceed one trillion yuan in 2025 // China Food Safety News. 2023. № 1. P. 6–7.
- 38 Xu X.Q., Huang Sh. D. "small" coffee "big" market // Xinhua daily telegraph. 2024. № 6. P. 3–13.
- 39 Xiang M. McDonald's Will face Many challenges in the fierce battle of coffee sinking market // China Food. 2023. № 5. P. 108–110.
- 40 Ye X.R. Coffee market turning point: throne change, Chinese coffee acceleration // Economic Observer. 2023. № 18. P. 7–8.
- 41 Yu X. Behind the Rapid rise of semi-automatic coffee machine // Electrical Appliances. 2023. № 2. P. 58–59.
- 42 Zhao A. Coffee companies need to focus on the sinking market // Food industry of China. 2024. № 4. 111 p.
- 43 Zhang J.X., Dong Zh. H. Give full play to the resource advantages of Jinsha River dry and hot river valley, and strive to cultivate the boutique coffee industry // Tropical Agricultural Science and Technology. 2024. № 2. P. 29–36.
- 44 Zhou Y.Q. With "coffee" friends to expand the market, foreign trade coffee will be unique // Textile and Clothing Weekly. 2024. № 13. 15 p.

- 45 Zhang D., Ye W.X., Chen W.L., Fu M. Th. Research on the Current Situation and Future of the Global Coffee Industry // Modern Food. 2025. № 3. P. 8-10.
- 46 Zheng J., Lu Y.Ch. CEO of Tims Tianhao China: China's fresh coffee market is broad // Shanghai Securities News. 2024. № 5. P. 2–11.
- 47 Zhou Y.Q. With "coffee" to meet friends to expand the market, foreign trade coffee will be unique // Textile and Clothing Weekly. 2024. № 13. P. 15– 23.
- 48 Zhou M. Tianhao coffee increases the Chinese market // Economic Daily News. 2023. № 4. P. 6–16.
- 49 Zhang, L., Ma, S. How the "roller coaster" of international coffee Price keeps the "money bag" of coffee farmers // China Food. 2023. № 5. P. 60 – 61.
- 50 Zhong, C., Jiang, Z. Coffee industry pattern reshaping: new and old players compete for market // China Business News. 2023. № 2. P. 1–2.
- 51 URL: <https://investor.starbucks.com/financials/annual-reports/default.aspx> (access date: 10.03.2025).
- 52 URL: <https://fnb.coffee/zh/%e5%8d%9a%e5%ae%a2/top-10-chinese-coffee-brands/> (access date: 10.03.2025).
- 53 URL: <https://www.nestle.com/investors/annual-report> (access date: 15.03.2025).
- 54 URL: <https://corporate.mcdonalds.com/corpmcd/investors/financial-information.html#accordion-b6f12fe0aa-item-741ec16c6d> (access date: 25.03.2025).
- 55 URL: <https://investor.lkcoffee.com/financial-information/annual-reports> (access date: 28.03.2025).
- 56 URL: <https://www.rbi.com/English/investors/annual-reports/default.aspx> (access date: 01.04.2025).
- 57 URL: <https://investor.luckincoffee.co/sec-filings/sec-filing/6-k/0001104659-25-015436> (access date: 03.04.2025).
- 58 URL: <https://www.statista.com/statistics/219513/starbucks-revenue-by-product-type/> (access date: 03.04.2025).