Contributions to Economics

Horst Löchel
Tim Jablonski

The Rise of China's Economy

Past, Present, and Future

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For our families and friends

Preface

We, the authors of this book, both lived and worked in China for several years. During this time, we developed an appreciation for the country and its people and became fascinated by the success of its economy. How was this success possible, given a political and economic governance system that is largely different from that of Western societies and experiences? To answer this question, we delved into the works of other scholars, Chinese and Western, and gained valuable insights that greatly enhanced our understanding. This book is built upon their rich contributions and our own experiences from actually being there.

Our goal in writing this book is to share the results of our research with general readers, who are interested in understanding the rise of China's economy and its importance for the global economy. We are confident that this book will help readers learn more about the past, present, and future of the Chinese economy. We would be especially gratified if our work could add to more finely nuanced perspectives about China and its economy. This seems to us most important in times of geopolitical fragmentation and perceived system rivalry.

Our principal thanks go to the Hans und Ria Messer Stiftung. Without its generous support, this book could not have been written. We would also like to thank the publishing house, Springer, and its staff for their helpful collaboration in producing the book. The research for this book would have been impossible without the kind cooperation within the Sino-German Centre at Frankfurt School of Finance and Management. A special thanks to Luyi Sun, our student research assistant, for his dedicated support over the last three years.

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Naturally, we take responsibility for any remaining errors.

Frankfurt am Main, Germany — Horst Löchel
December 2024 — Tim Jablonski

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Abbreviations

General Abbreviations

BoP	Balance of Payments
CPI	Consumer Price Index
EU	European Union
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GNI	Gross-National-Income
IMF	International Monetary Fund
IPO	Initial Public Offerings
MNC	Multinational Companies
PPP	Purchasing Power Parity
SDR	Special Drawing Rights
SME	Small and Medium Enterprises
SWIFT	Society for Worldwide Interbank Financial Telecommunication
TFP	Total Factor Productivity
TTP	Trans-Pacific Partnership Agreement
UK	United Kingdom
US	United States of America
USD	US Dollar
VAT	Value Added Tax
WTO	World Trade Organisation

China Related Abbreviations

BRI	Belt-and-Road Initiative
CCP	Chinese Communist Party
CIPS	Cross-Border Inter-Bank Payments System
CPPCC	Chinese People's Political Consultative Conference

CSRC	China Securities Regulatory Commission
FYP	Five-Year Plan
GGF	Government Guidance Funds
HRS	Household Responsible System
IDDS	Innovation-Driven Development Strategy
LGFV	Local Government Financial Vehicles
LSG	Leading Small Groups
MIIT	Ministry of Industry and Information Technology
MoF	Ministry of Finance
MOFCOM	Ministry of Foreign Trade and Economic Cooperation
MOST	Ministry of Science and Technology
NDRC	National Development Reform Commission
NPC	National People's Congress
PBC	People's Bank of China
PRC	People's Republic of China
QFII	Qualified Foreign Institutional Investors
RCEP	Regional Comprehensive Economic Partnership
RMB	Renminbi
SAFE	State Administration of Foreign Exchange Reserves
SASAC	State-Owned Assets Supervision and Administration Commission
SCO	Shanghai Cooperation Organisation
SEZ	Special Economic Zones
SOE	State-Owned Enterprises
TVE	Township Village Enterprises

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Chapter 1
Introduction

'A philosopher once observed that we cannot solve problems by using the same kind of thinking we used when we created them'. Former Chinese Vice-Premier Li Keqiang (2015) at the World Economic Forum in Davos.

The spectacular success of China's *Reform and Opening Up* policy after 1978 is one of the most important developments of our time. The resulting rise of China has changed the world and will continue to do so in the years to come. Today, China is the second largest economy in the world and has become the largest trading nation. The per capita income of its citizens has increased by more than 230 times in the last 45 years, when measured in local currency, and the country has achieved the most significant leap in the Human Development Index of any country, climbing 33 ranks from 108th in 1990 to 75th in 2023 (UNDP, 2024).

This book aims to explain the success of China's economy and considers its ongoing changes and challenges over time. By doing so, we are taking a long-term perspective and discuss short-term developments, such as the mediocre recovery after the Covid-19 pandemic and the ongoing real estate crisis, within this perspective. From our point of view, the real challenge for China is the upgrade to a high-income country, after it managed its development from a low- to a middle-income country very well. This challenge requires a new round of structural and institutional reforms.

The book is particularly written for Western readers, who are interested in understanding the 'singularity of China', an expression coined by Kissinger (2011: 5). A key message of this book is that China and its economy are much more nuanced and complex than a simple black-and-white view might suggest. The depth of China's civilisation, combined with its economic and political significance, cannot be overlooked. China and its economy are too big and too important not to be considered.

China's rise is challenging the Western notion of the interconnectedness between the political and the economic orders, a concept that was already developed by the renowned German economist Eucken (2011) in 1940. China's development provides empirical evidence that an authoritarian one-party-state can also achieve significant economic success. This dilutes the belief that only fully fledged market economies, anchored in a liberal order, can ensure long-term economic prosperity—an insight that holds particular significance for the developing world.

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China's economy is indeed different. It is characterised by an omnipresent, interventionist, and paternalistic party-state that steers the economy. It may seem that the whole economy is managed like a company, with clear performance indicators and reporting lines and a CEO, who simultaneously serves as the general secretary of the ruling party and the president of China. The boundaries between the private and state sectors, as well as between politics and the economy, are fluid.

Despite these features, the economy is highly competitive, dynamic, and technology-driven. In the most recent World Competitive Ranking by IMD (2024), China was ranked 14th—just two places behind the USA and 10 ahead of Germany. Performance-oriented behaviour is highly respected not only in the economy but also in the society and the state bureaucracy. Moreover, despite the politically centralised party-state, economic policy is mostly decentralised at the local level.

To understand the Chinese economy, history matters must be part of its explanation. Until the beginning of the nineteenth century, China had the largest economy in the world, and it is predicted that the country will regain this position by the middle of the century. China's long-lasting historical prominence is evident in its numerous scientific and technological breakthroughs. The nation pioneered inventions such as paper currency, gunpowder, the magnetic compass, and printing, among other things. Its expertise in porcelain and silk production was unmatched on the global stage. For Marco Polo, China 'was a vision of the future' when he visited *Zhong Guo*, the 'Middle Kingdom', in the thirteenth century (Schuman, 2020: 143).

For nearly two millennia, China was the leading civilisation in Asia. However, this dominance began to decline with the advent of the European Industrial Revolution and was further challenged by a series of military invasions of different imperialistic forces, beginning with the First Opium War with the UK between 1839 and 1842. After its military defeat, China was coerced into signing the Treaty of Nanjing—a highly unequal agreement that remains etched in the collective memory of the Chinese people. The treaty is still regarded as the starting point of the 'century of humiliation', that lasted until the founding of the People's Republic of China (PRC) in 1949 (Li, 2024: 31).

This historical sentiment continues to resonate in China's economic policies today. The failure in the First Industrial Revolution, which was also caused by the inability and unwillingness of the last empire, the Qing dynasty, to launch the necessary structural and institutional reforms needed to modernise the country and its economy, serves as a powerful impetus for the current Chinese leadership. As President Xi Jinping put it in 2012, just two weeks after he had been elected as the general secretary of China's Communist Party, in the opening speech of the exhibition 'Road to Renewal' in Beijing: For the sake of realising the 'China dream' of the 'rejuvenation of the Chinese nation', the country has to be developed into a technological powerhouse (Tsang & Cheung, 2024: 20–21). Throughout this book, we show that China's political economy is indeed deeply rooted in China's past. From a certain perspective, it can be seen as 'a modernised version of the traditional Chinese imperial state' (Wolf, 2024).

1.1 Structure of the Book

The book is structured into three parts: past, present, and future. Each part consists of several chapters that discuss the topics in a systemic way and are designed to build on each other.

Part I sheds light on the origins and development path of China's *Reform and Opening Up* from its kick-off in 1978 until today. China's paramount leader, Deng Xiaoping, freed the economy from the ideological setting under Mao Zedong. His pragmatic approach, which was tailored to Chinese characteristics to fit local conditions, led to a unique transformation that culminated in the most successful transition story of any economy in the twentieth century. However, over time, China's reform trajectory shifted from market-building and enhancing towards market-shaping and steering. Under the current president and general secretary, economic policy is increasingly subordinated under the direct leadership of the party. Therefore, China's economic system today resembles that of party-state capitalism rather than just state capitalism.

Part II explores the key aspects and features of China's contemporary economy. It starts with an analysis of the main features of China's economy: its amazing performance over time, its special growth model with high investments and low consumption, the considerable economic heterogeneity of the provinces, the relationships between the party and the state, as well as between the centre and the provinces in designing and implementing economic policy, and the challenges posed by the slow post-Covid-19 recovery and the ongoing real estate crisis.

Building on this broad picture, China's corporate sector is described in detail: the relationship between state-owned and private enterprises, the main features of the financial sector, and the role of foreign enterprises doing business in China. Particular focus is given to the development of China's private platform economy as the main driver of economic growth and technological advancement in the last decade.

Finally, Part II also explores China's role in the global economy. The following questions lead the discussion: how has the country become the world's largest trading nation? What role does the Belt-and-Road Initiative (BRI) play in China's internationalisation strategy? How has China's exchange rate system developed over time and what are the efforts to internationalise the Chinese currency, the Renminbi (RMB) or Yuan? The analysis is concluded with a comprehensive discussion of the highly complex and sensitive issue of the global rivalry between China and the USA. The tensions have widened into a broader 'system competition' that economically culminates in a 'trade and tech' war between China and the West.

Part III discusses China's search for a new growth model. First, the main long-term challenges of the Chinese economy are revealed: the declining technological progress, the shrinking demographic dividend, the rising debt levels, especially of local governments, and environmental degradation. This is followed by a detailed description of the predominant economic strategy used to overcome these challenges. Central is the concept of the *new productive forces*, which focuses on innovation-driven growth steered by the party-state. Indeed, the Chinese leadership views the

Fourth Industrial Revolution, with technologies such as AI and big data, as a chance to position the country directly as a global leader in the development of frontiers technologies.

The concluding chapter of the book discusses the pros and cons of this strategy. It is argued that the approach has serious shortcomings in terms of the growth focus and the economic model. Once again, the focus is directed towards investment instead of consumption, showing similarities to the past growth model. Furthermore, the economic model further intensifies the steering approach. The chapter reveals that the chosen strategy is not a coincidence but a rational decision in line with the interests of the party-state, which makes more fundamental structural and institutional reforms rather difficult.

1.2 Key Insights

One of the key insights of this book is that China's economy and its political economy are now at a critical tipping point, after a long period of successful development. Two interrelated challenges are particularly crucial: the domestic need to upgrade to a high-income country with a new growth model and international tensions, especially with the USA. Both challenges pose systemic risks that could seriously impede the future development of China's economy if not carefully managed.

Domestically, it is not just about implementing the right economic policies; China's current dominant economic model also requires a new round of *Reform and Opening Up*. The scale and scope of the one-sided, supply-driven steering policy have become overly extensive in recent years, which tends to create overcapacities and cutthroat competition within China's economy. State-led interventions must be reduced, and markets and private entrepreneurship must be empowered to push forward pioneering innovations.

The current situation reminds us of the 1980s in China, where institutional changes were key to drive economic development. However, the path forward is now more complex than it was in the past. Organising an Industrial Revolution is one challenge, and transitioning to a high-income country is another. The great danger is that China could fall into a 'trapped transition', as Mühlhahn (2019: 566) described the situation for the case of China's last dynasty, the Qing, where necessary institutional and structural reforms were stalled by internal constraints. The remaining question is whether the party-state can once again demonstrate its capacity to adapt and learn under economic pressure and legitimacy challenges.

Despite domestic challenges, the future of China's economy is also heavily influenced by deglobalisation and containment efforts from Western countries. The most significant economic risk involves potential technological setbacks. Although China has made substantial technological progress in catching-up, the gap with the USA remains large in many areas, particularly in general purpose technologies such as semiconductors. Without access to these technologies, China's progress could slow significantly. Therefore, mitigating geopolitical fragmentation between the West and

East, which ensures ongoing smooth integration into the world economy and the international governance system, is in China's best interest.

1.3 Note on Methodology and Data

Methodologically, the book addresses the respective topics based on empirical evidence and respective data. In assessing the development of China's economy, we deliberately avoid a normative perspective that judges China based on its perceived distance from the ideal of a fully fledged market economy. We find such approaches ahistoric and inappropriate. Instead, we follow what Carsten Herrmann-Pillath (2017: 521) refers to as 'realisation-focused comparison', which judges the degree of progress by comparing China's own development over time. For example, between 2013 and 2022, China's GDP per capita increased again by 87% on average, as measured in local currency, although the steering policy intensified, indicating an increasing distance from the features of a market economy.

We are, of course, aware that China's official data are often criticised for being inaccurate or even biased, often attributed to political influence. However, the validity and extent of such claims are not always clear. In any case, we cross-checked the official data with figures from reputable international sources wherever possible. We found only a few significant discrepancies—also among the international sources—which are noted in the text. Therefore, we are confident that both international and national official data are reliable for deriving the explanations and conclusions presented in this book.

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Part I
The Reform Trajectory of China's Economy

Chapter 2
Reform and Opening Up: A 'Matter of Life and Death'

In 1978, China was among the poorest countries in the world, with a per capita income of less than one-third the average of sub-Saharan countries and 30% less than that of India (Lin & Zhou, 2021). Over 80% of its population lived on less than the international poverty threshold of 1.25 USD per day. Approximately 70% of the workforce was engaged in low value-added agriculture, which contributed to less than 30% of the gross domestic product (GDP).

This poor economic performance was mainly caused by the failure of the command economy, which was introduced after the founding of the People's Republic of China (PRC) in 1949. In particular, the so-called *Great Leap Forward* between 1958 and 1961, which aimed to rapidly industrialise the vast countryside of China, was a catastrophe that ended in one of the most destructive famines in history, with millions of people dead (Kung, 2022). In 1961 alone, GDP per capita dropped by almost 20%.

Another destructive event was the *Cultural Revolution*. Initiated in 1966 by Mao Zedong, the CCP chairman at the time, it lasted for ten years until his death in 1976. This mass movement triggered a highly tumultuous period in China's history that spread across the country in an attempt to preserve communism by purging the perceived remnants of capitalism and traditional elements from China's society (Teiwes, 2022). In the final two years of the 1960s, China's GDP declined again, this time by 5%. The *Cultural Revolution* was yet another tragedy in China's modern history, once again claiming the lives of millions.

These disasters were finally addressed at the Third Plenum of the 11th Central Committee of the Chinese Communist Party (CCP) in December 1978, under the leadership of Deng Xiaoping (Westad & Chen, 2024: 246–272). Indeed, the decisions made at the Third Plenum were a matter of 'life-or-death' for the regime, as the *Cultural Revolution* had strongly challenged the legitimacy of the CCP as the ruling power (Xu, 2011: 1088).

The meeting was underscored by a pivot in the party's mindset from class struggle to economic development. Elevating the living standards of the population emerged

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as the new foundation for the party's legitimacy, supplanting the former reliance on mass mobilisation, ideology, and the cult of personality. The integration of the *Four Modernisations*—encompassing agriculture, industry, science and technology, and national defence—was central to the meeting's agenda (Beijing Review, 1978). This strategy was first formulated in 1975 by the then Premier Zhou Enlai, in close collaboration with Deng, who had returned to his role as Vice Premier after his rehabilitation from a banishment during the *Cultural Revolution.* However, the more familiar and widely cited phrase *Reform and Opening Up*, which has since become synonymous with China's economic success, was not introduced until the 13th Party Congress of the CCP in 1987.

Ever since the start of the reform period, China has experienced an economic miracle that is unchallenged in modern economic history. Between 1979 and 2024, China's economy grew at an average rate of 9% each year, and GDP per capita by 8.5%, lifting approximately 800 million people out of extreme poverty. Currently, China is classified as a higher middle-income country with an average GDP per capita of approximately 13,000 USD. Its middle class has swelled to encompass approximately 400 million people, the largest in the world by sheer numbers. In addition, China became the world's largest exporter in 2010, and by 2013, the leading trading nation due to increased demand for foreign goods and services. One year later, in 2014, China emerged as the world's largest economy measured in terms of purchasing power parities (PPP).[1] Still today the country contributes more than 20% to global growth. The following chapter provides a summary of the two main features of China's successful economic reform trajectory since 1978 until today, in a highly aggregated way:

– the different development strategies over time including the acting politicians, and

– the economic and the general transformation approach from a planned to a market economy.

– The consecutive chapter analysis then the changes of China's reform and opening up policy in more detail.

2.1 Changing Reform Approach: From Market-Seeking to Market-Steering

Broadly speaking, *China's Reform and Opening Up* the reform process can be classified into five distinct phases, each characterised by a unique development approach, accompanied by respective institutional changes under different political leaderships.

[1] Purchasing power parities are price relatives that show the ratio of the prices in national currencies of the same good or service in different countries. The lower the price level, the more goods and services can be bought with a certain amount of income and vice versa.

Table 2.1 Classification of China's economic reform trajectory

Time period	Development approach	Economic and institutional changes
1979–1989	Market-seeking (bottom up)	Fundamental changes towards market economy: ownership, markets, and prices
1989–1992	Deadlock of reforms	
1992–2001	Market-building (top down)	Fundamental market institutions: fiscal, financial, exchange rate, privatisation, monetary policy
2002–2006	Market-enhancing (top down)	WTO entry, trade, and market liberalisation, FDIs, ongoing privatisation
2006–2012	Market-shaping (top down)	Industrial policy, central planning, fiscal policy, income redistribution
2013-now	Market-steering (top down)	Technological self-reliance, dual circulation, public venture capital funds, party leadership, economic security policy

Source Own compilation

The respective phases are laid out in Table 2.1.[2] From 1979 to 1989, the fundamental shift from the command economy to a market economy took place. This transition was catalysed by bottom-up grassroots local experiments, which introduced market mechanisms, price determinations, and private ownership. The first experiments began in the agricultural sector. From here, they spread into the industrial sector, which was mostly underdeveloped at the time. This period can be described as market-seeking reforms.

The second reform period spanned from 1992 to 2001. This came after a three-year reform deadlock in the aftermath of the 1989 Tiananmen crackdown. The catalyst for resuming reforms was Deng's famous *Southern Tour*, in which he successfully promoted a reinvigoration of reform policies. This time, however, the reforms did not emerge from grassroots experiments but followed a strict blueprint and a structured, top-down, market-building approach. It covered reforms of fiscal, monetary, and exchange rate policies and saw a huge privatisation wave of state-owned enterprises (SOEs).

China's entry into the WTO in December 2001 marked the onset of the third phase of China's economic reform trajectory, lasting until around 2006. The phase was characterised by market-enhancing reforms in accordance with the stipulations of the WTO agreement. China was compelled to relinquish numerous protectionist measures, such as tariffs, and further liberalise its product and banking sectors, including foreign direct investments (FDI). In this context, the privatisation of SOEs further accelerated and reforms in the sector were not concluded before the end of 2003.

However, the subsequent phase from 2006 to 2012 saw a shift in China's economic reform approach. Instead of further seeking and bolstering market mechanisms, the

[2] For slightly different classifications see Brandt and Rawski (2022: 801–828), Heilmann (2017: 196), Hofman (2018: 61–63), Naughton (2018: 100–124), and Zweig (2018: 277–299).

emphasis shifted from market-enhancing towards market-shaping (Tan, 2021: 89-119). The hallmark initiatives of this period were the prominence of industrial policy and the rollout of a substantial fiscal stimulus package, aimed at dampening the negative effects of the 2008 global financial crisis. Both events triggered a resurgence of the public sector, elevating the significance of SOEs and central planning once again.

The most recent phase, spanning from 2013 to the present, builds upon the industrial policies of its predecessor but redirects its attention towards the advancement of domestic cutting-edge technologies. Guided by strategies such as *Made in China 2025* and *technological self-reliance*, this era saw a significant augmentation of public venture capital funds and other financial instruments, intended to steer the economy in a certain direction by providing funding for politically desired products. Furthermore, a marked change was the party's heightened involvement in the economy, asserting more direct influence over economic affairs than seen in preceding phases. While the prominence of SOEs in strategic sectors of the economy was reaffirmed, economic security began to overshadow China's economic trajectory as geopolitical tensions amplified.

2.2 Who Is Who in China's Reform Process: An Overview

Because economic policy is always the result of acting politicians, each described reform period can be connected to a certain political leadership (Gilley, 2019). Table 2.2 summarises these connections on a highly aggregated level. It summarises the politics of the most important political actors in China's *Reform and Opening Up* process from its beginning until today, with a special focus on the economic governance system.

When Deng Xiaoping initiated the period of bottom-up policies in the 1990s and the opening of China's economy for the world, he was neither the General Secretary of the party nor the Premier of the government, but Chairman of the Central Military Commission and Vice Premier. The General Secretary was instead Hu Yaobang until 1987, followed by Zhao Ziyang, who acted before as Premier. Both politicians were open to economic reforms and even allowed political changes to a smaller degree. However, when political turbulence arose at the end of the 1980s, this liberal stance forced Hu Yaobang and Zhao Ziyang into a corner by more conservative party leaders. Both reformers were forced to resign eventually, although for different reasons.

When Jiang Zemin took over power in 1989, it became the norm in China that the General Secretary of the CCP would also be appointed as the President of the PRC. During his ten-year leadership, Li Peng, and later Zhu Rongji, acted as premiers. Especially the latter, together with Jiang, were both strong supporters of economic reforms. Their most influential act was to manage and hold China's WTO entry talks, negotiating a further liberalisation of the economy in the 1990s as the pre-emptive condition for entering the organisation.

Table 2.2 Political leadership and reform policy

Leadership		Policy focus	Governance system
Deng Xiaoping Hu Yaobang Zhao Ziyang	(1978–1992) (1980–1987) (1980–1989)	Transition from the planned to a mixed economy of markets and the state	Collective leadership party in charge of politics, government responsible for economic policy
Jiang Zemin Li Peng Zhu Rongji	(1989–2002) (1987–1998) (1998–2003)	WTO entry and 'socialist market economy'	Three representatives
Hu Jintao Wen Jiabao	(2002–2012) (2003–2013)	Industrial policy and harmonious society	Unchanged
Xi Jinping Li Keqiang Li Qiang	(2012–now) (2013–2023) (2023–now)	Global technological leadership, common prosperity, new productive forces	Eradication of term limit and personalised leadership. Party dominance also in economic affairs

Source Own compilation

Their approach was top-down economic reforms that built up fundamental market institutions, such as the introduction of stock markets. One of his flagship reforms, however, was a wave of privatisation of small and medium-sized SOEs, leaving only the largest SOEs in the hands of the government. The reform is famously summarised as *grasping the large, letting go of the small*.

Politically, the Jiang-Zhu era also experienced significant changes. Most important in this context was the broadening of the CCP's membership base with the launch of the concept of the so-called *Three Representatives*, which were officially adopted into the party statue in 2004. This pivotal shift welcomed managers of private companies and prominent figures from science and culture into the party, signalling a departure from the traditional revolutionary working-class paradigm to an elite-driven party. Furthermore, the whole country underwent further crucial reforms, embedding both private property protection and human rights in the constitution, thus highlighting the profound shifts in political and ideological views under Jiang's leadership (Chen, 2004).

China's reform trajectory changed at the end of the first decade of the new millennium under the leadership of General Secretary and President Hu Jintao and Premier Wen Jiabao. Unlike the growth-driven models of Deng and Jiang, the economic policy of the new leadership shifted towards redistribution through the concept of a *Harmonious Society*, especially designed in the favour of rural areas. Social issues that arose from the rapid economic development, such as an increasingly uneven income distribution, gradually moved into the focus of policymakers. Moreover, Hu

and Wen focused on industrial policy, hence market-shaping and -steering, instead of further liberalisation of the economy.

However, the most important impact of the Hu-Wen era on economic policy was the launch of the fiscal package mentioned above. It basically revitalised elements of a planned economy and strengthened the role of the state in the economy through government-led investments, hence giving it increased control over resource allocation. Although much of the stimulus was used to enhance social welfare programmes, it also strengthened the role of SOEs as major beneficiaries of the lavish budget. Regardless, the package proved highly successful in dampening the negative impact of the global financial crisis on China's economy, which was helpful for the world economy as well.

Since his selection as the General Secretary of the Party and subsequent appointment as President of China in 2012 and 2013, respectively, Xi Jinping picked up on these developments and significantly altered the reform trajectory of China's economy, including the respective governance system. Most notably, the decision by the National People's Congress (NPC), the highest official decision-making body in China, in 2018 to cancel the ten-year term limit for the presidency, introduced by Deng in response to Mao's role in the *Cultural Revolution.* The decision reopened the door to lifelong personal leadership again and ended the policy of collective leadership within the CCP (Shirk, 2023: 43–44). In addition, the 20th CCP Congress in 2022 also decided to abolish the respective term limit for the General Secretary of the party of two 5-year terms (Ang, 2022). These decisions have been accompanied by a restoration of the leading role of the party in economic policy as well.

In practice, Xi and his Premiers, Li Keqiang, followed by Li Qiang since 2022, focus on developing cutting-edge high-tech industries, aiming to push China into a global leadership position for technological development while simultaneously reducing foreign dependency and thus building economic security within China. Today the concept is known as *new productive forces.* Furthermore, President Xi launched the doctrine of *Common Prosperity*, which obligates private enterprises with greater social responsibility to introduce new redistribution mechanisms.

2.3 China's Industrial Revolution: New Structural Economics

China's original economic development strategy, after the start of Reform and Opening Up, closely mirrored the 'Asian model' of industrialisation. The strategy had already been successfully implemented by Japan and the East Asian Tigers—South Korea, Singapore, Hong Kong among others—between the 1950s and 1970s, propelling their economies from low- to middle-income status. In China, this strategy is referred to as New Structural Economics (NSE), an analytical framework developed by Lin (2015, 2017; Lin & Wang, 2020). The concept implies a departure from

the practice of command economies, which sought an immediate shift from an agricultural economy to a capital-intensive mode of production. It also diverges from the neoliberal 'Washington consensus', which advocates for transition economies an instant move from the planned to a market economy.

At the core of NSE stands the establishment of an efficient allocation mechanism for labour and capital, based on relative prices that maximises the country's comparative advantage in international trade. The basic idea is that transitioning and developing countries, like China, have an abundance of labour, which is predominantly located in rural areas, while showing a scarcity of capital goods. This means that, in terms of factor prices, labour would always be relatively inexpensive compared to capital. Given such endowments for the factors of production, it is beneficial for such countries to emphasise labour-intensive production first, while only gradually increasing capital intensity. The low labour costs not only compensate for low labour productivity but, more importantly, lead to a comparative cost advantage in international trade.

This approach played out very well in China. The country experienced swift industrialisation, accompanied by urbanisation and a steady migration of labour from rural areas to urban factories, reminiscent of the Western Industrial Revolution that occurred around 150 years earlier. The export industry developed particularly rapidly, enticing numerous foreign companies to establish their labour-intensive operations in China. This transformative approach subsequently crowned China as the 'workbench of the world'.

As a second line of thought, the NSE strongly advocates steady government intervention as guidance for the economy, as it is essential for transition economies to control and direct their industrial development path. This notion has also been observed in other East Asian countries, where government involvement in economic affairs remains more pronounced today than in the advanced economies of the West.

For instance, state initiatives encompass significant infrastructure investments to reduce both transportation and transaction costs for businesses. Furthermore, governments are committed to shielding domestic industries from foreign competition, at least temporarily, to give them time to develop their own competitiveness. This entails providing export subsidies, imposing tariffs on imported goods, and maintaining a managed exchange rate system that deters rapid currency appreciation.

NSE has continued to be a cornerstone of China's industrial policy until today, advocating for strong state guidance to foster innovation and enhance industrial production (Lin & Zhou, 2021). This guidance is deemed crucial for transitioning from a middle- to a high-income country, which requires a shift from labour to capital intensive production to boost productivity – a crucial precondition for increasing income.

However, it should not be overlooked that the strong role of the government promoted by the NSE is not universally accepted as an explanation of the success of China's economy reforms. Particularly Zhang (2017, 2019) has argued that entrepreneurship motivated by market forces, had been crucial for the reached achievements, whereas state guidance tends to promote rent-seeking behaviour and lead to resource wastage. It is indeed one of the most pressing contemporary

questions, whether China has reached a development threshold where government intervention has become a hindrance rather than a promoter of long-term growth.

2.4 Transition with Chinese Characteristics: 'Crossing the River by Feeling the Stones'

A major hurdle for transition economies is the absence of established institutions coupled with limited experience and expertise in operating a market-based system. In a planned economy, the state replaces all kinds of economic coordination mechanisms, such as property rights, markets, prices, and competition. As mentioned above, the 'Washington Consensus', which was followed by the former Soviet Union and most countries in Eastern Europe, entailed an abrupt and radical shift in the institutional framework, transitioning from a planned economy to a market economy virtually overnight. The essential idea behind the approach was that liberal markets may be rocky at first but would eventually manage to regulate themselves, without requiring support from the government.

However, the repercussions of this procedure were profound and, in many instances, detrimental. Imbalances in the economy were simply too large, and the overnight shift led to bankruptcies, soaring unemployment, and high inflation. These economic upheavals were often accompanied by social and political instability in many of these countries. This approach, though decisive, frequently introduced more challenges than solutions, casting doubt on its efficacy as a transition strategy (Harrison & Ma, 2013).

Beijing, instead, opted—explicitly or implicitly—for a different route in transitioning its economy, diverging from the prescriptive models put forth by conventional economics. Rather than a swift and sweeping overhaul, China embarked on a gradual, incremental approach, capitalising on both the formal and informal structures that were already in place from its time as a planned economy. Naughton (2018: 105) described the approach appropriately as 'growing out of the plan' that highlights a pragmatic stance, favouring exploratory and adaptive strategies over rigid plans. Clearly, the approach not only averted disruptive changes but also ensured that the party-state maintained a firm grip over the course and pace of reforms.[3]

China's *dual-track approach* allowed for the simultaneous coexistence of the planned economy and the emerging market system, at least for the time being. For instance, until the mid-1990s, China operated with two distinct price systems: one determined by the state and the other resulting from market forces. Over time, there was a steady increase in the number of liberalised markets where prices were set through supply and demand. Concurrently, private enterprises began to play a

[3] It is of interest to note that a series of CCP studies analyses the failed transition process of the Soviet Union by identifying four major reasons for the final collapse: insufficient use of the market mechanism led to low growth; officials remained stuck to ideology; slow, centralised decision-making; and last giving up party's political and societal monopoly; Kroeber (2020: 33–34).

more substantial role, gradually outweighing the significance of state-owned entities. Indeed, the approach worked very well. By 1993, more than 90% of all retail prices, 85% of prices on agricultural goods, and approximately 80% of production input prices were dictated by the interplay of supply and demand in deregulated private markets (Zhang, 2021: 207).

In summary, it can be concluded that China's economic reform trajectory over time was characterised by a shift of the development approach from market-seeking and building towards market-shaping and steering. Economically, the comparative advantage of a massive amount of cheap labour was used by organising an industrial revolution that moves labour forces from the countryside to industrial production. Overall, the general transition approach from the planned to a market economy avoided a 'big bang' but favoured gradual, incremental changes that allowed the rise of the new settings in a stable environment.

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Chapter 3
The Reform Path: From Grassroot Reforms to Party-State Capitalism

Building on the general description of China's reform path, this chapter analyses the distinct reform periods in more detail:

- It starts with the setup of new institutions in the 1980s and continues with blueprint reforms in the 1990s.
- The reform process peaked in late 2001 with the WTO entry but changed direction with the re-emergency of industrial policy in the mid-2000s, which has been intensified by focussing on the development of frontier technologies since around 2015.
- The analysis shows that the changing reform trajectory was accompanied by a change in the governance system towards a more dominant role of the party in economic affairs as well.
- The chapter concludes with a discussion on the role of history for the success of China's reform and opening-up policy. It discloses the main constitutive elements of China's unique economic governance system: the interventionistic state, the decentralised economic structure, and the elite-driven meritocracy.

3.1 New Economic Institutions: Self-interest and Entrepreneurship

During the nascent phase of China's transition towards a market-oriented economy, there were four pivotal institutional innovations that laid the groundwork for transforming China's economy into a market economy: the launch of the *Household Responsibility System* (HRS) in agriculture; the establishment of *Special Economic Zones* (SEZ), which served as magnets for FDI; the development of *Township Village Enterprises* (TVE) as a preliminary private industrial sector; and the design of a new governance system for SOEs as a precursor of the privatisation that followed.

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These reforms took place in a unique framework that combines individual initiatives with local government support and central control simultaneously. In the literature, this special Chinese feature is referred to as the *Regionally Decentralised Authoritarian Regime*, a concept developed by Chenggang (2011), or alternatively, as *Experiment under Hierarchy*, as pointed out by Heilmann (2008). Most reforms were, in fact, initiated by local experiments, which were either supported or partially driven by provincial and grassroots governments. In essence, China's governance system promoted an entrepreneurial spirit among local officials, as the relatively liberal post-reform environment presented them with significant incentives and opportunities to achieve economic success (Yao, 2018).

Simultaneously, local experiments were monitored and approved by the central party-state. Initiating and testing reforms at the local level first helped to sidestep or even mitigate political resistance from the upper echelons of the party-state as well as provide a safeguard against the national implementation of potentially disastrous policies. Only once a local experiment had demonstrated its viability, was it allowed to scale for broader national adoption, therefore ensuring that larger scale reforms were all grounded in proven success.

China's *Reform and Opening Up* kicked off with the emergence of the so-called *Household Responsibility System* (HRS). It basically describes a land reform that ended collective agricultural production and allowed individual households to act as tenants for land cultivation (Naughton, 2018a: 267–272). Under the new system, households were allowed to retain the output of their production and were only obligated to provide a quota to the local governments that still held the land ownership rights. Typically, farmers retained 30–50% of their produce, and any surplus beyond personal consumption was sold on the open market.

The success of the reform was overwhelming. From 1978 to 1984, cereal production increased by more than 60%, and the local market trade volumes more than doubled (McMillan et al., 1989). For the almost 800 million individuals—equivalent to 80% of China's then-population residing in rural areas—their incomes effectively doubled within a mere six-year span.

The HRS initially adopted in Anhui and Sichuan provinces in 1979, was introduced by individual local governments as an experimental solution to pressing food shortages. Notably, this was undertaken without the central leadership's direct approval since land reforms were officially prohibited at that juncture. The striking success of the reform led the central government to later embrace it as the standard agricultural practice, pronouncing the leadership's pragmatic stance in economic matters, even in the face of entrenched ideological beliefs.

Moreover, the pioneering governors from Sichuan and Anhui were subsequently promoted to Premier and Vice Premier positions in the State Council. Entrusted with the task of implementing the land reform across the nation, they were backed by appropriate legislative measures. By 1982, collective entities were officially disbanded, paving the way for individual households to lease land. In this context, it is worth recognising that the political promotion of the two governors is no coincidence but rather a recurring pattern in China's political economy: economic performance serves as a key determinant of career advancement within the party-state, transcending ideological and political boundaries (Yao & Zhao, 2015).

The notion of leasing land to foreign, privately owned enterprises, however, was met with staunch opposition within the CCP, given three decades of exclusive public ownership under the planned economy. Amidst these discussions, officials from Guangdong province proposed the establishment of *Special Economic Zones* (SEZs) in 1979. The initial idea was to empower two municipalities, Shenzhen and Shantou, with the authority to devise local institutions, rules, and regulations. These changes were intended to create an environment attractive for foreign investment while maintaining enhanced oversight of foreign entities within the designated area. Given the limited scope of the experiment, both the State Council and the People's Congress eventually compromised on its approval.

The experiment was a major success as well. SEZs effectively served as economic laboratories, fostering industrialised market sectors fuelled by the expertise and technology of foreign enterprises (Wu et al., 2021). Mirroring the success of the HRS, SEZs yielded significant benefits in terms of production, exports, and employment driven by new and modern means of production by privately owned foreign companies. This momentum provided invaluable insights for Chinese firms and authorities alike.

By 1984, the SEZ initiative had expanded to 14 additional coastal cities, and by 1992, SEZ development was recognised as a national strategy. This covered all provincial and autonomous regional capitals, eventually broadening into free-trade zones and high-tech industrial development zones. Currently, more than 170 national high-tech SEZs exist, 167 special customs supervision areas, and almost 20 cross-border economic cooperation zones (China Daily, 2022). Each phase of SEZ expansion was accompanied by institutional and regulatory modifications that optimised their efficacy.

While privatisation and industrialisation prominently featured foreign entities, China's move towards establishing *Township and Village Enterprises* (TVEs) in the early 1980s also gave birth to a robust domestic non-state industrial sector (Naughton, 2018a: 307–328). Notably, the property rights structure of TVEs is unique. In an environment where private property was absent, TVEs were conceived as hybrids of private and state ownership: the individual founders co-owned the venture with the community government, who acted as the communal owner. A similar type of mixed ownership remains a significant facet of China's industrial realm today.

The achievements of this setup were nothing short of remarkable (Xu, 2011: 1117–1120). By the early 1990s, TVEs accounted for approximately 80% of the non-state sector's output, registering an average growth rate of almost 30% during the 1980s. Employment reached around 125 million people at the onset of the 1990s. Numerous TVEs emerged as the world's leaders in the production of specific products, particularly in the textile industry and also birthed well-known technology companies such as Haier and Lenovo.

From an economic perspective, TVEs thrived chiefly because they fostered industrial clusters, comprising specialised, smaller entities steered by individual profit-oriented entrepreneurs. These clusters established a division of labour, with the final product being a collaborative endeavour of numerous firms. This ecosystem was fiercely competitive, mirroring market dynamics, wherein only top-tier firms were allowed to enter the supply chain.

Yet, navigating a business environment devoid of essential market institutions such as robust property rights protection or contract enforcement mechanisms combined with the lack of funding avenues, the role of the communal government became indispensable to the success of the TVE model. These regional governments did more than just lay the physical foundations such as infrastructure for industrialisation. They also established the institutional 'software', which encompassed vital elements of regulatory frameworks, including property rights protection and enforcement protocols.

Moreover, local governments funnelled financial resources to these ventures and spearheaded professional training programmes to bridge technological gaps. In many respects, these proactive, entrepreneurial local governments operated like headquarters of industrial conglomerates, weaving together a tapestry of mostly smaller, family-owned enterprises. More broadly, this innovative approach melded the horizontal integration seen in markets with the hierarchical consolidation typical of corporate structures.

Local governments also played a central role in improving the competitiveness of SOEs through the introduction of new governance structures that put managers in the driving seat (Heilmann, 2008: 13–14). Interprovincial competition spurred a variety of governance experiments, aiming to pinpoint the most effective model. With local governments owning these SOEs, they retained the authority to nominate their management.

Throughout the experimental phase in the 1980s, it became evident that SOEs exhibited optimal performance in terms of productivity growth, output augmentation, and return on assets, when managerial incentives were designed to enhance decision-making autonomy while also allowing profits to be reinvested in the company and distributed as bonuses to staff (Groves et al., 1994, 1995). Consequently, SOE managers were endowed with increasing degrees of autonomy, including the authority to determine profit allocation.

Lastly, regarding the appointment of competent managers, so-called competitive auctions emerged as the most effective mechanism. Typically, overseen by the municipal government as the owner of the SOEs, prospective managers were required to submit bids based on projected profit margins. Moreover, the winning bidder frequently had to provide a security deposit, which the government could confiscate should the appointed managers fail to meet their profit commitments. Such stringent stipulations naturally propelled managers towards optimal performance. This ethos of rigorous competition and performance-based evaluation remains a hallmark of China's SOEs even today, as will be discussed later.

Overall, the establishment of the HRS, the launch of SEZs in urban areas, the emergence of TVEs across the country, and a new incentive system for managers of SOEs became the milestones in the transition of China's economy from a planned economy to a market economy.

3.2 Reform Interrupted: 'Development is the Only Hard Truth'

Despite the institutional progress made, China also grappled with inadequate macroeconomic management of the business cycle in the initial stages of reforms. This led inter alia to frequent bouts of escalating inflation, spurred by the relaxation of price controls and a more liberal credit supply by banks (Wang, 2018: 174).

In 1988 and 1989, the inflation of consumer prices skyrocketed to nearly 30%, subsequently diminishing real income and the purchasing power of private households. In response, policymakers reverted towards reinstating price controls and implemented an austerity policy that curtailed state investments. This directly impacted the GDP growth rate and hence further restricted the increase in household incomes. Consequently, in the third quarter of 1989, China witnessed its first negative growth rate since the beginning of the reform process (Zweig, 2018: 276).

The economic downturn took a political turn with the unexpected death of Hu Yaobang in April 1989 (Mühlhahn, 2019: 518–526). Hu had been the General Secretary of the CCP since 1980 and was widely regarded as Deng's designated successor thanks to his liberal mindset in economic as well as political affairs. However, he was compelled to resign in 1987, facing accusations of sympathising with the university students who were advocating for political reforms.

Following his demise, thousands of students swarmed into the centre of Beijing's Tiananmen Square, mourning his loss. The appointment of Zhao Ziyang as Hu's successor gave the protestors some hope that their demands might be acknowledged by the Chinese leadership. Zhao, like Hu, was seen as more liberal and open to reform compared to other party leaders, which might have fuelled the students' optimism that their calls for change would be recognised.

The protests escalated over a period of a few months, driven by a combination of mourning for Hu, economic disillusion, frustration about corruption, and calls for political liberalisation. As demonstrations grew in scale and scope, drawing support from urban populations across the country, the central leadership of the CCP, including Deng, chose a hardline approach: not ready for further give-and-take, the government imposed martial law to regain control and ultimately ended the demonstrations using military force.

The tragic event on 4 June, 1989, in Tiananmen Square marked both a continuation and a significant correction point for China's reform trajectory. It reinforced the boundary of China's reforms to the economic realm by emphasising the CCP's role as the only force to ensure political stability—a stance echoed from Deng's outset of reforms in 1978. Indeed, at the Third Plenum of 1978, it was unequivocally emphasised that the CCP would remain the dominant ruling party, a dogma that under no circumstances shall be challenged (Beijing Review, 1978).

Yet, it also initiated a shift. When Deng visited Shenzhen in January 1992, he asserted the need to move faster and take greater risks in economic reform. Although conservative party members suppressed this message for around two months, Deng's

journey, now renowned as his *Southern Tour*, rejuvenated the push for market-oriented reforms.Most likely, the timing of Deng's trip was not mere coincidence. It should be remembered that in December 1991, the Soviet-Union and the ruling communist party eventually collapsed after two years of strong turbulence. It appears that, as in 1978, Deng understood that the legitimacy of the CCP hinged significantly on further improvements to economic prosperity. In his own words: 'Development is the only hard truth' (Naughton, 2018a: 110).

3.3 Blueprint Reforms in the 1990s: Top-Down Instead of Bottom-Up

After the forced resignation of Zhao Ziyang in 1989, Jiang Zemin became General Secretary of the CCP until 2002 and President of China from 1993 to 2003, along with Zhu Rongji, who held the role of Vice Premier from 1991 and later Premier of China's State Council until 2002. Under the new leadership, China initialised a renewed and more systematic approach to economic reform. This era was characterised by domestic liberalisation and adherence to international standards.

It began with a pivotal 'historical compromise' at the 14th Party Congress of the CCP in 1992, which led to the transformation of China's economy into a *socialist market economy*. This milestone was enshrined in the constitution in 1993 (Jiang, 1992). The decision included a more restricted role for the state in economic matters, focusing on short-term macroeconomic management, long-term strategic planning, appropriate regulation, and the establishment of a social welfare system.

The reforms of the 1990s built upon the foundational reforms of the 1980s and culminated with China's entry into the WTO in 2001. While initiatives of the 1980s focused on creating an individual incentive system, fostering private ownership and liberalising markets, reforms of the 1990s emphasised constructing and solidifying these market structures. Notably, the modus operandi of reforms shifted from the original bottom-up approach, driven by local experiments, to a more top-down methodology, guided by comprehensive blueprints of the central government. The reforms in the 1990s essentially covered three areas: a comprehensive tax reform that strengthened the fiscal base of the central government; further restructuring of SOEs and a broad privatisation of smaller and medium-sized SOEs; and the launch of a managed floating exchange rate system for the Chinese currency, the Renminbi (RMB) or Yuan.

The tax reform launched in 1994 significantly enhanced the central government's revenue stream compared with local governments, addressing a critical low point in 1995 (Lv & Zhang, 2022). This reform broadened the tax base with the introduction of a uniform value-added tax and a standardised corporate income tax, applicable to all companies regardless of their ownership. A new tax categorisation into central, local, and shared taxes enabled the central government to claim a much higher share of tax revenue. This enhanced fiscal capacity allowed the central government to effectively

manage business cycle fluctuations, both in terms of growth and inflation. It also paved the way for the onset of a social security system, evident in the introduction of unemployment insurance and a pension scheme.

From all reforms in the 1990s, most important was the privatisation of SOEs. As we already saw, the reforms of SOEs began in the 1980s with changes to the management incentive system, granting more autonomy to SOE managers. This process continued in 1986 with the introduction of a bankruptcy law, which was subject to internal discussion for more than twenty years. Even the law adopted in 2006 remained 'provisional' (Heilmann, 2008: 13–14). A binding bankruptcy law is essential to overcome the 'soft budget syndrome', where SOE management may take excessive risks and leverage high debt with the expectation of government bailouts due to a lack of enforceable failure policies.

The issue of soft budgets extends to financial risks for state-owned banks, given that these are the primary provider of funds through lending. Consequently, if non-financial SOEs struggle to repay their loans, banks are compelled to write down the loans. This reduction in assets consequently diminishes the bank's equity or capital. By the late 1990s, the non-performing loan ratio, which indicates the proportion of defaulted loans to total loans, was officially reported at 20%. As a result, the government had to step in, bailing out these bad loans and transferring them to specialised asset management companies. Thus, the restructuring and privatising of SOEs was were only essential for their own survival but also crucial to mitigate risks in the banking sector and the broader financial system.

The most debated aspect of the introduction of the bankruptcy law was the question of who should shoulder the primary burden in the event of an SOE shutdown. The perspective on this issue shifted three times. At first, most protection was afforded to creditors, primarily banks. This emphasis later moved towards the employees of SOEs, in the face of the high unemployment that followed the first wave of SOE privatisation. However, in the latest revision from 2006, the emphasis shifted back to giving more rights to creditors. This change reflected the substantial passage of time and the near completion of most SOE restructurings, rendering the protection of employees less necessary.

The systematic restructuring of the SOE sector began in 1993, complementing a new company law that introduced elements of modern corporate governance such as limited liability, transferable shares, and diverse ownership (Song, 2018). This was followed by the elimination of the dual price system, which had required SOEs to sell their products at lower-than-market prices to the state, only being allowed to sell any surplus production at regular prices.

Additionally, efforts were made to shut down heavily indebted and unprofitable SOEs. In 1995, the central government accelerated the privatisation wave with a campaign labelled *Grasping the Large, Letting Go of the Small* as mentioned above. This meant that small and medium-sized SOEs were allowed to fully privatise, while a selection of several hundred larger SOEs, especially those in strategic sectors like banking, energy, aviation, steel, and communication, would remain under state control. The National People's Congress ratified this decision in 1997.

Between 1995 and 2003, the number of SOEs decreased from 118,000 to approximately 34,000. Employment shrunk by 44 million people, a near 40% drop, leaving the number at 70 million. Their contribution to GDP also shrank from around 60 to 43%. The privatisation of SOEs primarily took place at the local level and varied broadly in form. These could include leasing the firm to top management, incorporation through partial shareholding via initial public offerings (IPOs), selling shares to employees as the most common method, or direct management buyouts. Over time, the latter emerged as the most successful privatisation strategy. It is also worth noting, during SOE privatisation, the number of bureaucrats within the government was also halved.

The privatisation process was effectively concluded with the creation of the State-Owned Asset Supervision and Administrative Commission of the State Council (SASAC). This body serves as a central supervisory authority for non-financial industry SOEs. Its counterpart for the banking sector is the Central Huijin Investment Co., Ltd., known as Huijin. Both entities aim to enhance productivity and profitability by 'corporatising' state assets, while the state retains ultimate ownership.

It is worthwhile highlighting that China's privatisation of SOEs occurred even without triggering a recession, as it was the case in most other transition economies. Several factors contributed to this smooth transition. First, local governments ensured that privatisation bolstered growth, rather than impeding it. Moreover, the time lag to previous reforms was beneficial. Privatisation was backed by an existing but not finalised bankruptcy law and an incentive system that provided the management of SOEs with self-contained responsibilities. Furthermore, at the time SOE privatisation took off, TVEs were already present and represented a significant non-state sector in the framework of liberalised product and factor markets. Together with foreign enterprises, the growth among TVEs could absorb most of the dismissed labour from the public sector.

The final cornerstone of China's economic reforms in the 1990s applied to the exchange rate system (He, 2020; Yu, 2018). Beginning in the early 1980s, China's currency, the Renminbi (RMB), operated with two exchange rates: an official rate set by the government and a market rate derived from the trading of foreign exchange reserves between domestic export companies. They were permitted to retain 80% of their foreign exchange reserves, thereby providing liquidity to the market.

In 1994, these two exchange rates were consolidated into one. The newly managed exchange system used the USD as its benchmark, with China's Central Bank, the People's Bank of China (PBC), acting as the market maker. The initial rate, post-consolidation, was set at 8.7 RMB to one USD, mirroring the preceding market rate. This marked a depreciation of around 50% when compared to the previous official rate of 5.8 RMB per USD. This depreciation, however, did not bring any economic advantage to the export industry, as approximately 80% of all exports were already transacted at the market rate rather than at the official rate.

After the reform, the RMB steadily appreciated against the USD, largely due to China's trade surplus. However, in the summer of 1997, the Asian Financial Crisis broke out and triggered a significant depreciation of Asian currencies together with massive capital outflows from Asia. As a response, China's State Council reverted to a

fixed exchange rate. The rate was pegged at 8.28 RMB to the USD. This stability was maintained by the continuous intervention of the PBC, which consistently purchased USD in the foreign exchange market to prevent the RMB from appreciating.

A drawback of this approach was the persistent expansion of the domestic monetary base. As a result, more RMB circulated domestically, which led to sustained inflationary pressure, that in turn constrained the autonomy of China's monetary policy. This negative development was eventually countered when the PBC was firmly established as a central bank, with firm authority over monetary policy and the goal to control inflation in the mid-1990s.

It was not until 2005 that China decided to return to a managed float system for its exchange rate. The prolonged delay can be attributed to the staunch opposition from China's export industry, which feared a loss of international competitiveness related to a potential appreciation of the RMB. Especially after China's entry into the WTO in 2001, the fixed rate guaranteed an undervalued RMB, which helped to strongly support China's exports (Tu & Di, 2020).

3.4 Winners and Losers: The Conflict Surrounding the WTO Entry

In December 2001, China joined the WTO following 15 years of intensive and at times challenging negotiations, especially with the USA (Harpaz, 2020; Tan, 2021).[1] By the late 1990s, under President Bill Clinton's administration, the US government had come to realise both the commercial value of accessing China's vast market and the geopolitical benefits of integrating China into the global governance system. As a result, they agreed in principle to support China's entry into the WTO.

The concessions China had to make for WTO membership were not negligible. The agreement stipulated more extensive commitments in market access and trade liberalisation than those made by other major developing countries, such as India (Tan, 2021: 24–26). Specifically, China agreed to cap import tariffs for approximately 7000 products at an average level of 10% and to abolish export subsidies for agricultural goods. Additionally, the service sector was set to become broadly liberalised, with an overarching principle that market forces should predominantly set prices. The accord also mandated minimal governmental interference in the commercial decisions of SOEs and guaranteed equal trading rights for both Chinese and foreign entities.

In addition to standard commitments, China agreed to unique 'WTO-plus' and 'WTO-minus' classifications that set it apart from other WTO members. The WTO-plus designation mandated enhanced transparency standards and special reviews for more than a decade, while the WTO-minus classification limited certain rights typically available to WTO members, such as in anti-dumping investigations. Of

[1] The WTO was founded in 1995 as a successor of the General Agreement on Tariffs and Trade (GATT) for which China already applied membership in 1986.

crucial importance was the agreement to categorise China as a 'non-market economy' for 15 years, until 2016. This label was extended in 2018 by the USA and the EU, based on the argument that China's state consistently interfered in its economy. China challenged this decision within the WTO but faced a setback in mid-2020 (Hosman, 2021).

Regardless, joining the WTO undoubtedly propelled China's economy forward. The membership particularly boosted its export-centric growth model, with exports increasing more than sevenfold within seven years. Furthermore, the special terms offered to foreign investors after the WTO accession resulted in a significant inflow of FDI, further solidifying China's reputation as the 'factory of the world'. By 2009, this momentum led China to surpass both Germany and the USA and become the world's leading exporter in absolute value terms.

China's accession to the WTO brought cheaper goods to the global market, accelerated economic integration, and reshaped the international division of labour. China became an essential player in economic globalisation through trade, global value chains, and outbound foreign direct investments, with an increasing number of Chinese firms expanding abroad. Domestically, the inflow of sophisticated foreign capital amplified growth and enhanced productivity.

Economic prospects played a significant role in China's decision to accept the stringent terms for WTO membership. Benefits such as securing the most-favoured-nation status from the USA undoubtedly bolstered China's exports. However, for China's leadership during that period, WTO membership was also a strategic move to accelerate economic reforms, especially in diminishing the state-owned sector's prominence. This shift is evident in Premier Zhu's administration while drafting the 10th Five Year Plan (FYP) for the years 2001 to 2005, which emphasised that the market, not the government, would be the primary force in resource allocation (Heilmann, 2017: 153).

However, as pointed out by Tan (2021: 18–35) among others (Sheng & Wang, 2020: 50–54), China's WTO accession sparked major controversy within China's central party and state agencies. Many, especially the SOEs backed by influential industrial interest groups, voiced concerns about losing their dominant economic position. For instance, as early as 1997, various state ministries and industry advocates approached President Jiang and Premier Zhu, urging them to delay the WTO entry negotiations with the USA. Some even accused the leadership of compromising national sovereignty by joining the organisation.

The WTO accession had nuanced implications for various sectors in China. While it was a boon for the nation's exports, the prospect of increased import competition loomed over both the industrial and agricultural sectors. The anticipated liberalisation, for instance, threatened to open China's market to agricultural imports from the USA. Thus, although the WTO entry promised advantages for China's exports, it simultaneously introduced stiffer competition for its domestic economy due to rising imports and the inflow of foreign capital.

To fully grasp the reservations held by China's state bureaucracy regarding WTO entry, one must comprehend the sheer scale of institutional adjustments it implied

(Wolff, 2021: 3–4). Post accession, China undertook a sweeping review of its legislative framework, amending approximately 2,300 central government laws and regulations, and nearly 200,000 policies and regulations at the subcentral government level. These modifications spanned various sectors, including trade, investment, intellectual property rights, and SOEs. Therefore, the implications of joining the WTO transcended mere economic liberalisation but also reshuffled the power dynamics within the central and subcentral state bureaucracy and questioned the traditional prominence of SOEs.

One entity that emerged stronger than before the WTO accession was the Ministry of Foreign Trade and Economic Cooperation (MOFTEC), given its pivotal role in orchestrating negotiations with the USA. The ministry found itself cornered by other central and local government agencies, particularly over the perceived compromises made during negotiations. A notable episode that underscored these internal tensions, was the resignation of the Minister for Information. This came in response to an initial agreement by the Chinese delegation to allow foreign companies to hold a share of 51% in domestic telecommunication companies; a concession that was subsequently rolled back.

The WTO accession notably impacted China's reform trajectory by challenging the autonomy of a substantial segment of its extensive party-state bureaucracy and agencies, including SOEs. These entities were hesitant to have their decision-making power curtailed by external, international rules and to cede influence over economic policy to other state bodies, such as the MOFCOM. It is not an overstatement to assert that the WTO entry might not have materialised without the firm and reform-driven leadership of Jiang and Zhu. Their administration was instrumental in overcoming resistance from segments within the party-state and leading China through this pivotal transition.

3.5 Changing Reform Path: The Emergence of Industrial Policy and State Capitalism

Most likely due to internal disputes over WTO entry, China shifted its reform path in the first decade of the new millennium. This shift led to more a proactive industrial policy paving the way for the rise of state capitalism in China (Naughton, 2021: 49–67; Tan, 2021: 89–119). The term *China Inc.* signified the state's dominant role in the economy and the inclination that the private economy must follow (Blanchette, 2020). Furthermore, the party and its bureaucracies once again had a greater say in economic affairs.

The return to state capitalism marked a shift in power, from regulatory bodies to developmental agencies, within the central bureaucracy. This shift placed greater emphasis on strategic planning and market-shaping activities rather than just enhancing existing market structures. There was also a noticeable move towards

vertical integration and centralisation in economic policy, a trend that has been evident since the reforms of the 1990s. Additionally, with the rise of state capitalism, not only did large SOEs maintain a significant share of China's economy, but they were also elevated to the status of *national champions* in the realms of industrial policy and technological advancement. Concurrently, foreign enterprises were compelled into joint ventures with Chinese companies, necessitating the transfer of crucial technology.

While official documents first mentioned industrial policy in 1986, by drawing parallels to the East-Asian style of economic development seen in Japan and South Korea, the policy did not truly take shape until 2006. Until then, China's economic reform path, including WTO entry, had largely pursued a deregulation approach aimed at bolstering market functions. In hindsight, the enhancement of industrial policy may also be interpreted as the beginning of a more domestically focused economic strategy.

The pivotal documents marking China's policy shift were the 11th FYP and, even more important, the Medium to Long-Term Plan for the Development of Science and Technology spanning from 2006 to 2020. Both plans were launched in 2006 with the shared goal of reducing China's reliance on foreign technology through the cultivation of domestic innovation and technological development. The Medium to Long-Term Plan underscored the concept of *indigenous innovation*, channelling resources into sixteen megaprojects that covered a wide range of areas from core electronics, such as microchips, to manufacturing technology and even wireless mobile communication. Notably, these megaprojects also encompassed sectors such as nuclear reactor development and civilian airliner production, which had been explicitly rejected by former Premier Zhu Rongji earlier (Naughton, 2021: 52). The new strategy was further reinforced with the introduction of the New Strategic Emerging Industry programme in 2010.

The unexpected outbreak of the global financial crisis in 2008 inadvertently bolstered the spread of China's new policy direction. As already mentioned, in response to the crisis, the Chinese government unveiled an astonishingly large fiscal stimulus package amounting to USD 4 trillion, or nearly 10% of China's GDP. This funding was meant to fight the crisis with infrastructure and construction projects, which were largely spearheaded by SOEs.

The efficacy of this programme, as evidenced by China's rapid economic recovery from the financial crisis in contrast to the prolonged financial and economic turbulence in Western economies, bolstered the perception that a robust, guiding government is crucial for ensuring stability and growth, which further solidified the shifts already underway in China's economic policy. In retrospect, 2008 stands out as a 'watershed year' for China, marked not only by the global financial crisis, but also by the Beijing Olympics games, the devastating earthquake in the Sichuan province, and unrests in Tibet (Shirk, 2023: 85–87).

The change in China's policy trajectory may also be attributed to the transition in leadership from Jiang Zemin and Zhu Rongji to President Hu Jintao and Premier Wen Jiabao in 2002 and 2003 respectively. The new leadership adopted the concept of a *Harmonious Society* as its overarching strategy. Unlike the market-driven, rapid

growth model of the Jiang-Zhu era, this approach mainly aims to bridge the income and wealth disparities between the affluent coastal regions and the more impoverished inland areas, through income distribution, rather than growth.

Moreover, Premier Wen initiated a major reorganisation of the central government and its agencies. A pivotal component of this reorganisation was the already mentioned establishment of the State-Owned Assets Supervision and Administration Commission of the State Council (SASAC) in 2003, tasked with overseeing China's industrial SOEs. This move yielded two immediate effects. First, it substantially centralised the governance of SOEs, bringing them firmly under the control of the central government. Second, it streamlined the public enterprise sector by merging and restructuring smaller and less profitable SOEs. Today, the SASAC supervises approximately one hundred major SOEs, which is roughly half the number from 2003. Crucially, under the SASAC's watch, further privatisation of industrial SOEs was halted, signifying a standstill in the privatisation process. Additionally, while the four significant Chinese state-owned banks were publicly listed in 2006, until today, most of their shares remain state-owned.

The internal reorganisation favoured the National Development Reform Commission (NDRC), which had evolved from the former State Development Planning Commission. The NDRC took the helm in implementing most aspects of China's industrial policy and remains one of the most influential economic planning agencies in the country. Unlike the MOFCOM, the NDRC is known for its conservative stance, emphasising extensive planning and a penchant for directing market activities. It also introduced binding targets for government officials in the FYPs, thereby enhancing the party's influence. Complementing the NDRC's role, the establishment of the Ministry of Industry and Information Technology (MIIT) in 2008 marked the completion of this government reshuffle. The creation of MIIT underscored a strategic move towards fostering domestically developed high-tech industries in China.

3.6 Towards the Technological Frontier: The Investor State

For many years, China's industrial policy did not differ much from that of a classical version of a latecomer catch-up strategy, tracing the technological trajectory of advanced economies. This approach began to change under the new leadership of President Xi Jinping and Premier Li Keqiang, followed by Li Qiang in 2023, respectively. The unveiling of the *Made in China 2025* strategy in 2015 marked a definitive shift, with which China ambitiously positioned itself in the race towards the technological forefront, aiming to become a global leader in innovation and give up the role of an imitator as it was before.

The subsequent establishment of the innovation-driven development strategy (IDDS) in 2016 was a landmark decision (CSET, 2021). Jointly released by the party centre and the State Council, it came with the highest political endorsement. The document articulated a clear vision for the nation's industrial policy: China does not merely need to catch up with advanced nations, but through the guidance of

the CCP, it is intended to move to the very edge of the technological frontier and become a 'technological superpower' by 2049, exactly 100 years after the foundation of the PRC. The new approach facilitates the integration of diverse projects and technologies on a national scale.

One element of the shift towards high-tech industries is the emergence of an 'investor state' (Chen & Rithmire, 2020) or, alternatively, 'state-led financialisaton' (Naughton, 2019). In essence, the concepts describe the attempt by the party-state to blur the lines between private and state ownership by directly or indirectly funnelling public capital into private companies. The most prominent example in this regard is the so-called *Government Guidance Funds*. They were primarily established to increase funding opportunities for the nation's priority technological and innovative sectors. Essentially, they operate as state-led venture capital funds managed by professional investment managers but overseen by capital holders, predominantly state entities such as government agencies and SOEs.

State investments in private companies are also realised for the so-called concept of 'golden shares' (McMorrow et al., 2023). This strategy involves state agencies or SOEs making capital investments in private firms, particularly major Chinese tech giants such as Alibaba, Tencent, or ByteDance and others. While these investments often represent minority stakes, sometimes as little as 1%, they come with significant influence. Such minority stakes typically grant the state the right to nominate a board member for the company, thus providing the state with substantial influence over the company's business decisions, including a de facto veto right on major decisions.

Additionally, the China Securities Regulatory Commission (CSRC) has advanced this regulatory approach as China's stock market watchdog. In 2022, they unveiled categories of 'red light' and 'yellow light' companies for stock listing (Yu & Leng, 2023). Companies in the 'red light' category, such as those in the food and beverage sector, are directly prohibited from listing. Meanwhile, 'yellow light' companies, including those in the apparel and furniture sectors, undergo rigorous scrutiny before their initial public offering. The purpose of this policy is obvious: to direct equity funding towards industries that align with the government's defined priorities in technology and innovation. Companies outside these sectors are disincentivised to list on exchanges.

The melding of private and state capital not only promotes the state's influence on private business decisions but also blurs the distinction between private and public ownership. Mixed-ownership has become a universal mode in China's economy (Naughton, 2018b).

3.7 A New Governance Model: The Rise of Party-State Capitalism

Ever since stepping into the leadership of the CCP in 2012, the current General Secretary and President of China, Xi Jinping, has solidified his position as the most powerful leader since Mao Zedong (Heilmann, 2018: 197–219; Tsang & Cheung, 2024). This was cemented by the already mentioned decision to abolish the term limits for the presidency as well as the General Secretary's position.

For Xi, the success of China's *Reform and Opening Up* is proof that China's economic modernisation is superior to the Western style of capitalism. A point he made crystal clear in a landmark speech in 2023. According to him, China 'showed a new modernisation model, different from the West' that embodies a 'brand new form of human civilisation' (Liang, 2023). He added that only the leadership of the party can ensure that the future of China's development process will be bright.

From the outset of his first term, Xi initiated a sweeping anti-corruption campaign, which garnered significant public support. The campaign primarily aimed to dismantle the intricate web of patronage between business tycoons and party officials, but critics argue that it was particularly used to remove unwanted rivals to his reign. Indeed, the party has become far less fractured than it was, limiting the variability of opinions within the state apparatus. Since the campaign's inception, over two million party members, from both upper and lower ranks, have had to face penalties and its momentum persists to this day (Jin, 2023: 129).

Less spectacular than the anti-corruption campaign, but even more important for the economy, was the administrative reform in 2018 to bolster the Communist Party's supremacy within the political economy landscape (Shirk, 2023: 185–186; Tan, 2021: 116–118). This included streamlining the government structure, reducing the number of ministries from 34 to 26, and closing seven vice-ministerial agencies, aiming to decline bureaucracy and redundancies in the government structure. As part of the reform, a new Ministry of Ecology and Environment was formed to demonstrate a strategic shift by recognising the importance of sustainable development. Additionally, several finance industry regulators and commissions were merged, centralising oversight to promote stability and reduce redundancy. Overall, these reforms emphasised efficiency, strengthened party authority, and prioritised key developmental areas.

In this major reshuffling, the NDRC, as the government's primary economic planning body, saw its influence diminish. Meanwhile, the role of leadership small groups (LSGs) was elevated, effectively acting as a shadow State Council under the direct control of the most influential CCP's Politburo Standing Committee (Kroeber, 2020: 44). The strategic shift became even more evident when the two top economic groups within the LSGs—the Central Economic and Finance Affairs Commission and the Comprehensive Reform Commission—were chaired by the General Secretary himself, as opposed to the Premier, which had been the norm in the past.

Furthermore, in 2023 the National People's Congress (NPC) decided to establish a Central Financial Commission and a Central Commission for Science and

Technology under the direct oversight of the Central Committee of the CCP. These bodies are tasked with guiding and supervising the respective government entities responsible for finance and technology. As a countermove, the Financial Stability and Development Committee, established under the State Council in 2017, was disbanded.

The move signified the party's reassertion of its dominance in economic matters and hence abolished another key element of Deng's *Reform and Opening Up* policy: the distinctive roles for the party overseeing politics and the government being responsible for the economy. As a last show of this dominance, the NPC passed the 'Organic Law of the State Council' in its 2024 session, which obligates the State Council, as the highest authority of the government, to fully accept the leadership of the General Secretary and the party. The law also requires the State Council to implement the Central Committee's decisions promptly and without modification (Leahy & White, 2024). Previously, the government still had authority to make its own decisions, despite a one-party system, this autonomy has largely vanished under Xi. China's economic trajectory appears to have evolved into a new version of state capitalism, perhaps best called 'party-state capitalism' (Pearson et al., 2021), where the party assumes an absolute role in economic governance (Blanchette, 2021).

While Xi initially endorsed the *Sixty Decisions Manifesto* from the Third Session of the 18th Central Committee of the CCP in 2013, which declared that markets should play a decisive role in the economy, this directive has largely remained rhetoric as already mentioned (USC, 2013). In practice, many of the reforms outlined in this policy have not been realised, highlighting a divergence between proclaimed intentions and actual economic actions (Rosen, 2021). Instead, the regulatory control over the private economy has increasingly tightened to curb what was termed by China's Central Economic Work Conference in December 2020 as a 'disorderly expansion of capital' (Shen, 2022: 121).

The most high-profile illustration of this regulatory shift was seen in the tech industry shortly after. The abrupt cancellation of the former Ant Financials' IPO in 2020, a financial affiliate of Alibaba, was a significant turning point. Many believe that the regulatory response precipitated when Jack Ma, the founder and CEO of Alibaba, had openly criticised China's financial regulatory landscape, during a speech at the Bund Finance Summit in Shanghai, in 2020 (Leahy et al., 2023). This regulatory move set the tone for 2021, when a slew of new data security and antitrust regulations were introduced, resulting in severe financial penalties and business operation restrictions for major private enterprises, including Alibaba, Didi, Meituan, and Tencent (Huang, 2022).

In this context, the reinvigoration of the *Common Prosperity* doctrine under Xi's leadership is another notable shift in economic policy.[2] In practice, the concept obligates companies to design their businesses in line with greater social responsibility.As an example, food delivery platforms were urged by regulatory bodies to

[2] The concept of *Common Prosperity* was first introduced by Mao in 1953 and was picked up upon by Deng in 1979 in his saying: to 'get rich first is a practical policy to achieve common prosperity'; Zhang (2021).

reconsider their pricing structures, reduce fees for vendors, and safeguard the rights of their delivery personnel, which often found little recognition in the light of fierce intercompany competition.

An even more direct intervention and control of private companies is the increasing presence of party cells in businesses, a trend that has emerged as a major priority for the party under President Xi. As of 2020, over 70% of all non-state enterprises, including foreign companies, have established party cells, and the trend is on an upward trajectory (Shirk, 2023: 261).

Finally, against the background of rising geopolitical tensions, the concept of economic security became much more important than in the past, as it is the case for Western economies as well (EUCCC, 2024). A clear indicator of this is the heightened emphasis on various forms of security considerations like national, military, data, energy, or food security. For instance, during his opening speech at the 2022 party congress, Xi Jinping underscored 'national security' as the foundational pillar of China's intended 'rejuvenation' (Ang, 2022). The recently introduced 'Data Security and Information Protection Laws' mandating the safeguarding of nearly all types of data. More critically, they dictate that any data exiting China must undergo a licencing procedure overseen by the Cyberspace Administration of China, a key governmental agency under direct control of the party (Kynge & Yu, 2021).

However, it would be premature to assume that the rise of party-state capitalism in China would inevitably lead to a significant decline in economic performance. For example, from 2013 to 2022, the GDP per capita still surged by 87% when measured in RMB according to the official data of the National Bureau of Statistics as already mentioned in the preface. Additionally, the private sector continues to expand, particularly among major Chinese companies. From 2010 to 2020, the proportion of Chinese private firms, relative to SOEs listed in the Fortune Global 500 ranking, expanded in terms of market value, growing from 8% to over 50%. However, this figure decreased to 43% in 2021 and 2022, primarily due to the aforementioned regulatory crackdowns and the stringent Covid-19 policy (Huang & Véron, 2022, 2023). Furthermore, there have been modest improvements in market competition and the financial system. Such progress is likely attributable to incremental reforms. Noteworthy is the comprehensive liberalisation of deposit and lending rates for banks, which is liberalised since 2015. Finally, the increasing influence of the party in domestic science has not prevented Chinese universities to rise to the top of the global development especially in the field of natural sciences (Economist 2024, Ahlers 2024).

Yet, most important was the shift of industrial policy towards innovation-driven growth under Xi's leadership. The related concept of the *new productive forces* intends to upgrade China's economy to a global leader in the development of advanced technologies. It aims to build up a comprehensive, nationwide innovation ecosystem that comprises the government, companies, and universities steered by the party-state. This includes the direction of resources into strategic industries as well as investments into preferred companies by public venture capital funds. Overall, the new approach can be interpretated as a concerted action that intends to upgrade China's economy to the level playing field of advanced economies.

3.8 China's Economic Reform Trajectory: History Matters

China's economic reform path over the past 45 years ranks among the most successful in economic history. How has such an achievement been possible in a country where an authoritarian one-party-state with communist roots has steered both the nation and its economy?

The case of China even prompted the idea of the emergency of a new economic system—the so-called 'China model'. Depending on the scholar, this system may be viewed as either superior to the Western model, as suggested by Bell (2015), or simply as a different economic governance system rooted in historical path dependency, as emphasised more recently by Li (2024). Indeed, China's political economy not only diverges significantly from conventional textbook economics but also from Western perspectives on the determinants of successful economic development.

According to the vast literature on this topic, it seems that three features were crucial for the success:the role of an interventionist state, the decentralised economic system, and the features of a performance society.[3] What these features have in common is that all of them are deeply rooted in China's imperial past (Brandt & Rawski, 2022; Brandt et al., 2014; Mühlhahn, 2019).

Ever since China was first unified as an empire by the Qin dynasty in 221 BC, a paternalistic and interventionist state has been a common feature of China's history, supported by the doctrines of China's most famous philosopher, Confucius. The idea describes an 'all responsible government' that has the responsibility to take care of the wellbeing of its citizens (Li, 2024: 207). In a modern setting, this means that guiding and steering the economy through the party-state is not an exception stemming from communist ideology but rather the traditional rule, expected and accepted by all stakeholders. In such an environment, private activities are not independent but always involve interactions with the state; a feature that is also strongly reflected in the Chinese history of economic thoughts (Amelung & Schefold, 2022).

Furthermore, the power of the government and the party-state is not unbounded, although not accountable to the people. It is rather restricted by performance legitimacy: if the ruler does not provide stability and prosperity, it loses the support of the public (Yao, 2018; Yao & Zhao, 2015); a concept that is well entrenched in ancient times. Chinese emperors used to be legitimated as the *Son of Heaven*, a title that came with great responsibility. If an emperor however failed to fulfil his duties, he quickly lost the *Mandate of Heaven* (Zhao, 2009).

In modern China, the performance legitimacy of the party-state emerged through Deng's *Reform and Opening Up*, which liberalised the economy through markets and private entrepreneurship but simultaneously repressed demands for a democratic political system. Since the Tiananmen crackdown in 1989 and Deng's consecutive *Southern Tour*, which strongly revived the economic reform policy, China's social contract is based on the mutual understanding that the ruling party provides economic welfare and social stability for the society in return for political power. Whether this

[3] See, for instance, Herrmann-Pillath (2017), Heilmann (2018: 17–43), Huang (2023), Jin (2023), Li (2024), Yao (2018), and Zweig (2018).

arrangement is still valid today and to which degree is an ongoing debate (Tsang & Cheung, 2024: 95–101; Yu & Leahy, 2023).

The second element that constitutes China's contemporary political economy is economic governance. While political power is highly centralised by the party, the economy is predominantly decentralised at the local level. Jin (2023: 115) labelled the Chinese economy as a 'major economy', which again goes back to imperial times and sets China apart from most other authoritarian regimes in which centralisation plays a much stronger role. Decentralisation allows provinces, autonomous regions, and municipalities to operate with substantial autonomy and hence to apply what Friedrich August von Hayek (1945) called a long time ago the 'primacy of local knowledge'.

The economy's local-centric nature spurs intense competition among provinces for resources and economic success. However, on the flip side stands regional protectionism with respective negative consequences for the economy (Tombe & Zhu, 2019). It is therefore not a surprise that the Third plenum in July 2024, as the most important meeting of the party for economic affairs, demands once again the 'building of a unified national market' (State Council, 2024: 7). Moreover, the system of unchecked state officials promotes a patronage system, reminiscent of imperial times again, with entrenched alliance between local officials and business elites including widespread corruption (Ang, 2020).

One catalyst behind the competitive spirit between provinces is the intrinsic incentive system for local officials. Their political advancement is tied to economic achievements, measured against benchmarks such as economic growth, tax revenue, social stability, and environmental conservation, among others. This is further accentuated by a continuous rotation system of functional and regional roles. While patronage and personal networks undoubtedly play a role in promotions, especially for top-tier party positions, the importance of economic performance for career advancement cannot be overstated (Liu, 2022). For instance, starting with Deng, all three CCP top leaders—Jiang, Hu, and Xi—had demonstrated both economic and political successes during their extended tenures as provincial heads. This pattern holds true for other high-ranking politicians as well. However, the extent to which the merit-based selection process has been replaced by party loyalty and personal relationships in recent years remains a topic of debate (Shih, 2023: 191–200; Shirk, 2023: 65–67; Zhao et al., 2023).

The last important element of the political economy of China is the merit-based, performance-oriented economy and society ingrained in China's history. A good example is *Keju*, the imperial, merit-based civil-service examination. The exam is still institutionalised today as a highly competitive screening device to supply the state with bureaucrats from a pool of successful candidates. As pointed out by Huang (2023: 29–53), *Keju* is homogenising the administrative staff of China's vast party-state all over the country on an advanced level as it was the case in empirical times as well.

Similarly, China's education system emphasises elite selection and is much more performance-driven than that of many Western counterparts (Li, 2024: 140–151). For instance, to enter high school after nine years of mandatory education, pupils

must pass an entrance exam called *Zhong Kao*. On average, only around half of the candidates make it, while the others must continue their education in vocational training schools. Furthermore, to study at university, one must pass a central entry exam called *Gao Kao* that takes place in a single week in summer each year across China. Only the students with the highest individual performance in the test can enter the top-ranked universities of the country; the others are allocated by the respective authorities to 'normal' universities independent from their hometowns.

It says a lot for the features of China's modern times, that immediately after Mao's death, the exam, which was skipped during the *Cultural Revolution*, was reintroduced together with Confucian philosophy, which supports individual features such as hard work, eagerness to learn, frugality, and respect.The renaissance of Confucianism in China, most visible by the spectacular installation of a Confucius statue at Tiananmen Square in Beijing in 2011, vis-à-vis the mausoleum of Mao, is no coincidence but rather a sign of the party-state's ties to the institutions and settings of ancient China.

In summary, it can be concluded that post-Maoist China has reconnected with its historical roots, reverting to competitive behaviour and elite-driven meritocracy overseen by a unitary party-state but embedded in a decentralised economic structure—a paradigm that has sculpted China's history and economy for more than two millennia. The connection between the past and the present is therefore crucial to understanding the unique governance system of China's economy as well as its success and challenges.

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Part II
The Big Picture of China's Economy Today

Chapter 4
Features of the Economy and Economic Policy

Part II of the book provides, divided in three chapters, a comprehensive overview about China's economy of today. It starts with a data-based description of the strength and weaknesses of China's economic development and structure over time and includes a discussion of the main features of economic policy making in China as well. Some of the key insides are the following:

- China's economic success is unrivalled in terms of growth, living standards, and structural change although the growth rate has declined over the last decade. Issues such as high inequality in combination with a huge urban–rural gap and a weak social security system, however, still prevail.
- The country's past and current growth model is heavily based on the supply side of the economy, with fixed investments continuously increasing the capital stock funded by high domestic savings at the expensive of household consumption.
- China has high economic heterogeneity across the provinces in terms of structure, growth, and living standards. This requires different policymaking for different regions.
- Despite being a centralised party-state the degree of decentralisation of the economy and economic policy is surprisingly high. Local governments are the key driver of economic policy implementation; however, they remain heavily underfunded. Generally, economic policy-making in China is the result of a twofold coordination process between the party and the state, as well as between the central and local levels.
- Finally, the recent economic situation after Covid-19 and the ongoing real estate crisis have put a heavy drag on the economy, and it will be difficult to escape without structural reform.

H. Löchel and T. Jablonski, *The Rise of China's Economy*, Contributions to Economics,
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4.1 The Development of China's Economy: Mostly a Great Success Story

Size does matter. The People's Republic of China (PRC) ranks as the third largest country in the world in terms of land area, following Russia and Canada. Home to approximately 1.4 billion people, China is the world's second most populous country, having only recently been surpassed by India in 2023.

To contextualise these figures, China and India each have nearly twice the population of Europe and more than four times that of the US. Both densely populated nations each comprise of approximately 18% of the global population. In contrast, the EU and the US combined make up only 10% of the global population.

From an economic point of view, a huge population translates into a large labour force, typically defined as all citizens aged 16 to 64. In China's case, over 55% of its population—nearly 800 million people—constitute the labour force.[1] Impressively, China's sheer workforce doubles the entire population of the US. Although this proportion of employable individuals has decreased in recent years, it remains a significant figure.

Additionally, China boasts a comparatively high labour participation rate, which measures the percentage of the labour force actively engaged in the labour market. Even though the number stood at almost 79% in 1990, it currently still sits at 66% and is therefore unmatched in international comparison for its peer group. One reason for such a high rate is the comparatively high share of women in the workforce, compared to other emerging economies where female labour participation is much lower (Zhang & Huang, 2020). China has a female labour participation rate of 61%, compared to the world average of 49%. In the USA, it stands at 57%, and in India, it stands at 33%.

Given these numbers, it is not surprising that China's gross domestic product (GDP) ranks as either the largest or second largest of the world, depending on the metric. Figure 4.1 compares the GDP developments of China, the EU, and the US since 1978 in US dollars (USD). It includes both nominal GDP and GDP measured in purchasing power parity (PPP).[2] PPP adjusts for price-level differences across countries, revealing that China has the largest GDP based on PPP and the second largest in nominal terms. The reason for the difference between the two measures is that the overall price level in China is still lower than that of the US and EU, i.e. the same amount of money could buy more goods and services in China than it could in the other regions.

China's economic growth is expected to continue, so that it is projected to surpass the US as the world's largest economy in nominal terms at around the mid of this century. Today, China's economy is calculated to be approximately 65% of the size of the US economy. However, China's recent decline in its GDP growth rate has

[1] All following data, if not mentioned otherwise, are from the World Development Indicators database of the World Bank.

[2] The GDP values at nominal and PPP are the same for the USA because the country is used as numeraire for all other countries.

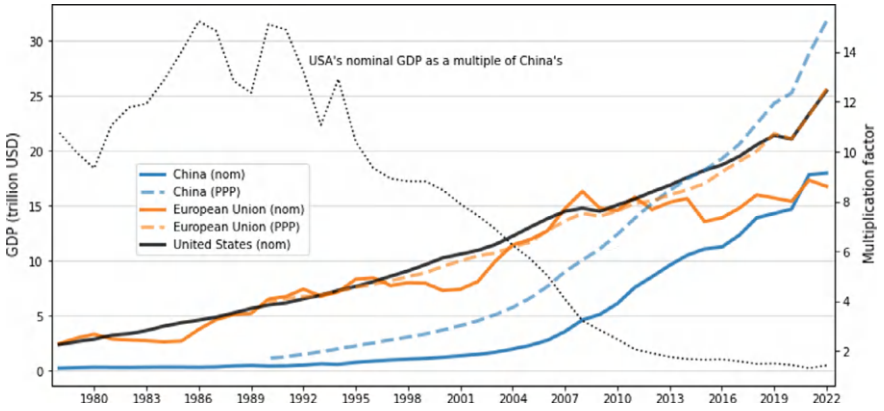

Fig. 4.1 China, the EU, and the USA: GDP 1978–2022. *Source* CEIC, World Bank, own calculation

led to a proportional decrease in its share of the global economy, dropping from an all-time high of 18.4% in 2021 to 17% in 2023.

Nevertheless, the overall picture is clear: Regardless of the measurement approach, the gap between China's GDP and that of more developed countries has significantly narrowed in the past forty-five years. This change is represented by the dotted line in Fig. 4.1, measured at the right-hand scale. In 1978, the US economy's nominal GDP was nearly eleven times higher than China's. Today, the US economy only has a multiplication factor of 1.4.

Although average real growth rate between 1978 and 2023 stood at an impressive 9%, it has to be noted that China's golden age of economic expansion, marked by consistently high double-digit growth rates, has long passed. This period began in the early 1980s, extended into the 2000s following China's entry into the WTO, and lasted until the global financial crisis in 2008. Since then, the growth rate has experienced a long-term decline despite some volatility during and after the Covid-19 pandemic as shown in Fig. 4.2. The chart calculates also the growth rate for the five-year moving average. It fluctuated between 8 and 12% until 2008, after which it appears to have lost its volatility but continues to decline. The situation is even worse for the nominal growth rate, which is calculated without price adjustment, i.e. is not inflation adjusted like the growth rate in the chart. The nominal growth rate was almost 20% in the 2000s and has declined to approximately 4% today. This is of special importance for companies, which rely on nominal growth to calculate their revenues and profits.

The absolute size of GDP and its growth rate represents just one facet of the economic performance of a country. At least equally important is the development of the average living standards, typically measured by GDP per capita. Figure 4.3 shows that both the US and the EU maintain significantly higher average living standards compared to China. For instance, in 2022, the nominal GDP per capita in the US was over 76,400 USD, whereas in China, that number was only 12,720 USD—less than 17% of the US figure and approximately one-third of the EU level.

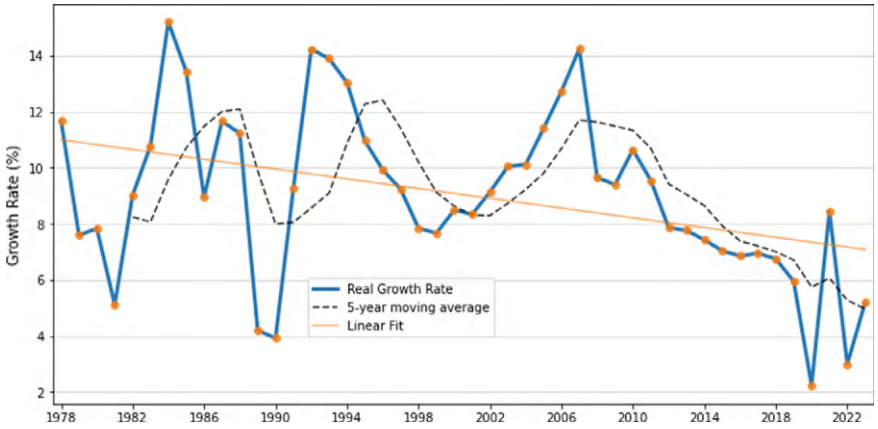

Fig. 4.2 GDP growth rate: 1978–2023. *Source* CEIC, National Bureau of Statistics, own calculation

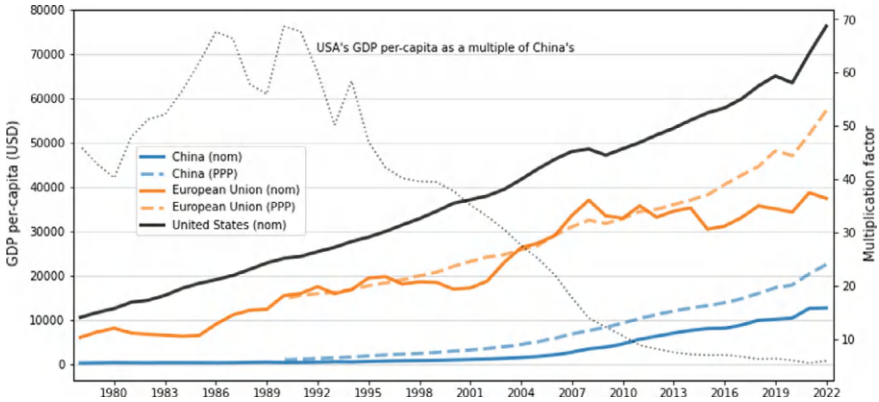

Fig. 4.3 China, the EU, and the USA: GDP per capita 1978–2022. *Source* CEIC, World Bank, own calculation

Even when measured in PPP, China's GDP per capita in 2022 was only approximately 28% of that in the US and roughly half the level of Poland. Globally, China ranks 76th in this regard, positioned below Belarus and above Thailand. For a better grasp of the figures, if we suppose that China's GDP per capita was one day to reach the level of Poland's, then China's absolute GDP would be more than double that of the US's GDP, easily surpassing the combined GDPs of the US and the EU (Wolf, 2023). This is due, of course, to China's immense population, which is a blessing for its absolute GDP but a burden for increasing its GDP per capita.

Nevertheless, China's GDP per capita growth over the last 45 years has been historically unique and has led to far-reaching lifestyle changes for the Chinese people. Measured in RMB, GDP per capita has surged more than 210-fold since 1978, and even when measured in USD, the increase is an impressive 55-fold. The

dotted line vividly illustrates just how much of a success the Chinese reforms were. The line—measured on the right scale—shows the GDP per capita of the US as a multiple of China's respective value. In 1978, the USA had a nominal GDP per capita 68 times higher than that of China's. By 2009, after the global financial crisis, the US still led with a factor of 12. Since then, however, China's GDP per capita has more than doubled once again, and today, the USA's GDP per capita is only 6 times that of China. Despite this rapid growth, projections suggest that even by 2040, China's GDP per capita will only reach approximately one-third of the USA's value in nominal terms and half when measured in PPP (Wolf, 2018).

The distribution of income among citizens is also important for assessing the living standard of a nation. Income inequality is commonly evaluated using the so-called Gini coefficient. In its simplest form, this coefficient ranges from 0 to 1, where 0 represents total equality, with all individuals having the same income, and 1 denotes total inequality, with one person earning all income, while others earn nothing. Consequently, a higher Gini coefficient indicates greater inequality within a country, and vice versa. A Gini coefficient of 0.4 is generally considered as the threshold for becoming a challenge to social stability.

In China, at the start of the economic reforms in 1978, the Gini coefficient was approximately 0.32. It then rose sharply, reaching a peak of nearly 0.44 in 2010, before it started to decline to approximately 0.37 in 2020 according to the Inequality Database of the World Bank. This is lower than that of the US, where the coefficient is above 0.4, but significantly higher than the value for the EU, which stands at approximately 0.3.

However, these figures are to be considered with caution, as China's official data for the Gini coefficient are calculated to be much higher, at 0.47%, which is in line with a number of other sources.[3] This disparity between rich and poor is even more pronounced in wealth distribution. Nearly 70% of China's national wealth is owned by just 10% of its population. The figure is comparable to that of the US, but on average 10% points higher than in EU countries (JP Morgan, 2023: 12).

The unequal income distribution results in a huge number of low-income households (Huld & Interesse, 2023; Tsang & Cheung, 2024: 136). According to official figures, in 2022, approximately 80% of China's population had a monthly disposable income of no more than 2,550 RMB—about 360 USD—and 40% earned no more than 1,600 RMB or 225 USD. The rural–urban gap is enormous: whereas in cities, the monthly median disposable income per capita reached approximately 3,750 RMB, roughly 525 USD, the corresponding value is only 1,500 RMB, approximately 210 USD, in the countryside, including rural migration workers.

Related to income inequality is China's still weak social security system. The system relies in principle on companies contributing to state-backed funds within their registered provinces' local security systems (China Labour Bulletin, 2021;

[3] It should be noted that the official data of China's National Bureau of Statistics shows a rather stable value without much variance since 2003. However, the current value is confirmed by independent analyses that show more changes year-over-year; see, for instance, IMF (2023: 67), Mazzocco (2022), Mazzocco and Kennedy (2024), and Piketty et al. (2019).

Zhou et al., 2024). Consequently, this leads to significant regional disparities, with wealthier provinces on the east coast offering better services, while employees and farmers from poorer areas in the West of the country face inadequate pensions. Moreover, despite mandatory participation in the social security system for employers, the system does not encompass the entire population. For example, approximately 25% of the population remains uncovered by pension funds and the medical insurance system, while the coverage of unemployment insurance stands at only 50%. The main reason is that around 200 million of Chinese are working in less formal employment environments with no signed labour contracts, making it difficult to access social benefits (Wang et al., 2024).

Most critical within the social security systems is the state pension system. China has a rather low retirement age of 60 for men, 55 for white-collar women, 50 for blue-collar women, and its population has a steeply increasing life expectancy. Given the demographic development of a shrinking population, the Standing Committee of the National People's Congress (National People's Congress (NPC) just recently decided to gradually extend the retirement age for men to 63 and for women to 58 and 55 respectively. However, despite a near 70% increase since 2014, the pensions remain remarkably low. In 2021, for instance, the average monthly social pension was 3577 RMB, approximately 500 USD. The situation is even more severe for those not covered by the state pension system. This includes many farmers and self-employed individuals who must contribute for at least fifteen years to qualify for a pension of less than 200 RMB.

Regardless, China has also made substantial progress in combating poverty since the beginning of the reform era. Since 1978, approximately 800 million Chinese have escaped from extreme poverty, which is defined as people living on a budget of no more than 1.9 US dollars per day. This contribution alone accounts for more than 70% of the global poverty reduction in the last 45 years.

Even under a broader definition of poverty—a living budget of no more than 5.5 USD per day—only 3.4% of China's population is considered poor today, another vast improvement when compared to the 65% in this category in 1990. The 5.5 US dollar threshold is used by the World Bank to define poverty in upper-middle countries such as China, which have an average GDP per capita of approximately 12,500 USD per year. However, China's government itself uses a different domestic poverty threshold of 2.30 USD per day. This explains why China announced the complete elimination of poverty in 2020, despite differing from recommendations of the World Bank. Nonetheless, this discrepancy does not diminish China's remarkable achievements in poverty alleviation, which are unprecedented in both historical and international contexts.

Social progress was also strong in other areas. For instance, life expectancy in China has risen to almost 79 in 2023, now equalling that of the USA, although it remains slightly below the EU level. This roughly represents a 20% increase since 1980 and an even more substantial 40% increase since 1960. This improvement correlates with a marked decrease in the infant mortality rate. In the 1970s, the infant mortality rate in China was four times higher than that of the USA; today, it is only

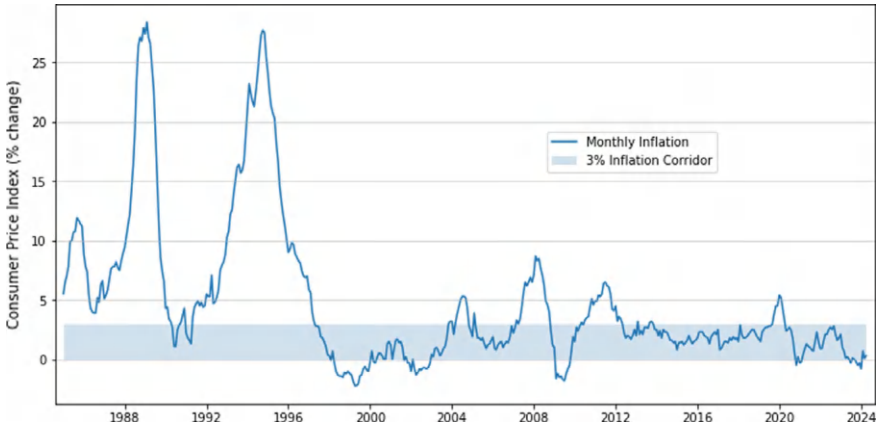

Fig. 4.4 China's inflation rate 1985–2024. *Source* CEIC, National Bureau of Statistics

40 percent higher. However, both countries are outperformed by the EU with the lowest rate of 3.4 deaths per 1000 births in 2023.

Additionally, in terms of economic stability, the country has made good progress in recent decades. A proper example is the control of the inflation rate measured as consumer price index (CPI). Figure 4.4 depicts the development of the monthly inflation rate in China from 1985 to June 2024. The most significant surges in China's inflation occurred between 1988 and 1989 and between 1993 and 1995.

The initial surge in inflation during the late 1980s resulted from a combination of relaxed price controls and an increasing overall demand that outpaced supply. The mid-1990 inflation spike, on the other hand, stemmed from inadequate monetary policy during the economic boom following Deng Xiaoping's Southern Tour in 1992, which revitalised reform policies. Low interest rates in combination with a higher than necessary money supply spurred inflation (Naughton, 2018: 108–111).

It was not until 1995 that China's central bank—the People's Bank of China (PBC)—was officially designated as the sole authority over monetary policy, albeit remaining under the guidance of the State Council. This additional wave of autonomy and responsibility laid a solid foundation for stabilising the inflation rate in the late 1990s through tighter monetary policy. Since then, the PBC has largely succeeded in maintaining an inflation rate of around the self-imposed target of 3%, with the exception of the period after China's WTO entry in 2001. Escalating export demand and the rapid expansion of industrial production capabilities drove up prices until the 2008 global financial crisis that halted this trend and revised it to a short period of deflation, i.e. a falling price level. In 2023, the inflation rate was close to zero and at the beginning of 2024, inflation dropped to minus 0.8%, the most severe deflation since the global financial crisis.

Another key factor in China's economic and social progress over the past forty-five years was the strong trend towards urbanisation. Before 1980, the country was predominantly underdeveloped in infrastructure and rural, with the majority of the

population living and working as farmers in the countryside. At that time, only 17.9% of the population resided in cities. With the onset of reforms, the Chinese government actively promoted urbanisation, either by incentivising farmers to move to new industrial and construction workspaces in cities or alternatively by integrating entire villages as new districts directly into the expanding cityscape, thereby creating plenty of new employment opportunities. Central to this urbanisation policy was the provision of new housing and educational opportunities for workers and their families (Kundu et al., 2020).

Generally, urbanisation supports economic development by facilitating the shift of labour from agriculture to manufacturing, a sector that typically yields greater productivity than farming due to the superior equipment and physical capital at its disposal. By 2011, over half of China's population lived in urban areas, and this figure had risen to around two-third in 2023. However, compared to other upper-middle-income countries, China still lags behind, and the gap is even wider when compared to advanced economies, where more than 80% of the population typically lives in urban areas.

Despite extensive rural-to-urban migration, China still has a substantial rural population of almost half a billion people. While urban centres have undergone significant development, rural areas face markedly different economic conditions. During China's economic surge, job opportunities rose greatly, and were mainly concentrated in urban areas, driven by the booming construction and manufacturing sectors, particularly during the era of double-digit economic growth. This disparity of opportunity has led to large numbers of rural residents migrating temporarily to the cities as migrant workers. Over the last forty-five years, this large pool of an inexpensive and abundant labour force has become one of the cornerstones of China's economic progress and continues to be a key driver of growth.

The almost 300 million migrant workers today still make up 40% of China's overall workforce, and although they work and live in cities, they are frequently excluded from the essential rights granted to urban citizens, particularly regarding social security (Huld, 2023). These workers also often face discrimination regarding housing and settlement, with large regional differences across provinces. This results from China's strict household registration, the so-called *hukou*, that ties social services for citizens to their place of birth independent of the location of their workplace. Moreover, the job prospects and wages for migrant workers are limited due to the generally lower education levels in rural areas, which often do not surpass those of a junior high school degree, i.e. a total of nine years of mandatory schooling. The recent Third plenum of the party in July 2024 at least announced a reform of the *hukou* system that envisages social security services also for migration workers.

The process of urbanisation naturally coincides with structural changes in the sectoral composition of China's economy. Since the beginning of the reform policy, China has transitioned from an agricultural to an industrial economy and, more recently, started the transition towards a service-oriented economy. Figure 4.5 illustrates this transition, showing the development of the primary, secondary, and tertiary sectors as shares of GDP from 1979 to 2022. In this period, the share of agriculture has decreased from approximately 30 to 8%, the industrial share declined from 50

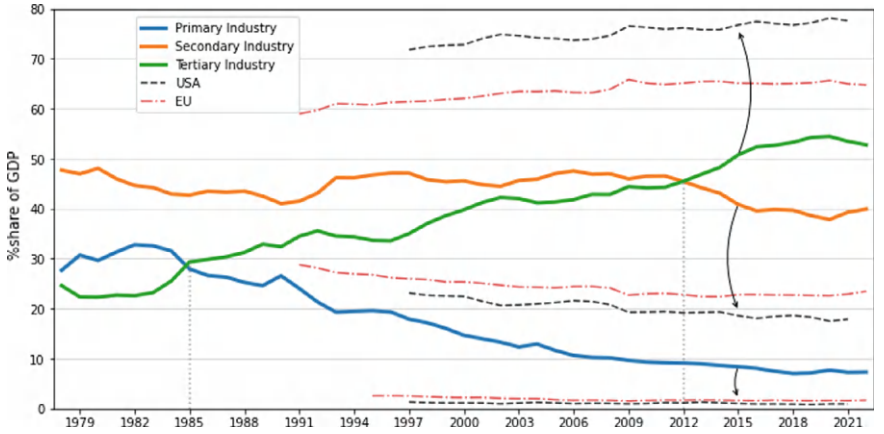

Fig. 4.5 China, the EU, and the USA: structural change 1979–2022. *Source* World Bank, World Development Indicators

to 40%, and the service sector's share more than doubled from approximately 25 to over 50% of GDP. However, as the chart shows as well, compared with those of advanced economies such as the US and EU, the share of the tertiary sector remains rather low and the primary sector's share is still comparatively high.

The structural change is also evident when examining the labour distribution across the sectors over time. In 1979, almost 70% of the entire labour force was employed in agriculture; this proportion has since declined to 24% today. However, the labour share in the agricultural sector remains significantly greater than its contribution to GDP, suggesting a comparatively low productivity of rural labour. In contrast, the industry sector's share of the workforce increased from approximately 18% to approximately 29% today. The most substantial shift occurred in the service sector, which saw its labour force expand from 12.6% in 1979 to 47% in 2022, which is still low compared with the average of 75% typically found in high-income countries.

Overall, it can be stated that China, over the last 45 years, has evolved from a low-income country to a middle-income emerging economy. Despite significant income and wealth inequality, especially due to the urban–rural gap, this transition has significantly improved the living standards and economic opportunities available to all Chinese citizens. Inflation was successfully tamed and controlled at relatively low levels, which enhanced the real effect of rising incomes. A major driving force of economic growth was the shift from agricultural to industrial production, accompanied by strong urbanisation. However, the overall growth rate has declined over time—a process that accelerated in recent years.

4.2 The Growth Model: High Investments and Savings, but Low Consumption

Throughout its development, China has established an unbalanced model of economic growth characterised by high fixed investments funded by high domestic savings (Al-Haschimi & Spital, 2024). Figure 4.6 details the proportions of all demand components—private and public investment, private consumption, government spending, and net exports—within China's GDP from 1978 to 2023. It underscores the significant role that private and public investments play within China's economy. Conversely, the consumption component not only trails in prominence but also exhibits a declining trajectory over time. Even the fact that in recent years the growth rate of private consumption has exceeded GDP growth did not increase the share of consumption on overall GDP much because of its low level (Pettis, 2024).

In numbers: Whereas the share of consumption on China's GDP declined from over 50% in the 1980s to below 40% today, investments increased to a peak of 47% in 2011 and then slightly declined to around 43% in 2023. Moreover, as the chart also reveals, from 2010, approximately 40% of the annual investments were driven by the state, either directly through government infrastructure projects or by the hands of SOEs. The remaining private share of investments is heavily dominated by flows into real estate which comprises approximately one-third of all investments.

Despite investments, exports are also important for the development of China's economy. Between the WTO accession in 2021 and the global financial crisis in 2008, net exports—exports minus imports—counted of almost 10% of China's GDP. Since then, China's trade surplus has diminished to below 2%. Nevertheless, exports alone—without deducting imports—remain significant, comprising of around 20% of the GDP still today. The continuous dependency of China's economy on exports

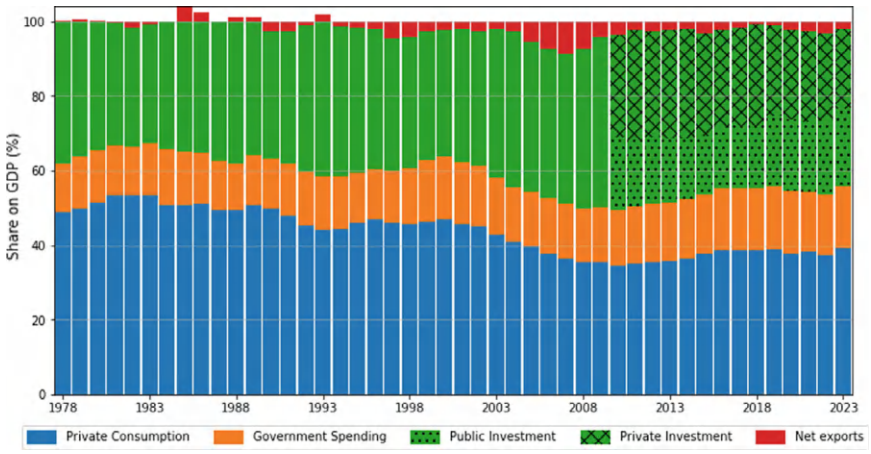

Fig. 4.6 Share of demand components on GDP 1978–2023. *Source* CEIC, National Bureau of Statistics, author's own calculation

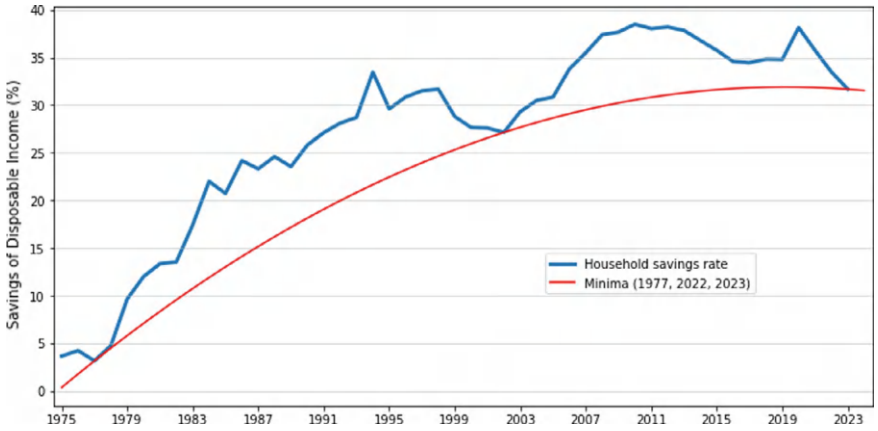

Fig. 4.7 Private household savings as a share of disposable income 1975–2023. *Source* CEIC, National Bureau of Statistics, Modigliani and Cao (2004: 146)

is a direct result of the weak consumption level. High exports compensate the lack of internal demand but simultaneously increase the dependency from the world economy—a situation that intensifies again due to the mediocre economic recovery after the end of the Covid-19 pandemic in 2022.

The low consumption level is the result of high savings, which in turn are a key prerequisite for the substantial investments. Indeed, companies and the government in China find it relatively easy to finance their investments, thanks to the nation's significant domestic savings. The savings rate of private households, measured as a percentage of disposable income—gross income minus taxes—exceeded 35% in 2021 before declining below 32% after Covid-19 in 2023, as illustrated in Fig. 4.7. This is an exceptionally high number in international comparison. For example, in the EU, the average savings rate is approximately 13%, with countries such as Germany having among the highest savings rates of almost 20% (Eurostat, 2023).

The general reason for the high savings rate is China's weak social security system, which requires precautionary savings by private households to get protected against individual risks (Roach, 2024). However, policy changes over time matter as well. Most important was the introduction of the one-child policy (Zhang et al., 2018). Following its introduction, the savings rate climbed from 5 to approximately 20%. This policy's impact on the fertility rate diminished the traditional reliance on children for old-age support in Chinese families, necessitating increased savings for retirement by households. Additionally, having fewer children naturally led to reduced expenditures, which further boosted the savings rates. The 1990s market reforms provided another impetus for rising household savings. Lessened job security due to SOE privatisation, paired with an underdeveloped social security system necessitated further precautionary savings for many households. More recently, the surge in private households' demand for real estate, which began in the early 2000s, is another reason for the high savings rate. Approximately 90% of Chinese households own private homes, and estimates suggest that approximately 70% of private household savings today are in some way linked to real estate investments, for instance, for down payments and mortgages (Pettis, 2022: 5).

Despite savings, the income development of private households matters as well for the low consumption level (Pettis, 2022). According to official figures by the NBS, only 60% of China's national income was allocated to the household sector in the period from 2016 to 2023. This number is extraordinarily low. In the USA and EU, for instance, private households receive over 85 and 73% of total income, respectively. For the average middle-income country, the respective number is approximately 68%. This means that, in China, other sectors of the economy—the government, companies, and banks—must receive a higher share of national income than in other countries, granting them more power over financial resources, whereas households are relatively worse off, which in turn results in comparatively low spending.

Moreover, the household income share has diminished over time, dropping from 66.7% in the period from 1992 to 1999 to the mentioned 60% for the most recent period. To contextualise the significance, if the 1992 distribution would have been maintained until today, then one additional trillion USD would have been allocated to the household sector. This income is now distributed among other sectors, particularly the corporate and government sectors. This shift aligns with the observed decrease in the growth rate of nominal annual household disposable income, which fell from an average of 11%, in the period of 2001 to 2012, to an average of 8.4% in the period of 2013 to 2022 (Liu, 2023: 20). In contrast, the aggregate income share of financial and nonfinancial corporations increased from 20.6 to 22.2% in this period.

A key factor that contributed to the widening income gap, between the corporate and household sectors, over time is the disparity between the growth of labour productivity and wage increases. For an extended period, labour productivity gains outstripped wage growth, which was attributable to surplus labour from rural areas. This scenario resulted in disproportionately high profits for companies and relatively low-income increases for households (Zhang et al., 2018: 9).

Overall, it can be concluded that China's past and current growth is very much investment-driven, whereas consumption due to high precautionary savings and depressed income development for private households, plays an inferior role only. We will see throughout this book that such a growth model—with overinvestment and underconsumption—cannot be sustainable in the long run. Declining returns and rising debt are already observable since a while. A crucial question is therefore how could an alternative growth model for the future of China's economy look like. We will come back to this question in the conclusion of the book.

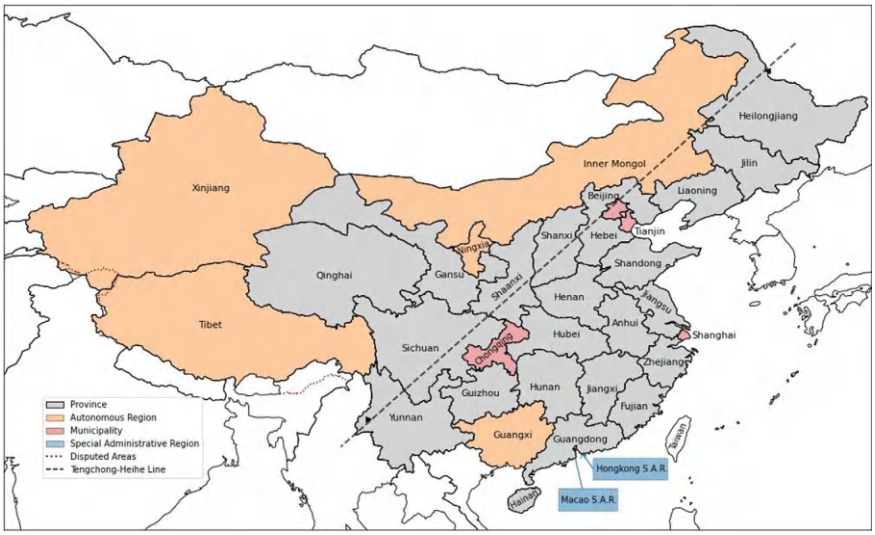

Fig. 4.8 Provinces of the People's Republic of China. *Note* Disputed areas with India are displayed according to the current settlements; territorial claims of the South-China Sea through the nine-dash line are not included. *Source* Author's own graphic using Natural Earth

4.3 Economic Features of China's Provinces: The East–West Gap

The People's Republic of China (PRC) is not only vast but also considerably diverse in terms of culture, ethnic, and the economy. It differs widely from the mostly homogenous Western nation states in Europe. China is better described as a subcontinent and long-standing civilisation, similar to India.

The PRC comprises 22 provinces; five autonomous regions—Inner Mongolia, Tibet, Xinjiang, Ningxia, and Guangxi; four municipalities—Beijing, Tianjin, Shanghai, and Chongqing; and two special administrative regions—Hong Kong and Macau.[4] Figure 4.8 shows the map of the PRC illustrating the administrative regions in different colours.

For a country of China's size, it is hardly surprising, that the economy is equally diverse as its people in different parts of the country. Table 4.1 provides the key economic data for each province as of 2022.

At first glance, it is evident that most provinces have large populations, with some even surpassing large nation states such as Germany, the largest country in the EU. The median population of a Chinese province is approximately 44 million people. In comparison, the median population in the EU is 9 million people, and the median population across states in the US is 4.6 million people. The least populous provinces

[4] Since its foundation in 1949, the PRC counts the island of Taiwan as a province, a status not approved by Taiwan itself.

Table 4.1 Economic features of China's provinces

Province	Population	GDP	GDP per capita	Share on GDP	Primary sector	Secondary sector	Tertiary sector
	Million	USD bn	USD	Percent	USD bn		
Beijing (MU)	21.8	618	28,307	3.46	1.5	92.2	524.5
Shanghai (MU)	24.8	663	26,794	3.71	1.4	161.1	465.2
Jiangsu (PR)	85.2	1826	21,440	10.21	69.7	785.6	871.9
Fujian (PR)	41.9	789	18,842	4.41	43.2	352.5	350.8
Tianjin (MU)	13.6	236	17,781	1.36	3.8	84.5	148.1
Zhejiang (PR)	65.8	1155	17,556	6.46	32.7	466.7	593.0
Guangdong (PR)	126.6	1918	15,157	10.73	75.1	742.8	997.1
Chongqing (MU)	32.1	433	13,470	2.42	28.3	164.4	216.8
Hubei (PR)	58.4	798	13,661	4.47	70.1	298.6	386.7
Inner Mongolia (AR)	24.0	348	14,331	1.92	38.7	165.3	143.9
Shandong (PR)	101.6	1299	12,782	7.27	88.5	492.2	648.3
Shaanxi (PR)	39.6	487	12,308	2.72	36.2	224	200.5
Hunan (PR)	66.0	723	10,950	4.04	64.7	269.6	349.8
Anhui (PR)	61.3	669	10,923	3.74	49.4	261.3	322.5
Liaoning (PR)	42.0	427	10,257	2.41	37.5	165.8	223.5
Sichuan (PR)	83.5	843	10,101	4.72	83.8	297.4	416.5
Jiangxi (PR)	45.3	477	10,525	2.67	34.5	201.8	214.6
Hainan (PR)	10.3	101	9863	0.57	19.9	18.4	57.5
Ningxia (AR)	7.3	75	10,346	0.42	5.7	34.4	31.1
Henan (PR)	98.7	911	9232	5.10	81.8	357.9	422.6
Xinjiang (AR)	25.9	264	10,189	1.47	35.3	102.2	111.9
Tibet (AR)	3.6	32	8706	0.18	2.5	11.3	16.1
Yunnan (PR)	46.9	430	9167	2.41	56.4	147.2	203.4

(continued)

Table 4.1 (continued)

Province	Population	GDP	GDP per capita	Share on GDP	Primary sector	Secondary sector	Tertiary sector
	Million	USD bn	USD	Percent	USD bn		
Shanxi (PR)	34.8	363	10,945	2.13	19.6	188.3	155.1
Jilin (PR)	23.5	191	8270	1.09	23.2	64.8	103.0
Qinghai (PR)	6.0	54	9015	0.30	5.3	22.3	23.1
Hebei (PR)	74.0	621	8484	3.52	63.1	232.2	325.5
Guizhou (PR)	38.9	300	7765	1.68	40.2	100.0	143.2
Guangxi (AR)	50.5	391	7742	2.19	60.0	125.6	184.0
Heilongjiang (PR)	31.0	236	7623	1.32	50.7	65.4	107.4
Gansu (PR)	24.9	166	6679	0.93	21.3	55.5	80.7
				Percentage share of total economy			
Whole country	1410	17,880	12,686	100	7.7	40.1	52.3
USA	334	25,458	76,198	100	1	18.5	80.5
European Union	448	16,641	37,145	100	1.8	25.7	72.4

Note MU = Municipality, AR = Autonomous Region, PR = Province
Source CEIC, National Bureau of Statistics, World Bank, author's own calculation

are Tibet and Qinghai in the far west, while Guangdong in the southeast is the most populous.

This distribution of population along the east–west axis is not coincidental. In 1935, a Chinese geographer named Hu Huanyong broadly sketched a diagonal line across a map of China, as shown in Fig. 4.8, running from Heihe in Heilongjiang to Tengchong in Yunnan, which approximately bisected the country's population based on the density at the time (Zhang, 2017). This so-called Heihe-Tengchong line indicated that 94% of China's population lived in the eastern half, even though this area only comprises 43% of China's total land area. Conversely, the sparser western half, accounting for 57% of the territory, was home to just 6% of the population. Although sketched almost 90 years ago, a similar distribution still prevails today, and China's economic transformation did not significantly alter this fundamental population distribution. Clearly, this long-lasting disparity must largely be due to the more hospitable climate, fertile land, and developed infrastructure in the east, compared to the harsher terrains and less developed regions in the west.

The GDP of each province also reflects the geographic disparity. The bulk of the GDP is generated by provinces along the eastern coastline, while the western provinces tend to be less affluent. In 2022, Jiangsu and Guangdong provinces alone

contributed almost 21% of the total GDP. A similar trend is observed for GDP per capita; the highest incomes are found in Beijing and Shanghai, followed by the coastal provinces of Jiangsu and Fujian, while the western province of Gansu has the lowest GDP per capita. Today, residents of the western provinces earn less than 60% of the income of people living on the east coast of the country.

The central province of Jiangsu has been an economic centre since the Sui (581–618) and Tang dynasties (618–907). Its provincial capital, Nanjing, has even served as China's national capital several times throughout history. Today, Jiangsu remains a vital hub for industries such as electronics, telecommunication, chemicals, machinery, and textiles. Its status as the leading contributor to China's GDP is no surprise, having greatly benefited from foreign direct investment (FDI) inflows since the opening-up era. Its proximity to neighbouring Shanghai on the coast has made Jiangsu an attractive candidate for foreign companies to conduct business, offering easy access to Shanghai's ports while capitalising on lower labour rates of the bordering province, upstream of the Yangtze River.

Further south along the coastline, Guangdong, the second economic powerhouse, shares a similar pattern of development. Its closeness to Hong Kong has spurred investment and transformed the province into a symbol of China's developmental ascent. Shenzhen, a city that was meticulously planned and constructed from the ground up, is now one of most developed and economically significant regions in China. It easily serves as the best example to showcase China's fast-paced development. Today, Shenzhen's GDP surpasses that of neighbouring Guangzhou and Hong Kong, housing the fifth highest number of billionaires globally and has positioned itself as China's innovation hub. Moreover, the central government plans to further develop the city. Ideas include the integration of the Guangdong-Hong Kong Greater Bay Area into a single economic cluster, thereby reflecting the region's continued role as a model of China's success, which was initiated by Deng Xiaoping over two decades ago. Beyond economic motives, this integration can also be interpreted as a step towards greater political alignment of Hong Kong with mainland China (Zhang, 2020).

While municipalities and eastern provinces thrive in the secondary and tertiary sectors, all having relatively high shares of value added, many western and northern provinces still rely heavily on agriculture for local income generation. Heilongjiang is a great example, where the primary sector still contributes 25.3% to the local value added. Despite its harsh winters, the province boasts China's largest plantations of rice, corn, and soybeans, thanks to an abundance of fertile 'black' soil. As a consequence of being an agricultural hub, local incomes are relatively low. The opposite, however, holds for Fujian and Jiangsu provinces, two provinces that each hold a strategic advantage and therefore have the largest share of industrial output. This contrast highlights the diverse economic landscape within China, where regional advantages dictate the varying degrees of development and specialisation across the country.

4.4 Fiscal Governance: Central-Local Mismatch

China is not only diverse, but its economy and economic policy are also heavily decentralised, contrary to the common perception of a highly centralised country (Kroeber, 2020: 142–161). This decentralisation largely derives from the fact that the central government's main responsibility is to set a general policy direction for the whole country, while the implementation of these policies depends on local conditions, therefore giving significant responsibility to local authorities. The distribution of fiscal revenues and spendings between the central and local governments exemplifies this unique structure, which in the literature is known as 'quasi-federalism' (Shirk, 2023: 74).

Local autonomy was even greater before 1994, when a central tax reform overhauled the old system and gave some relative strength to the central government as already mentioned above. The necessity for reform arose as China's tax system was deeply entrenched in the era of the planned economy. In that system, most of the local revenue was generated from SOE revenue, while households and private companies did not have to contribute much. Additionally, local governments were allowed to retain profits from SOEs above a certain annual quota as an incentive to boost SOE profitability, which further diminished central government revenues as the owner of the SOEs. As China's economy began to shift away from being SOE centric towards becoming increasingly privatised, it became obvious that such a tax system would eventually fail as China progressed through its transition towards a market economy.

The cornerstone of the 1994 reform was the implementation of a uniform value-added tax (VAT) and a consistent income tax for companies, regardless of ownership type (Lv & Zhang, 2022). Initially, some privileges were granted to SOEs and foreign-invested companies, which were later phased out in the late 2000s. The tax reform also standardised the personal income tax and introduced a luxury tax on items such as cigarettes, alcohol, and a number of other luxury goods. Furthermore, all taxes were classified into central, local, and shared taxes.

For instance, VAT, which constitutes almost 40% of public tax revenue, is split equally between the central and local governments, whereas the corporate income tax, which contributes nearly a quarter of the tax income, is distributed in a two-thirds to one-third ratio in favour of the central government. In contrast, individual income tax comprises only 7.5% of total revenue and is shared between the central and local governments in a 60:40 ratio. Special local taxes on consumption goods, like tobacco, urban land use, central import taxes and tariffs, and stamp duty account for the last approximately 28% of revenues.

The impact of the tax reform on the distribution of revenues between central and local authorities can be seen in Fig. 4.9. First, as the left axis shows, national budgetary revenue rose from a low of 10% of GDP in 1994 to a peak of 22% in 2015 and thus improved the overall fiscal situation of the Chinese government. Second, on the right axis, central government's share of total revenue experienced a decline from the mid-1980s, reaching a low of just over 20%.

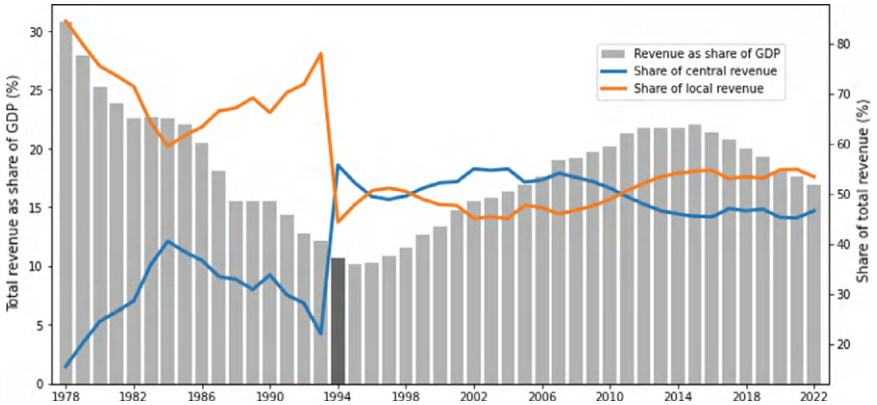

Fig. 4.9 Public revenues 1978–2022. *Source* CEIC, Ministry of Finance, National Bureau of Statistics, author's own calculation

The 1994 fiscal reform reversed this trend, enabling the central government to command approximately 55% of the national budget, thereby bolstering its capacity to execute fiscal and other policies. Since then, however, the balance of revenue claims has once again shifted in favour of local governments, which once again get access to approximately 55% of total revenues. It is of interest to note that this proportion is rather high when compared internationally. For context, the corresponding figure for local authorities is approximately 20% of GDP for the average OECD country and only approximately 10% in most developing countries. This means that China's provinces control much more public funds than most provinces in other countries around the world.

Moreover, China does not have a strict vertical administrative structure. This means that provincial governments are not directly subordinate to the ministries of the central government, which grants them significant bargaining power in economic matters (Heilmann, 2017: 83–93). An illustrative example is the long-intended introduction of a property tax by the Ministry of Finance to stabilise the financial situation of the provinces. For over a decade, the proposal has not made it onto the agenda of the NPC due to resistance from local governments, who fear the negative impact of such a tax on housing demand and prices, which would in turn challenge their revenue from land sales (Li, 2024: 60–61). Instead, it has been implemented only as a pilot project in places such as Shanghai and Chongqing, but has never been enacted as a national law.

Also, the execution of local economic policy is highly decentralised. This can be seen on four administrative levels: the provincial, prefecture, county, and township levels. Each level possesses varying degrees of decision-making authority. Figure 4.10 shows that China's local governments handled more than 85% of the overall state expenditures in 2022. Education is by far the largest expenditure, averaging 16% of local budgets, followed by social security and employment which account for 15% of spending. Expenditures on public goods, services, security,

health, and transportation infrastructure also receive significant attention. For interest payments, the expenditures of central and local governments are almost equal. It is only in military spending that the central government dominates.

To finance these substantial expenditures, local governments can obviously not only rely on tax income. To counterbalance the mismatch between revenues and expenditures, the central government introduced a mechanism in which it collects and then redistributes most of the national tax revenue to the local level. Additionally, local authorities generate revenues from land sales to property developers, which accounted for roughly one-third of the budget before the outbreak of the real estate crisis in 2021. Since then, the downturn in land sales has increased the financial support from the central government. In 2023, central transfers constituted approximately 36% of local budgets, while revenue from land concessions sales declined to less than 25% (Cheng et al., 2024).

The background of the land management system by local governments is the property rights of land: while farmers benefited from the proceeds of agricultural production, they lacked the rights to buy or sell land, as it remained under governmental ownership. To sell the land, local governments must first officially 'nationalise' it and provide expropriated farmers with compensation (Xu, 2011: 1132–1133). However, this compensation is not based on the land's market value but rather on the value of its crop yield. Consequently, local governments oftentimes realise substantial windfall profits from these transactions, which makes them to a strong supporter of urbanisation. Moreover, local governments often sidestepped the quota system and nationalised more arable land that can be sold for industrial or real estate purposes from the farmers, much to their grief.

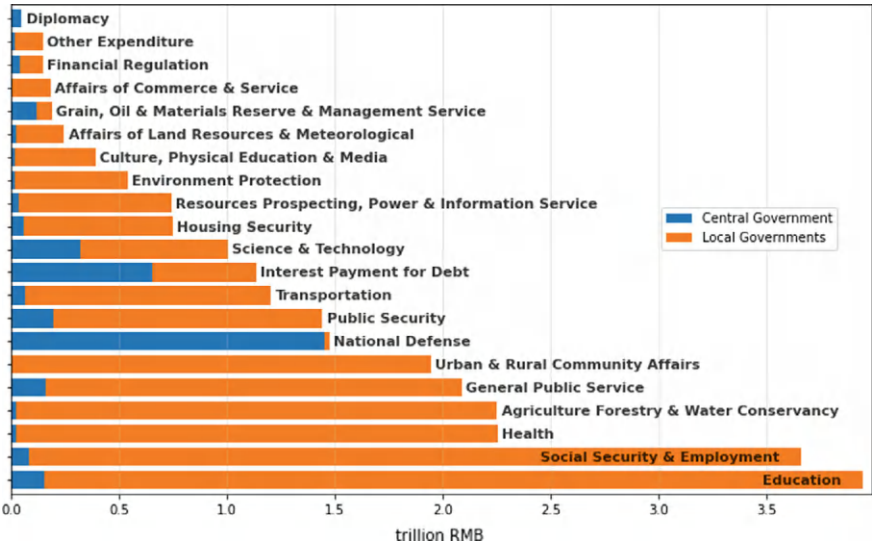

Fig. 4.10 Public expenditures 2022. *Source* CEIC, Ministry of Finance

The remaining deficit of the local budget has to be financed by debt. In principle, local governments in China have three options to finance their debt: bank loans, bonds, or through Local Government Financial Vehicles (LGFV). The latter are basically government-affiliated financial institutions, which can finance investments with corporate debt on behalf of the government. This debt, therefore, does not appear in the books of local government but is only counted off-balance sheet because LGFV are separate legal entities (Bao et al., 2024). LGFV investments played a particular role in China's economy following the 2008 stimulus package, but central agencies have now realised that they may pose a real financial risk as off-balance sheet debt exacerbated.

Therefore, in local governments were permitted in 2014 to officially issue their own bonds, while prior, local government debt was exclusively funded by bank loans and LGFVs. Despite these new developments, LGFVs continue their operation until today and some governments have already nearly defaulted on their LGFV debt, which prompted pilot programmes triggered by the central government for debt reduction, loan restructuring, and increased supervision and reform across the provinces. Furthermore, in spring 2021 the State Council sent a strong signal to local governments that they may no longer bail out so-called 'hybrid' LGFVs, funding vehicles with mixed ownership. The announcement stayed in place, even if this would lead to systemic risks for state-owned banks, who are the ones that originally issued the debt (Lee, 2023).

On the local government bond market, there exist two kinds of bonds: general bonds and special-purpose bonds. While the prior are essentially designed to cover most general expenses of the government, special-purpose bonds can only be issued when designated with a specific purpose such as large-scale investment projects, environmental programmes, or projects in line with the overall development agenda. Even though they are less flexible in their usage than general government bonds, they are quicker in their approval which is decided ad-hoc by the Standing Committee of the NPC, which meets approximately every two months. Therefore, special-purpose bonds are not part of the original budget and may be issued to counter any unexpected shock in contrast to the amount of general bonds that are decided by the National People's Congress during their annual meeting. In this meeting, the central government proposes the fiscal deficit for both the central and the local level of the current year and allows the issuance of general government bonds through a quota system for each province. The volume of special-purpose bonds increases significantly in the last years and overshoots that of general bonds.

With an overall debt of 100 trillion RMB, or 76 of GDP at the end of 2023, including off-balance sheet debt by LGFV, local government debt is one of the most pressing long-term challenges for China's economy (State Council, 2024), which we will see in more detail in Chapter 7.

4.5 Economic Policy-Making in China: The Party and the State

Economic policymaking in China requires a highly complex dual coordination process: horizontal coordination between the party and the state and vertical coordination between the central and local authorities. Given the competition and rivalry between the countless involved institutions and individuals, economic policymaking in China resembles 'fragmented authoritarianism' rather than a strict top-down process, as highlighted by Tan (2021: 29).

Table 4.2 illustrates the duality between the party and the state and their respective main bodies. The apex of decision-making lies with the Chinese Communist Party (CCP), which operates within a clearly defined hierarchical order (Li, 2024: 36–70). At its pinnacle is the Standing Committee of the Politburo, which comprises seven members and is chaired by the General Secretary. Below this, the Politburo consists of 24 members, followed by the Central Committee. The General Secretary as well as the Central Committee are elected by the Party's Congress, which convenes every five years and selects the members of the Politburo. While Central Committee members are answerable to the top party body, they also have the responsibility of electing members to the Politburo, thereby distributing power across both entities.

Since the 1980s, the representation of various interest groups in the Central Committee has remained relatively stable. Provincial leaders constitute a significant portion, holding approximately 45% of the seats, thereby ensuring that nearly all the 31 provinces have a voice. Central government officials make up approximately one-quarter of the total 205 members, with army representatives and central party officials comprising 18 and 10%, respectively.

The National People's Congress, as the highest legislative body of the PRC, appoints the president of the country—traditionally the General Secretary of the party—as well as the Premier and the State Council, which is technically in charge of economic policy. The NPC, which meets on an annual basis, is predominantly composed of delegates from the party, who account for more than 70% of its seats. This composition effectively consolidates the influence of the CCP in the legislative processes as well, which is why the NPC is often labelled in the Western press as a 'rubber-stamp parliament' (Leahy & Yu, 2023).

Additionally, the annual plenary sessions of the NPC are commonly referred to as the 'Two Sessions', occurring concurrently with meetings of the Chinese People's Political Consultative Conference (CPPCC). The CPPCC serves as an advisory body to the central government on political and social matters, operating under the guidance of CCP. However, it does not possess any direct decision-making authority, although it provides insights from outside the party.

Most importantly, the NPC decides on the respective Five-Year Plans (FYP), each as the decisive economic and steering instrument for all bodies and levels of the party-state (Heilmann, 2017: 131–196). Each FYP serves as an instrument for policy coordination, resource allocation, and macroeconomic management at the central

Table 4.2 Governance of economic policy in China

Party (CCP)	State (Government)
Almost 100 million members	More than 7 million employees central and local
Party congress	*'TWO SESSIONS': National People's Congress and Chinese People's Political Consultative Conference*
Every 5 year—2300 delegates	Each year—approximately 1000 delegates
General secretary	*President*
Xi Jinping	Xi Jinping
Politburo Standing Committee	
General secretary and 6 others	
	Premier
Politburo	Li Qiang
Standing committee and 17 others	
	State council
Central committee	Premier, 4 vice-premiers, 26 ministers
205 full and 171 alternate members	
	Economic ministries and agencies
Third plenum of the central committee	Ministry of Commerce
	Ministry of Finance
Central committee commissions	Ministry of Industry and Technology
Financial Commission *(since 2023)*	Ministry of Science and Technology
Science and Technology Comm. *(since 2023)*	+ 22 other ministries
	National Development Reform Commission
Leadership Small Groups	State-Owned Assets Administration Supervision
Comprehensive Reform Commission	People's Bank of China
Financial and Economic Affairs	National Data Bureau *(since 2023)*
+80 other leadership small groups	Nat. Financial Regulation Adm. *(since 2023)*
Central Economic Working Conference	*FIVE-YEAR PLAN*

Source Kroeber (2020: 45); updated by the authors

and local levels. Rather than delving into the microeconomic operations of individual companies, it provides overarching guidance for the broader macroeconomy. Presently, the 14th FYP covers the years 2021 to 2025 and is in the execution phase. The 15th FYP will most likely be officially presented in the first quarter of 2025.

The State Council is the executive branch of China's central government. As of spring 2023, it is led by Premier Li Qiang and supported by four vice-premiers, five state councillors and 26 ministries, and commissions. In regards to steering economic policy, several bodies hold significant sway. These include the National Development and Reform Commission (NDRC), the Ministry of Finance (MoF), the Ministry of Commerce (MOFCOM), the People's Bank of China (PBC), the State-owned Asset

Supervision and Administration Commission (SASAC), the Ministry of Industry and Information Technology (MIIT), and the Ministry of Science and Technology (MOST).

Established in 2007, the NRDC is a high-profile ministry responsible for shaping the national economic development strategy. It plays a major role in drafting China's Five-Year Plans. The MoF, on the other hand, manages China's vast public budget, while the central bank, the PBC, has jurisdiction over the country's monetary and exchange rate policies and, to some extent, banking regulation. The SASAC is the government entity that has overseen China's SOEs since its inception in 2003. The MOFCOM is instrumental in integrating China into the global economy, especially in matters of trade. It also closely collaborates with the NDRC when formulating investment catalogues for foreign investors and plays a significant role in establishing joint ventures between foreign companies and their Chinese counterparts. The MIIT, on the other hand, governs the country's telecommunications sector and technological regulations. Since its establishment in 2008, it has risen in prominence due to rapid digitisation and the emergence of the platform economy. The MIIT crafted the *Made in China 2025* strategy and has unveiled a series of laws surrounding data security since 2021. Its directives play a pivotal role in steering China's technological and digital advancement.

As noted in Chapter 3, the NPC's meetings in 2023 and 2024 saw significant shifts towards stronger party leadership in economic affairs. The fundamental message was that the party dominates the government. This includes the decision to establish two central commissions for science and technology, as well as for finance, under the direct supervision of the Central Committee of the CCP. These bodies are tasked with guiding and supervising the respective government entities responsible for finance and technology.

Furthermore, it was indicated that the State Council, as the highest authority of the government, must follow the decisions of the party in economic matters, therefore skipping the traditional division of labour between the party and the state. This conduct is mostly managed through the Leading Small Groups (LSG), which transfer the decisions of the Standing Committee of the Politburo to the State Council and the respective ministries. The Comprehensive Reform Commission and the Committee for Financial and Economic Affairs are the most pivotal and are both chaired by the General Secretary himself.

Additionally, the Central Economic Working Conference, held at the end of each year, ensures that the party stays in pole position. This conference gathers economic experts from both the party and the government to discuss and define the short-term macroeconomic goals for the forthcoming year. For instance, the meeting at the end of 2023 signalled a shift towards fostering growth in response to the ongoing real estate crisis and sluggish recovery following the Covid-19 pandemic (Cheng & Wang, 2023). This included maintaining proactive fiscal and monetary policies, with an emphasis on enhancing domestic demand in terms of consumption and investment.

Finally, a special role is dedicated to the Third Plenum of the Central Committee because it is the session in which the party sets up the intended economic development path for the next five years. It was no coincidence that the Third Plenum in 1978

opened the door for China's *Reform and Opening Up* policy concluded with Deng Xiaoping's famous speech titled 'Emancipate the mind, seek truth from facts, and look forward in unity'. We will discuss the result of latest meeting in July 2024 at the very end of this book, in Chapter 9.

4.6 Recent Economic Policies: Covid-19 and the Real Estate Crisis

The combination of the lower-than-expected recovery after the Covid-19 pandemic in 2023 with the ongoing real estate crisis since the second half of 2020 has raised concerns of a so-called 'Japanification' of China's economy (Hofman, 2023; Wang et al., 2023; Wigglesworth, 2023). The term refers to Japan's 'lost decade', which ensued after the country's stock and real estate bubbles burst at the end of the 1980s. It describes a scenario where debt reduction across all sectors leads to suppressed demand resulting in stunted growth and deflationary tendencies. And in fact, growth in 2023 and 2024 was mainly driven by government investments and exports and less from private consumption and investment. Nevertheless, given the economic results for both years, with growth rates around 5%, the prediction of a 'Japanification' has turned out to have been an exaggeration. However, it is also evident that Covid-19 and the real estate crisis marked an inspection for China's economy. It triggered a drop in private demand, which in turn led to a deflationary price environment and a mediocre recovery of the overall economy.

China's approach to the Covid-19 pandemic, which lasted from 2020 through 2022, is seen as among the toughest in the world. The strict zero-Covid-19 policy included mass testing of entire cities, even in areas without any registered cases, lockdowns of city districts and whole cities as soon as cases were registered, business closures and not allowing people to leave their homes. There was also a strict quarantine policy for those that had had close contact with individuals who had tested positive for Covid-19, and monitoring was done through digital health codes that were based on movement data. Furthermore, domestic as well as international travel was very much restricted or even entirely stopped for some periods.

While the Chinese measures were effective at containing the virus at first, policymakers missed out on complementing them with an equally effective vaccination strategy. When the highly infectious Omicron variant emerged and spread across the world, the stringent measures struggled to contain the virus and left many people stuck in their homes for extended periods of time, as infection cases never reached the desired zero. Within months, this policy led to growing public dissatisfaction, and in December 2022, following public protests, the Chinese government unexpectedly changed course and abandoned the zero-Covid-19 policy with all the respective measures. However, the tough zero-Covid policy throughout the pandemic has led to uncertain in the public that remains till today.

The economic repercussions of China's Covid-19 policy were substantial and quickly labelled as 'economic long Covid' by China watchers (Posen, 2023). One

of the most alarming outcomes was the surge in youth unemployment to an all-time high of approximately 21.3% in August 2023. Eventually, the authorities ceased publishing these figures, likely due to concerns over negative speculation about China's future economic development. Since December 2023, the figures have been published again but excluding students from the statistics (Goldin, 2024). It dropped to around 13% in June 2024. No less substantial, the crisis led to a decline in consumer confidence. As a result, the inflation rate turned negative in the second half of 2023 with ongoing deflationary tendencies in 2024 as well.

The second critical factor in China's current economic development is the ongoing real estate crisis, which erupted in the latter half of 2020. This crisis might be even more significant and enduring than other current events, given that the real estate sector has long been emblematic of China's unsustainable growth model, which has been characterised by massive overinvestment supported by substantial financial leverage from real estate developers, local governments and private households. The system of real estate-focused growth over the last 20 years was fuelled by a seemingly virtuous cycle that appeared to be beneficial for all segments of the economy: real estate developers enjoyed high sales and profits, homeowners saw continuously rising property values, local governments funded their budgets through land leases to developers, and finally banks issued loans to both developers and buyers.

However, the flipside of this boom was increasingly unaffordable housing opportunities for average citizens as house prices increased much faster than personal incomes. In 2020, five Chinese cities—Shanghai, Guangzhou, Hong Kong, Shenzhen, and Beijing—had some of the highest ratios of median apartment prices to median family disposable income worldwide. For example, while a household in New York might spend 10 times its income on a house, in Shanghai, this ratio approached a staggering almost 50 times (Rogoff & Yang, 2020).

The crisis was triggered by the implementation of the so-called *three red lines* jointly established by China's central bank and the Ministry of Housing and Urban–Rural Development in 2020. The policy aimed to curb the escalating debt leverage of real estate developers by setting strict financial ratios: a debt-to-asset ratio capped at 70%, a net debt-to-equity ratio under 100% and a requirement for cash to at least match short-term debt (Huld, 2022). However, these new measures precipitated an immediate liquidity and capital crisis for many developers. The case of Evergrande became particularly notorious as the company turned into the world's most indebted property developer, with debts exceeding 300 billion USD. Struggling to meet its debt obligations, Evergrande was forced to sell assets but eventually defaulted on a 1.2 billion USD foreign bond payment in December 2021. In January 2024, a court in Hong Kong, the city where Evergrande is listed on the stock exchange, finally ordered its liquidation after repeatedly granting the company time to restructure (Wiggins & Ho-him, 2024).

The sheer scale of China's real estate sector underscores the potential severity of such crises on the overall economy. The construction and real estate industry employs 62 million people and contributes an estimated 20 to 30% to the overall GDP, depending on how it is measured (Huld, 2022). In 2020, real estate investments

accounted for approximately 51% of all fixed investments in China. The impact of declining real estate investments—in 2023 alone, a drop of almost 10%—on China's growth is already evident: while the sector contributed an average of approximately 2% to the growth rate from 2005 to 2019, its contribution has turned negative since the second quarter of 2020.

The crisis caused a significant downturn in sales and a subsequent drop in house prices. The decline in sales reached its nadir in April 2022, with a 60% drop, and as of August 2023, sales were still approximately 25% lower than those in the same month of the previous year (Zhang, 2023). The reduced demand for land is particularly problematic for local governments, which, as we have seen before, relied on leasing land to developers for a substantial part of their budget. Indeed, the fates of developers and local governments are closely intertwined, making it unlikely that the crisis will be resolved without some sort of bail-outs or additional liquidity.

What was previously seen as a virtuous cycle has now become a vicious cycle, as private households also suffer from falling house prices. With an exceptionally high homeownership rate of 90%, much higher than in the US and the EU with shares 65 and 70% respectively, the decline in home values significantly reduces household wealth. By mid-2023, existing home prices in major cities, such as Shanghai or Shenzhen, had dropped by at least 15% and even more severely in China's tier-2 and tier-3 cities, where prices fell to below half the value of the previous year (Bloomberg, 2023). Overall, price declines persisted throughout 2023 and continued into beginning of 2024.

The real estate sector's crisis also poses a risk to China's financial system given the high leverage of developers and households. To date, the sector has accumulated 53 trillion RMB in debt according to the PBC, equating to 22.6% of total outstanding bank loans. This amount is divided into approximately 13 trillion RMB in loans to developers and approximately 40 trillion RMB in housing mortgages. This means that in absolute size, mortgages dominate real estate debt, comprising approximately 50% of total household debt. However, mortgages have significantly declined since the outbreak of the crisis, which in turn has challenged real estate developers. Without new mortgages flowing in as downpayments, their financial situation has become increasingly strained.

In the face of the ongoing decreases in house prices and retail sales, China's government announced in spring 2024 that it would purchase unsold houses worth 300 billion RMB, approximately 41 billion USD. However, it is estimated that the overall amount of unsold housing inventory, including land and finished apartments, is approximately ten times greater than the amount that China's government is willing to spend (Hale & Leahy, 2024). Later that year, the politburo, in an unusual meeting, announced a significant fiscal stimulus package financed through the issuance of government bonds. The move was accompanied by an announcement of the PBC to strengthen the stock market and a corresponding decline of the interest rate (Luo, 2024). Furthermore, at the end of the year, the Central Economic Work Conference/ 6,,,,,,,,,,,,,,,,,,36 reinforced its decision by announcing a 'moderately loose' monetary policy accompanied by a 'proactive fiscal policy' to 'expand domestic demand in all aspects' (Zhang, 2024). With these measures it is hoped to reach a growth rate of at least 5% in 2025 as well, as it already was the case in 2024.

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Chapter 5
The Corporate Sector

China's corporate sector stands at the heart of China's economy. This chapter provides a comprehensive insight into China's real and financial economy by covering four areas:

- The relationship between state-owned enterprises (SOEs) and private companies.
- A detailed analysis of the development of China's digital platform industry that plays an important role in the economy, despite having to face regulatory setbacks in recent years. The sector is not only predominantly privately owned but has also been the main driver of growth and technological progress in the last 15 years.
- A review of the development of foreign enterprises that shows that the landscape of doing business in China has significantly changed over time, mainly due to rising labour costs, increased competitiveness of local companies and geopolitical fragmentation.
- A judgement of the financial sector, which reveals that China's financial system is much less advanced than its real economy. Large state-owned banks still dominate the funding of the economy, leaving space for significant inefficiencies and financial risks.

5.1 State-Owned Enterprises: Still Dominant in Parts of the Economy

A unique feature of China's economic system is the consistently strong role of SOEs, which has remained even after the waves of privatisation and consolidation in the late 1990s and early 2000s (Lin et al., 2020). Currently, it is estimated that SOEs contribute roughly one-quarter of China's total GDP, with private businesses accounting for approximately 60% and foreign companies accounting for approximately 10%. Characteristically, SOEs in China are large and heavily invested companies, making up almost 40% of the country's overall capital stock. They are typically

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conglomerates and encompass a broad network of companies under a single business group. Through targeted mergers and acquisitions of existing SOEs, the number of such entities has been reduced to approximately 100.

Today, SOEs in China are predominantly situated in strategic industries such as energy, aviation, security-related operations, telecommunications, transport, and particularly banking. Due to their size, they often hold extensive market power, and it is not uncommon for them to reach monopoly or oligopoly status in their specific sector, although private companies are in principle also allowed to invest in the respective area. Table 5.1 lists China's largest SOEs by revenue, as they appear on the Global Fortunes 500 list of 2023.

It shows that in 2007 only 22 companies from China appeared on the list, all of which were SOEs. By 2012, 70 Chinese companies made it to the list, but only six entries were private companies, and they only accounted for 8.6% of the total revenue. This share increased to nearly a quarter in 2020, with 32 private companies out of 130 Chinese companies listed in Fortunes Global 500. Most of these companies were from the platform economy, such as Alibaba, Tencent, JD.com, Meituan, Kuaishou, Baidu, NetEase, or Suning.com, among others. However, in 2021 the share of revenue by private companies fell back to 17% (Huang & Véron, 2022).

Table 5.1 China's largest state-owned enterprises by revenues 2023

Company	Assets	Revenue	Employees	Business focus
	Billion USD		People	
State Grid Corporation of China	710.8	530.0	870,287	Utilities; electricity
China National Petroleum Corporation	637.2	483.0	1,087,049	Oil and gas
Sinopec Group	368.8	471.2	527,487	Oil and gas
China State Construction Engineering	386.2	305.9	382,492	Construction
Industrial & Commercial Bank of China	5742.9	214.8	427,587	Banking
China Construction Bank	5016.8	202.8	376,682	Banking
Agricultural Bank of China	4919.0	187.1	452,258	Banking
Sinochem Holdings	229.7	173.8	223,448	Chemicals and fertiliser
China Railway Engineering Group	235.0	171.7	314,792	Transport; construction
China National Offshore Oil Corporation	219.4	164.8	81,775	Oil and gas
China Railway Construction	221.6	163.0	342,098	Transport; construction
China Baowu Steel Group	179.8	161.7	245,675	Steel and metallurgy

Source Global Fortune 500 (2023)

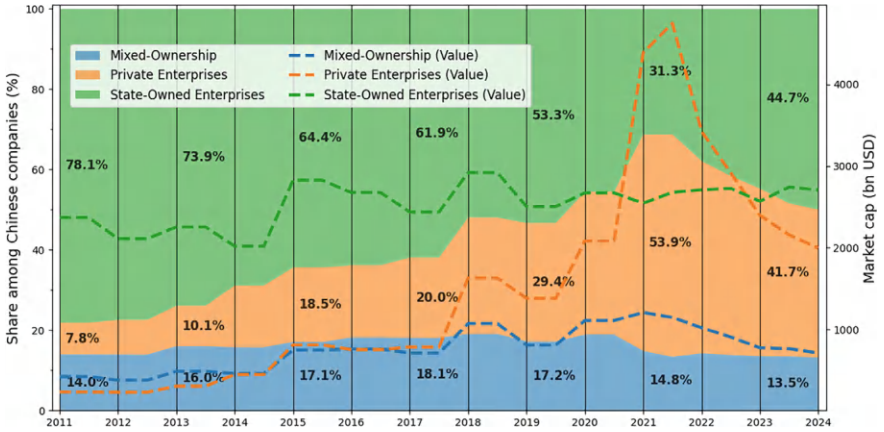

Fig. 5.1 Market capitalisation by company ownership: 2011–2024. *Source* Huang and Véron (2024), Wind, own calculations

Figure 5.1 measures the relative weight of SOEs and private companies as well as companies in mixed ownership in terms of market capitalisation among the one-hundred largest companies in China for the period from 2011 to the end of 2023.[1] The left scale of the chart refers to the background area and shows the market capitalisation share of each ownership type, while the right scale displays the absolute value of each peer group's market cap, marked with the dotted line. Although these companies are not fully representative of China's entire economy, they provide a useful sample for understanding market sentiment and development.

The figure shows that the SOE share of market capitalization, among China's largest companies, shrank from 78%, at the end of 2010, to just above 50% in mid-2019. This decline was certainly due to the expansion of the private sector, which grew from only 7.8% to approximately 30% over the same period. The peak valuation for private companies was reached in mid-2021, with a market capitalisation share of approximately 54%, while SOEs were crowded out to only 31%. However, since then, the trend has reversed: the share of private companies declined, and that of SOEs rose again. A key factor in this shift was the regulatory crackdown of Chinese private platform companies in 2021 that led to a substantial market value loss for the private economy. By the end of 2023, the private sector's share had returned to the pre-pandemic levels of 37%, while SOEs had reclaimed a 49% share measured in market capitalisation (Huang & Véron, 2024).

In terms of performance, private companies generally outperform SOEs mainly due to their exposure to hard budget constraints that necessitate economic efficiency. SOEs have lower revenue growth, lower returns on equity, and much greater debt leverage than private companies. On average, SOEs lag approximately 25% behind

[1] We follow the classification of Huang and Véron (2022), who defines mixed ownership as companies with a share between 10 to less than 50% by the state, whereas SOE's have a share of above 50 and private companies below 10%.

private firms in terms of productivity (Lardy, 2019: 49–80). The mediocre performance of SOEs is one reason why mixed ownership has become a favourite approach by China's leadership, since the respective decision of the Third Plenum of the Central Committee in 2013 (Zhang & Liu, 2023). Private investment in SOEs is expected to enhance the key performance indicators of the SOE. Additionally, private companies have an incentive to invest in SOEs as it can oftentimes grant them access to a large amount of governmental infrastructure and funding. A well-known example in this regard is the telecommunication giant China Unicom, an SOE that raised almost 12 billion USD from private investors, such as Alibaba, Tencent, Baidu, and Didi, in 2017.

5.2 Digital Economy: The Rise and the Fall of the Platform Industry

One sector of China's economy—the digital economy—has emerged as a standout contributor to economic performance. The broad term encompasses all activities that use any kind of digital input, including digital technologies, digital infrastructure, digital services, and data. It can be understood as an integral part of the information and communications (ICT) sector. Over the past 25 years, China has evolved into a digital powerhouse, excelling in digital infrastructure, digital users, and digital production.

A prime example is China's 5G network. With over 1.4 million stations, China had established the world's largest and most advanced 5G independent network by 2021 and accounts for more than 60% of global stations (CIIS, 2022). Substantial investments in connectivity have brought 5G access to nearly all urban areas and approximately 40% of townships in rural regions, leading to a user base of 360 million people.

Furthermore, China's internet penetration rate rose from approximately 42% in 2012 to 76% in 2023. Today, with approximately 1 billion internet users, China has maintained the largest global user base since 2010. Internet technology adoption is popular even among the elderly, with 70% of those over sixty engaging in online services, payments, and instant messaging (CAICT, 2023: 26). In 2021, the value added of China's digital economy was estimated at 7.1 trillion USD, second only to the US's 15.3 trillion USD (Chu, 2023). In terms of total size, the sector more than doubled within five years, from 22.6 trillion RMB in 2017 to over 50 trillion by 2022, thereby accounting for nearly 40% of China's GDP (CAICT, 2023: 3). Additionally, the digital economy contributed almost 75% to China's growth rate over the past two decades (Huang, 2022: 130).

Given these numbers, it is not surprising that Chinese companies have become the world's largest producers and consumers of IT and electronic equipment. Moreover, the development of the digital economy enabled Chinese companies to significantly close the gap to the technological frontier for the first time in modern history. For

example, the telecom equipment manufacturer Huawei emerged as a leader in the 5G space and general telecommunication equipment by using advanced semiconductors as an integral component of their products (Economist, 2024: 14–16; Yu & Zhang, 2021). China now ranks 19th worldwide in overall digital competitiveness, sixth in the Asia–Pacific region, and first among countries with a GDP per capita under 20,000 USD (IMD, 2023).

Arguably, the digital sector's contribution to China's technological progress is its most crucial aspect. As measured in terms of total factor productivity (TFP),[2] the contribution of the digital economy to innovation was nearly 37% in 2019, a substantial increase from approximately 6% in 2006 (PBC, 2021). While other sectors experienced declining or negative TFP growth rates after 2008, the digital economy's TFP continued to grow, and although this growth slowed, it remained positive and thus significantly bolstered China's overall TFP (Huang, 2022: 130). This development is confirmed by the relatively low capital-output ratio of the sector. In 2018, the sector-specific capital-output ratio was the lowest in China and stood at approximately one-third of that of the overall economy (Wu & Yu, 2022: 159).

China's digital economy is since a while mostly driven by the growth of the e-commerce sector, particularly the platform economy. This trend has accelerated in recent years, with these platforms now accounting for more than half of the sectors' total growth (Wu & Yu, 2022: 163). Globally, China's platform economy ranks second largest, trailing only behind that of the USA. Out of 76 international digital platform companies, 36 companies are headquartered in China, capturing almost 25% of the total market, and are valued at 12.5 trillion USD at the end of 2020 (CAICT, 2021: 2–3). By the end of 2020, 18 of the top 20 global digital platforms were either US or Chinese companies in terms of market value, with 11 stemming from the USA and 7 coming from China (Jiang & Murmann, 2022). These companies collectively represent more than 96% of the global market. However, a significant gap remains, as the market value of large digital platforms in the US totals almost 9 trillion USD, compared to just above 3 trillion USD in China.

Table 5.2 provides an overview of China's most valuable platform companies today measured with their market capitalisation and revenues and including their respective business focus. The scale of their business is huge. For instance, it's estimated that Tencent's messaging app, WeChat, is used by an astounding 1.3 billion people, most of whom are Chinese. Similarly, Alibaba's B2B segment attracts approximately 900 million monthly users, while its payment platform Alipay boasts 1.3 billion registered users. Furthermore, it is estimated that more than 650 million people are using the offered video games of the respective providers. Finally, it is worth to know that all dominant platform companies were created by private entrepreneurs in the early 2000s and that almost all of these companies are still today in private ownership (Tse, 2015).

[2] TFP measures the change in GDP per capita that cannot be explained by a change of the factors of production, labour and capital. It is, therefore, interpreted as the impact of technological progress for GDP per capita growth. Other factors like, for instance, the institutional setting, play a role as well.

Table 5.2 China's largest platform companies by market capitalisation (April 2024)

Company	Market cap	Revenue	Business focus
	Billion USD		
Tencent (Wechat)	419.24	85.0	Social media, gaming
Bytedance (Tiktok)	264 (estimate)	16.0	Social media: short video
Pinduoduo (Temu)	179.58	28.07	Online retailer
Alibaba	187.28	130.80	Online retailer, financial services
Meituan	88.29	37.29	Food delivery
NetEase	61.86	14.43	Gaming, entertainment
Baidu	36.15	18.98	Search engine
JD.com	46.42	152.48	Online retailer
East Money Information	28.86	0.54	Financial services
Kuaishou	31.41	15.49	Social media: short video
Kingsoft Office	4.37	1.18	Office software

Source companiesmarketcap.com, Iqbal (2024)

Throughout their expansion period, platform companies ventured beyond their core business areas and diversified into various internet-related business sectors, which could easily be integrated into the platform. This strategy enabled them to control a wide range of business areas by creating comprehensive digital ecosystems. Alibaba, for example, extended its reach beyond its e-commerce platform to logistics, entertainment, cloud services, and other internet services. Alibaba's cloud segment, Aliyun, is the largest provider in the sector and held a 36% market share in 2022 (Puig, 2023). In comparison, Huawei Cloud, Tencent Cloud and Baidu Cloud hold shares of 19, 16, and 9%, respectively. This important market segment is expected to grow significantly, driven by the increasing use of big data for all types of processes, automatisation through robotics and AI in industry, the deep complexities of e-commerce, public services, and digital finance.

In addition to cloud computing, the fintech industry deserves special mention, where China has rapidly developed the second largest market in the world (CFTE, 2021). Ant Group, formerly Ant Financial, is also part of the Alibaba group and stands out as the most valuable fintech company in China. The company was valued at approximately 280 billion USD in 2021, before regulators scrapped its planned IPO. Since then, the company's value has decreased to 79 billion USD. Despite this, the company still has a value higher than its main competitor, Tencent's WeChat at 42 billion USD, with other companies such as MYBank, Lufax, or ZhongAn Insurance trailing with incrementally smaller valuations.

More recently, China's platform companies have also entered the rising market of artificial intelligence (Du et al., 2023; McMorrow & Olcott, 2024). Alibaba, in particular, has made significant strides in utilising AI in various aspects of its business, from enhancing its e-commerce user experience to optimising logistics and finance.

Its AI algorithms now power personal recommendations, intelligent search functions, and automated customer service chatbots. Similarly, Tencent has integrated AI into gaming, content curation, and social networking, while Baidu, often referred to as China's Google, focuses heavily on AI-driven search engine improvements and autonomous driving technology. These companies are not only transforming traditional sectors but are also pioneering new AI applications, such as facial recognition, which has become fairly common in many places across China, and other smart city applications. This rapid adoption of newly developed AI technologies makes these digital companies even less dispensable for the country.

Unfortunately, the rise of China's platform economy was abruptly stopped by the so-called 'strong regulations' in 2021, which were triggered by the decisions of the CCP's Polit Bureau and the annual Central Economic Work Conference that both called for 'strengthening antitrust and preventing disorderly expansion of capital' in December 2020.This led to the implementation of the Antitrust Guidelines on the Platform Economy in February 2021 and was followed by a series of new laws and policies on data protection, antitrust and employee rights (Wang, 2022).

Alibaba and Meituan were among the first to face antitrust penalties under the new framework. Alibaba was fined over 18 billion RMB, approximately 4% of its total sales, in April 2021 for having committed 'restricting merchants to choose one between two competition platforms' conduct (Shen, 2022). Meituan was penalised with nearly 3.5 billion RMB, 3% of its revenues, plus an additional refund of 1.3 billion RMB to merchants for 'abusing its dominant position in the market for food and beverage take-out platform services'.

In 2020, China's government stopped the planned IPO of Alibaba's fintech arm, Ant Financial, on the New York Stock Exchange as already mentioned. The backlash eventually spread throughout the sector and included ride-hailing apps, gaming, and online education. The Ant Financial case was eventually concluded in mid-2023 with a fine of 7.1 billion RMB, roughly one billion USD. Prior to this, Alibaba announced a split into six business units under a holding umbrella in the biggest overhaul the company had faced since its founding in 1999 (Bao et al., 2023).

To date, there is no definitive interpretation for the motivation to introduce the new regulatory environment for platform companies in China. From a purely economic point of view, there could be different reasons like the strengthening of competition by eliminating monopoles and monopolistic behaviour of certain platforms, the improvement of data protection of customers, the better protection of the employees of the industries, and the acceleration of the innovation rate by inhibiting 'killer acquisitions', i.e. where large platform companies buy smaller firms to prevent competitors from acquiring newly developed algorithms. However, it could be also argued that the regulatory crackdown, aimed at curtailing the power of large private companies. By having accumulated vast capacities and extensive ecosystems of data and people, it was feared that these companies could potentially threaten social stability and even interfere in political affairs (Wang, 2022: 184).

In any case, the implementation process of the new regulation is highly debatable. The introduction of these measures resembled a campaign-style regulation and has generated significant uncertainty not only within China's tech sector but also among

foreign investors and consumers. This uncertainty was particularly caused due to the sector being overseen by various state agencies, which often conduct their policies in an uncoordinated and sometimes contradictory manner. This situation has led to a form of regulatory competition among agencies, exacerbating the uncertainty for companies and thereby dampening the future economic outlook.

Regardless of interpretation, the impact of 'strong regulation' on China's platform economy has been devasting. Between January 2020 and June 2023, major platforms such as Alibaba, Tencent, Meituan, JD.com, and Baidu lost approximately 300 billion USD in market value, while their respective US counterparts added approximately 5 trillion USD during the same period (McMorrow et al., 2023). China's job market was also hit. In 2022, six of the ten largest tech firms by market value cut their workforce by 4 to 10%, thereby contributing to the abovementioned surge in urban youth unemployment (Cheng, 2023). Investments have declined by approximately 25% since the regulations were implemented, which in turn negatively impacted China's overall growth rate (Huang, 2022: 127). Finally, five entrepreneurial founders and CEOs of China's most successful platforms—Alibaba, JD.com, ByteDance, Kuaishou, and Pinduoduo—all resigned during the implementation phase of the new regulation. Although China's State Council explicitly recognised the platform economy as an essential enabler for economic growth several times, the market has not yet picked up, and the performance of the involved companies remains dampened.

5.3 Foreign Enterprises: Changing Business Environment

At the end of 2023, there were approximately 1.15 million foreign companies registered in mainland China, which constitutes less than 3% of all companies. Despite this relatively low percentage, foreign companies play a significant role by contributing nearly 50% of China's foreign trade, a quarter of its industrial output and profits, and one-fifth of its tax revenues. The majority of these companies are from Asia, with Japan, South Korea, and Singapore in the lead, but companies from the USA and Germany are heavily invested as well, collectively representing more than 60% of all foreign companies in China.

The bulk of these foreign companies are involved in manufacturing, predominantly in electronics, machinery, chemicals, textiles, and food processing. Collectively, these five industries make up more than 60% of foreign companies in China. Geographically, foreign enterprises are clustered in the eastern coastal provinces, with Guangdong, Jiangsu, Zhejiang, Shandong, and Fujian hosting over 70% of these businesses.

Legally, foreign business in China is restricted to specific sectors. During the early phases of *Reform and Opening Up*, the Chinese government issued a positive list that specified sectors open to foreign investments (State Council, 2021). Although the idea of a positive list appeared welcoming, it was quite restrictive and focused mainly on the manufacturing industry. Over time, this list evolved into a negative list, wherein all sectors were opened to foreign investments, except the areas stated on

the list. Today, this list comprises two categories, 'restricted' and 'prohibited'. Those in the restricted category require a special licence to operate, while in the prohibited category, as the names suggests, investment is prohibited.

The negative list was initially introduced as a pilot project in Shanghai in 2013 but was eventually implemented nationwide in 2018. Since then, the number of restricted or prohibited business areas has decreased from 151 to 117 as of the latest version in March 2022 (China Briefing, 2022). Notably, the financial and insurance industries have become increasingly open to foreign investments. The Third Plenum of the party in 2024 has signalled a further shortening of the negative list, which is opted to allow foreign participation in all manufacturing sectors, including the traditional Chinese medicine sector (State Council, 2024). However, the decrease in restricted investment areas does not preclude setbacks in liberalisation. For instance, in 2022, new restrictions were imposed in the news media sector, limiting foreign involvement in news gathering, editing, and broadcasting without special approval.

China has long been an attractive market for multinational companies (MNCs), which initially saw it as a hub for export-oriented, low-cost labour production, and increasingly due to its large domestic market and the emergence of a wealthy middle class. Many MNCs have found China so vital that a substantial portion of their profits now comes from the country. For example, as in Volkswagen Group, the company made approximately 35% of its global car sales in China, despite an overall decline in sales numbers. Similarly, Kentucky Fried Chicken by Yum earns approximately 25% of its sales in China, outstripping even the company's home market of the USA.

On the other hand, rising labour costs in China have led to a decline in international competitiveness, prompting foreign enterprises to relocate production to other Asian countries with lower labour costs. This shift is further accelerated by local competition, particularly in labour-intensive production sectors. A good example is Decathlon, the French sporting goods and sportswear company, which announced the closure of its final factory in Jiangsu in 2020, ending over two decades of manufacturing in China. Despite halting production, Decathlon has expanded its retail operations in the country, precisely indicating this shift towards seeing China as an important sales market (Hua, 2023).

The increasing innovation capabilities of Chinese companies are transforming the business landscape for foreign entities as well, given the rising competitiveness of domestic firms. For instance, the Chinese EV market is predominantly led by innovative local companies such as Nio, BYD, and Xpeng, relegating foreign players such as VW, BMW, and even Tesla to lesser roles. In 2023, for instance, 65% of global EV production occurred in China, and the production of the key component of these vehicles—batteries—is also dominated by Chinese companies. CATL and BYD, the two largest Chinese battery firms, control more than 50% of the global EV-battery market.

Surprisingly, the Covid-19 pandemic and subsequent lockdowns and border closures did not hinder the establishment of new foreign companies in China or the expansion of existing ones. Measured as foreign direct investments (FDI), inflows during this period doubled compared to pre-pandemic levels and averaged 89 billion USD annually according to official figures. Figure 5.2 illustrates the yearly FDI

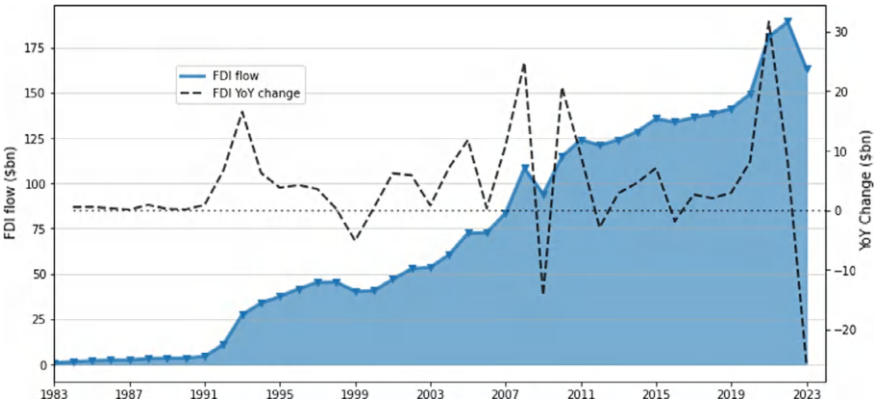

Fig. 5.2 Foreign direct investment into China 1983–2023. *Source* CEIC, Ministry of Commerce

inflows with the blue line on the left scale and the year-over-year change with the dotted line on the right scale for the period between 1985 and the end of 2023. An all-time high in FDI inflows was reached in 2022, following steady increases since 2016 (Huang & Lardy, 2022; Zhang, 2022).

Moreover, companies from South Korea, Germany, and the UK significantly increased their investment in China. In 2022, FDI from these countries to China rose by 64.2, 52.9, and 40.7%, respectively, compared to that in the previous year. However, the nature of these investments has shifted. While previously, most FDI came from SMEs investing in China, there has been a trend towards MNCs making much larger investments. For instance, 80% of European FDI from 2018 to 2021 was invested by just 10 large companies, a stark increase from the period 2008 to 2017, where less than 50% of investments came from such major players (Kratz et al., 2023).

However, a noticeable decline in FDI began in 2023 with a drop of more than 30% (Hale et al., 2023) and accelerated in the first half of 2024 furthermore (Qing, 2024). Some analyses have even concluded that foreign companies have become net sellers of their existing investments in China (Lardy, 2023). Potential reasons for this downturn include China's sluggish economic recovery after the pandemic, heightened US–China geopolitical tensions, and the EU's derisking policy. Additionally, a more stringent regulatory environment for foreign companies, encompassing a new national security law, restrictions on cross-border data flows, and the closure of foreign consultancy and due diligence firms, has contributed to the decline. The dwindling attractiveness of China's infrastructure for foreigners, including in areas such as schooling and healthcare, and a shortage of foreign staff willing to relocate to China have exacerbated the situation (EUCCC, 2023).

In any case, FDI numbers should be treated with caution, as FDI has also become a primary channel for Chinese individuals and companies to transfer money in and out of the country (Hanemann et al., 2022). For instance, offshore fundraising by Chinese firms, particularly from 2017 to 2021, has made destinations such as Hong Kong,

Singapore, and the Cayman Islands popular for investors to move money through FDI channels. In 2020, nearly 80% of all utilised FDI recorded by the MOFCOM was funnelled through one of these three countries.

From a long-term perspective, foreign businesses have been quite successful in China. Certainly, many companies initially struggled with cultural and linguistic barriers and the complex regulatory environment, but those who navigated these hurdles often found their business in China to be very rewarding. While complaints about a deteriorating business environment were common and are in fact not a recent phenomenon, when evaluating the financial performance of the same companies, a different picture is painted, with most companies being modestly profitable over time (Löchel & Ziegler, 2021).

However, as mentioned, in the aftermath of the Covid-19 pandemic, the business outlook for many foreign companies has become gloomier for a variety of reasons like rising labour costs, tougher local competitors, regulatory tightening, mediocre growth outlook combined with deflationary pressure and global tensions (EUCCC, 2024a, 2024b). Regardless, foreign companies especially from Europe are not on retreat from China as recent business surveys show (AHK, 2024), Instead, a stronger localisation strategy is observable that mitigates risks and simultaneously enables foreign businesses to stay in China's market benefiting from the unrivalled market size and the innovation potential of China' economy.

5.4 The Financial Sector: Bank-Based Funding System

Although China's financial sector has undergone significant changes in the last forty-five years, it remains one of the most backwards sectors of China's economy in terms of structure, ownership, and market openness. Bank loans still dominate the funding of the real economy, whereas capital markets play an ancillary role. Moreover, almost all Chinese banks are state-owned. From a structural point of view, China has a segregated banking system like the USA that distinguishes between commercial banks, involved in deposit and loan business, and investment banks for capital market business. However, over time a more European-style universal banking system emerged in which banks are allowed to arrange kind of business simultaneously.

In 2022, China's banking industry was the largest in the world, comprising approximately 28% of global bank assets (Kemplay, 2022). Five of the top ten global banks are Chinese. China's domestic banking sector is dominated by six major state-owned banks: the Agricultural Bank of China, the Bank of China, the Bank of Communications, the China Construction Bank, the Industrial and Commercial Bank of China, and the Postal Savings Bank of China. Together, they held approximately 41% of all bank assets in 2022, a decrease from nearly 60% two decades earlier (He & Wei, 2022: 22–23). All of these banks have launched IPOs on both the Shanghai and Hong Kong Stock Exchanges, allowing private investors to acquire minority shares.

However, size is not the only measure of importance; performance is key. Chinese banks often exhibit higher return-on-assets and return-on-equity than their international counterparts (Löchel et al., 2016: 121–134). This superior performance can be partly explained by the vast business opportunities during periods of rapid economic growth. Throughout China's rise, the demand for credit was seemingly endless, and banks were often the only source of financial support. Furthermore, compared with their international peers, Chinese banks also pay lower salaries, which has in turn kept the costs low. Finally, the banks were allowed to operate under a highly regulated interest rate system until 2015, which maintained a significant spread between loan and deposit rates and hence increased profitability. However, after the reform in 2015, the net interest margin gradually decreased, reaching a record low of 1.73% at the end of 2023.

While previously large state-owned banks played an enormous role, over time, the establishment of joint-stock banks and city commercial banks has helped the banking landscape to grow more diverse and become more robust. Today, those entity types account for more than 17 and 14% of total assets, respectively. Joint-stock banks have a higher degree of private ownership, which in some cases can even be the majority. City commercial banks are wholly owned by local governments. Other components of China's banking system include rural financial institutes and policy banks like China Development Bank, Agricultural Development Bank, and China Export–Import Bank, with each holding approximately 13% of total assets. Foreign banks in China represent less than two percent of total assets and therefore only play a minor role.

Given the dominance of banks in China's financial system, it is not surprising that bank loans are still the primary source of funding for the real economy (Jin, 2023: 148–189; Kroeber, 2020: 162–189). Table 5.3 compares the respective shares of overall funding from different channels for the years 2008, 2013, 2018, and 2023. It shows that bank loans in 2013 accounted for approximately 66% of all funding in China, equivalent to 188% of China's GDP. This is a significant contrast to capital market-based financial systems such as those of the USA, where bank loans only constitute approximately 50% of GDP.

Table 5.3 Aggregate funding of the real economy 2008–2023

Financing type	Share			
	2008 (%)	2013 (%)	2018 (%)	2023 (%)
Bank loans	82	70	62	66
Government bonds	0	0	15	18
Corporate bonds	4	9	9	8
Equity through stocks	4	3	3	3
Trust and entrusted loans, bankers' acceptance	10	18	11	5
Total	100			

*Source*PBC (2024)

However, the numbers also reveal that China's funding system has gradually changed over time, moving towards a heavier reliance on capital markets and alternative sources of funding. This trend has been particularly notable since 2015, when local governments were permitted to issue bonds to finance local investment projects and other expenditures. Most buyers of these bonds are state-owned city commercial banks, which suggests that local governments are financed primarily by the banks they own themselves. Today, government bonds constitute 18% of overall funding, compared to 8% of corporate bonds.

Equity financing represents only 3% of total funding in China and can thus be considered small. However, it is important to not confuse this with the market capitalisation of China's stock market, which is 2.5 times larger than its domestic bond market. With a market capitalisation of nearly 11 trillion USD, China's stock markets are the world's second largest after those of the USA (He & Wei, 2022: 8–10). For funding purposes, however, what matters is the volume of new shares issued through initial public offerings (IPOs), and not the market capitalisation, that reflects the total value of the respective companies based on current stock prices. However, China is also an international frontrunner in this regard, with the Shanghai and Shenzhen Stock Exchanges ranked number one and two internationally in terms of the volume of IPOs issued in 2022 and 2023 respectively.

However, the approval-based listing process favours companies with strong government relations (Jin, 2023: 153–160). As a result, dynamic companies such as Alibaba, Tencent, JD.com, and Baidu, often choose to list their shares on foreign stock exchanges such as the New York Stock Exchange. Consequently, China's stock market is characterised by a relatively high presence of low-profit manufacturing companies and underperforming SOEs. Together, they constitute two-thirds of all listed companies, which explains the comparatively poor performance of the market. Most striking is the lack of a positive correlation between China's growth rate and domestic stock prices, which usually accounts for approximately 30 to 50% of the change in the stock market index (Allen et al., 2021). Moreover, the financial performance of listed companies in China is often lower than that of unlisted ones.

China's bank-based funding system has a profound impact on the overall economy. Bank-based financial systems are typically more risk averse than capital market-driven systems. This feature makes it challenging for banks to finance riskier and innovative investments, such as those required by small and medium enterprises (SMEs) or start-ups. These entities often rely on venture capital or private equity or choose to be listed on foreign stock markets to get funded. For instance, only approximately a quarter of outstanding loans are extended to SMEs, a critical gap since SMEs and start-ups are typically the main drivers of innovation in an economy. In China, these smaller enterprises number approximately 140 million including self-employed entities, contribute approximately 60% of total GDP, 80% of employment, and approximately half of the national tax revenue (OECD, 2023).

Public ownership of banks imposes another barrier to private company funding, as it often leads to a preference towards funding SOEs and politically favoured areas. Funds are therefore not always allocated efficiently to investments that are expecting the highest returns. Indeed, more than 80% of all bank loans are allocated to SOEs.

This bias is reinforced by the lower risk associated with lending to SOEs, which typically have implicit government bail-out guarantees and allow banks to achieve economies of scale with larger loan amounts for the big SOEs, as opposed to smaller loans to SMEs or start-ups.

To make up for these inefficiencies in capital allocation, since the early 2000s, privately owned fintech companies have started to develop as a sort of countermovement to the dominance of funding by state-owned banks (Allen et al., 2019: 39–64). Today, approximately one-third of the world's largest fintech companies are based in China (Guo & Xiong, 2021: 12–23). The number peaked in 2015 at approximately 3500 companies, when concerns over unregulated peer-to-peer lending and data security eventually pushed regulators to introduce market requirements, thereby slowing the rapid development of the sector (Bowman et al., 2018). By 2018, the value of outstanding credit for these entities had reached a maximum of 1 trillion RMB. However, to put the number in perspective, this represented only one percent of lending provided by conventional banks.

Another way for SMEs to receive funding is through the Beijing Stock Exchange, which was launched in late 2021. While the Shanghai and Shenzhen exchanges have already served the market for over three decades, the Beijing exchange aims to provide a dedicated listing platform for innovation-oriented SMEs. As of 2024, almost 100 companies were listed on the exchange, with a combined market capitalisation of approximately 200 billion RMB. However, as one of the listing criteria, at least 25% of shares must go to public shareholders—government agencies or SOEs—for small companies and 10% for medium-sized firms. Since its inception, however, the market has only undergone mediocre development, so it seems that requirements, such as forced public participation, have dampened private investments into the new market.

A second, more established, initiative to improve SME funding is the Science and Technology Innovation Board—the so-called STAR market—which was launched in mid-2019 and is part of the Shanghai Stock Exchange. This segment focuses on technology and high-growth companies, akin to the NASDAQ in New York, but is accessible only to Chinese investors. Despite consisting of 80% private companies, only a small fraction of shares is currently tradable, with the rest being locked due to lock-up periods after listing and other regulatory caveats. While the market saw an initial increase of more than 70% within the first six months of trading, it had peaked by July 2020. Since then, the market has been in a downturn, reaching an all-time low in January 2024.

As a final, but non-negligible, component of China's financial system stands shadow banking (He & Wei, 2022: 28–32; Jin, 2023: 174–181; Kroeber, 2020: 167–173). It encompasses all bank-like activities such as saving and lending that occur outside the regulated banking system, often as off-balance sheet transactions. Typical examples include trust or entrusted loans, where a corporation, rather than a bank, lends money and assumes the risk of default through an agent bank, which only facilitates the transaction for a fee. Consequently, these entrusted loans do not appear on the banks' balance sheets. Today, approximately 5% of all funding in China is arranged through trust or entrusted loans.

Shadow banking gained momentum around 2010, which coincided with China's massive 4 trillion RMB fiscal stimulus package in the aftermath of the Global Financial Crisis. As part of the package, the central government decided to spend one trillion RMB, while local governments were tasked with raising and spending the remaining three trillion RMB. To follow this call, local entities decided to establish local government financial vehicles (LGFVs). Equipped with land-use rights from the de facto government connection, LGFVs could use these assets as collateral to raise loans from city commercial banks and other entities. Most importantly, this construction ensured that the debt of the LGFV did not showing up on the balance sheets of local governments.

Generally, Chinese banks had already started to engage in shadow banking around 2005 to circumvent regulatory and interest rate restrictions. A notable example was the creation of wealth management products, which were not subject to the capped interest rates of regular deposits and did not require any principal guarantees, i.e. the return of the investment, which made it possible to move these wealth management products off their balance sheets. Instead, outside trust companies, which are not subject to regulatory requirements, issued the product to the investors and guaranteed the return. From 2008 to 2016, wealth management products grew from 2.6% of GDP to an astonishing 40%. In response to these growing shadow banking activities, China's regulators and the PBC implemented a comprehensive derisking programme in 2016. However, shadow banking still play a role today especially in the real estate sector.

Overall, is can be concluded that China's corporate sector is characterised by a mix of private companies and SOE. Internet companies and the platform economy have emerged as the most important part of the private sector as key drivers for growth and technological progress despite regulatory setbacks in recent times. The share of foreign companies operating in China is still small despite high FDI in the past. The attractiveness of investing in China is the huge size of the market and the dynamic innovation environment that emerged especially in recent years. Compared with the real economy, China's financial system is comparatively antiquated. Dominated by big state-owned banks, the allocation of capital to the real economy shows highly inefficient features combined with elements of financial repression.

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Chapter 6
The Open Economy

The internationalisation of China's economy since *Reform and Opening Up* in 1978 marked the start of what is currently known as globalisation. Since then, China has developed into one of the most open and integrated economies in the world. In terms of trade, it had already become the largest trading nation by 2014. Presently, the country accounts for 15% of global exports and receives 11% of all imports. However, globalisation has been on the retreat since the global financial crisis in 2008, and today, geopolitical fragmentation and economic security are at the top of the agenda.

This chapter analyses the scope and scale of China's economic relationship with the world and discusses the US–China rivalry in times of deglobalisation:

- It starts with an analysis of the development of China's balance of payment, which covers all real and financial economic cross-border activities. The analysis reveals that China has long yielded a double surplus in its current as well as its financial account.
- A discussion of China's changing trade pattern over time follows. Although low-value processing trade, which assembles imports into products for exports, still dominates, the process of the country upgrading its exports to products with a higher value added is under way. Furthermore, the geographical focus of trade has shifted towards Asia and the global south, whereas it previously lay with Europe and the USA.
- The chapter then focuses on the ongoing Belt-and-Road Initiative (BRI) as China's most important economic internationalisation effort in recent years. The scale of the initiative is massive but also highly controversial from a Western point of view.
- China's internationalisation of the economy also has financial dimensions. Most important is to understand China's managed exchange rate system and its efforts to internationalise the Chinese currency. Both topics are strongly entwined: the more liberalised the exchange rate system is, the greater the degree of its internationalisation and vice versa.

H. Löchel and T. Jablonski, *The Rise of China's Economy*, Contributions to Economics,
https://doi.org/10.1007/978-3-031-80150-1_6

– The chapter concludes with a detailed discussion of the course and reasons for the ongoing deglobalisation and fragmentation process of the world economy with the great power rivalry between China and the USA at its centre.

6.1 China's Balance of Payments: The Double Surplus

The balance of payments (BoP) shows the economic relationships of a country with the rest of the world. It includes two main components: the current account, which represents international trade, i.e. exports and imports of goods and services, and the financial account, which tracks the cross-border flow of non-financial and financial investments.[1] Whereas the latter shows portfolio investments in financial markets, the former are investments in real assets, so-called foreign direct investments (FDIs). This includes the establishment of foreign enterprises within a country, either as wholly foreign-owned entities or as joint ventures with local firms. From China's perspective, inbound direct investment refers to foreign companies investing in China, while outbound direct investment refers to Chinese companies investing abroad.

Figure 6.1 shows the development of China's current and financial accounts alongside the changes in its foreign exchange reserves from 1995 to 2023. A notable pattern is China's long-lasting double surplus in the BoP. The current account realises a trade surplus, i.e. the value of the exports exceed that of the imports, while simultaneously, foreign capital inflows into the country surpass Chinese outflows to the world in the financial account. This trend intensified post-WTO entry and peaked in 2008, when the global financial crisis broke out. While China's trade surplus diminished in the aftermath of the crisis, this was offset by increased net capital inflows through direct and portfolio investments.

The accumulation of substantial foreign exchange reserves, shown as the dotted line, is a direct consequence of this double surplus. When a country experiences more inflows of foreign currency than outflows—via a trade surplus and net financial inflows—its reserves naturally increase.[2] The turnaround in 2015 and 2016, with a massive outflow of foreign exchange reserves was mainly influenced by capital outflows of foreign investors and a massive increase in Chinese overseas investments that exceeded inbound foreign investments in those years which both led to a highly negative capital account. Furthermore, the decline was also influenced by the PBC's policy to buy back RMB in the foreign exchange market with USD to stop further depreciation of the exchange rate during these years.

[1] Although the current account is largely dominated by exports and imports, it also includes cross-border financial transfers of public bodies to international organisations, remittance of individuals, and repatriation of profits by companies. Tourism is entailed as part of services.

[2] This statement assumes that the receivers of foreign currencies convert it into RMB, because otherwise it will not sho,w up the official statistics. Interestingly, in China, a significant portion of foreign currencies remains unexchanged. From 2020 to 2022, for instance, Chinese companies retained about 1.2 trillion USD that have not been exchanged into RMB (Li 2023).

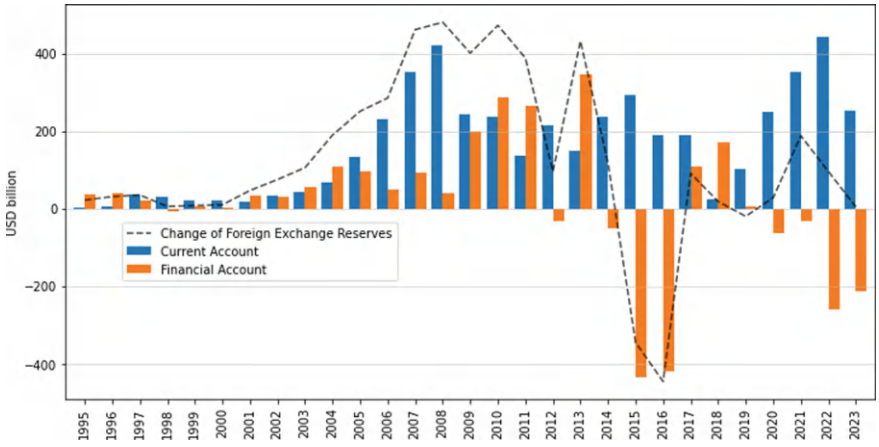

Fig. 6.1 China's balance of payments 1995–2023. *Source* CEIC, SAFE

The current account has consistently remained positive, although it hit an all-time low in 2018. This downturn coincided with the start of the trade war in which tariffs on imports from China were increased by then US President Donald Trump. Despite these challenges, as the global economy began to recover from the Covid-19 pandemic between 2020 and 2022, China's current account surplus started to rise again. This increase was primarily driven by boosted exports, while imports decreased, partly due to the prolonged zero Covid-19 policy, which also included reduced international travel. In 2023, China's trade surplus declined again, attributed to the lacklustre performance of both the global and domestic economies. Moreover, the capital account faced a significant deficit as well, largely due to diminished FDI flows into China and the continued withdrawal of financial investments.

6.2 China's Changing Trade Pattern: A New Geographical Focus Ahead

China is first and foremost a trading nation (Sheng & Wang, 2020). Figure 6.2 shows the development of China's trade between 1978 and 2023. The absolute volumes of exports and imports can be seen on the left scale, whereas the trade-to-GDP ratio, and hence the degree of openness of an economy, is measured on the right scale. The green area illustrates the development of the trade surplus as the difference between exports and imports.

It is easy to see that both exports and imports, as well as the trade surplus, almost always increased in the depicted period, whereas the degree of openness has fallen since 2006 due to the rapid increase in China's GDP, which overshoots the increase in trade. However, when evaluated as a percentage of GDP, China's trade surplus has

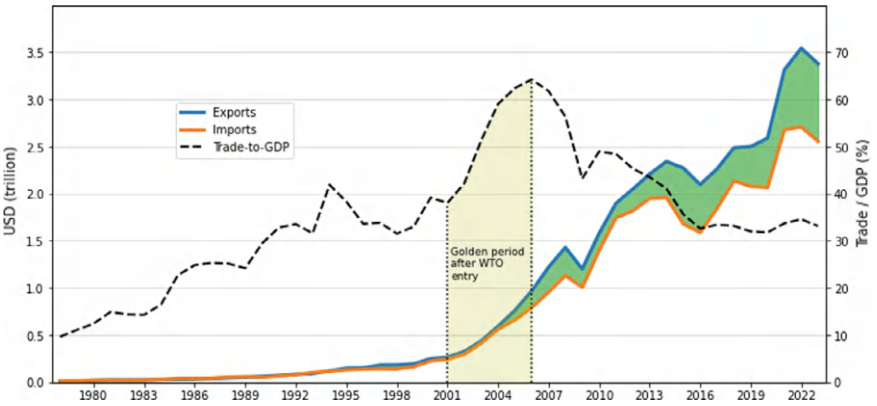

Fig. 6.2 China's trade surplus 1978–2023. *Source* CEIC, General Administration of Customs, National Bureau of Statistics

generally remained quite modest, averaging approximately 1.6% over the last ten years. This is a relatively low number compared to other export-driven nations like Germany, where the average trade surplus has regularly exceeded 6%. However, in recent years the surplus has strongly increased. In 2024, for instance, the absolute value reached almost one trillion USD, which increased the trade surplus to more than 5 percent of GDP.

Exports alone accounted for 19% of China's GDP in 2023, while imports constituted approximately 15%. From an employment perspective, the trade sector employed approximately 180 million people, representing around 20% of total employment (Zhang & Woo, 2022). For exports alone, employment was calculated at about 100 million people or 13.5% in 2020.

While many Chinese companies continue to operate in the export business, rising labour costs have prompted foreign companies to relocate their production to countries with lower costs, such as Vietnam and India. Despite this, China remains a key player in the assembly of electronic products such as PCs, smartphones, telecommunication equipment, and machinery. The country is well integrated into global supply chains such that this trade accounts for 42% of all exports and 31% of all imports in 2022.

Yet, the broader far-eastern Asian region has evolved into the global hub for electronics manufacturing and largely involves China, Korea, Japan among others. This regional cluster benefits from strong industrial interdependencies, scale, proximity, and a shared business culture. However, China remains at the bottom of all involved value chains by doing much of the labour-intensive assembly work. All higher value-generating steps remain in the more technologically advanced Asian economies. OECD data on global supply chains reveal that China's relatively low contribution to value creation in these chains, at only 38%. In contrast, countries

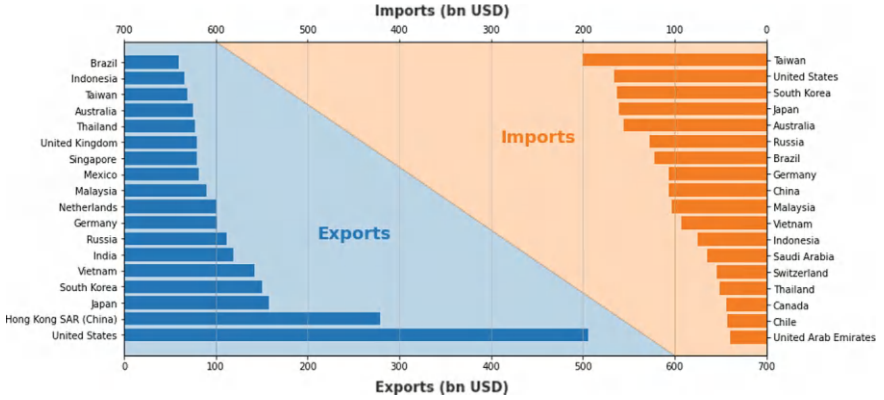

Fig. 6.3 China's trading partners 2023. *Source* CEIC, General Administration of Customs

with technological leadership, such as the USA, Germany, and Taiwan, capture a larger share of value added, which correlates with their ability to provide critical intellectual property. Their shares are 57, 50, and 45%, respectively. For instance, in the production of the iPhone X, Apple captured 60% of the value added, while all Chinese suppliers combined gained a marginal 10% (Xing, 2022).

China's reliance on international trade extends beyond components for its assembly-based export industry to essential commodities for industrial production. In 2021, the World Bank identified China as the world's largest importer of commodities, representing approximately 16% of the global trade in natural resources. Oil is a prime example, with approximately 75% of domestic demand met through imports. Another indispensable import category is mineral products, which are critical for China's manufacturing sector. The largest component is iron ore, a resource indispensable for the steel industry, which accounted for 28% of all imports in 2022.

The geographical scope of China's trade is also of interest. Figure 6.3 shows China's most relevant import and export partners of 2023. In terms of individual trading partners, the USA remains China's largest single-country export market, with exports valued at 506 billion USD in 2023. Trade with Hong Kong is substantial, but also poses a unique case because of the significant amount of reimportation to China, which leads to a high throughput of goods. Only a minimal percentage of goods exported to Hong Kong is actually consumed there. Considering regional blocs, Asian countries—including the Middle East—are the largest recipients of Chinese exports, totalling 1.7 trillion USD. Countries from the Association of Southeast Asian Nations (ASEAN) account for 571 billion USD of this share and are therefore very important to China's export industry.[3] The European Union imports approximately 745 billion USD of Chinese goods.

[3] ASEAN consists of ten member states: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.

On the import side, Taiwan is the single most important trade partner for China, with imports totalling 200 billion USD in 2023. Indeed, trade with Taiwan predominantly revolves around processing trade, with semiconductors and other electronic components constituting approximately 65% of all imports from Taiwan. The USA, South Korea, and Japan follow, all of which are known for their high-tech producing firms that utilise the assembling capabilities in China to create finished products. Australia ranks fifth as a major supplier of iron ore, the essential ingredient of China's steel production.

In the future, it is highly likely that China will maintain its strategic advantage as a cost-effective production hub, at least for the time being, given the existing facilities that integrate the economy into the supply chain of electronic products. However, the ongoing geopolitical tensions with Western countries will promote a diversion of trade towards nations in the global south including the BRICS countries and, of course, Asia. Already today, China is the most important trade partner for the global south, holding a share of almost 20% compared to 18 and 14% for the USA and the EU, respectively (Kynge & Fray, 2024). Furthermore, China has free trade agreements with many of these countries, covering almost 40% of its trade with the global south. Given the fragmentation of globalisation, it is highly likely that China will further build up its trade with emerging and developing economies to compensate for its declining trade with the Western world.

6.3 Going Global: The Belt-and-Road Initiative

The Belt-and-Road Initiative (BRI) is China's most important internationalisation approach since its WTO entry. It was initiated by President Xi in 2013 and officially launched in 2015 (Ministry of Foreign Affairs, 2015). From a Chinese perspective, it can be interpreted as part of China's overall internationalisation strategy in recent years, which combines aspects of economic interest with global governance considerations (Wang, 2019).

For most Western countries, however, the BRI is a project that aims to increase the geopolitical influence of China through so-called 'debt-trap' diplomacy. By providing financial and resource aid to developing countries, the claim is, China intends to make the involved countries dependent on such aids, so that the countries in the long term become more inclined to par with Beijing's political interests (Bennon & Fukuyama, 2023; Chellaney, 2017). Background for the accusation is the observation that since the start of the project more than 25% of the overall funding provided by Chinese financial institutions to BRI-debtor-states had to be converted to rescue loans (Caixin Global, 2023).

China's ambitions with respect to the BRI are certainly complex and even more difficult to prove (Hillman, 2020). In any case, it is highly doubtful that the mega-project is based on a formulated master plan. Instead, it is more likely—as is typical for large-scale Chinese projects—that it has been launched as an exploratory approach, in which the priorities and instruments may shift over time (Heilmann,

2020: 18). This includes strong inefficiencies, poor due diligence and monitoring as well as a lack of appropriate credit risk management. It is therefore not a surprise that since 2013 approximately ten percent of the overall investments needed to be classified as troubled (Leahy et al., 2023). The most extreme is the case of the China-Pakistan Economic Corridor with an absolute investment above 62 billion USD, out of which approximately 20% was either cancelled or stalled indefinitely. While the China-Pakistan Economic Corridor was first a flagship initiative for economic cooperation, the project became a central point for vast corruption allegations since 2018.

The assumption that mismanagement and not deliberate 'debt-trap' diplomacy is the reason for the various credit defaults, fits with the empirical observation by independent research: in the majority of default cases, China typically arranged financial solutions which ensured that the respective debtors could pay back their loans, instead of requiring the handover of strategic assets that are relevant for geopolitical influence in the respective country (Horn et al., 2023).[4] Furthermore, most of the Chinese funding of BRI investments in foreign countries are commercial loans or corporate investment and are not directly lent out by the Chinese government although a huge amount is provided by SOEs (Wang & Jia, 2023). In any case, the financial risk is with Chinese creditors because it is unclear whether these loans will ever be repaid.

In economic terms, first and foremost, economic growth matters, and is to be maintained through increased regional and superregional integration in trade and direct investment, fostered by the BRI. The initiative, in particular, offers additional avenues for exporting China's infrastructure and manufacturing overcapacity abroad, while simultaneously securing essential commodity imports, such as oil and grains, to address domestic shortfalls. Moreover, the project advances promote the internationalisation of the RMB, aligning it with China's broader strategy to expand its influence in global affairs.

As the name suggests and the following map, Fig. 6.4, shows, the initiative mostly consists of two corridors: the land-based Silk Road Economic 'Belt' connecting Central Asia, Russia, and Europe and the twenty-first century Maritime Silk 'Road' connecting Southeast Asia, India, Africa and Europe. Historically, the project is linked to the famous Silk Road, an ancient trade route that was already known during the Han dynasty between 206 BC and 220 AD and lasted until the Industrial Revolution. As Schumann (2020: 147) pointed out, the historical road was an 'early thoroughfare of globalisation' that not only fostered trade but also supported the exchange of people, cultures, and ideas.

The dimensions of the BRI are impressive. By 2023, 150 countries had joined the initiative and it is represented by projects on every continent: 44 countries in Sub-Saharan Africa, 34 countries in Europe and Central Asia, 25 countries in East Asia and the Pacific, 22 countries in Latin America and the Caribbean, 19 countries

[4] An exception is the deep-sea port in Hambantota, Sri Lanka, that was forced to hand over to the Chinese SOE China Merchant Port Holdings in 2017, on a 99-year lease period as part of a debt-equity swap. The port was opened prior to the BRI in 2010, but lending continued until much later.

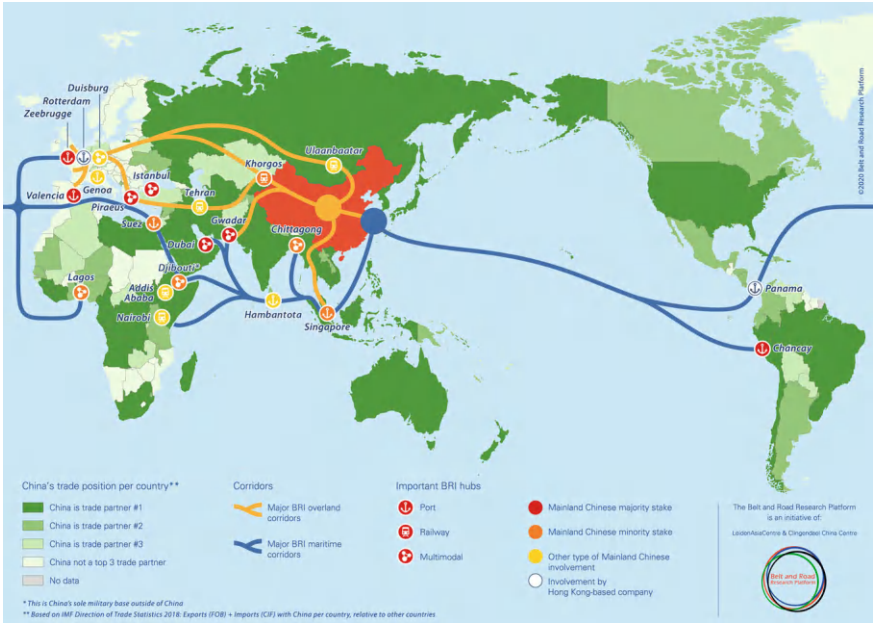

Fig. 6.4 China's belt-and-road initiative. *Source* Belt and Road Research Platform (2021)

in the Middle East and North Africa and 6 countries in South Asia. Overall, the project covers more than 60% of the world population, one-third of the global GDP, and approximately 25% of global trade (Löchel & Nawaz, 2018).

Official figures from 2023 show that, in the last ten years, the stock of BRI investments exceeded one trillion USD (Nedopil, 2023). The respective projects include physical infrastructure such as roads, railways, and ports as well as digital infrastructure such as the expansion of fibre-optic cable and 5G networks. Of these, approximately 60% are related to construction investments with a commercial background, while the remaining 40% were not-for-profit investments mostly related to environmental or social matters.

The regional focus is central and east Asia and sub-Saharan Africa, which is therefore also the fastest-growing area of BRI engagements. The preferred sectors of investments are metals and mining as well as energy, with an increasing focus on the deployment of renewable energies. However, despite all efforts, the absolute annual flow of investments has declined over time. According to figures published by AidData (2021), BRI-related investments had peaked in 2015, at over 250 billion USD, but then declined to approximately 75 billion USD in recent years.[5] One

[5] It should be noted that all data with regards to BRI-investments are quite difficult to track. It seems that even Chinese authorities like the NDRC, which is in charge of the project, do not have a full overview of all projects and investments. However, the development trend of the investment figures over time is similar across different institutions: After the peak between 2015 and 2017, the

major reason has certainly been the supply chain disruptions caused by the Covid-19 pandemic, which negatively affected trade and investment until today.

Parallel to the BRI, China initiated the institutionalisation of the Asian Investment and Infrastructure Bank (AIIB), which was officially founded at the beginning of 2016. This relatively young multinational development bank already includes more than one-hundred member states, including European countries, with an intended capital of 100 billion USD. The strongest voting power lies with China itself, which holds a capital share of 26.6%. The AIIB was founded to establish a funding channel for the BRI, in addition to the existing Silk Road Fund, which has a volume of 40 billion USD (Callaghan & Hubbard, 2016).

Overall, the BRI has intensified the trade of China with the involved countries, which in turn has improved the economic situation in the respective economies despite the mentioned failures (Tong et al., 2020). Furthermore, the recent agreement between China, Kyrgyzstan, and Uzbekistan in 2024 to build a joint railroad line to fully interconnect central Asia shows the ongoing development of the project. The new line will not only improve the economic interconnectivity but also support the exchange of people and culture and add to the stability in the region.

6.4 Exchange Rate System: Between Liberalisation and Control

The exchange rate of a country determines the value of its own currency against other currencies. In principle, a lower currency value tends to favour trade, and vice versa, as it makes exports cheaper and imports more expensive, thereby potentially increasing a trade surplus or reducing a trade deficit. Within this concept, China's exchange rate policy can be best understood as a result of a triangulation of influences from politicians, technocrats, and interest groups (Das, 2019; He, 2020; Yu, 2018). While the political leadership consistently prioritises stability, favouring policies that manage the exchange rate, economic technocrats from the PBC, for instance, often advocate for more market-driven solutions, such as a flexible exchange rate where market forces determine the price of the currency. However, vested interests, particularly from the export industry, oppose the liberalisation of the exchange rate system because this might diminish their own international competitiveness due to a rising exchange rate of the RMB. These interests are often supported by political elites, especially at the local level, where economic growth is a paramount concern.

Historically, China adopted a managed floating exchange rate system for the RMB after the unification of the exchange rate in 1993, as discussed in Chapter 3.[6] In such a system, the RMB's value is not entirely determined by market forces, which are

investment amount declines significantly; see, for instance, American Enterprise Institute (2024) or Heilmann (2020:23).

[6] Also the EU applied a managed exchange rate system, the so-called European Monetary System (EMS) between 1979 and the launch of the Euro in 1999.

floating, nor is it rigidly fixed or pegged to another currency. Instead, it operates within a controlled trading band, marked by a lower and an upper limit that are guaranteed by the central bank. If, for instance, the exchange rate of the RMB against the USD reaches the upper bound, the PBC must buy USD with RMB in the foreign exchange market to keep it in the set corridor. The other way around holds for the case of the lower bound: USD must be sold to buy back RMB.

However, the implementation of the managed floating system did not become effective before 2005. The reason was that the Asian financial crisis in 1997 prompted China's State Council to effectively peg the RMB to the USD at a rate of 8.28 RMB per USD.[7] However, China's burgeoning trade surplus after its WTO entry in 2001, particularly against the USA, led to accusations of China being a currency manipulator. The claim was that China would purposely undervalue its currency to boost domestic exports. The resulting pressure eventually forced China to give up the fixed exchange rate and return to a managed system (Tu & Di, 2020). When China implemented the managed floating system in 2005, the trading band for the RMB was set at +/− 0.3%, thereby allowing small daily fluctuations within this range against the USD. This band was gradually widened to 0.5% in 2007, 1% in 2012, and eventually to 2% in 2014, a range that remains in place today. For other currencies, the RMB can fluctuate within a slightly broader corridor of +/− 3%.

Figure 6.5 shows the exchange rate of the RMB against the USD since 1994 on the left and the development of the stock of China's foreign exchange reserves on the right scale. The figure indicates that between 2005 and 2008, China's exchange rate policy was characterised by a controlled appreciation in the value of the RMB, which rose nearly 20% against the USD. However, this upward trend was interrupted by the global financial crisis, once again leading to a reversion to a de facto peg from 2008 to 2010 to ensure stability during the turbulent period. The controlled appreciation resumed afterwards, with the RMB reaching a peak at approximately 6.1 RMB/USD in 2014, an appreciation of more than 26% compared to its 2005 value.

In August 2015, a market crash initiated a significant depreciation of the RMB, which continued into 2016. The volatility was triggered by an announcement of the PBC that China's exchange rate system would move towards being more market-oriented, which coincided with the RMB's inclusion in the IMF's Special Drawing Rights (SDR) currency basket. The core of the reform was the introduction of a new central parity rate settlement, or fixing mechanism, which determined how the PBC sets the exchange rate at the opening and closing of each trading day. Under the new mechanism, the opening price of the RMB is aligned with the previous day's closing price, thereby following market procedures while maintaining the 2% trading band. Most importantly, the change implied that the trading corridor needed to be adjusted in line with the exchange rate. Consequently, the PBC could no longer maintain the corridor by arbitrarily setting the central parity price of the RMB against the USD

[7] The RMB follows a price quotation. It measures how much domestic currency one needs for one USD. Other currencies like the USD or EUR follow an indirect quotation: conversely, how much foreign currency must be paid for one unit of domestic currency. Both pairs are inverses of each other i.e. 8.28 RMB per USD equals 0.12 USD for one RMB.

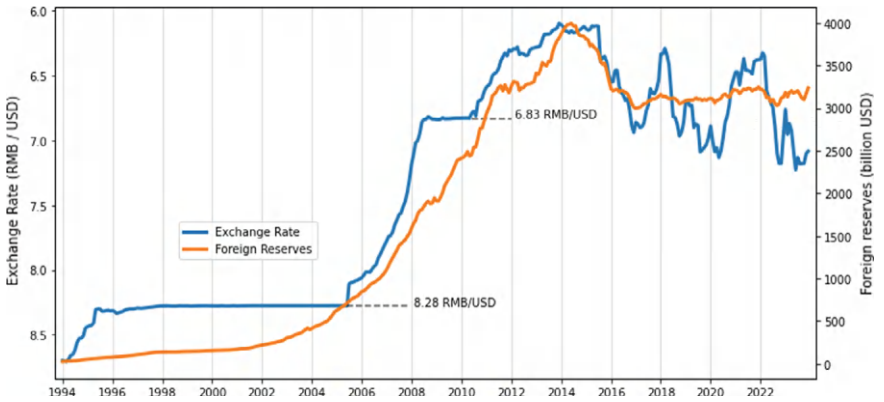

Fig. 6.5 RMB exchange rate and foreign exchange reserves 1994–2023. *Note* The scale is inverted so that an appreciation of the RMB coincides with a rising line and vice versa. *Source* CEIC, IMF, People's Bank of China

in a discretionary manner. It is therefore no exaggeration to say that this policy shift was an 'icebreaking step' towards a fully-fledged floating exchange rate system (He, 2020: 242).

However, the introduction of the new fixing mechanism was abrupt and poorly communicated by the central bank, as it was confined to a mere two-sentence statement (PBC, 2015). In addition, it was coupled with a unilateral depreciation of the RMB by almost 2%. These factors led the market to perceive the PBC's actions as an interventionist attempt to boost exports amid slowing growth and a recent stock market crash. Consequently, the RMB experienced a further sharp decline of approximately 3% in the first two days after the new exchange rate mechanism was introduced, triggering massive capital outflows due to rising expectations about depreciation.

Concerned about such uncontrolled depreciation, the PBC discarded the new fixing mechanism after just three days. In its place, it introduced a new, more complex and opaque settlement mechanism to ensure greater exchange rate stability.[8] Presently, the exchange rate of the RMB is primarily managed through a countercyclical factor and market intervention by either buying or selling foreign exchange reserves (Zhang, 2023). This countercyclical factor is the name for an adjustment made by Chinese banks to their daily RMB quotes, which in turn is used by the PBC to set the currency's daily reference rate against the USD. Although also opaque, this method limits the need to use foreign exchange reserves to prevent RMB depreciation.

During the 2015 crisis, the PBC halted depreciation by selling substantial USD reserves to buy back RMB. Consequently, China lost approximately 1 trillion USD in foreign reserves due to this intervention in the foreign exchange market combined

[8] Under this regime the exchange rate of the RMB against the USD was determined by the arithmetical average of the closing price of the last trading day and the current day's value against an index of a basket of currencies.

with capital outflows triggered by foreign investors. Eventually, the stock of foreign exchanges stabilised at approximately 3 trillion USD, as shown in Fig. 6.5. It was not until mid-2016 that the crisis ended. During this time, the exchange rate of the RMB was highly volatile. In early 2022, another round of depreciation began. This, however, was not driven by changes in China's exchange policy but by a strong appreciation of the USD, which was spurred by significant interest rate hikes by the US Central Bank to dampen the rising domestic inflation rate. This adjustment led again to capital outflows from China, which were exacerbated by the real estate crisis and the mediocre economic recovery in 2023. In August 2023, the RMB hit a 16-year low of 7.3 against the USD and it remains weak since then.

Overall, a contradiction persists in China's exchange rate policy. While the political leadership obsesses over stability and control, it simultaneously strives to internationalise the RMB as a precondition of a stronger influence on the world economy and a reduced reliance on the USD. This ambition necessitates a more liberalised domestic exchange rate system that is driven by supply and demand in the market, which, however, stands in contrast to the control of the exchange rate by government authorities.

6.5 Internationalisation of the RMB: Progress Under Way

The most significant achievement in the internationalisation of the RMB in the last 15 years was its inclusion in the IMF's Special Drawing Rights (SDR) in 2016. This step acknowledged the growing importance of China's economy and its currency for the global economy by international institutions. The SDR is an international reserve currency created by the IMF to supplement the reserves of its member countries and can be freely used as liquidity by countries when needed. It consists of a basket of five currencies: USD, EUR, RMB, yen, and pound.

At its introduction in 2016, the share of the RMB in the basket was 10.9%, but it increased slightly and sat at 12.3% as of August 2022. Figure 6.6 shows the current composition of the basket. Of course, the USD still dominates with a share of 43.4%, whereas the share of the EUR is slightly less than 30%, and Yen and Pound at 7.6 and 7.4%, respectively. The introduction of the RMB into the SDR basket decreased the shares of the yen, the pound, and the Euro, while the USD's position actually strengthened.

It is important to note that the share of a currency in the SDR basket should not be confused with the capital quota of the respective country in the IMF. The latter is much more important because it is related to the voting power in the IMF, where the USA and the EU are still dominant, with respective veto powers of more than 15% each, whereas China has only a share slightly above 6%, even though it is the second largest economy of the world (IMF, 2024).

China started to internationalise its currency in the aftermath of the global financial crisis in 2008 (McDowell, 2019). The first step was the launch of the RMB as an international trade settlement currency in 2010. Since then, regional trade with Asian

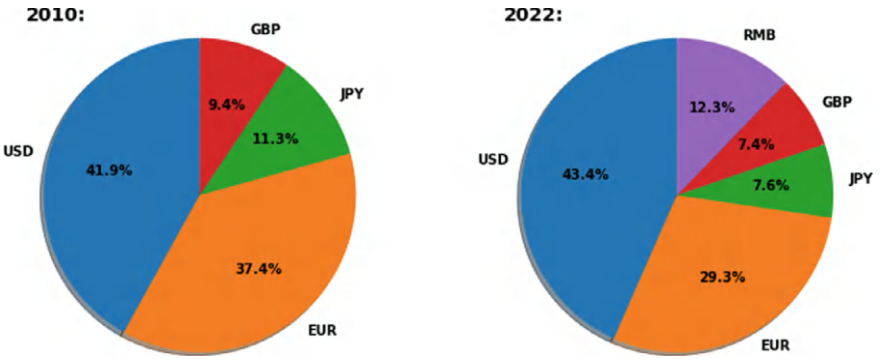

Fig. 6.6 SDR basket currency weights 2010 and 2022. *Source* IMF (2024)

countries has become increasingly decoupled from the USD. Today, almost 50% of China's overall trade is settled in RMB (Wang et al., 2023).

Nevertheless, the share of the RMB in global trade is still slightly less than 5% compared to approximately 85% for the USD. This dominance is mostly attributable to third-party trade, i.e. trade between countries other than the USA that use the dollar as a settlement currency. This is especially the case for commodity trading such as oil, for instance. However, more than 42% of China's own commodity trading is already settled in RMB.

In the same year as the RMB became an international trade settlement currency, China established Hong Kong as an offshore market for the RMB (Leung, 2011). This step created two different foreign exchange markets: In Hong Kong, investors use the offshore RMB known as the CNH, whereas in mainland China, the RMB is denoted as the CNY. Transactions in Hong Kong are converted 1:1 to CNY for any cross-border transaction into mainland China, given the approval of the respective authorities, such as the State Administration of Foreign Exchange Reserves (SAFE).

The original intention was to also establish the RMB as a financial investment currency. In 2002, the country launched the so-called Qualified Foreign Institutional Investors (QFII) programme which allowed foreign investors to directly invest up to 2 billion USD in mainland China's equity markets. Since 2020, the investment cap for QFIIs has been removed, and the requirements for obtaining a foreign investor licence substantially decreased. The establishment of an offshore market has the advantage of mitigating the related financial risk for the mainland. Furthermore, compared with Shanghai, the main financial centre in mainland China, Hong Kong has a long-lasting track record as an advanced and open international financial centre, thereby strengthening international confidence.

Indeed, the establishment of an offshore market boosted the further opening of China's capital markets and hence the use of the RMB as an investment currency (Malkin & Li, 2019). Today, 75% of China's total cross-border investment is settled in RMB and the issuance of RMB-denominated bonds—known as dim sum bonds—reached a record-high of more than 300 billion RMB in the first half of 2023,

Table 6.1 Milestones in the internationalisation of the RMB 2010–2023

Year	Event
2010	Launch of the RMB as a trade settlement currency
2010	Establishment of Hong Kong as an offshore market for the RMB
2012	Set up of a free trade zone in Shanghai
2014	Start of the Shanghai and Hong Kong stock connect programme
2015	Liberalisation of the exchange rate mechanism
2016	RMB enters the SDR's of IMF
2018	China's stock markets integrated in the MSCI world index
2018	Trading of oil futures in Shanghai in RMB
2022	Upgrade of the share in the SDR
2023	Trading of stocks at the Hong Kong stock exchange in RMB

Source Own compilation

thereby continuing its year-on-year steady increase since 2018 (Lockett & Leng, 2023). Issuing sovereign bonds in Hong Kong is done not only by large international companies but also China's government (Löchel et al., 2016).

Additionally, the emergence of panda bonds since 2005 has provided another avenue for foreign investment. These bonds, denominated in RMB, are issued in mainland China by foreign entities to finance their Chinese businesses. They have gained popularity in recent years due to China's comparatively low-interest environment. Nevertheless, foreign bonds, compared to domestic bonds, still play a rather limited role in the overall bond market both in the onshore as well as the offshore market.

Furthermore, the Shanghai-Hong Kong Stock Connect, launched at the end of 2014, accelerated cross-border RMB-denominated portfolio investment in mainland China. This programme established a bidirectional trading link between the Shanghai and Hong Kong Stock Exchanges, enabling qualified mainland Chinese investors to access eligible Hong Kong shares and allowing Hong Kong and overseas investors to trade eligible so-called A shares from mainland China within a specified daily quota.[9] Later, a similar programme was also established for a Shenzhen-Hong Kong connection, and over time, the number of tradable stocks within the programme rapidly expanded. One of the most recent moves to internationalise the RMB through the offshore market in Hong Kong was taken in 2023 by selecting 24 stocks with a market share of approximately 40% to be traded in mainland CNY on the Hong Kong Stock Exchange.

Table 6.1 summarises the most important steps in the internationalisation of the RMB since 2010.

[9] A-shares represent publicly listed Chinese companies that are traded on Mainland China's stock markets in RMB, whereas B-shares are listed foreign investment shares traded in in foreign currencies. H-shares denominated in Hong Kong dollar on Hong Kong's stock exchange and can be freely traded by anyone.

Other than trade and investment, the most important function of an international currency is its status as a reserve currency. Such a currency is held by central banks and large international financial institutions as reserves to ensure the ability to pay for liabilities under any circumstances. In times of crisis, the status of the reserve currency is equivalent to gold. However, the status of the RMB as a reserve currency is especially weak. Today, less than 3% of all reserve currencies are held in RMB, compared to almost 60% for the USD and approximately 20% for the EUR. The reasons for such weakness are easy to identify: the capital and financial accounts for cross-border financial and direct investments are still not fully liberalised, and the exchange rate regime remains under management. Moreover, China's capital markets are still not as deep, broad, or liquid as the US markets, thereby reducing the interest in holding RMB over other assets for investors and governments alike.

It is worth mentioning that a country in which currency is accepted as the international reserve currency has some advantages. Most important is the independence of the domestic monetary policy, whereas the respective policies of all other countries depend on the reserve currency. For instance, China faces strong capital outflows and hence depreciation pressure on its own currency triggered by rising interest rates in the USA due to higher inflation rates from 2021 to 2023. To lessen the damage, China's central bank was constrained to limit the decline of the domestic interest rate, although a lower interest rate would have better supported the recovery of the domestic economy. It is therefore not a coincidence that the first decline of the interest rate in September 2024, follows a respective decline in the USA (Lin, 2024). As a result, China, like other countries relies to a certain degree on the monetary policy of the Fed because of the status of the USD as the leading international reserve currency.

Moreover, an international reserve currency reduces the external funding costs of a country and simultaneously raises the returns on assets, denominated in that currency, because the currency is in high international demand (Pflueger & Yared, 2024). In other words, a country whose currency is the leading international currency must pay less for its international debt and receives a higher return on its international investments. This is one reason why the USA is capable of sustainably bearing higher debt levels than any other country in the world.

However, an international reserve currency also has its downsides for the respective country. Most notable is that the respective country must have a deficit in its current account to create a steady flow of the domestic currency to the world, which is reflected in a surplus in the capital account. This is precisely the case in the USA: since the end of World War II, the country has had an enormous trade deficit that is financed with international debt flowing into the country and in turn delivers the USD to the world.[10] Of course, this is a serious question for China: whether it is willing to accept permanent deficits in its current account.

[10] In the literature this phenomenon is known as 'Triffin-dilemma', named after Robert Triffin, who argued that the Bretton-Woods currency system, that existed from 1944 until 1971 with a fixed exchange of the involved currencies to the USD and the USD to gold, created the constant need for global liquidity in Dollar.

Although the RMB still lags behind the USD in all three dimensions of an international currency—trade, investment, and reserve currency—the financial sanctions by Western countries against Russia due to the invasion of Ukraine, including the freezing of approximately 300 billion currency reserves of Russia and excluding the country from the international payment system SWIFT, have triggered international momentum in favour of the RMB at least to a certain degree. In mid-2024, for instance, more than 50% of cross-border inbound and outbound transactions have been facilitated in RMB up from about 40% in 2021 (Sandlund, 2024). From a Chinese perspective, this development has already been interpreted as the beginning of an upcoming 'de-dollarisation' of the global currency system (Miao & Fei, 2022; Xu & Xiong, 2022). The main hypothesis is that a multi-currency monetary system will arise in which the USD still plays a dominant role but where the RMB, together with other currencies, will also exert substantial influence. Such a scenario is in line with expectations that the world economy will disintegrate into trading blocs again.

This new development relates not only to China-Russia trade but also to several other emerging and developing economies, including Saudi Arabia, Argentina, Brazil, Pakistan, Iraq, and South Africa, which have announced their willingness to settle their trade in the Chinese currency. Additionally, BRICS countries are considering using the RMB as a trade settlement currency despite plans to establish their own joint currency for their member states.[11] It is therefore not surprising that the share of the RMB in trade finance, measured by market value, has tripled between 2022 and 2023, which makes the RMB the second most used currency, even surpassing the EUR (Zhang & Wang, 2023). However, its share as a reserve currency has not increased in recent years, as data show (Arslanalp et al., 2024).

Finally, to facilitate its trade, China has already developed an alternative international payment settlement system to SWIFT, called CIPS. Although still tiny, with fewer than one-hundred participating institutions compared to the estimated 11,000 partners of SWIFT, there is steady growth of the new system. Within SWIFT, less than 5% are transacted in the RMB, compared with approximately 50% for the USD and more than 20% for the EUR.

Although the internationalisation of the RMB made progress in recent years, it is rather unlikely that the currency could challenge the USD as a leading international currency for the time being. This would require China to make proper progress in liberalising its exchange rate system and capital as well as financial account at the cost of a loss in control over the exchange rate and cross-border capital flows. Furthermore, China's financial system, including the state-owned banking sector, seems not yet ready to handle the challenges of a fully open capital account and a free-floating foreign exchange. In fact, it is more likely that bold and sudden liberalisation would be accompanied by strong instabilities in the financial sector and negative spill-over effects on the real economy.

[11] BRICS was founded in 2011 by Brazil, Russia, India, China, and South Africa. At the beginning of 2023 Egypt, Ethiopia, Iran, and the United Arab Emirates jointed the bloc as new members, followed by Indonesia at the beginning of 2025; Further countries have announced their interest to join the bloc.

6.6 Great Power Rivalry: The Trade and Tech-War

Economic globalisation was a precondition for the success of China's *Reform and Opening Up* policy. It not only enabled the country to build a large export industry in labour-intensive sectors, that absorbed the labour surplus from the countryside, but also helped to attract massive inflows of foreign direct investments. Especially in the early stage, these investments generated employment and income and channelled advanced technologies into China.

Reciprocally, the world economy benefited from China's rise, mainly through the provision of cheap imports that allowed specialisation and high growth rates without significant inflation in advanced economies. Furthermore, the enormous Chinese market offered massive new business opportunities for foreign companies. Developing and emerging economies benefited from China's rising demand for commodities.

Generally, economic globalisation was a classical win–win situation for all involved countries. The starting point was China's opening-up policy in 1978, accelerated by the breakdown of the Soviet Union in 1989. The height of globalisation was arguably reached shortly after China entered the WTO in late 2001, which triggered a golden period of global growth that lasted until the breakout of the global financial crisis in 2008. Since then, globalisation has been on the retreat, made especially visible by stagnating trade, financial disintegration, and geopolitical alignment. The rising geopolitical tensions with Western countries, especially the USA, have now become a major challenge for China and its economy.

However, decoupling from China is also a systemic risk for the world economy, given the size of China's economy, which accounts for almost 17% of global GDP and 12% of global trade. Moreover, still more than 30% of global GDP growth can be attributed to China, far exceeding the figures for India and the USA of 15 and 11%, respectively. Furthermore, the country is a crucial part of international supply chains and any pullback would increase costs and prices and hence reduce living standards in the countries that trade with China. Overall, deglobalisation is a lose–lose situation for both China and the world economy.

Determining the distinct reasons for this unfortunate development, which has been ongoing for more than 15 years, is rather difficult. It is probably best explained by a mixture of impartial difficulties and black swan events, i.e. incidences that cannot be predicted (Roach, 2022: 1–11). One of these events was indeed the Global Financial Crisis, which changed economic policies towards more nationalistic approaches and interests (Aiyar & Ilyina, 2023). Another black swan event was the Covid-19 pandemic and the related breakdown of the global supply chain channels that gave rise to policies of derisking and decoupling in order to reduce economic dependencies and business cluster risks.

These serious setbacks for globalisation were even topped by the Russian invasion of Ukraine in February 2022, which paved the way back into bloc-building and system competition between the West and the East again, as it was already the case in the cold war era until the final breakdown of the Soviet Union in 1991. As a result of

the invasion, a club-based international system emerged with the USA, the EU, and its allies in one camp and the BRICS countries, among others that did not follow the Western sanctions against Russia. 'Friend-' and 'near-shoring' are now dominating international trade and investments.

The centre of the geopolitical tensions is the so-called 'great power rivalry' between the USA and China, which was even interpreted as a new 'Thucydides' trap' in a well-known book by Allison (2017).[12] The term is based on the writings of the Greek historian Thucydides, who described the potential for conflict as he chronicled the Peloponnesian War between Sparta and Athens in the late-fifth century BC. According to his writing, the conflict made a war inevitable, as the established power of Sparta was threatened in its position by the second most influential city-state of Athens.

Allison studied sixteen cases of superpower transition in history. He found that a power transition between a rising and an established power was only resolved peacefully in just four cases. However, despite this finding, Allison emphasised that there is no historical determinism for China and the USA to fall into the Thucydides' trap, a conclusion that is shared by Chinese authors as well (Zhang & Pu, 2019). One reason is the continued and deep economic interdependency between the two countries, which is historically unique for the relationship between the rising and the established powers (Löchel & Tang, 2024).

Unsurprisingly, the explanations of the US–China rivalry are controversial. A recent book edited by Medeiros (2023) collected different views. For instance, whereas American authors blame China for challenging the 'rule-based international order' (Economy, 2023: 66–89), Chinese authors identify the 'strategic pressure of the United States' (Wang, 2023) as the main reason for these tensions. The highly political discussion culminates in mutual accusations that China likes to 'displace the American order'—the title of a recent book by Doshi (2021)—and conversely that the USA is 'thwarting China's rising power' to preserve US hegemony (Wu, 2023: 121–146).

There is little doubt that China's unrivalled economic success in the last 45 years and its unexpectedly rapid rise to the second largest economy in the world is a challenge for the established international architecture in economic and political terms. International governance systems such as the Bretton Woods Institutions with the IMF and the World Bank were established after World War II and operated clearly in favour of the USA and its allies. We already mentioned, the voting power of the USA and the EU countries in the IMF that ensures them veto power each. Furthermore, the managing director of the IMF is always appointed by the EU, whereas the USA nominates the president of the World Bank, although both represent only approximately 30% of world GDP and less than 10% of the world population.

[12] Westad (2024) compares the current US-China rivalry with the relationship between Britain and Germany in the years before the outbreak of World War I in 1914. He argues that Germany as the rising power had the fear that Britain intends to contain the economic and strategic rise of the country, whereas Britain conversely suspected to lose its position as a global hegemon at that time.

It is therefore not surprising that China has built up its own international institutions over time, such as the Asian Infrastructure and Investment Bank (AIIB) or the Shanghai Cooperation Organisation (SCO), which cover 10 countries at the heart of the Eurasia region.[13] Furthermore, the BRI has increased China's global network and influence and helped the country partner with its allies. China's engagement and leadership within the BRICS countries is another example. The club may be seen as an alternative draft to the Western G7 arrangement.

In addition, in 2022, China launched three important initiatives at the United Nations that again show the country's ambitiousness on the global stage (Economy, 2024): the Global Security Initiative, which aims to contribute to common security, system diversity, and multipolarity; the Global Development Initiative, which is intended to support developing and emerging economies; and the Global Civilisation Initiative, which puts forward the idea that there is no one-size-fits-all model for societies and includes questions on human rights. All three initiatives are clearly designed as alternatives to the existing political and economic international governance systems.

They confirm the 'paradigm shift' in China's international policy away from Deng's dictum 'hide your capacities, bide your time' towards a leading role in world affairs that is entitled by the rise to great power status questioning the unrivalled US dominance (Shirk, 2023: 14–22; Yan, 2021). The latter specifically, is the tender point for the USA in economic and political terms. They interpret China's policy mostly as the attempt to build a new world order that fits with the authoritarian China model with the final goal of substituting the USA as the hegemonial superpower (Economy, 2022; Medeiros, 2024).

From a narrower, economic perspective on the 'great power rivalry', it turns out that two developments were crucial. The first is the so-called China shock, a period that is today known as the era of 'hyper-globalisation' (Kirchner, 2022; Subramanian & Kessler, 2013). The China shock describes the loss of approximately one-third of manufacturing employment in the USA after China's WTO entry accompanied by pressure on wages. Although multiple factors were at work at the same time, for many Americans, cheap imports from China were seen as the main reason for the loss. To counter this development, former President George W. Bush introduced tariffs in the early 2000s. This policy was later reinforced by Donald Trump in his presidential election campaign in 2016 and eventually turned into a trade war with China in 2018.

However, relevant empirical research estimates that only approximately 15% of the job losses after the WTO entry were related to China's imports (Kroeber, 2023: 174). At least important was the technological progress, which, while raising labour productivity, required fewer workers inside the factories. This explains the observation that absolute manufacturing production continued to rise in the USA even after China's WTO entry, although employment strongly decreased. Moreover, cheap imports from China reduced input prices not only for US manufacturers but also

[13] The countries include Belarus, China, India, Iran, Kazakhstan, Kyrgyzstan, Pakistan, Russia, Tajikistan, and Uzbekistan.

for American consumers (Amiti et al., 2020). However, although consumer welfare increased with lower prices, job and income losses for certain groups of blue-collar workers remained (Autor et al., 2016).

The second, perhaps even more important, economic development that promotes the rivalry between China and the USA is China's recent rise as a competitor in advanced technologies. While China's economic relationship with the advanced economies of the West was mostly complementary in previous times, this changed with China's technology offensive, which started in the middle of the last decade under President Xi. Until then, the international division of labour was clearly defined: China was the world's workbench, producing cheap products for the global market, whereas the advanced economies dominated the high-tech industry.

China's shift towards *indigenous innovation* and *technological self-reliance*, with initiatives such as *Made in China 2025*, faced strong headwinds from industrial and political representatives in Western countries, who viewed it as a direct challenge to their technological dominance (AmCham, 2017; BDI, 2019). These complaints were paired with accusations of China playing unfairly by utilising their system of state capitalism to subsidise its domestic industry in disfavour of foreign industries. Since then, the concept of 'economic security' tops the agenda on both sides with the full spectrum of protectionism at work, ranging from mercantilist trade practices over nationalistic industrial policies to the screening of foreign direct investments as well as the weaponisation of food, energy supply, and finance to achieve geopolitical goals (EUCCC, 2024).

It is instructive to follow the changes in the economic relationship between China and the USA over time (Bergsten, 2022: 31–44). The most important milestones in the last 45 years are listed in Table 6.2. The table shows the dramatic changes since then. When Richard Nixon visited China to repair Sino-US relations in 1972 for the first time after the Korean War between 1950 – 1953, the move was backed by the joined interest of both sides to position themselves better in the rivalry with the Soviet Union. The visit was concluded with the signature of the so-called 'Shanghai Communique', in which both countries inter alia acknowledged the principle of the 'One-China policy' and reaffirmed a peaceful settlement of the Taiwan question as the most controversial issue (Kissinger, 2012: 255–274). Later, the Clinton administration was a strong supporter of China's WTO entry in the 1990s, which was combined with the hope that China's economic and political system would move closer to the Western system. Over time, however, the relationship changed due to economic as well as political reasons.

The launch of the Trans-Pacific Partnership (TPP) free trade agreement by President Obama in 2016 was a clear signal of a changing US policy (Kroeber, 2023: 187). It comprised twelve countries and approximately one-third of the world GDP but excluded China. The agreement was negotiated for ten years but was never ratified due to the political opposition in the USA. This allowed President Trump to quickly withdraw from it early in his presidency.[14]

[14] More precisely, after the US left, the agreement was revised among the remaining member countries into the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and took effect on December 30, 2018. China filed a formal application to the agreement in 2021, which however since then stands idle, even though it is the next country in the cue to be addressed.

Table 6.2 Milestones of US–China economic relations 1979–2023

Year	Event
1972	Richard Nixon visited China – Shanghai Communique signed
1979	The USA and China normalise diplomatic and trade relations
1983	The two countries establish the US–China Joint Commission on Commerce and Trade (JCCT) as a forum to discuss bilateral trade issues
1986	China applies to rejoin the General Agreement on Tariffs and Trade (GATT)
1989	The crackdown of the Tiananmen Square protests disrupted the negotiations over China's entry into GATT
1995	The World Trade Organisation (WTO) is established as the successor to GATT
1999	The USA and China reach an agreement on the terms of China's WTO accession
2001	China joins the WTO
2004	The USA brings their first WTO case against China
2006	The US President George W. Bush and Chinese President Hu Jintao launch the Strategic Economic Dialogue (SED) to discuss trade and other economic issues
2009	The US President Barack Obama and Hu launch the US–China Strategic and Economic Dialogue (S&ED). China becomes the world's largest exporter
2011	The WTO Appellate Body sides with China in a dispute over whether China's state-owned enterprises violate WTO rules on government subsidies
2015	The Obama administration concludes negotiations for the Trans-Pacific Partnership (TPP)
2017	US President Donald Trump withdraws the USA from the TPP. Trump and Chinese President Xi Jinping launch the US–China Comprehensive Economic Dialogue
2018	Trump imposes a sweeping set of tariffs on Chinese goods, leading to several rounds of tit-for-tat retaliation until US tariffs cover nearly all Chinese imports
2020	Washington and Beijing reach a 'Phase One' trade agreement
2022	US President Joe Biden institutes stringent export controls on computer chips in an effort to restrict China's advanced manufacturing sector
2023	Biden signs an executive order restricting some US investment in Chinese high-tech industries
2024	Congress passes, and Biden signs, a bill requiring the sale of Chinese-owned social media App Tik Tok to a non-Chinese buyer. The Biden-administration strongly increases tariffs on Chinese imports of renewable energy products like EV, solar panels and batteries.

Source Siripurapu and Berman (2024), own update

The agreement implied strong tariff declines and more importantly had strict instructions on intellectual property protection, subsidy restrictions, a limited SOE sector, and almost unrestricted market entry for foreign enterprises. It also included tougher rules on labour regulations, food safety, and environmental standards. All these frameworks were much stronger than the WTO rules and did not align with the institutional and economic standards of China. Indeed, the agreement confronted China with a trade-off: either become a member and adjust one's own economic standards, towards the rules set by the USA, or to adhere to one's own standards, and risk being cut off from huge trade flows and business in Asia.

We do not know what decision China would have made if TTP had come into effect. However, what we do know is that China pursued its own separate path—the Regional Comprehensive Economic Partnership (RCEP)—which was eventually concluded in 2020. Today, the RCEP is the largest free trade zone of the world with a total of 15 countries from which six—Australia, New Zealand, Korea, Japan, Indonesia, and Malaysia—had originally also joined the TPP. The RCEP covers 30% of the world population and more than 50% of global trade, but it does not include India and excludes services from the agreement.

The real shift in US–China relations, however, which ended 'the period of US–China strategic engagement' and started 'a new period of strategic competition' according to former prime minister of Australia, Rudd (2019: 49–62), came after Donald Trump became president for the first time in 2017. This was confirmed soon after he took over power, when his administration initiated a trade war with China (Dollar, 2022). Starting in 2018, the Trump administration launched four tranches to raise tariffs from 10 to 25% on a total of more than 800 imported goods from China, including cars, aircraft parts, and steel, with the goal of reducing the existing 200 billion USD trade deficit with China (Bown & Kolb, 2023). China's reactions turned into a tit-for-tat strategy by imposing similar 25% tariffs on US imports, mostly on agricultural products, cars, and aquatic products. The consecutive trade negotiations between Beijing and Washington ended without any resolution but left the events to quickly escalate. Alleging a total of 44 Chinese entities to pose a risk for US national security, the Trump administration restricted the entities from exporting their products to the USA. In retaliation, the Chinese Ministry of Commerce announced tariffs worth 60 billion USD a few days later and filed a claim before the WTO against the USA.

This trade war continued until the beginning of 2020, when the Phase One Economic and Trade Agreement was eventually signed, in which China agreed to increase its imports from the USA and undertake domestic reforms. For example, China agreed to strengthen the protection of intellectual property rights and to ban forced foreign technology transfer. However, as expected, it quickly showed that the tariffs had failed to reduce the US trade deficit, despite the concessions. Nevertheless, for the Trump administration, the deal was politically important because it kept the belief alive that the 'America first' policy would bring back jobs and income for America's blue-collar workers.

When President Biden began his presidency in 2021, his administration essentially continued Trump's trade policy but intensified it with a massive increase in tariffs on certain imports from China at the beginning of 2024. This included renewable energy products like EV, solar panels, and batteries, for which tariffs of 100, 50, and 25%, respectively, were imposed. However, a more lasting damage for the world economy is the ongoing blockade of the WTO as arbitrator of international trade disputes by the USA that started under the Trump administration. It declines the trust in the international trading system and advances unilateral actions by single countries to increase trade barriers.

Overall, the Biden administration has a much more comprehensive and systematic approach to China than the Trump administration. For example, China was

explicitly labelled a 'strategic competitor' in sharp contrast to the 'partnership' with allies in fields such as technology, cybersecurity, trade, and economics (White House, 2022).The new approach consists of three main components: economically, to protect US technological advancement and to strengthen the domestic industrial base; politically, to emphasise the systemic rivalry with China as an authoritarian party-state, especially in terms of influence over the international governance system; and to strengthen the US engagement in the Asia–Pacific region.

One core element of this approach is the ongoing tech war that restricts China's access to top-level US technologies (China Briefing, 2024). Most important are the landmark export controls on semiconductors and chip-making equipment from the USA to China in October 2022. These export controls immediately led to a drop of more than 20% in the export of chip-related products to China, with a further drop of approximately 40% in 2023. The controls also include European companies, for instance, the Dutch company ASML, which is one of the leading companies for the lithography system that is necessary to produce high-end chips. At the end of Biden presidency in January 2025, chips exports from US-companies to China relevant for AI had been completely excluded (Sevastopulo, Action 2025). As semiconductors as a general-purpose technology are key for almost all advanced technologies, these new measures are a significant obstacle to China's own technological progress and hence economic development.

However, the tech war is not only related to high-tech exports from the USA to China. It also includes heavy restrictions for Chinese outbound investments to the USA to acquire advanced technologies (Lewis, 2023). This investment has basically collapsed over the last five years. Furthermore, high-tech technologies from China are no longer allowed to be used in the USA due to security concerns. The most prominent case in this regard is the 5G communication technology of Huawei (Ryan & Burman, 2024). The first restriction for the company and its affiliations started more than ten years ago, and since 2021, the company has no longer been allowed to sell any of its products to companies in the USA. The same holds true for ZTE, another important Chinese communication provider.

In addition to the USA, the EU has curbed trade and investment with China in recent years under the approach of 'strategic autonomy' (EUCCC, 2024: 6–12). Inbound investments from China are being screened in the EU since 2020 to avoid investments in so-called critical infrastructure, which typically includes power grids, transport networks, and information and communication systems. The European Commission (2024) defined these areas as vital for the security of the EU. More than ten out of the 27 EU countries, for instance, banned 5G networks of Huawei and ZTE, and the EU's leadership is urging more countries to do the same. Europe's derisking strategy also includes the reduction of strategic dependencies, especially in the field of raw materials and the protection of critical infrastructure. The related 'Critical Raw Material Act' from 2023 stipulates that no more than 65% of strategic raw materials, a large amount of which are from China, should be sourced from a single country by 2030.

Although the EU has not yet entered into a trade war with China as the USA has, it has continuously increased its trade barriers for Chinese products since the

launch of a respective strategy at the beginning of 2021. The new trade strategy intends to increase 'the EU capacity to pursue its interests and enforce its rights, including autonomously where needed (EUCCC, 2024: 7). In the framework of the new strategy, the EU launched different probes and investigations against China that either restricted imports from China, for instance, for wind turbines, or intended to force China to open its market to European products, as in the case of medical products. In a recent move in October 2024, the EU Commission finally decided to increase tariffs on Chinese electric vehicles, justified by Chinese subsidies to the industry. In addition to the existing 10% tariff, Brussels charged an additional levy of up to 45% for different Chinese and foreign car makers in China such as BYD, Geely, Tesla, SAIC and VW.

Given these actions, it comes as no surprise that China reacts with respective counteractions, for instance, with increasing tariffs on certain spirits and pork imports from Europe. Furthermore, at the end of 2024, China's Ministry of Commerce prohibited the export to the US of dual-use items like gallium, germanium, antimony and superhard material that are used in semiconductor manufacturing and military applications. Already, in 2020 the NPC enacted a new export law intended to control technology exports that are deemed to be sensitive to national security, such as dual-use items. In the same year, the NDRC and the MOFCOM introduced new measures for foreign investments in Chinese companies that require a national security review. Furthermore, in late 2023, the same two ministries extended the list of technologies that are subject to export bans or restrictions to personalised information push-service technologies based on data analysis and to AI-related technologies. Moreover, Chinese authorities are currently moving to substitute foreign software of US companies such as Intel and AMD in public communication networks and data centres in China by domestic software. Finally, Apple was advised to fully remove WhatsApp from their App-stores in China.

However, compared with the measures taken by the USA, China's reaction looks relatively mild. Most likely, the main reason is that China is in a different position than the USA and the EU. Whereas the latter are already advanced economies, China is still an emerging economy with a strong backlog demand, particularly for cutting-edge technologies, which are needed to further develop the economy and the country. Therefore, China's own security policy tries to mitigate its own vulnerabilities instead of challenging geopolitical rivals (EUCCC, 2024: 13–39). Furthermore, the Chinese approach is strongly linked with further economic development. For instance, the Central Economic Work Conference in December 2023 balanced both goals equally as high-quality development and high-level security, this was also the case for related decisions in the past (Xinhua, 2023). Economic security from a Chinese perspective is basically synonymous with the technological upgrade of the country that reduces the dependencies on advanced economies and simultaneously develops its own economy.

It is anything but clear how and when the current trade and tech war between the USA and China will end or even further intensify under the re-elected President Trump (Roach, 2024). From an American perspective, there are two schools of thought: one camp is arguing that the USA has to win the competition with China whatever it takes (Pottinger & Gallagher, 2024). Representative of the opposite camp

is stressing a 'co-dependency' between the USA and China (Roach, 2022: 35–54) and propose the concept of 'conditional competition' (Bergsten, 2022: 276–303). Both approaches basically suggest decoupling the economic relationship between the USA and China from the geopolitical relationship. It is also suggested that both superpowers should work together to improve the international order, which includes giving China more influence in international organisations such as the IMF in exchange for concessions to follow the established rules of international trade and exchange. International trade agreements such as the TTP should also be revived.

From a Chinese perspective, economic relationships with the USA and other advanced economies are 'indispensable', as argued, for instance, by Jisi (2023). The concept is basically that as long as China's sovereignty and security are not affected, China's economic relationship with the world is essential for the further development of the country and the world economy. The approach includes rather similar concepts to that of Bergsten and Roach. Instead of 'conditional competition' and 'co-dependency', Wang suggests 'assertive competition' between China and the USA.

In any case, both concepts prefer cooperative over non-cooperative solutions. Indeed, China–US competition is not a zero-sum game. A new and stable equilibrium for the world economy requires a pullback of geopolitical and geoeconomic considerations. As the West has to accept that China's rise in unavoidable and cannot be contained, China should integrate into the existing international governance system further on.

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Part III
The Fight for a New Growth Model

Chapter 7
Long-Term Challenges of China's Economy

Even though China's economic growth rate saw some substantial volatility in recent years, mainly due to the Covid-19 pandemic, it almost steadily declined since 2008 as shown in Sect. 4.1. From a purely statistical perspective, this decline can be attributed to the increasing absolute value of China's GDP. As the GDP increases, the impact of any given change diminishes, naturally reducing the growth rate. For example, 10% growth in 1978 resulted in a GDP expansion of approximately 15 billion USD, whereas the same growth rate in 2022 would require a GDP expansion of approximately 1.7 trillion USD. Thus, the larger the base, the more challenging it becomes to achieve high growth rates.

A more meaningful explanation is that the declining growth rate reflects a decreasing long-term potential growth rate of China's economy. The potential growth rate is an estimate of the maximum achievable growth rate, considering that the factors of production such as labour, capital, technology, and land are used to capacity, within a given institutional framework. According to the IMF (2023: 24), China's potential growth rate was approximately 13% at the beginning of *Reform and Opening Up*. This rate has gradually decreased to between 5 and 6% today, with projections indicating a further decline to 3 to 4% in the medium term.

One reason for the declining potential growth rate had been already discussed in Sect. 4.2: The unbalanced growth model with overinvestment and underconsumption that has led to declining returns of investment especially for public infrastructure and private real estate investments. In the following sections, four additional and related long-term factors will be analysed that contributed to the decline of China's potential growth rate over time:

- The slowdown of technological progress.
- The declining demographic dividend.
- The rising debt level.
- The increasing environmental damage triggered by past growth.

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7.1 Declining Technological Progress: The Danger of the Middle-Income Trap

Historically, advancing from a low- to middle-income status has typically necessitated an Industrial Revolution. These revolutions have previously shifted labour from agriculture to manufacturing in other countries, thereby increasing labour productivity, which is the key driver of GDP per capita growth as a measure of income development over time.[1] This productivity increase occurs because industrial work is generally more capital intensive than agricultural work. The use of machinery makes labour more productive and generates higher output per worker within a given period. This transformation is precisely what has happened in China over the last 45 years. In today's more advanced economies, such as those in Europe, these transformations had already begun around 200 years ago.

To progress from a middle- to high-income status, increased capital intensity alone is not sufficient to further drive productivity and hence income. Technological progress by the implementation of innovations becomes the decisive factor. It is not just more capital but more sophisticated capital that matters. The so-called 'middle-income trap'—a term coined by the World Bank (2024)—represents a situation in which this shift to technological advancements does not take place or occurs inadequately, leading to insufficient growth in productivity and hence income. This risk was explicitly acknowledged by China's former Premier Keqiang (2015) at the World Economic Forum in Davos concerning the Chinese economy (Roubini, 2024; Wang et al., 2021).

Technological progress in an economy can be measured by total factor productivity (TFP), which indicates changes in GDP per capita independent of changes in production factors, such as labour, capital, and land. TFP reflects not only technological innovations but also institutional changes in the market environment. These may include the efficiency of markets, the robustness of the legal system, the strength of the entrepreneurial spirit or the degree of corruption, among others. Therefore, TFP development can be viewed as a reasonable measure for high-quality development, reflecting advances in technology, market efficiency, and institutional robustness, all of which drive increases in productivity and income (Sun et al., 2021).

Empirical data indicate a decline in TFP growth within China's economy, signalling a concurrent deceleration in productivity growth over time. In 2023, the IMF (2023: 86) reported that China's TFP growth decreased from 3.1% for the 2000s to 1.1% between 2010 and 2019. The significant TFP surge in the 2000s can be attributed to China's WTO accession, which facilitated private sector expansion, granted market access to foreign enterprises with advanced technologies, and boiled down the antiquated and less productive SOE sector.

[1] Productivity is defined as GDP per worker in a certain period, whereas GDP per capita quantifies GDP in relation to the whole population. The difference between the two measures is the size of the denominator: the latter includes the whole population, whereas the former includes the working force only. Therefore, both measures are highly correlated: the higher productivity, the higher GDP per capita and vice versa.

However, the upward trajectory was halted by the global financial crisis in 2008. The subsequent massive fiscal stimulus led to increasingly unproductive investment into public infrastructure accompanied by overinvestment in the real estate sector. Additionally, the post-WTO entry surge in new firm market entries—estimated to constitute two-thirds of manufacturing TFP growth—sharply declined, suggesting a slowdown in business dynamism (Brandt et al., 2022: 95). Furthermore, the significant productivity boosts from SOE privatisation dwindled as privatisation efforts stalled (Lardy, 2019: 16–21). Finally, the recurrent misallocation of financial resources, spurred by deficiencies in China's rather imperfect financial system, also contributed to the decline in TFP growth (Wang et al. 2021; Sun et al., 2021).

Not only has China's TFP growth declined over time, but its TFP level has also not substantially improved relative to that of its peer economies over the past four decades (Feenstra et al. 2015). For example, China's TFP in 2020 was approximately 40% of the level of the USA, thereby precisely mirroring the situation from 1980. In contrast, South Korea, Singapore, and Taiwan have successfully navigated the transition from middle- to high-income status with TFP levels of 60, 70 and 85% of the US levels, respectively. This indicates that China's progress in technological advancement has been significantly outpaced by other emerging economies in Southeast Asia (Glawe & Wagner, 2021).

Figure 7.1 displays a calculation of the Conference Board and illustrates how China's TFP growth has influenced its GDP growth. It calculates the average GDP growth rate by summing the growth rates of TFP, capital intensity, labour intensity, and human capital quality across three periods—2000 to 2009, 2011 to 2019, and 2020 to 2023—and includes a prediction for 2023 to 2029. The data show a trend similar to the aforementioned IMF figures: a marked decline in potential and actual GDP growth across the examined periods. This consistent decrease was largely propelled by reduced contributions from TFP and capital.

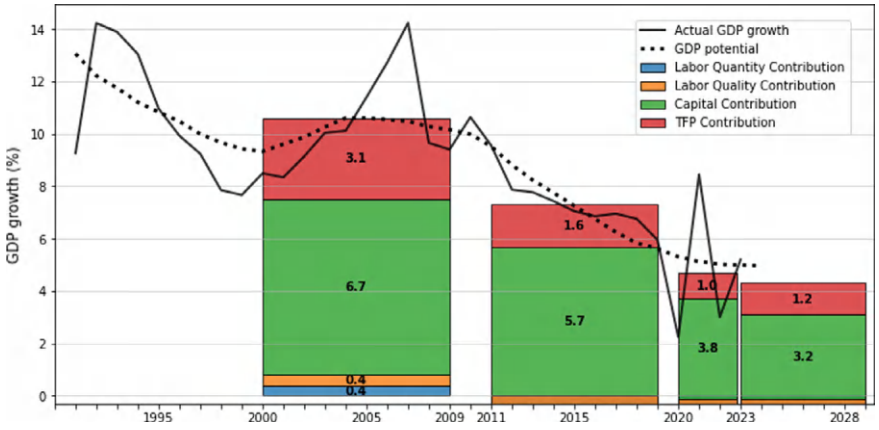

Fig. 7.1 Production potential, factors of production, and TFP: 2000–2029. *Source* Gao et al. (2022), National Bureau of Statistics, OECD (2019)

In numbers: the contribution of TFP to growth fell from 3.1 to 1% over the three periods, while the contribution of capital intensity diminished from 6.7 to 3.8%.[2] Consequently, TFP growth experienced a decline of approximately 68% between 2000 and 2023, and capital growth experienced a reduction of approximately 43%. As a result, the average growth rate declined from 10.6 to 4.7% over the three periods.[3]

Given these figures, it is reasonable to assert that China's economy is indeed at risk of encountering a middle-income trap considering that the growth rate of overall GDP approximates GDP per capita growth. In 2023, China's GDP per capita was approximately 12,600 USD—almost 90,000 RMB—aligning it with the global average and categorising it as an 'upper middle-income country' by World Bank definitions.[4] However, the World Bank's threshold for becoming a high-income country is currently approximately 14,000 USD per capita, which is relatively low. The average GDP per capita of advanced economies is a much higher 34,000 USD, a value that is reached by South Korea today (World Bank, 2024: 41–42).

To close this gap, China's economy would need 45 years of continuous growth of about 4% while high-income economies grew at an average of 2%, other factors being equal. One important reason for the difficulty to catch up in terms of average income is, of course, China's huge population. While it is a benefit for its size and overall economic output, it is a burden for GDP-per-capita, which could be only overcome by technological progress that increases productivity.

7.2 Disappearing Demographic Dividend: Getting Old Before Getting Rich

Demographic change poses another long-term challenge to China's economy. The population is ageing, and in 2022, it experienced its first decline in 60 years. One year later, the population decline accelerated to 2 million people due to a record low birth rate of 6.39 births for every 1,000 people (Olcott et al., 2024): a trend that continued in 2024. Projections suggest that China's population will decrease from the current 1.4 billion to approximately 1.3 billion by 2050, reducing its global population share from 18 to 14%, an overall decline of 8% since 1980 (Wolf, 2023). This trend extends

[2] The data of the Penn World Table (2024) confirms this trend as well, however, with slightly different figures: it calculates China's TFP growth with 4.6% in the 2000s and 1.4% in the 2010s.

[3] 4.7% because the labour contribution was − 0.1% for the period 2020 to 2023.

[4] The World Bank defines low-income countries as those with an annual GDP per capita below 1,135 USD, and high-income countries as those with a GDP per capita exceeding 13,845 USD. Countries falling between these thresholds are considered middle-income. Furthermore, the World Bank measures Gross-National-Income (GNI) per capita and not GDP per capita. GNI is the value of GDP minus the income of foreign entities in the domestic economy plus income of local entities in foreign countries. Because the two values are very close for China, we use the more common GDP per capita. We also follow the common practice of expressing the value of the RMB in current USD; see World Bank (2023) for various definitions of the middle-income trap; also Gill and Kharas (2015).

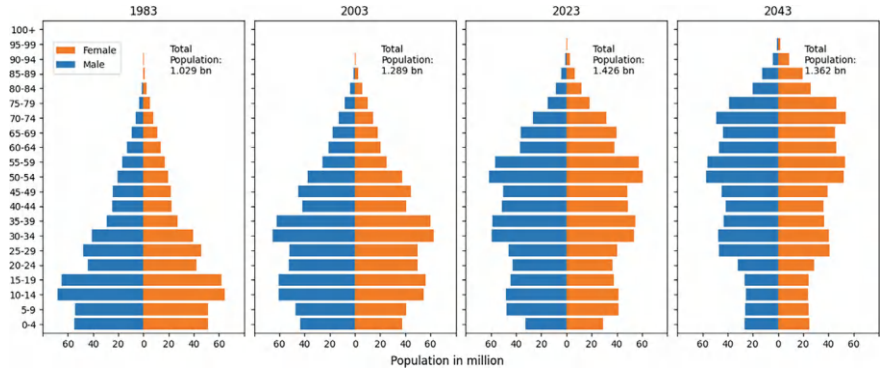

Fig. 7.2 China's population pyramid 1983–2043. *Source* United Nations (2023), Department of Economic and Social Affairs

the long-term ageing pattern, threatening the demographic dividend of a growing working-age population. This key driver of China's past economic growth is now at risk of fading away.

Figure 7.2 displays China's age pyramids for the years 1983, 2003, and 2023, with a projection for 2043. The first chart illustrates that at the beginning of the *Reform and Opening Up*, China had a 'normal' age distribution typical of a developing nation, characterised by a predominance of children and young adults under 20. However, with the implementation of family planning policies and industrialisation, the demographic structure shifted, with individuals aged 20 to 50 becoming the most significant population segment within two decades. Ultimately, it was the same people who simply aged and moved up the pyramid, but due to the low birth rate, fewer children were born to fill the gap. This trend has continued, and today, people around 50 years of age form the most populous stratum, with this tendency still rising. Therefore, it is expected that in approximately 20 years, the pyramid will eventually invert so that the upper third will then make up the largest portion of the population.

Signs of an ageing population are clearly evident in the graphs. Most concerning is the rapid increase in the proportion of people aged 65 years and above, from 7% in 2019 to 12.6% in 2020 and 14.9% in 2022. This number is expected to further increase to 17.1% by 2030 and eventually reach approximately 30% by 2050 (Zheng, 2021). For comparison, other ageing societies such as Japan or Germany, had respective proportions of 30 and 22.2% in 2022, whereas the USA, which is still a relatively young society, had only 17% of its population over 65 (World Bank 2022a). However, unlike these high-income countries, China has only recently obtained middle-income status, posing a realistic risk of the country getting old before getting rich.

At its core, population ageing is a relatively straightforward process that occurs when the birth rate decreases while life expectancy increases. Figure 7.3 visualises this dynamic for China for the years 1958 to 2022. It displays the crude birth and mortality rates on the left and life expectancy in years on the right axis. While the 1960s saw peak birth rates, there has been a consistent decline to present-day levels,

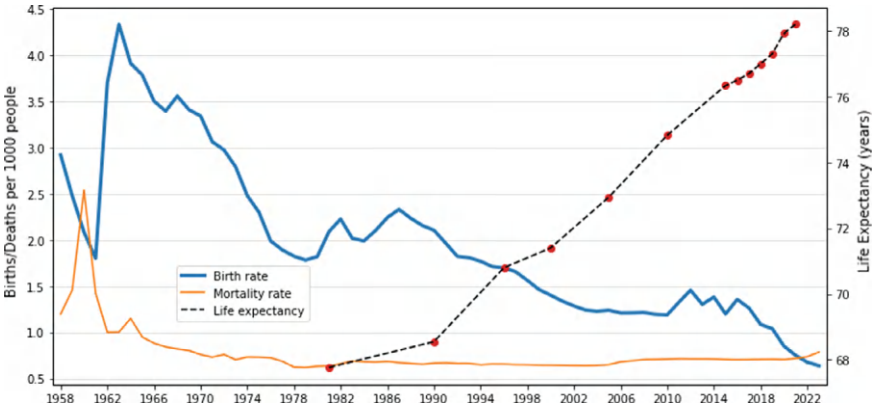

Fig. 7.3 China's life expectancy, birth, and mortality rate 1958–2023. *Source* National Bureau of Statistics

reaching an unprecedented low of fewer than one child per woman on average. The birth rate fell below the mortality rate for the first time in 2022. At the same time, life expectancy has significantly increased since the 1990s. The notable increase in the mortality rate during the late 1950s and early 1960s corresponds to the great famine, a consequence of the *Great Leap Forward*, as mentioned in Chapter 2.

The ongoing decline of the birth rate over time can be largely attributed to the one-child policy. It was initiated in 1980 and limited families to registering only one single child with local authorities. Such registration is essential for the child to attend school and receive *Hukou*, for example. The policy was aimed at curbing population growth and aligning it with economic development, thereby allowing each person to enhance their own living standard (Zhang, 2017). It was not until 2015 that the State Council relaxed this policy to permit two children per family, expanding it to three in May 2021, before entirely abolishing birth restrictions three months later (Tu et al., 2021).

Despite these changes, China's birth rate continues to decline, suggesting that factors beyond the one-child policy discourage families from having children. One reason is urbanisation, which has dampened the desire to have large families, particularly among educated women. Furthermore, the financial burden of child-rearing, especially in urban areas where living space is at a premium, acts as a deterrent. The inadequate infrastructure of social services for child upbringing also contributes to this trend (Chang & Sanner, 2022). Finally, the mediocre economic recovery following the end of the strict zero Covid-19 policy in 2023 and 2024 has increased uncertainty about future development.

Economically, the most significant impact of an ageing society is the decline in the labour force, which negatively impacts GDP growth. The demographic shift towards an older population is accompanied by a decrease in those under 20 and, more critically, a contraction in the workforce aged 20 to 64. The proportion of the latter is expected to decrease from the current 24 to 13% by 2025, with the overall

workforce being projected to decline from 64 to 55% over the same period (Wolf, 2023). Further projections suggest that by the end of the century, there will be only one worker for every retiree, a stark contrast to the current ratio of four workers per retiree (Leahy et al., 2023).

One indicator for this unsettling trend is the dependency ratio, which gauges the proportion of nonworking individuals—defined as those below 15 and above 65 years—relative to the working population. From its historic low of 37% in 2009, the dependency ratio had risen to 45% by 2022 (World Bank, 2022b). Generally, a lower ratio tends to be more favourable for economic prosperity, as it indicates fewer dependents per working individual and a larger labour force. However, internationally, China's dependency ratio remains relatively moderate. For example, the average ratio exceeds 50% in other middle-income nations and surpasses 70% in some high-income countries, such as Japan. Remarkably, even by 2050, China's dependency ratio is expected to remain below its 1950 levels (Wolf, 2023).

The critical downside of a dwindling labour force is the heightened potential for decreased GDP and GDP per capita growth (Löchel et al., 2022). This issue arises because a reduced labour force translates to lower output unless offset by heightened productivity, i.e. increased output per worker. For example, if China's anticipated annual workforce reduction of 0.8% by 2050 can be counterbalanced by productivity growth that exceeds this rate, the decline in the labour force will not result in reduced GDP per capita and hence income growth.

Additionally, an ageing population strains the social security system, including pension funds and healthcare, particularly when a smaller workforce supports a growing elderly cohort (Liu & Wang, 2023). Notably, China's retirement age was relatively low by global standards until now—60 for men and 55 or 50 for women depending on their occupation as white- or blue-collar worker. Therefore, the Chinese Academy of Social Sciences has projected that the state pension fund may no longer be able to fully cover pensions by approximately 2035 (Tang, 2019).

The most obvious solution to China's demographic challenge is to implement policies that increase labour productivity. Increased automation in industry and the service sector, alongside better-educated human capital, appears to be a promising solution. Raising the retirement age for men and women could help as well. Just in September 2024, the Standing Committee of the National People's Congress (NPC) decided to gradually extend the retirement age for men to 63 and for women to 58 and 55, respectively, starting from January 2025. However, the change is generally unpopular and might not significantly impact the labour supply. This is because most employees already continue working even after passing the official retirement age, regardless of gender. Only a quarter of the workforce retires at the official age (Mullen, 2023). Therefore, a higher retirement age may only slightly contribute to a greater labour supply to compensate for the effect of an ageing society, although it would help to increase contributions to social security funds.

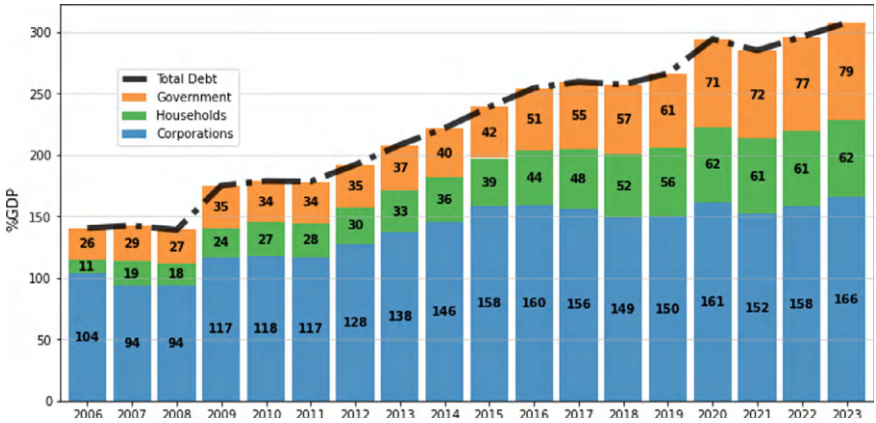

Fig. 7.4 Debt of the non-financial sector 2006–2023. *Source* Bank of International Settlement

7.3 Rising Debt Levels: Local Governments Matter

According to official figures, China's total debt had escalated to nearly 290% of its nominal GDP by the end of 2023 (Xia & Han, 2024). This is concerning, considering that it surpasses the debt levels of advanced economies, such as the USA and the EU, even though China's GDP per capita remains below one-third of those regions. Compared with its emerging economy peers, China's debt level is approximately one-third higher than their average. Almost all of China's debt is domestically funded, with foreign debt accounting for less than 14% of GDP at the end of 2023, according to figures from the State Administration of Foreign Exchange (SAFE, 2024).

Figure 7.4 illustrates China's debt trajectory from 2006 until 2023, categorised into government, household, and non-financial corporate debt as measured by the Bank of International Settlement (BIS, 2023).[5] Obviously, 2008 marked a pivotal moment for China's debt burden, as state agencies released the four trillion RMB stimulus package, which represented 12.5% of China's GDP at the time, to combat the effects of the global financial crisis. Approximately 60% of this package was allocated as plain bank loans to SOEs and local governments, which were then invested in infrastructure projects to support the respective local economies. The effects of the initiative are particularly visible in the debt ratio of non-financial corporations, which rose by approximately 25%, to almost 120% of GDP in 2009, and further increased to 166% by 2023.

The main reason for this development is the debt share of the SOEs, which is currently estimated to be approximately 45% of GDP (Chan et al., 2022). However, there are also other sources, which calculate the share only as 30% (Hofman, 2023). Given that SOE debt is likely covered by an implicit state guarantee, this ratio may

[5] If the data from the China National Institution of Finance and Development are used, the government debt is only calculated with approximately 56%, instead of the 79% by BIS.

be reclassified as government obligations. Under this assumption, the government debt ratio would surge to 124%, up 45% from its current estimate of 79%.

Additionally, incorporating an estimated 25% share of off-balance sheet debt of local governments—debt that does not appear in the official balance sheet of local governments but is counted as debt of the corporate sector—would further elevate China's overall government debt to nearly 150%. This adjusted figure likely offers a more accurate economic representation of the current state and is supported by various sources (Leahy, 2023; Shih & Elkobi, 2023). Consequently, the recalculated private corporate debt level would decrease from the reported 166% to slightly below 100%, which includes approximately 30% share of real estate developer debt.

Given these figures, the prevailing concern within China's debt landscape is unmistakably its public debt, although household debt has also risen from 10% in 2006 to 60% by 2022, mainly due to real estate purchases. This public debt reflects the substantial economic engagement of both central and local governments through extensive public investments and a significant SOE sector. Unlike in advanced economies, where public debt often finances welfare state provisions and public services, China's public debt is predominantly tied to economic activities typically undertaken by the private sector in developed market economies.

Furthermore, public debt in China is mostly clustered at the local government level rather than at the central government level (Shih & Elkobi, 2023). More than three-quarters of all government debt -excluding SOEs and off-balance sheet debt—is held by local governments. This imbalance, as discussed in Chapter 4, stems from a mismatch between local government revenues and expenditures: local authorities receive only a small share of tax revenues yet bear responsibility for most public spending. This fiscal strain has been exacerbated by the dual pressures of the Covid-19 pandemic and the real estate crisis, which have simultaneously reduced revenue from land sales and increased expenditure (Cheng & Zhang, 2022).

At the end of 2023, the Ministry of Finance reported that China's local governments had accrued official debt totalling almost 41 trillion RMB, or 32% of GDP (State Council, 2024). Additionally, their off-balance sheet debt escalated to 54.6 trillion RMB, or 45% of GDP. Collectively, these figures increase total local government debt to approximately 77% of GDP, a significant increase from approximately 62% in 2019 (Reuters, 2023). Other sources, like the IMF, even calculate a share of 93% on GDP (Harding, 2024).

Figure 7.5 summarises the debt profile of China's local governments at the end of 2022, breaking it down into conventional debt, incurred through bond issuance, and the off-balance sheet obligations of LGFVs. In many cases, off-balance sheet liabilities surpass conventional debt levels. Moreover, there is a marked variance across provinces: while eleven provinces maintain debt ratios below 60%, seven exceed the 100% threshold.

The chart reveals that fiscal challenges in China exhibit significant regional disparities; wealthier eastern provinces are better equipped to manage their debt, whereas less affluent western regions face more severe fiscal pressures. For example, economically robust regions such as Shanghai, Guangdong, and Beijing have managed to maintain their sovereign debt ratios, including off-balance sheet debt, below 50%. In

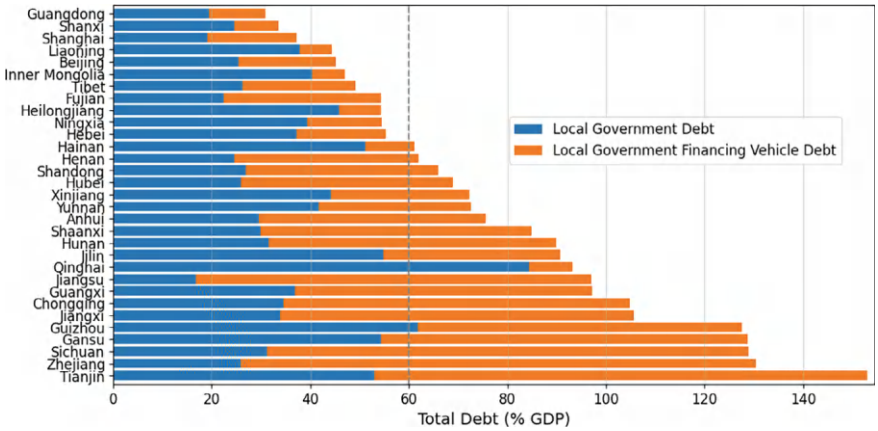

Fig. 7.5 Local government debt 2022. *Source* Leng and Lin (2023), WIND

contrast, economically weaker provinces such as Gansu, Guangxi and even Sichuan have ratios exceeding 100%. Notable outliers are Tianjin and Zhejiang, which, despite their proximity to economic powerhouses, Beijing and Shanghai, exhibit debt ratios exceeding 150 and 130% due to substantial off-balance sheet debt driven by overly aggressive infrastructure investments. To avoid a further escalation of the situation, China's Ministry of Finance, unveiled a 10 trillion RMB - around 1.4 trillion USD - bail-out package for local governments at the end of 2024 (Yu et al. 2024).

7.4 Environmental Damages: The Issue of Coal

China's sustained economic growth came at a price: GDP and greenhouse gas emissions have continuously increased at almost the same rate since 1978. While carbon emissions were not a mainstream topic of concern when China set off on its economic journey, from today's point of view, they may serve as a proxy for the environmental degradation that coincided with China's rapid industrialisation.

Indeed, much of China's economic success was initially achieved with minimal regard for environmental standards. On the contrary, the country emphasised growth objectives that fostered the expansion of industries with negative environmental impacts. This approach has led to significant environmental degradation, casting China in a negative light globally (Igini, 2024). The relentless demand for energy, resources, and land during this period placed severe stress on China's ecosystems and culminated in its status as the world's largest greenhouse gas emitter. As of 2022, China's contribution reached 26%, more than double that of the second largest emitter, the USA, which stood at 11% in the same year (Ritchie et al., 2023).

In response to mounting environmental challenges, 2014 marked a significant turning point with the implementation of rigorous measures aimed at rehabilitating

its damaged ecosystems. For example, China amended the Environmental Protection Law for the first time since 1989, which drastically increased penalties for environmental violations and strengthened their respective enforcements. Beijing has also implemented measures to improve air quality, through the reduction of coal consumption and the promotion of cleaner energy sources, for example, as well as policies addressing water pollution while promoting water conservation, alongside the establishment of ecological red lines to protect sensitive and critical natural environments. Due to the depth of environmental issues, it was clear from the beginning that rectification would become a long-term endeavour, necessitating persistent and concerted efforts over years, if not decades (Greenstone et al., 2021).

Figure 7.6 visualises a comparative analysis of China's absolute and relative emission of greenhouse gases over time and shows China's dramatic rise in emissions post-2000, eclipsing those of the EU and the USA within a relatively short timeframe. Today, China's absolute greenhouse gas (GHG) emissions are nearly three and a half times greater than those of the EU or India. However, it can also be seen that the growth of emissions significantly decelerated after 2012, although they still grew annually at an average of 1.7%, more than three times the global average.

While greenhouse gas emissions per capita are diminishing over time in developed countries, China is trending in the opposite direction, with per capita emissions still growing. China's per capita emissions surpassed those of the EU in 2012; however, they remain approximately 45% lower than those of the USA, which is among the highest per capita emitters in the world. Although the rate of increase in China's per capita emissions has moderated since then, it underscores a broader global pattern: many developed nations saw their carbon emissions peak prior to 1990, which coincided with a shift from industrial-based to service-oriented economies and from heavy industry towards more sustainable industrial practices. China is yet to experience this transition, indicating that its per capita emissions are likely to continue to rise in the near to medium term. This may potentially exacerbate global warming

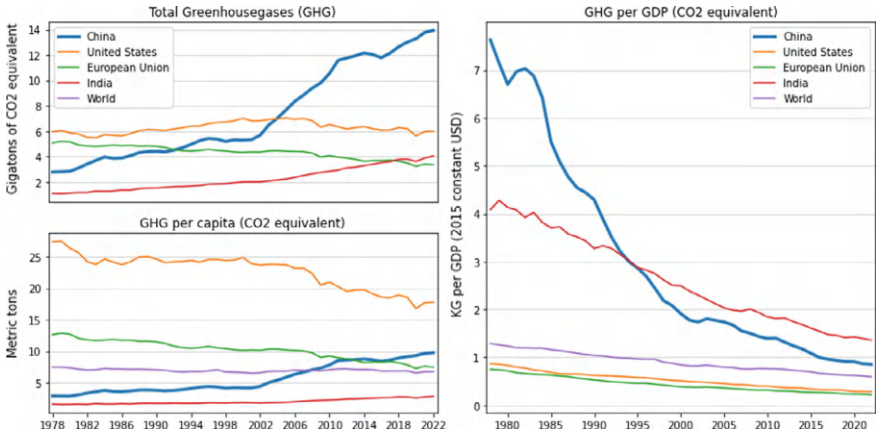

Fig. 7.6 China's absolute and relative $C0_2$ emission 1978–2022. *Source* Ritchie et al. (2023)

and contribute to more severe climate challenges. Indeed, 2023 marked a year of particularly extreme weather events in China with record-breaking heat waves and cold waves, mixed with super typhoons and intense rainfall, battering the country.

Additionally, China's greenhouse gas intensity, measured in CO_2 equivalent per unit of GDP, remains relatively high, although it has fallen quite drastically since 1978, as shown on the right side of Fig. 7.6. This is essentially due to China's energy sector, which heavily relies on coal production. Historically, as seen during the industrialisation phases of Western countries, burgeoning capital-intensive industries necessitated increased energy consumption, predominantly sourced from fossil fuels such as coal in the early stages of industrial development. This dynamic is mirrored in China, where high emissions per unit of GDP indicate a greater dependence on greenhouse gas-intensive energy production compared to more advanced economies.

China's reliance on coal is significantly influenced by its resource endowments and developmental phase. Despite its vast size, China faces limitations in terms of oil and gas reserves, making coal—an abundant resource in China—the principal energy source for meeting domestic demands while curbing excessive dependence on imported oil and gas. These factors, and because of the high level of CO_2 emitted during its combustion, the burning of coal remains the dominant contributor to GHG emissions in China, accounting for roughly 75% of the total carbon emissions, or approximately 60% of total GHG emissions (Liu et al., 2022).

The adverse effects of coal utilisation are manifold: in the long term, it intensifies the pressure from climate change and immediately exacerbates air pollution in the short term. The latter has been a critical health and social issue within China for many years that has not yet been solved. In 2021, for example, 143 Chinese cities reported annual average particulate matter levels that significantly exceeded WHO guidelines, with Hotan in Xinjiang registering figures nearly 20 times above the recommended threshold (IQ Air, 2022). Pollution is not confined to remote areas; industrial heartlands such as Hebei, Henan, Shandong, Jiangsu, and Hubei are also significantly affected. Despite improvements, air pollution is still linked to 1.2 million premature deaths annually and incurs substantial economic costs, estimated at 6.5% of China's GDP (Crane & Mao, 2015; Lyu & Yang, 2024; Yin et al., 2020).

While efforts are underway to reduce the impact of coal-fired power plants, mostly by expanding renewable energy facilities, China has simultaneously built new coal power plants, moving an end to coal-fired energy production out of sight of the near future. Although the relative share of coal in total energy consumption decreased from 64 to 57% between 2015 and 2020, coal consumption once again moved into the spotlight during the energy shortages of late 2021. Coal was seen as the only viable short-term solution, resulting in coal plants being reconnected to the grid (Riordan, 2021).

Indeed, in line with the construction of new plants, a phaseout of coal seems very unlikely. Furthermore, it is reasonable to assume that coal-fired power plants could take the role of 'peaker plants' in the future. Peaker plants are power plants which are held on standby and are only attached to the grid when immediate additional energy demand is due thus securing energy supply in times of high demand or low supply from alternative sources, such as renewables. While in most other countries,

gas takes this role, China might take a different route because of its natural resource endowments. This means that many coal plants may stand idle for the most part, only serving as a backup if renewables temporarily cannot deliver the required energy.

Another important perspective to consider regarding China's emissions is the country's role in the global production and consumption cycle. A substantial portion of the goods consumed in developed countries are manufactured in China. However, conventional CO_2 emission metrics are typically based on producer-based accounting rather than consumer-based accounting, therefore attributing the emissions from goods production to the manufacturing country rather than the consuming nation. Consequently, while China is identified as a major emitter, the demand driving these emissions often originates from consumers in other countries.

This dynamic was particularly pronounced between 2001 and 2008, when China exported the largest value of goods to foreign countries, leading to consumption-based CO_2 emissions that constituted approximately one-third of its total emissions (Mi et al., 2018). Although this percentage decreased after the global financial crisis, it still represented 14.6% in 2012, with energy-intensive industries such as concrete and steel playing a key role. In 2018, the trend in consumption-based emissions began to rise again, underscoring the global interconnectedness of production, consumption, and environmental impact (Yang et al., 2020).

China's environmental challenges, however, extend far beyond greenhouse gas emissions and encompass a broad spectrum of concerns affecting air, land and water resources, oceans, and biodiversity. For example, China's water pollution crisis is a critical environmental challenge, with more than 60% of its groundwater categorised as either poor or very poor quality due to detrimental agricultural and industrial practices (Jia et al., 2019). For decades, factories discharged their wastewater directly into the environment, and from there, pollutants made their way into the groundwater, while excessive pesticide use on farms contributed to soil and water pollution. This contamination has not only affected drinking water sourced directly from wells but has also threatened agricultural output, with approximately 19% of China's arable land reported as tainted, thus increasing food security concerns in a nation that is already constrained by limited arable space (Li et al. 2021).

Moreover, water scarcity compounds these issues. Despite hosting 20% of the world's population, China commands only 6% of global freshwater resources. The World Bank calculates China's per capita internal renewable freshwater resources at a mere 1,993 cubic metres, less than half of the global average (World Bank, 2020). Moreover, these resources are very unevenly distributed across the country, where the south has access to approximately 80% of water resources, with areas such as Beijing, Tianjin, and Hebei having access to fewer than 184 cubic metres per person.

China's situation with freshwater resources has changed significantly over time. The country's water supply is predominantly sourced from the Himalayan glaciers of the Qinghai-Tibetan Plateau, and because these glaciers have retreated by 82% since the 1950s, China has experienced a drastic reduction in its fresh water supply. This dramatic change underscores the strategic importance of the geographic region, which is home to the origins of China's two largest rivers—the Yellow and Yangtze Rivers. To address the resulting disparities in water distribution between the northern

and southern, China launched the largest water redistribution project in human history: the South-to-North Water Diversion Project. Planning for the project started in 1952 and construction eventually began in 2003 and continues to this day. By 2014, the project had already consumed more than 79 billion USD (Tieu et al., 2023).

In addressing these environmental crises, China faces the dual challenge of mitigating existing damage while simultaneously adopting relatively unproven technological innovations to withstand harsher environmental conditions, such as more extreme weather events. The primary obstacle is to address current issues while resisting the urge to revert to traditional practices. The energy crisis of the summer of 2022 highlighted the difficulty of this task and exemplified that coal energy will remain a burden for China's CO_2 intensity for many years to come (Thomas & Fishman, 2023).

Although China is actively working to increase the use of renewable energy, the demand for energy still surpasses the supply from sustainable sources. Additionally, China's energy grid does not yet meet the requirements to efficiently deliver renewable energy to where it is needed. The transition away from coal to more sustainable energy sources is complex and cannot occur overnight without disrupting the economy. It necessitates a carefully managed balance between ongoing economic development and environmental sustainability. From this perspective, China's plan to become carbon neutral by 2060—only ten years later than the European Union—after reaching peak of emissions in 2030 will be extremely ambitious.

Overall, it can be concluded that China's old growth model does not fit any more for China's economy. The economy is facing a middle-income trap mainly due to the decline of productivity growth driven by declining returns of investment and a shrinking rate of technological progress. This development is intensified by the emergency of an ageing society that shortens labour supply. The demographic dividend as a main driver of China's economic growth in the past is disappearing. Simultaneously, spending by public authorities, especially by local governments as the key institutions for economic policy, is more and more restricted by high public debt. A further increase of local government debt could trigger a financial crisis. Already today around one-third of China's provinces are officially indicated as high debt risks regions. Finally, environmental damages make it hardly possibly to continue with the old growth model in the future as well.

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Chapter 8
China's Economic Policy for the Future

Two weeks after becoming the General Secretary of the CCP in November 2012, Xi Jinping introduced the narrative of the *China Dream*, which articulates the *Two Centenary Goals* into a framework, based on national revitalisation, quality of life improvements, and the overall enhancement of China's international status (Tsang & Cheung, 2024: 20–21). As the name suggests, there are two goals set to be completed.

The first goal was to establish a *Moderately Prosperous Society* by 2021, which marked 100 years since the CCP's foundation. According to the party, the achievement of this goal was signified by the eradication of extreme poverty and a doubling of per capita disposable income to just over 32,000 RMB (Xinhua, 2021a). Attaining the status of a *Moderately Prosperous Society* is seen as the groundwork for realising the second centenary goal: transforming China into a *Modern Socialist Country* that is 'prosperous, strong, democratic, culturally advanced, harmonious and beautiful' by the time the People's Republic of China celebrates its 100th anniversary in 2049 (Hu, 2023: 62). This broad, yet ambitious, objective represents China's long-term aspiration for the *rejuvenation of the Chinese nation*, which, in economic terms, translates into the intention of becoming a manufacturing and technological superpower under the leadership of the party (State Council, 2021a).

Before achieving the 2049 goal, China has set an additional milestone for 2035, by which the country aims to have basically reached *socialist modernisation.* The concept is particularly important for the path of the economy because it underscores a shift towards homemade innovation and high-tech as new growth drivers and fewer dependencies from foreign entities (Xinhua, 2021b: 7–8). Simultaneously, GDP per capita should double between 2020 and 2035 (Tang & Xin, 2020). Achieving this goal would require an average annual growth of 4.7% throughout this timeframe, resulting in an average GDP per capita of approximately 146,000 RMB or 21,000 USD in 2035, using the exchange rate of 2020.

To address these goals, this chapter discusses in detail the economic strategy of the party-state for the future of China's economy by analysing four topics:

H. Löchel and T. Jablonski, *The Rise of China's Economy*, Contributions to Economics,
https://doi.org/10.1007/978-3-031-80150-1_8

- The implementation of a new ecosystem that aims to create domestic inventions and innovations on an ongoing basis.
- The expansion of an enormous public venture capital industry that is funding the desired innovations.
- The launch of the 14th Five-Year Plan for the period 2020 to 2025, which introduces the concepts of 'dual circulation' and technological self-reliance.
- Finally, the transformation of the economy towards environmentally friendly production.

Overall, China's economic policy aims to shift the economy from a growth model that is driven by *investments* in labour-intensive industries towards a new, *high-quality growth model* that focuses on investment in cutting-edge technologies that should eventually move the country to the same level as advanced economies.

8.1 Re-engineering the Innovation Chain: From Strategic Industries to IDDS

At the heart of China's new economic development philosophy stands a state-led, supply-driven growth model that aims to create a unique ecosystem between state entities, private companies, and universities that is able to produce a steady flow of inventions and innovations. The concept is intended to unleash the *new productive forces*, as Xi Jinping describes it in a style reminiscent of nineteenth-century Marxism (Xin, 2024; Xinhua, 2024). What is broadly understood by the term is that the economy is meant to adopt advanced technologies into its production methods that increase productivity and realise the production of high-value added goods (State Council, 2021b; Xinhua, 2021c). At the heart of the concept is the Innovation-Driven Development Strategy (IDDS), decided in 2016. China's integration of industrial policy and innovation into central planning is not a new phenomenon by any means but continues a longstanding tradition within the country's economic strategy (Stanford Center, 2022). Table 8.1 compiles a selection of relevant, high-level policy documents published since 2006. They are helpful for understanding the trajectory of China's innovation strategy and are explained in the following.

China's pivot towards industrial policy began in earnest in the mid-2000s. 2006 became the year in which the term *indigenous innovation* was first used in the National Medium- and Long-Term Programme for Science and Technology Development 2006–2020. Its mentioning likely signalled an internal shift in policy direction. However, this shift initially did not find much recognition in the West, as it was largely overshadowed by the global financial crisis and therefore did not become markedly evident until 2015, when the State Council rolled out *Made in China 2025* strategy (Naughton, 2021: 69–74; State Council, 2015). The strategy draws strong inspiration from Germany's Industry 4.0 initiative, which seeks to revolutionise manufacturing through the integration of information technology and the Internet of Things, thereby

Table 8.1 China's innovation policy in documents: 2006–2024

Year	Document	Policy focus
2006	National Medium- and Long-Term Programme for Science and Technology Development (2006–2020)	Industrial Policy. First use of *indigenous innovation* to reduce dependence on foreign technology. Laid the groundwork for building a strong domestic R&D capability
2010	Accelerating the Fostering and Development of Strategic Emerging Industries	First definition of strategic emerging industries with a focus on knowledge and technology-intensive sectors. Aimed to identify and promote key industries for future growth
2015	Made in China 2025	Definition of ten advanced technologies to strengthen manufacturing capabilities and position China as a global technology powerhouse: advanced information technology, automated machine tools and robotics, aerospace, ocean engineering and high-tech shipping, modern rail transport, energy-saving and new energy vehicles, power equipment, new materials, medicine and medical devices and agricultural equipment
2016	Internet + Artificial Intelligence Three-Year Action and Implementation Plan	First national strategy for the development of an AI industry with an application focus on smart homes, self-driving cars and robotics. Marked the beginning of AI-focused policies
2016	Innovation-Driven Development Strategy (IDDS)	Plan to fulfil the *second century goal* of developing China into a leading innovation nation globally by 2049, with a focus on R&D and general-purpose technologies, such as semiconductors
2016	National 13th Five-Year Plan for the Development of Strategic Emerging Industries	New orientation of strategic industries towards frontier technologies with a focus on digital and environment-protecting industries. Shift towards sustainable and high-tech industries: new generations of information technologies, bioindustry, high-end equipment manufacturing, new materials, new energy, intelligent and new energy vehicles, energy conservation and environmental protection, digital creative industry
2017	New Generation Artificial Intelligence Development Plan	Further acceleration of AI technologies. Aimed at positioning China as a global leader in AI by 2030. Highlighted the importance of AI in economic and social development
2018	China Standards 2035	Intention to set global standards for emerging technologies, such as 5G and AI. Focused on enhancing China's influence on international technology standards
2021	14th Five-Year Plan (2021–2025)	Dual circulation and technological self-reliance. Emphasised reducing dependence on foreign markets and technologies while boosting domestic innovation and consumption

(continued)

Table 8.1 (continued)

Year	Document	Policy focus
2022	14th Five-Year Plan on Digital Economy Development	Upgrade and development of the digital economy. Aimed to integrate digital technologies into all aspects of the economy to boost productivity and innovation
2024	AI Regulations Draft	Regulations for generative AI to lower compliance burdens and ensure alignment with government directives

Source Naughton (2021: 75) and Murphy (2022), own compilation

optimising the efficiency and competitiveness of specialised small- and medium-sized enterprises (SMEs) within global production networks (Drath & Horch, 2014). Therefore, *Made in China 2025* aims to establish China as a global leader in innovation, specifically targeting the enhancement of manufacturing capabilities across various sectors.

In November 2016, the objectives of *Made in China 2025* were encapsulated within the Strategic Emerging Industries Programme for the 13th Five-Year Plan for the years 2016 to 2020 (State Council, 2019a). This plan aimed to propel China into new industries and technologies, thereby positioning the country to occupy 'the commanding heights of the technological revolution' (Naughton, 2021: 71). The targeted technologies and industries spanned a broad range and were very similar to those mentioned in the Made in China 2025 strategy. The latter, however, places greater emphasis on global competitiveness and technological self-sufficiency, seeking not only to lead domestically, but also to shape global standards and secure a significant foothold in international markets.

The concept of strategic emerging industries was initially proposed by former Premier Wen Jiabao in 2009 and has since been a foundational element of China's industrial policy (Xu & Wang, 2015). Initially, the industry focus mirrored Wen's commitment to the establishment of a low-carbon and circular economy (State Council, 2010). Over the years, the scope and specificity of strategic emerging industries have evolved; however, they have become more detailed and targeted. The latest update took place in 2020, with an explicit development focus on advanced manufacturing, including industrial robotics, aerospace equipment, computer chips, energy-saving motors, and 5-axis machine tools (NDRC, 2020). This differs from previous plans by setting goals for specific product development.

The issuance of the innovation-driven development strategy (IDDS) in 2016 marked the most important event in promoting innovation-driven growth in contemporary China. Upon publication, this document enjoyed the highest level of authority being jointly issued by the State Council and the Central Committee of the Communist Party. It aligns closely with the second centenary goal of transforming China into a leading global innovator (CSET, 2019; Naughton, 2021: 77–97).

Most importantly, the IDDS is the systematic rearrangement of China's innovation system. The strategy intends to build a new, comprehensive innovation-ecosystem for the government, companies, and science (Cheung, 2023; Fu et al., 2021; Naughton, 2024). A special focus is given to bridge the gap between the applied research of

companies and the fundamental research of universities, which are currently largely separated (Groenewegen-Lau, 2024; Laha, 2024). Moreover, it aims to solve the issue of underfunded university research. Currently, most research funding in China is allocated to companies. To overcome these shortcomings, the IDDS set the target to increase R&D expenditures to 2.5% of GDP annually by 2020, a milestone first achieved in 2022 when R&D spending exceeded three trillion RMB, approximately 420 billion USD (Xinhua, 2023). In 2023 the ratio increased further to 2.64%, which is 16 times greater than it was in 2000 (Ren, 2024). However, this figure still falls short of the R&D spending ratios of over 3% of GDP seen in the USA or Germany.

The overarching aim of the IDDS is to position China among the top innovation-oriented countries, with industries leading the global value chain and producing increasingly high-quality products. In addition to its research emphasis, the IDDS outlines China's developmental ambitions across the industrial, infrastructure, and military sector (Naughton, 2021: 82–84). For the industrial sector, the IDDS anticipates the complete automation of manufacturing processes via the use of robots and intelligent communication networks. Faced with labour shortages due to demographic decline, China seeks to bolster productivity by equipping a smaller yet highly educated workforce with more efficient capital. This strategic move is expected to enhance worker output and potentially mitigate the impact of the demographic challenge.

The infrastructure sector's focus narrows to transportation and energy efficiency, with goals to establish smart, eco-friendly cities featuring autonomous electric vehicles and intelligent traffic management, alongside efficient energy usage. The strategy also highlights 'new style infrastructure', such as digital infrastructure and blockchain applications, which is aimed at boosting efficiency and productivity, generating tangible investment returns, and eventually hopefully helping with overcoming environmental concerns.

Military applications of the IDDS include, inter alia, the development of individual smart weapons, such as drones, and set the goal for the creation of a Chinese satellite network to be deployed in orbit, which would eventually cover the entire globe. Like in other countries, there are a variety of spillovers between the industrial and military sector and vice versa. Therefore, military investments are aimed not only at improving the national defence of China but also at fostering industry output by attempting to strengthen civil military fusion projects.

Overall, the IDDS is focussing on the development of so-called 'general-purpose technologies', as noted by Naughton (2021: 94–95). These are technologies that simultaneously have a positive effect on all aspects of the economy and an equally deep impact on the living environment of the whole society. The rationale for focusing on general-purpose technologies lies in the positive externalities these technologies generate for the economy. These include any kind of positive return that extends beyond their intended purpose and contributes to broader economic benefits. Unlike specialised industrial robots, for example, general-purpose technologies enhance the production process across the entire economy. Contemporary examples include 5G and 6G, sophisticated semiconductors, and artificial intelligence (AI).

An anecdote often cited as a transformative moment for China's commitment to AI development is described by the former CEO of Google, Kai-Fu Lee, as a Chinese 'Sputnik moment'.[1] This pivotal event occurred in 2016 when Lee Saedol from South Korea, the best Go-player of his generation, was defeated four games to one by AlphaGo, a computer programme equipped with AI developed by the British start-up DeepMind. One year later also the best Chinese Go-player at the time, Ke Jie, lost against AlphaGo (Lee, 2018: 1–21). Both matches underscored the realisation that a new, fourth technological revolution was already underway.[2] The narrative quickly grasped hold, particularly in the light of China's missed opportunities during the First Industrial Revolution roughly two centuries earlier, and was explicitly mentioned in the IDDS.[3]

Since then, the ongoing rise of AI has become a focal point for China's technological ambitions (Arcesati, 2023). The most relevant document in this regard is the New Generation Artificial Intelligence Development Plan, developed in 2017. It highlights the importance of AI for economic and social development and intends to position China as one of the global leaders in AI by 2030. Generally, the plan is divided into three stages: first, to make China competitive in the global AI market by 2020; second, to implement AI in various segments of the economy until 2025 and finally to achieve global leadership by 2030 (Filipova, 2024). Today 40% of the world's research papers on AI are published by Chinese authors (Economist 2024a: 69). Furthermore, 'data' is officially recognised as a factor of production, in addition to land, labour, capital, and technology (MOST, 2021).

Furthermore, compared with the USA and the EU, the Chinese draft regulation on AI launched in 2024 is relatively flexible (CSET, 2024; Yang, 2024). However, information restrictions exist, and political goals must be fulfilled. For example, Chinese AI providers are required to provide government officials with the algorithm of their large language models to test whether the generated answers 'embody core socialist values', including censorship of sensitive questions on politics and political leaders (McMorrow & Hu, 2024). However, this restriction did not prevent Chinese AI companies from rising to a similar level playing field as its US counterparts. A good example is the Chinese start-up Deepseek that launched a large language model at the end of 2024 which has fair chances to compete with the quality of the Open AI flagship model GPT-4, however, at much lower costs.

China has not only made substantial strides in AI but has also generally made rapid progress in science and innovation since the introduction of the IDDS. The country is on its way to become a leading scientific power in the world. This is particularly true

[1] The so-called 'Sputnik moment' refers to the shock in the West, especially for the US, that it was the Soviet Union to successfully place the first satellite, named Sputnik, in the earth's orbit in October 1957.

[2] The first industrial revolution was the introduction of machinery in industrial production (mid-eighteenth century), followed by the electrification of production and society (late-nineteenth century) as the second industrial revolution. The third revolution arose with the copious spread of PCs and IT in the 1970s.

[3] "National prosperity follows from strength in innovation, and national misfortune follows from weakness in innovation. A major cause of China's stagnation in the modern era was that it let previous technological revolution pass it by (…) To achieve the Chinese dream of the great rejuvenation of the Chinese nation, one must truly make good use of science and technology (…)" CSET (2019:2).

for natural sciences such as chemistry, physics, and materials science. At least a few of China's top universities, such as Tsinghua University and Zhejiang University, are preforming cutting-edge research at the same level as MIT or Oxford University (Economist 2024b).

One particular benefit of China's innovation system is applied research that creates commercial innovations such as electric vehicles (EVs) and batteries. In fact, China produces more patents than any other country of the world, as reported by the World Intellectual Property Organization (WIPO 2024), which ranked China 11th on the Global Innovation Index in 2024, just in ahead of France and Japan. Although the majority of these patents are 'petty patents' and not original inventions or innovations, for Chinese policymakers tolerate this, as long as at least a certain number of world class results are produced, for example, recent developments in quantum computing (Lague, 2023). This type of inefficiency is an immanent result of China's innovation system, which incentivises relevant actors to register a large volume of patents for the sake of pursuing government subsidies, building reputation, or simply increasing a researcher's opportunities in the job market (Boeing & Peters, 2021; He, 2021). In response to these results, the China National Intellectual Property Administration announced that all subsidies for patent applications must be phased out by 2025 (Wininger, 2023).

Overall, it can be concluded that the IDDS has reshaped China's innovation system towards a unique interacting network of different actors with the goal of transforming the economy from imitation to innovation. Given the enormous industrial base, this has led to large-scale physical innovations in a short period of time. Parallel to this development, China is making significant upgrades to its innovation funding system through the establishment of public venture capital funds that, with an unprecedented amount of money, support the re-engineering of China's innovation chain.

8.2 Public Venture Capital: Government Guidance Funds

An important instrument to drive technological innovation in China are public venture capital funds, so called government guidance funds (GGFs).[4] Since 2015, they have become central in directing financial resources towards priority industries. Essentially, GGFs are state-directed venture capital funds that support companies within strategic sectors identified in policy outlines. They can be seen as a tool that combines state directive with the superior resource allocational mechanism of the market. Given their scale, China's GGFs may represent a unique strategy to guide the country's industry towards high-tech and frontier technologies. This approach is built on the insight that public capital is a requirement to kick-start further investments in high-risk areas, subsequently attracting private capital as soon as first successes become visible (Lin & Zhou, 2021).

GGFs already have a fairly long history in China, dating back to the 1990s. However, they only gained more pronounced prominence in the early to mid-2000s, notably with the government's funding of the Zhongguancun Science Park

[4] For a comprehensive analysis of GGF, see, for instance, Luong et al. (2021), Naughton (2021:105–130), Pan et al. (2021), and Wei et al. (2023).

in Beijing. These new financial instruments initially appeared in cities such as Shanghai, Hangzhou, and Shenzhen, but have since become widespread across China, particularly along the east coast. This distribution aligns with the objective of increasing investment in innovative, emerging, and high-tech sectors—geographic regions where such companies typically establish themselves. There are also GGFs found across the western regions; however, these GGFs usually have smaller volumes.

Nationally, approximately 38% of the total volume of GGFs is allocated for broad, multisector high-tech investments, with an additional 12% targeting specific sectors such as semiconductors and advanced materials. Furthermore, 11% is earmarked for advanced manufacturing and industrial upgrading, and 14% for infrastructure, energy, and environmental projects (Naughton, 2021: 108). Together, these categories represent 75% of the total investment volume, directly supporting industrial policy priorities. The remaining 25%, though smaller, focus on the service sector, SMEs, and initiatives for agriculture and poverty alleviation.

A GGF inception typically involves a local, provincial, or central government entity that acts as the sponsor of the fund. Only a smaller portion of GGFs are directly overseen by the central government, though these centrally controlled funds often target larger funding objectives. Most of the funds are managed at the local and provincial levels. The respective sponsor sets the desired fundraising target and provides the initial capital from government budgets. Despite the government connection, GGFs are supposed to operate as independent legal entities that are generally managed by professional investment managers; however, they are overseen by state entities, including central and local government agencies and SOE representatives. The initial capital provided by the government is usually not enough to fulfil the fundraising target; thus, the sponsor seeks to source the remaining capital from private investors, whose funding is then referred to as social capital.

Today, the scale of GGFs is enormous. From 2015 to 2021, approximately 1,800 GGFs raised nearly 7 trillion RMB, approximately 1 trillion USD, which accounts for nearly 6% of China's nominal GDP (Economist, 2022). However, due to the overall lack of private capital, only approximately 30% of the existing funds have reached their target capital, and only 30% of funds have at least made one investment (Wei et al., 2023). Key factors why GGFs are struggling to attract private capital include the lengthy investment horizon as well as relatively low expected returns, coupled with often weak governance structures, which deter private investment. Indeed, in its current state, GGFs sustain a bias towards public capital over private capital. Many LGFVs, for instance, have become major investors in GGFs, particularly those funds focused on infrastructure development, thus streamlining their own investment activities. Moreover, it is also not uncommon for government agencies such as the China Investment Corporation, the sovereign wealth fund that manages foreign exchange reserves, to invest in GGFs.

The organisational structure and operational mechanisms of GGFs can be illustrated through the China Integrated Circuit Industry Investment Fund, known as the 'Big Fund'. Figure 8.1 outlines the governance and integration of the fund into the economic innovation system. As the name suggests, this specific fund aligns

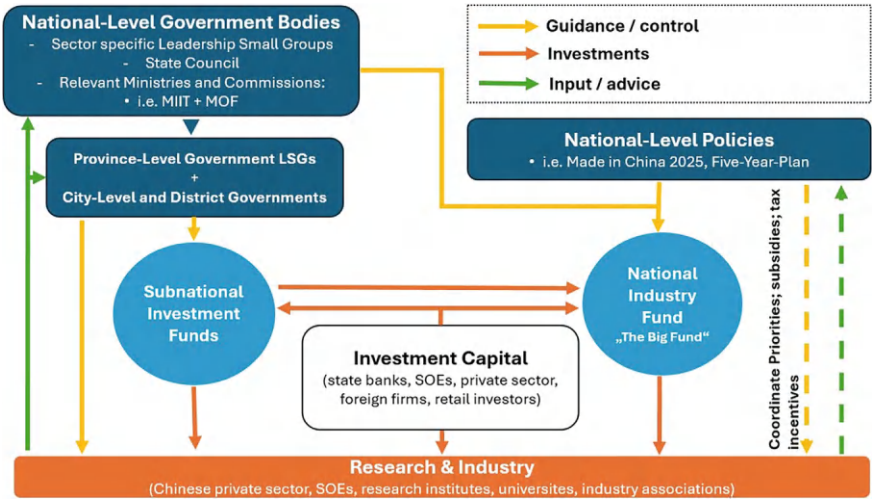

Fig. 8.1 Governance of the China integrated circuit industry investment fund. *Source* Adopted from Lee and Kleinhans (2021: 16)

with Made in China 2025 and aims to position China at the forefront of technological innovation by contributing to the development of the domestic semiconductor industry.

Because GGFs are deeply entrenched in the national development agenda, many of the largest funds have a connection to the central government, either through a sector-specific leadership small group (LSG) or the relevant ministries. For the Big Fund, this connection is through the Ministry of Finance (MOF) and the Ministry of Industry and Information Technology (MIIT), as the figure shows. Both ministries stand under the guidance of the State Council. Together with the required ministries and commissions, such as the National Development and Reform Commission (NDRC), these top-level government bodies determine the goal of the funds and draft the national policies in which the funds must navigate. However, these agencies do not influence investment decisions, which are left to the manager of the fund, but always of course, in mutual harmonisation with the political elites.

A key feature of GGFs is their flexibility to invest either directly in companies or to allocate resources to other funds within their expertise domain. The Big Fund, for instance, might channel investments into smaller, subnational funds focused on the semiconductor industry. These local funds are often integrated with industrial parks and possess a nuanced understanding of local dynamics, fostering a network of funds-of-funds. This structure allows fund managers to follow the given investment priorities while outsourcing market-oriented investment decisions to firms at the local level, which then select specific projects for funding.

Simultaneously, smaller funds also have the option to reinvest resources back into the Big Fund if they perceive the central fund managers to have superior insights into industry trends or policy shifts. Facilitated by banks and financial institutions,

this model enables a dynamic capital flow across the sector. Importantly, this system encourages ongoing networking between company executives, senior researchers, and policymakers, ensuring that policy directions are informed by industry insights and progressively contribute to sectoral advancement.

A shortcoming of this governance structure is potential conflicts of interest (Luong et al., 2021: 16–23). Frequently, the entities managing GGFs are state-owned enterprises or companies backed by local governments, which may prioritise investments in ventures where they have existing stakes. This practice can divert funds to financially unstable companies and thereby diminish fund profitability. Moreover, the prospect of implicit government guarantees in the event of failure might incentivise fund managers to make suboptimal investment choices. As a result, government entities typically select policy-oriented fund managers with a lower propensity for risk-taking. This cautious approach, however, can be counterproductive in sectors where risk-taking is essential for innovation. For example, this focus on stability and security often leads managers to prefer investments in more developed companies over nurturing smaller, emerging firms. This bias may then hinder innovation by channelling excess capital into established areas that may not need additional funding while neglecting start-ups in critical need of seed capital.

Despite these shortcomings, many companies have benefited from GGF investments on their way to becoming national or even global champions. Most of these companies operate in the manufacturing sector and include CATL or BOE Technology, two companies that have emerged as the leading global manufacturers of lithium-ion batteries and display devices, respectively. Furthermore, Chinese EV companies—similarly supported by funding of GGFs—have taken the lead in the electric vehicle market securing a 60% share of the global manufacture of EVs. Finally, GGFs have helped China become a serious player in the industrial robotics market and the manufacturing of solar and wind power equipment. Without funding from GGFs, these success stories would not have been possible.

8.3 The 14th Five-Year Plan: Little Giants and Technological Self-reliance

The 14th Five-Year Plan (FYP) for the period 2021 to 2025 is a comprehensive blueprint to accomplish the intended implementation of an innovation-driven growth model (Xinhua, 2021b). To build a domestic high-tech industry, the plan develops two important concepts: first, a national competition scheme for so-called 'little giants', and second, the connected approach of dual circulation and technological self-reliance.

Little giants are small- and medium-sized enterprises (SMEs). They are key for innovations because of their agility, niche specialisation, and crucially, their readiness to embrace risks (Chen & Wang, 2021; Zhu et al., 2023). This is reflected in the fact

that SMEs in China account for 65% of patent activity and generate 80% of new products. The *Made in China 2025* strategy envisioned a concept to implement the technological upgrade of China's economy (Brown et al., 2023). Within this framework, SMEs are presented with an incentive to prove themselves worthy in a competitive process to eventually be handpicked by the central government to become a little giant or even a national champion. Having gained such status, the company would then be fully integrated into China's value chain for a certain industry and receive fundamental access to public funding and research—an advantage few companies can allow themselves to miss.

The system itself is organised into a pyramid cultivation system of four levels: innovative SMEs, provincial high and new technology enterprises, little giants, and eventually single champions—or national champions—at the top. The system operates like a sports league, companies want to gradually move up the pyramid to compete in a higher league with higher stakes. Local governments typically assess the companies at the pyramid's base, while central ministries are more engaged with higher-tier enterprises. Each year, companies are evaluated on a wide range of innovation indicators and their performance in the open market is constantly assessed. However, government favours are only granted for one 'season' of three years at a time, after which companies need to compete again. This mechanism sets an incentive for companies to perform and put their additional money to use, as they have to prove themselves again in the following season. If the company then fails to perform in the following season, it may lose some of their benefits, thereby enforcing cut-throat competition between companies.

Related to the little giant approach are the concepts of 'dual circulation' and 'technological self-reliance' developed in the 14th FYP. Broadly speaking, dual circulation divides the economy into two circles: domestic circulation and the international circulation (Javed et al., 2021; Lin & Wang, 2021; Schneider, 2021). While these two circles constantly act on each other, according to the plan, China currently has more interest in strengthening the domestic market in the short, while international circulation should only be seen as a reinforcing driver. The focus on the domestic market includes not only the technology developments of the supply side of the economy but also the expansion of domestic demand with higher consumption and more productive investments.

The concept of 'technological self-reliance' focuses on an adequate domestic supply of necessary foods, resources, manufacturing capabilities, supply chains, and most importantly, the development of domestic high-tech production. The concept adds a second component to the intended innovation-driven growth model in addition to higher productivity: the aim is to become more independent from foreign technological transfer by developing their own, cutting-edge technologies (Wang, 2023; Zenglein & Gunter, 2023: 43–54).

A good example of the importance of technological self-reliance from a Chinese perspective is the current situation of the global semiconductor industry (Kshetri, 2023; Triolo, 2024). As a general-purpose technology, semiconductors are a key ingredient for almost every electronic device making them indispensable for China's future development, especially for any advancements in the digital realm. To give an

idea of the current situation: the total size of the Chinese market for semiconductors was calculated at 179.5 billion USD in 2022, yet only 30.5 billion USD of these chips were produced within China, giving the Chinese domestic production a share of approximately 16.9%. Additionally, of these producers, only around half are Chinese owned, whereas the remainder are foreign companies (Daxueconsulting, 2024).

While this share is very small on the domestic scale, it is even smaller on a global scale, where 47% of all chips were sold by US companies, whereas China only claimed 5% of total market share in chip sales. The reason is the relative backwardness of chips produced by Chinese companies. As a rule of thumb, Chinese chips on average lag behind high-end chips by two generations, or roughly four years of development, despite all recent progress by China's main domestic chip producer, Huawei (Economist 2024a). To overcome the technology gap as soon as possible, the above-discussed National Integrated Circuit Industry Investment Fund, the Big Fund, has created the country's largest pool of capital for the chip industry. In 2024, it raised an additional 344 billion RMB, or 47 billion USD, after two previous rounds of funding in 2014 and 2019, which had already equipped the fund with almost 350 billion RMB (McMorrow & Leng, 2024). These numbers indicate how dedicated China is to develop its own national semiconductor industry.

Despite the concepts of little giants, dual circulation, and technological self-reliance, the 14th FYP aggregates the nation's objectives for the forthcoming period in comparison to their 2020 level, as shown in Table 8.2. The plan introduces eight binding indicators focusing on green ecology, education, and security assurance, alongside twelve indicative indicators that cover aspects of well-being, innovation, and broader economic development. The targets were ambitious, particularly within the green ecology category, aiming to reduce energy consumption and CO_2 emissions per GDP unit, enhance air and water quality nationwide, and expand forest coverage. Security is another critical area, with commitments to ensure stable grain and electricity supplies and to manage overcapacity in certain sectors. Additionally, one of the binding targets focuses on elevating the population's average education level. For the first time, however, the plan did not envisage an explicit growth target. This can be interpreted in a way that, in the future, quality should become more important for the development of China's economy rather than quantity. So far, most of the goals have already been reached or are expected to be reached by 2025. China's NDRC has already begun to undertake preliminary research for the following 15th FYP, covering the period 2026–2030. Its release can be expected following the meeting of the National People's Congress in March 2025.

8.4 Green Economy: Building an Ecological Civilisation

A significant component of China's innovation strategy focuses on environmentally friendly policies (State Council, 2023; World Bank, 2022a). This emphasis was highlighted in the 14th FYP, with five of the eight binding objectives pertaining to green ecology. However, China's dedication to environmental policy dates back much

Table 8.2 Main indicators of the 14th five-year plan: 2020–2025

Category	Indicator	2020	2025
Economic development	Gross domestic product (GDP) growth (%)	2.3	Proposed based on annual conditions
	Overall labour productivity growth (%)	2.6	Greater than GDP growth
	Urbanisation rate of permanent resident population (%)	60.6 (2019)	65
Innovation drivers	Corporate and social R&D expenditure growth (%)	–	> 7
	High-value invention patents held per 10,000 people (patents)	6.3	12
	Added value of core digital economy industries as a proportion of GDP (%)	7.8	10
Well-being	Growth in per capita disposable income of residents (%)	2.1	Synchronised with GDP growth
	Urban surveyed unemployment rate (%)	5.2	< 5.5
	Average number of years of education of working-age population (%)	*10.8*	*11.3 (binding)*
	No. of practising (assisting) physicians per 1,000 people (persons)	2.9	3.2
	Participation in basic old-age insurance (%)	91	95
	Number of nurseries for infants under 3 years old per 1,000 people (units)	1.8	4.5
	Average life expectancy (years)	77.3 (2019)	78.3
Green ecology	*Reduction in energy consumption per unit of GDP (%)*	–	*13.5 (binding)*
	Reduction of carbon dioxide emissions per unit of GDP (%)	–	*18 (binding)*
	Proportion of days with good air quality in cities at prefecture level and above (%)	*87*	*87.5 (binding)*
	The proportion of water bodies with good surface water quality (I-III) (%)	*83.4*	*85 (binding)*
	Forest cover rate (%)	*23.2 (2019)*	*24.1 (binding)*
Security assurance	*Comprehensive grain production capacity (100 million metric tonnes)*	–	*< 6.5 (binding)*
	Comprehensive energy production capacity (100 million metric tonnes of standard coal equivalent)	–	*< 46 (binding)*

Source Xinhua (2021b: 10–11)

further. In 1972, following its participation in the inaugural United Nations Conference on the Human Environment, China formed a Leading Group for Environmental Protection under the State Council, which laid the groundwork for the nation's environmental policy. A decade later, the government declared environmental protection a fundamental national principle, which led to various reorganisations and culminated in the establishment of the current Ministry of Ecology and Environment in 2018 (Tieu et al., 2023). By this time, China had already incorporated environmental protection into the country as well as party constitutions.[5]

One of the most prominent concepts from this time was the creation of an 'ecological civilisation' (Xue et al., 2023). Introduced in 2007, the concept is rooted in the belief that humanity has evolved through three stages of development: agricultural, industrial, and commercial civilisations. China posits that it is now entering a fourth phase, ecological civilisation, necessitating not only the acquisition of resources through productive activities but also a commitment to preserving ecological landscapes to ensure the survival of humanity. The approach demands a harmonious balance between human activities and nature while strongly focusing on protecting ecological services, natural resources and promoting green, circular, and low-carbon development.

Building on the framework of creating an ecological civilisation represents the broader vision of transforming China into 'beautiful China' (Fang et al., 2020). The initiative was launched in 2012 and has gained greater visibility since 2017, when it became a central goal for achieving 'socialist modernisation' by 2035 and started to align with the United Nations' 2030 agenda for Sustainable Development. The concept of 'beautiful China' envisions a society that advances simultaneously in economics, politics, culture, society, and ecology, thereby embodying the five-in-one strategy. It aims for picturesque landscapes, prosperity, harmony between humans and nature, cultural heritage preservation, and political stability. In 2024, the State Council released new guidelines to further advance the implementation of the BCI (China Daily, 2023).

The goals of this strategy include the significant reduction of major pollutants and preservation of 3.15 million square kilometres of national reserves by 2027. By 2030, the country expects to reach peak carbon emissions, thus setting the stage for achieving carbon neutrality by 2060. The plan includes a target for electric vehicles (EVs) to constitute 45% of all new automobile sales as well as the phase-out of older diesel locomotives. Post-2035, the strategy shifts focus towards promoting green production techniques and lifestyles to further reduce carbon emissions. Most noteworthy, China is not only concerned with cutting emissions but also with building carbon storage. The strategy also emphasises enhanced energy and water efficiency, the development of zero-waste cities, increasing forest coverage to 26% and improving soil and water conservation rates to 75%. By 2050, China hopes

[5] Article 26 of the constitution states that "the state shall protect and improve living environments and the ecological environment and prevent and control pollution and other public hazards. The state shall organize and encourage afforestation and protect forests" State Council (2019b).

to embody an ecological civilisation characterised by sustainable green development, deep decarbonisation and a vibrant, aesthetically pleasing environment.

Internationally, China has demonstrated its commitment to environmental agreements, such as the Convention on Biological Diversity and the UN Millennium Development Goals, showcasing its dedication beyond mere rhetoric. For example, as part of the Paris Agreement, China's Nationally Determined Contributions were updated in 2020 with ambitious targets for 2030, including the reduction of CO_2 emissions per unit of GDP by over 65% compared with 2005 levels. Additionally, the country aims to increase the share of non-fossil fuels in primary energy consumption to 25%, expand the forest stock volume by 6 billion cubic metres and increase the total installed capacity of wind and solar power to exceed 1.2 billion kilowatts. These commitments were further refined in 2021 through two policy documents that outline China's roadmap to carbon neutrality: the Working Guidance for Carbon Dioxide Peaking and Carbon Neutrality in Full and Faithful Implementation of the New Development Philosophy and the Action Plan for Reaching Carbon Dioxide Peak Before 2030 (Huld, 2021). Both documents intend to increase production efficiency, essentially enabling the generation of GDP units with fewer resources and less energy input. One way of achieving this goal is by emphasising the development of circular industrial parks and bolstering the domestic recycling industry for maximum resource conservation.

Indeed, since the beginning of rapid industrialisation, large areas across China have become nothing more than landfills for industrial waste. Recognising that linear modes of production without recycling inevitably lead to environmental degradation. China has been advancing towards a circular economy since 2002, a key aspect of which involves establishing a robust recycling industry (Bleischwitz et al., 2022; Chen, 2023). The primary benefit of transitioning from linear to circular value chains lies in the economy's reorientation to embody the 'three Rs': reduce, reuse, and recycle (Holzmann & Grünberg, 2021). This shift was legally anchored in 2008 with the Circular Economy Promotion Law, and all subsequent Five-Year Plans have included sections on this topic.

China's focus on energy conservation suggests that Chinese policymakers view the green transition, not only as an environmental or climate necessity but also as a crucial step towards becoming a less wasteful, more innovative, and productive economy. Given China's vast size and growing energy demands, there is a clear need to expand renewable energy infrastructure to support the balance of both economic growth and environmental protection. China's environmental strategy acknowledges the dual nature of its economy. The strategy emphasises that government and market forces should play complementary roles, with the market being recognised as the most efficient resource allocator whereas the government sets the framework for all economic activity within its domain. Therefore, the government reserves itself the right to intervene as needed to ensure energy security, supply chain stability, and food production during the transition towards a low-carbon economy. Following this approach, SOEs are instrumental in the green transition, especially in the energy sector, where they serve as a steady demand source for green energy. The steady

demand for green energy by SOEs encourages private green technology developers to settle and expand in the sector as well (Zhu et al., 2022).

Natural reforestation plays a critical role in China's environmental policies and is integrated into the constitution as well. Forests are key to carbon sequestration through organic processes such as photosynthesis and remain essential for keeping ecosystems alive. The 14th FYP aims for 24.1% of China to be forested by 2025 and 25% by 2030. This would eventually lead to a forest stock volume of 19 billion cubic metres, thereby reinforcing China's status as a leader in reforestation efforts. Initiatives such as the Great Green Wall of China and the National Forestation Programme are just two examples of China's efforts. A third reforestation effort was made in the Loess Plateau in northwestern China. It serves as a prominent example of how environmental degradation can be reverted through sustainable practices (Xing et al., 2023).

Originally hosting millions of people, unsustainable activities such as deforestation and overgrazing led to widespread desertification, which eventually rendered the area largely inhospitable. Following this, in the 1970s, extensive afforestation and reforestation efforts were undertaken by China in cooperation with international organisations. Efforts included the planting of trees, grasses, and shrubs to stabilise the soil, reduce erosion and improve water retention. The initiative successfully rejuvenated over 25 million hectares of previously degraded land, increasing forest coverage from a mere 5% to an impressive 60% within four decades. Similar environmental restoration projects have also been initiated in regions such as Inner Mongolia, a region heavily strained by desertification, as well as in Guizhou, Sichuan, and Yunnan, demonstrating a nationwide commitment to reversing the effects of ecological mismanagement in the past.

As part of increasing carbon efficiency, China has created a carbon market. In 2021, China introduced the carbon emission trading scheme, which quickly evolved into the world's largest in terms of covered emissions. Today, it accounts for 40% of China's total carbon emissions (Huang et al., 2022). The scheme aims to reduce carbon intensity in industries, though as it has only operated for a relatively short period, its impact remains to be seen. Carbon pricing provides some basic insight into the market's functionality. In 2022, for instance, prices were between 8 and 9 USD per metric tonnes of CO_2 in China, whereas prices fluctuated between 60 and 110 USD in Europe (Yin, 2023).It is worth remembering, however, that the European market is far more mature than China's, and it took ten years before the price first crossed the 30 USD mark.

Indeed, less mature markets often feature lower prices per carbon certificate for a practical reason: initiating a market with high prices could lead to the collapse of entire industries, providing them with minimal opportunity to adapt to the new economic landscape. An incremental introduction of such a system, on the other hand, serves as a signal to companies to commence the transition towards less carbon-intensive methods. The Chinese authorities have already announced gradually reducing free allowances over time, thereby encouraging the economy to get on board now, before a clampdown that may one day come. For example, in 2022, China's Ministry for Ecology and Environment lowered the benchmark for coal-fired

power plants by between 6.5 and 18.4%, depending on the specifications of the plant (ICAP, 2022). To help companies finance these required upgrades, the government invited venture capital and private equity funds to invest in the respective industries (Wang, 2024).

Another move to increase carbon efficiency, mostly through the financing of green infrastructure developments, was the inception of China's green bond market in 2015, which has become instrumental for financing the substantial investments required to achieve the country's climate objectives. The World Bank estimates that reaching net-zero emissions by 2060 will necessitate investments of between 14 and 17 trillion USD in green infrastructure and technology, particularly in the power and transportation sectors (World Bank 2022b). Even though 2060 is still a long way off, by 2022 the market size had already reached 155 billion USD, making China the world's largest single issuer of green bonds (Climate Bonds Initiative, 2022). Despite its relatively young age, investor interest has increased rapidly, with 94 of the 138 issuers in 2021 being newcomers. However, thus far, SOEs have dominated the issuance of bonds, being represented by 97% in number and 99% in volume in 2021. However, slowly, the landscape is beginning to shift as in 2022 private company participation increased to 16% of the issued volume. This may signal the beginnings of diversification in the market, but it may still take more time before private businesses follow the government's initiative.

China's commitment to combating pollution and its willingness to experiment has paved the way for an increased reliance on renewable energy sources, marking a significant departure from traditional coal-based energy. Since the mid-2000s, the focus on green growth has led to an expansion of renewable energy's share on total production from 8.8 to 20.6%. In 2023, renewables—primarily solar, wind, and hydro—accounted for about 50% of China's energy capacity, surpassing that of coal for the first time (Financial Times, 2024). China, therefore, stands as the global leader in renewable energy production, boasting an installed capacity of 1161 GW. This places it well ahead of Brazil and the USA, which have capacities of 218 GW and 179 GW, respectively (IRENA, 2023: 2).

Considering these capacities, optimistic projections therefore suggest that China may be able to achieve its goal of 1200 GW of installed wind and solar energy capacity by 2025, five years ahead of schedule. To reach these goals, Beijing actively promotes substantial investments in hydropower, solar, and wind energy, alongside government-funded training programmes for workers to operate the parks. A notable example of such investment is a large-scale energy park planned for the Gobi Desert, with the potential to generate up to 450 GW of electricity (Reuters, 2022). Realistically, it may not be until 2050 that China's energy demand can be met by more than two-thirds through wind and solar energy alone (Liu et al., 2022). Nuclear energy deserves special mention in this regard. Although it currently constitutes only two percent of China's total energy supply, it may play an increasingly important role in the future. China is committed to gradually increasing nuclear energy utilisation as an emission-free alternative to coal. The 14th FYP aims to boost domestic nuclear energy capacity to 70 GW by 2025. As of 2024, China has a capacity of 53 GW, France has 61 GW, and the USA has 95 GW.

Chinese policymakers view nuclear energy not only as a source of clean energy but also as a critical sector for advancing specialised knowledge and technological progress, particularly in nuclear fusion reactor technology (Andrews-Speed, 2023). Consequently, China actively pursues advancements in reactor design, fuel cycles, and safety measures. A notable milestone was reached in 2023 when China issued its first commercial licence for an advanced thorium-based nuclear reactor in Gansu Province (Vlasov, 2023). These thorium-based reactors offer several advantages over conventional uranium reactors. For example, they primarily utilise the more abundant thorium element, implement enhanced safety measures, and produce significantly less long-lived nuclear waste. While China initially adopted foreign technologies for its reactors, domestic designs have gradually become the norm. China's self-reliant innovation campaign has proven itself in this field, further spurring China's ambitions. Following the success of the Gansu reactor, China unveiled plans in late 2023 to construct the world's first thorium-reactor-powered container ship, capable of carrying 24,000 containers, which may have the potentially disrupt the marine industry through various means (Dalton, 2024).

In closing, China's environmental undertaking reflects a deep-seated commitment. From its early strides in the 1970s to its contemporary frameworks, such as the ecological civilisation and the vision of the beautiful China initiative, the nation has woven a narrative of balancing growth with sustainability. Ambitious targets for carbon reduction, renewable energy expansion, and ecological restoration underscore this commitment. China's focus on technological innovation is evident in its leadership in the renewable energy sector and through its domestic advancements in nuclear technology. By aligning with global agreements such as the Paris Agreement and embracing green finance mechanisms, such as green bonds, China not only aims to lead domestically but also aspires to be a key player in the global fight against climate change.

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Chapter 9
Conclusion: The Fight for a New Growth Model

In the final chapter of this book, we argue that it is unlikely that the dominant policy approach of an innovation-led growth model, guided by the party-state, will be able to move China's economy back to a sustainable long-term growth path that avoids the middle-income trap. The approach has two significant shortcomings: first, it still underestimates consumption as a growth driver; second, it tends to produce industrial overcapacity instead of the creation of breakthrough innovations. These weaknesses are the inherent result of the steering approach as the preferred economic model of the current policy.

The mediocre economic recovery after the Covid-19 pandemic and the ongoing real estate crisis have revealed that China's old growth model, centred on a catch-up Industrial Revolution, is broken. What is truly worrying is not the current growth rate, but the potential growth rate of the future. China's important economic challenges are structural rather than cyclical. To overcome these challenges, China's economy needs a new growth model based on structural and institutional reforms. Otherwise, the country risks falling into an 'institutional trap' that prevents the further rise of its economy (Pettis, 2020).

In July 2024, the Third Plenum of the 18th Central Committee of the CCP—the most important quinquennial event of the party for economic affairs—released a document on the future of China's economy. The nearly 50-page document, titled 'Further Deepening Reform Comprehensively to Advance Chinese Modernisation', contains over 300 proposals across 60 sections, addressing various long-term economic challenges, such as population development, Hukou reform, fiscal and tax restructuring, green transformation, unified financial laws, urban–rural integration, and technological advancements (State Council, 2024a). These reforms aim to be implemented by 2029, the 80th anniversary of the foundation of the PRC.

The resolution reiterated the call to make the market 'decisive' in resource allocation, mentioned at the previous meeting in 2013, and contained positive language on the importance of the private sector while directing SOEs to focus on specific

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policy-relevant fields. The document explicitly places the current policy in the tradition of the *Reform and Opening Up* policy of the Third plenum in 1978, thus giving recognition to Deng Xiaoping.

The projected reforms highlight, in detail, the important long-term challenges to China's economy. For instance, the population development strategy intends to raise the retirement age and build a 'childbirth-friendly society' to counter the foreseeable shortage of the labour force. Even more important is the intended reform of the Hukou system, which includes access for migration workers at the location of their jobs to reduce the urban–rural gap as well as income inequality.

Furthermore, a unified financial law aims to strengthen the role of capital markets in financial resource allocation. The announced fiscal and tax reforms intend to reduce the mismatch between revenues and expenditures, which is the main reason for the high debt level of local governments. The advanced reforms of SOEs are especially designed for industries with monopolies such as energy and railway. Finally, to support foreign investments in China, the investment negative list is to be shortened and there will be an easing of restrictions on equity investments and joined venture cooperations.

Overall, the document balances the interests of pro-market and pro-state advocates within the party-state. Neither a reversal back to the features of a planned economy nor a return to breakthrough reforms is likely. Rather, the document makes clear that economic policy will continue as it is and focus on the implementation of the concept of the *new productive forces* steered by the party-state. This is underscored by the strong belief that the 'great rejuvenation of the Chinese nation' depends on scientific development and technological self-reliance given the historical experiences during the first Industrial Revolution.

Investments in high-tech industries are undoubtedly crucial for increasing labour productivity and the value-added of products as a precondition for rising incomes. However, as pointed out by Pettis (2022, 2023), among others (Krugman, 2024; Liu et al., 2023; Roach, 2024; Wolf, 2024), China's economy is already suffering from overinvestment and underconsumption, as indicated by the low efficiency of investments and the underproportioned share of consumption of private households on GDP. Even a substitution of inefficient investments in the real estate sector, for instance, by more efficient investments in high-tech industries, would not solve the issue. At any given moment in time, there are only a limited number of profitable investment opportunities in an economy depending on the existing capital stock, which is already huge in China, especially in manufacturing.

In addition, China's steered investments are very much concentrated on certain areas in manufacturing, which raises the likelihood of overcapacities and declining returns even more, an issue already visible in certain industries. It would therefore be much better if China's new growth model combined both: substitution of non-productive by productive investments matched with increasing consumption. A further expansion of the service sector would also be helpful (Roubini, 2024). Higher domestic consumption would reduce the increasing dependency on exports as well.

One of the conundrums of China's economic policy is why a rebalancing of the growth model towards more consumption has not taken place in the past. Especially, since former Premier Wen Jiabao called China's growth model 'unstable,

unbalanced, uncoordinated and unsustainable' at the 10th NPC in 2007 (Holland, 2017). Although official documents have continuously dealt with this issue, little has changed since then. For example, the recent Third Plenum mentioned 'insufficient domestic demand' and the most powerful Politburo Standing Committee, following the Plenum, it emphasised boosting consumption to expand domestic demand (Xinhua, 2024). Also, the annual Central Economic Work Conference at the end of 2024, stressed the need to 'vigorously boost consumption' (State Council 2024b). However, this focus appears to emphasise short-term growth rather than to address long-term economic rebalancing.

In Chapter 4, we discussed the main reasons for low consumption in China: the weak social security system, which triggers precautionary savings and the restrained income development of private households over time. Any attempt to increase consumption must therefore address these issues. First, income redistribution towards private households is required to increase their spending capacity. Inter alia, this step must include rising real wages as well as a redistribution of profits from SOEs to the household sector. A reform towards a progressive tax system would also be helpful, as would a land reform that gives farmers more income opportunities. Furthermore, China's financial system needs liberalisation, which ends the financial repression of savers. In addition, the social security system must be improved to reduce the pressure for precautionary savings.

However, neither China's current nor its past leadership has shown much interest in such reforms. One possible explanation is the reluctance to adopt a kind of welfare state model. Rather, such an approach is viewed as a weakness of Western societies (Hofman, 2023; Yu & Leahy, 2023). Initiatives such as the *Harmonious Society* under the Hu-Wen leadership or the more recent *Common Prosperity* under President Xi have not shifted this perspective. It seems that China's redistribution system is intentionally set to prevent dependency on transfer payments while maintaining incentives for hard work. Moreover, any redistribution from the government to the household sector would also imply less control over financial resources for the party-state.

Furthermore, economic growth remains a decisive source for the legitimacy of the party-state. The transition towards a more consumption-driven growth model with less investment will inevitably decrease the growth rate, at least in the short-term, owing to the over proportionate share of investment and the under proportionate of consumption on GDP. To sustain the growth rate, any reduction in investment must therefore be counterbalanced by a disproportionate increase in consumption, which is unlikely to be feasible in the short-term. From this perspective, the continuation of the supply-driven growth model, with heavy investments, looks much more attractive for the political leadership, not only with respect to the steering of the economy, but also to maintain a sufficiently high growth rate.

This leads to our second critique of the dominant policy approach: the obsession with industrial policy. The approach is deeply intertwined with the steering of the economy. Unlike household consumption, it allows the party-state to guide company investments. Moreover, low consumption results in high savings, which supply funds through the state-owned banking sector, channelled into preferred industries and companies. The emphasis on industrial production is in fact not a coincidence but a deliberate strategy aligned with the interests of the party-state.

This is not to say that the state should not support funding of risky investments in innovative technologies. However, state funding cannot be a substitute for market-based decisions of profit-oriented companies (Naughton, 2024). Given the scale and scope of the current steering approach, a 'vicious cycle' of overcapacity tends to be created (Liu, 2024). All relevant actors, such as private companies, SOEs, and local governments, always direct their economic activities to sectors and products preferred by the state-led industrial policy. Under such an incentive system, competition is reduced to economies of scale and predatory pricing, whereas independent product development and differentiation remain underdeveloped. As a result, companies fight with low profitability and the risk of insolvency due to overcapacity in their respective industries.

Moreover, the steering approach substitutes, to a large degree, ex post selection by markets through ex ante decisions by political authorities in the development of innovations. This, however, risks the misallocation of resources as well as incorrect decisions regarding innovative products of the future (Xu, 2019: 13). At best, it supports imitated but not pioneering innovations. There is no omniscient authority, that knows which product will be successful in the future. This decision is up to the market. In a competitive environment, private entrepreneurs and enterprises are best fit to launch new products and technologies as they are profit oriented and driven by market forces. In contrast, state guidance often promotes rent-seeking behaviour and leads to resource wastage (Zhang, 2021).

Given the vested interests of the party-state, it is doubtful that the reforms proposed by the Third Plenum will be sufficient for a sustainable turnaround of China's economic development path. Much more effective would be to scale back the state-led steering approach and to unleash private, entrepreneurial innovation with structural and institutional reforms. The fact that such reforms are possible has been well demonstrated by the case of South Korea (World Bank, 2024: 41–42). The country has risen from a low-income to a high-income country within 50 years by cooling its original state-led industry policy and support for SOEs and instead promoted private enterprises and markets in other ways. However, so-called 'uncontrolled marketisation' is not perceived as an option by the Chinese leadership. Instead, the party-state wants to stay in control of crucial economic resources such as land, finance, and corporations (Liu & Steil, 2023).

Extreme views should be avoided when considering China's economic future. China's economy is unlikely to collapse any time soon as it has simply been too successful in the past and still remains robust today. Despite its shortcomings, the country still has significant comparative advantages, including its vast market size, advanced infrastructure, skilled labour, force and a dominant role in global value chains that cannot be replaced by any other country in the near future. Moreover, the system and its respective leadership have demonstrated resilience and adaptability in the past by managing huge economic challenges, such as the Asian Financial Crisis at the end of the last millennium, the global financial crisis of the years 2008 to 2009, and the Covid-19 pandemic (Heilmann, 2018: 17–43).

Regardless, performance legitimacy still matters for the party-state. Public sentiment has already turned from optimism to pessimism in recent years, eroding confidence in the meritocracy and performance legitimacy of the leadership. This is shown by valid surveys of domestic (PBC, 2024) as well as international institutes (Mazzocco & Kennedy, 2024). Overall, the findings are clear: income and employment expectations have declined significantly, as has confidence in the overall economic system. Obviously, Chinese citizens have accepted the shortcomings of China's economic model, such as inequality among others, as long as the pie is still growing fast enough for everyone to participate. However, ever since economic performance has cooled, the previous confidence of former decades has started to disappear. In particular, younger Chinese can no longer share the same optimism as their parents did in the 1990s and 2000s.

These are concerning developments that raise the risk that the social contract between Chinese citizens and the ruling party, which was built by Deng Xiaoping by exchanging legitimate power for welfare, could come to an end. To avoid such a scenario, the party-state needs to have the courage to return to pragmatism and launch the structural and institutional reforms required to transform China into a high-income country. China and its economy need a new round of *Reform and Opening Up*.

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