China's Seven-Decades of Opening-up: Empowering Growth and Reforms

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Abstract: *This paper examines China's seven-decades of opening-up and its achievements since 1949, presenting an overview of China's importation of technology and formation of a modern industrial system in the first three decades, as well as opening-up and development in the last four decades. We discuss the rationale behind the gradualist approach to opening-up, focusing on how factor endowment, reform, and the opening-up policy have shaped China's opening-up landscape. We also address the doubts and controversies arising from China's opening-up and the positive effects of opening-up on reforms. Lastly, we present possible future trends for China's transition towards the horizontal division of labor and neutral and institutional opening-up.*

Keywords: *opening-up, opening-up strategy, neutral opening-up, institutional opening-up*
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This paper describes China's seven-decade journey of opening-up and its achievements, reviews key issues in China's opening-up process, and forecasts future changes in China's opening-up strategy.

1. Opening-up in the First Three Decades after 1949: Importation of Technology and the Beginning of the Modernization Drive

In the first three decades after the founding of the People's Republic of China in 1949, China laid the groundwork for a modern industrial system. This achievement would not be possible without the importation of technology and without opening-up.[1]

1.1 First Decade after the Founding of the People's Republic of China in 1949: Development of a Modern Industrial System Based on Foreign-Aided Projects

During the first Five-Year Plan (1953-1957) and in subsequent years, China relied on foreign-aided projects to establish key industrial sectors from the ground up. The "156 Industrial Projects" aided by the former Soviet Union comprised key projects for China's First Five-Year Plan period in such sectors as steel-making, nonferrous metallurgy, coal extraction, oil refineries, heavy-duty machines, automobiles, hydropower and thermopower stations, electric engineering, and radio technology. With the implementation of these projects, China built its first large steel mill and seamless steel tube factory under Angang Group, the First Automobile Works (FAW), Haizhou Open Coal Mine of Fuxin Mining Bureau, three chemical factories in Jilin Province, and the Harbin Electric Motor Factory. Back then, China developed almost all its major industrial sectors and products with the support

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[1] Unless otherwise indicated, all data in this section are referenced from the following sources: Jiang Xiaojuan. 1993. *Study on China's Industrial Development and Foreign Economic and Trade Relations*. Beijing: Economic & Management Publishing House; Fang Weizhong. 1984. *Major Economic Events of the People's Republic of China 1949-1980*. Beijing: China Social Sciences Press; Li Zhining.1987. *Compilation of Major Economic Events of the People's Republic of China, October 1949-January 1987*. Changchun: Jilin People's Press.

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of foreign-aided projects.

Through importation, China developed capabilities for manufacturing dozens of types of key equipment, including heavy-duty vehicles, machine tools, automated blast furnaces, open-hearth furnaces, combined coal cutters, and power generation assemblies. China established an aviation industry capable of mass manufacturing jet planes; steel alloy, seamless steel tube and heavy section sectors in the iron and steel industry; aluminum and other nonferrous metal smelting and processing sectors in the nonferrous metal industry; high-grade dyestuff and industrial and aviation paint sectors in the chemical industry; and the capability to manufacture telegraph transmitters, automatic telephone exchanges, and other telecom equipment. Such tremendous progress would not have been made possible without the importation of technology.

1.2 China's Technology Importation and Economic Development in the 1960s-1970s

The former Soviet Union terminated most cooperation projects with China in the early 1960s, forcing China to import equipment from elsewhere. As a consequence, China imported its first set of vinylon equipment from Japan in September 1962, as well as other technologies from Japan, the UK, France, Italy, and the Federal Republic of Germany. In the early 1970s, China vowed to import 4.3 billion US dollars' worth of complete and standalone equipment from Western industrialized nations, which was subsequently increased to 5.14 billion US dollars. By 1977, China had concluded technology importation deals worth 3.96 billion US dollars.

Specific technology importation projects include: 13 sets of 300 KTA synthetic ammonia equipment with natural gas or naphtha as feedstock and 480 sets of KTA urea fertilizer equipment, four sets of large chemical fiber equipment, three sets of large petrochemical equipment, an alkylbenzene factory, three large power plants, 43 sets of combined coal mining units (CCMU), a 1.7-meter rolling mill at Wuhan Steel, turbocompressor, gas turbine manufacturing equipment, and the Spey jet engine project. Back then, China was in dire need of these advanced technologies to develop basic industries. The importation of technology was a key driver of China's economic development in this period. In 1975 and 1976, China spent 14% and 21%, respectively, of its government budgets on the importation of technology.

1.3 Self-seclusion Was not the Dominant Ideology

China's three-decade pre-reform era is often misidentified as an era of "self-seclusion" and "self-reliant development". In reality, China was devoting tremendous resources to realize the goal of importing technology in the 1950s and 1970s. In the early stage after the founding of the People's Republic of China in 1949, China had no choice but to trade with the former Soviet Union and other Eastern European countries. In 1949, the United States and its allies established the Coordinating Committee for Export to Communist Countries (CoCom) to put an embargo on socialist countries. The CoCom embargo list contained thousands of goods and 750 categories of equipment which were banned from export to socialist countries. In the late 1960s, the "Cultural Revolution" sparked a wave of xenophobia, disparaging foreign trade as "enslavement to foreign masters" and the importation of foreign equipment as "crawlism". These adverse ideological reactions, however, were fleeting in the three-decade pre-reform era and they were followed by spectacular technology importation in the 1970s. In the three decades from 1949 to 1978, China attached great importance to and benefited greatly from the importation of technology and equipment.

2. China's Overall Opening-up and Development in the Past Four Decades

Over the past four decades, China has been opening up on a much broader scale than it was in the three decades of the pre-reform era. By leveraging domestic and international markets and resources, China has created jobs, induced growth, technology progress, and industrial upgrade, and embraced ideological emancipation and institutional reform.

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2.1 China's Emergence as a Major Trading Nation

Over the past four decades, China has recorded an annual average trade growth rate of 14.5%. By 2018, China's yearly import and export volume reached 5.4 trillion US dollars, making it the number one trading nation in the world. Exports grew at a faster pace. Since 1993, due to competitive exports, China has maintained trade surpluses. Table 1 describes China's trade growth over the past four decades.

Along with its rapid growth in foreign trade, China's trade dependence has increased. Defined as a country's total trade volume as a share of GDP, trade dependence measures a country's import-export correlation. A higher level of trade dependence means greater importance of foreign trade to the economy. Table 2 describes China's dependence on foreign trade, exports, and imports since reform and opening-up in 1978.

Table 1: China's Trade Statistics (1982-2018) (100 million USD)

Year	Imports and Exports	Exports	Imports	Trade Difference
1982	460.1	248.2	211.9	36.3
1985	748	302.5	445.5	-143
1990	1,252.4	677.9	574.5	103.4
1995	3,238.6	1,671.8	1,566.8	105
2000	5,402.9	2,793	2,610	183
2005	15,790.1	8,358.5	7,431.5	927
2010	33,436.4	17,551.3	15,885	1,666.3
2015	46,035.8	24,910.4	21,125.4	3,785
2018	54,149.2	27,542.4	26,606.7	935.7

Source: Annual Statistics of the World Trade Organization (WTO).

Table 2: China's Trade Dependence (1978-2018) (100 million USD, %)

Year	GDP	Foreign trade		Export		Import	
		Volume	Dependence	Volume	Dependence	Volume	Dependence
1978	1,495.4	210.9	14.1	99.6	6.7	111.3	7.4
1980	1,911.5	380.4	19.9	181.0	9.5	199.4	10.4
1985	3,094.9	696.0	22.5	273.5	8.8	422.5	13.7
1990	3,608.6	1,154.4	32.0	620.9	17.2	533.5	14.8
1995	7,345.5	2,808.6	38.2	1,487.8	20.3	1,320.8	18.0
2000	12,113.5	4,742.9	39.2	2,492.0	20.6	2,251.0	18.6
2005	22,859.7	14,219.1	62.2	7,619.5	33.3	6,599.5	28.9
2006	27,521.3	17,604.0	64.0	9,689.5	35.2	7,914.6	28.8
2010	60,871.6	29,740.0	48.9	15,777.5	25.9	13,962.5	22.9
2015	110,155.4	39,530.3	35.9	22,734.7	20.6	16,795.6	15.2
2018	136,081.5	46,230.4	34.0	24,874.0	18.3	21,356.4	15.7

Note: Both GDP and trade data are from the World Bank's website to ensure consistency.

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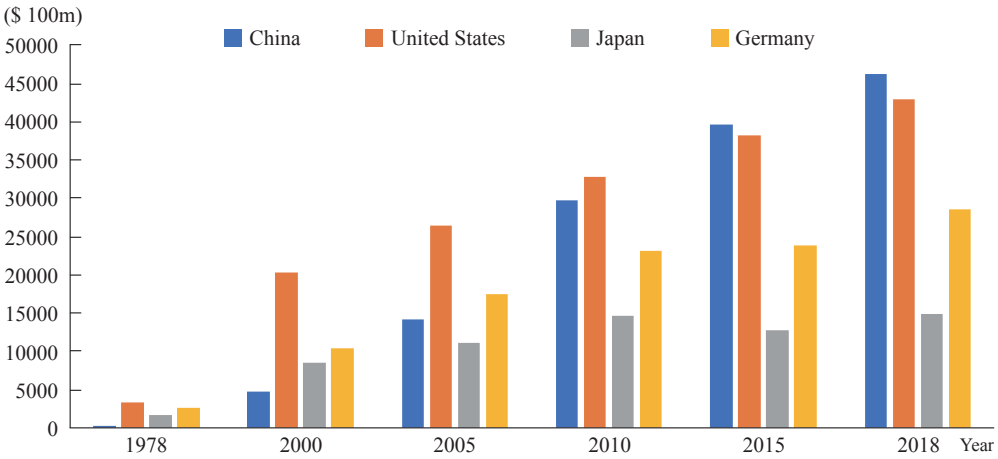

Figure 1: International Comparison of China's Trade Status

Source: The World Bank website.

Since 2010, China has ranked as the world's largest exporting nation and the second-largest importing nation, overtaking the US, Germany, and Japan, which were the top three trading nations since the 1970s (see Figure 1).

2.2 Absorption of Foreign Capital and Rapid Growth in Outbound Investment

2.2.1 Absorption of foreign capital: Volume, structure and contribution

Over the past four decades of opening-up, China has seen a steady increase in its foreign direct investment (FDI) inflows, rising from a few dozen million US dollars to 135 billion US dollars, receiving 2.1 trillion US dollars' worth of FDIs over the past four decades, on a cumulative basis.

At the beginning of reform and opening-up four decades ago, small and mid-sized projects made up a large proportion of China's foreign investment inflows. As opening-up progressed, multinational companies became a dominant source of foreign investment in China. Over time, technology- and capital-intensive sectors replaced labor-intensive sectors as key areas for foreign investment, and the service sector emerged as equally important as the manufacturing sector. Foreign-funded enterprises contributed to China's economy in the following ways:

Contribution to capital formation in China: The percentage of foreign capital in fixed capital formation in China changed greatly over the past four decades. On average, foreign capital accounted for 1.81% of fixed capital formation in China in 1979-1991, 13.37% in 1992-1997, and reached a peak of 17.27% in 1994. In the following period, China's FDI growth was eclipsed by surging growth in domestic investment. As a result, the percentage of foreign capital in fixed capital formation decreased to an average of 9.04% in 1998-2007 and an average of 2.9% in 2008-2018, as shown in Table 4.

Contribution to industrial value-added: Foreign-funded enterprises accounted for over 20% of China's industrial value-added in 1998 and over 28% of China's value-added in 2006. In the electronics and communication equipment manufacturing sector, 77.3% of industrial value-added was created by foreign-funded enterprises. Over the past decade, foreign-funded enterprises made up for a declining share of China's industrial value-added. In 2018, value-added from China's large industrial enterprises represented 33.9% of China's GDP, and industrial value-added from large foreign-funded enterprises reached 7.04 trillion yuan. Foreign-funded enterprises accounted for an estimated 23.1% of China's total industrial value-added.

Contribution to tax revenues: As their business operations expanded in China, foreign-funded

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Table 3: China's Actual Use of Foreign Capital (100 million US dollars)

Year	Actual use of FDIs
1979-1982	17.69
1983	9.16
1985	19.56
1990	34.87
1995	375.21
2000	407.15
2005	603.25
2010	1,057.35
2015	1,262.67
2018	1,349.66

Source: National Bureau of Statistics (NBS) and the Ministry of Commerce.

Table 4: Foreign Capital as a Share of Fixed Capital Formation in China

Year	FDI (100 million US dollars)	Fixed capital formation (100 million US dollars)	FDI as a share of fixed capital formation (%)	Total fixed capital investment (100 million yuan)	FDI as a share of fixed capital formation (%)
1979	0.0	519.2	0.0		
1980	0.6	560.8	0.1	910.9	0.1
1985	19.6	967.4	2.2	2,543.2	2.3
1990	34.9	886.4	3.5	4,517.0	3.8
1994	337.7	1,994.3	17.3	17,042.1	17.5
1995	375.2	2,437.8	15.4	20,019.3	16.1
2000	407.2	4,050.0	10.3	32,917.7	10.6
2005	603.3	9,251.5	8.8	88,773.6	7.7
2010	1,057.4	27,447.4	3.9	251,683.8	-
2015	1,262.7	48,414.8	2.6	561,999.8	1.4
2016	1,260.0	47,871.7	2.6	606,465.7	-
2017	1,310.4	51,691.0	2.5	641,238.4	-
2018	1,349.7	57,585.7	2.3	645,675.0	1.4
1979-1991	250.6	10,261.4	2.4		
1992-1997	1,967.9	13,317.0	14.8		
1998-2007	5,411.7	69,519.8	7.8		
2008-2018	12,713.1	438,062.5	2.9		

Source: The National Bureau of Statistics; the Ministry of Commerce.

enterprises paid more taxes over the years, accounting for 23.7% of China's total tax revenues in 2006. Since then, foreign-funded enterprises have made up a smaller share of China's output value, contributing only 18.7% of China's tax revenues in 2017.

Contribution to trade and export structure**:** Foreign-funded enterprises saw their share in China's total import and export volume increase from 21.34% in 1991 to 42.57% in 2018, peaking at around 60% in 2005. Foreign-funded enterprises made up a large share of China's high-tech exports, which

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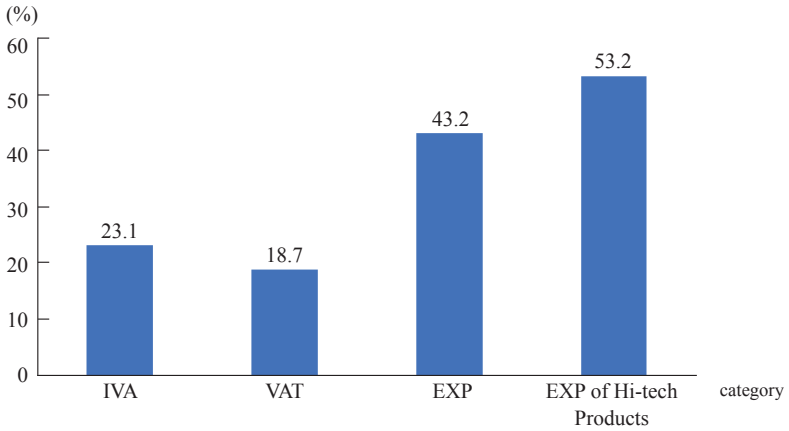

Figure 2: Contribution of Foreign-Funded Enterprises to Various Aspects of China's Economy

Source: The National Bureau of Statistics (NBS); the Ministry of Commerce.
Note: Industrial value-added from foreign-funded enterprises as a share of the national total is based on 2018 data.

rose from 58.6% in 1996 to 88% in 2005 before decreasing to around 53% in 2017. Figure 5 shows key aspects of the contribution of foreign capital to China's economy.

China has become the largest FDI recipient in the world. In 2003, China ranked first in terms of actual foreign capital inflows. In other years, China generally ranked second and remained the largest FDI destination as a developing country. Figure 3 compares China's foreign capital inflows with a few other major FDI destinations.

2.2.2 Rapid growth in outbound investment

In the early stage after reform and opening-up in 1978, China was primarily a recipient of cross-border direct capital inflows and made very few outbound investments. The past two decades, however, have seen a surge in China's foreign investment from 10 billion US dollars in 2005 to 50 billion US dollars in 2008 and 100 billion US dollars in 2013. In 2016, China's outbound direct investments reached a record high of 196.1 billion US dollars before shrinking in the following couple of years to 129.83 billion US dollars in 2018.

With the rapid increase in outbound investment, China emerged as a key source of outbound investment, becoming the second-largest source of outbound investment in 2016 and ranking second and third in the following couple of years. The following chart presents the volume of outbound investment of China and a few other countries.

2.3 Openness Induces Overall Development

Over the past four decades, China's opening up has outpaced its growth in GDP. From 1978 to 2018, China's GDP increased by 9.6%, its foreign trade increased by 18.4%, its exports increased by 18.8%, and its foreign capital inflow increased by 10.7%, on an annual average basis. In 2003-2018, China's growth in outbound investment averaged 29.0%. Rapid growth in various aspects of opening up has boosted China's economic growth (see Figure 5).

3. China's National Conditions and the Gradualist Approach to Opening-up

China's opening-up has deviated from the trajectories suggested by many international institutions and academics that for a long period, China would not have a transparent, stable, and market-based investment climate for fair competition and complete legal systems; that Chinese enterprises in general had not been granted the right to trade foreign merchandise - a state monopoly - until 20 years after

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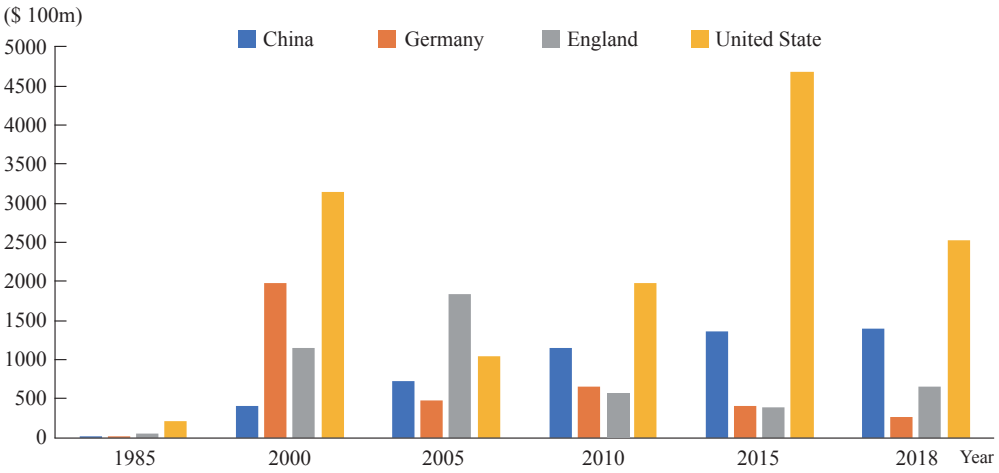

Figure 3: International Comparison of China's Foreign Capital Inflows

Source: UNCTAD.

opening up in 1978; and that the administration of foreign exchange would be subject to a "double-track system" for a long time. China's opening up was gradualist and "incomplete". International academics (e.g. Naughton 2000 and Mastel 1997)[2] thus felt worried about the prospect of China initiating foreign trade reforms and opening-up on a broader scale. Yet in the four decades after opening up, China has maintained almost the highest growth rate in foreign trade in the world and has attracted almost all of the Fortune Global 500 companies. The question is why did China pursue such an atypical path of openness and what has made these achievements possible? In an attempt to answer the above questions, this section offers an analysis of China's national conditions and its opening-up process in different stages of development from such aspects as factor endowment, reform process, and opening-up policy.[3]

3.1 Initial Stage of Opening-up (1980-1991)

Factor endowment: At the beginning of opening-up, China's factor endowment was imbalanced. Despite a huge labor force, China was short on capital and technology. With 22.4% of the total world workforce, China accounted for only 2% of the total world investment volume, 0.5% of the total world R&D input, and 7% of the world's arable land, 6% of the world's fresh water, and 1.5% of the world's oil resources (see Figure 6). According to the comparative advantage and factor endowment theories, China should export goods made with abundant factors and import those made with factors in short supply. This extreme imbalance of factor endowment characterized China's national conditions at the beginning of opening-up.

Reform process: In this stage, China just started to launch urban reforms and grant more autonomy to collective enterprises under the contract responsibility system. Market-based operations were overwhelmed by government interventions. Foreign-funded enterprises struggled to come to terms with China's domestic institutional environment, and Chinese enterprises were unable to compete with imported goods and foreign-funded enterprises.

Opening up policy: In the initial stage of opening-up, China established a few special economic

[2] Naughton B. 2000. "China's Trade Regime at the End of the 1990s: Achievements, Limitations, and Impact on the United States." In *China's Future: Constructive Partner or Emerging Threat?* edited by Ted G. Carpenter and James A. Dorn. Washington, D.C.: CATO Institute, p235-260; Mastel Greg. 1997. *The Rise of the Chinese Economy: The Middle Kingdom Emerges.* New York: Routledge.

[3] The section about China's opening-up policy is mainly referenced from: the Ministry of Commerce. 2018. *Report on Foreign Investment in China*, 2000-2018; Jiang Xiaojuan. 2008. "Review and Outlook of China's Three-Decade Opening up." *Social Sciences in China*, 6: 66-85+206.

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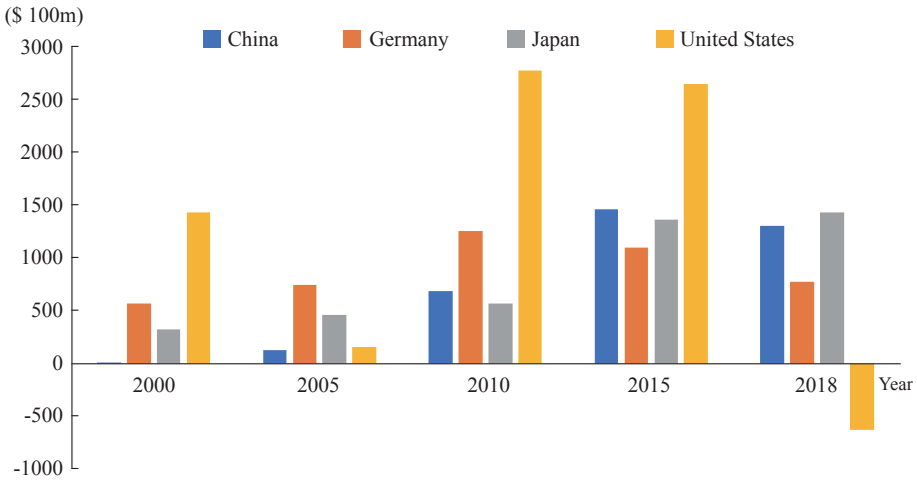

Figure 4: Outbound Investments by China, Germany, Japan and the US

Source: UNCTAD

zones to experiment with market-oriented practices, attract foreign capital and increase exports. In this stage, China had yet to make systematic arrangements and institutional considerations concerning foreign trade, foreign exchange, and foreign capital systems.

3.2 Rapid Opening-up (1992-2000)

Factor endowment: Because of its huge workforce, China was able to ameliorate the shortages of capital and technology, and rectify the imbalance in factor endowment, to some extent. China accounted for 23.1% of the world's total workforce, 2.7% of the world's investment volume, and 1% of the world's R&D input, in 1992, while other resources as a share of the world's total remained stable (see Figure 6). After over a decade of competition and development, China's domestic industries, especially the consumer goods sector, possessed technological prowess, giving rise to a robust domestic supply chain. In this stage, China received more foreign capital inflows and fostered domestic technological strengths. Factor endowment, though still imbalanced, improved substantially.

Reform process: Comrade Deng Xiaoping made a series of statements on reform during his tour in South China in early 1992, which accelerated China's reform process.[4] The Report to the 14th CPC National Congress delivered on October 12 of the same year identified the goal of China's economic reforms as being to "establish the socialist market economic system" by developing factor markets and reforming labor, land, and capital markets, as well as state-owned enterprises (SOEs). In this period, China phased out most mandatory plans, advanced SOE reforms towards establishing a modern enterprise system, and further boosted private enterprises. Domestic industries developed greater technological strengths and competitiveness.

Opening-up policy: In this stage, China opened up coastal and border regions on all fronts. The manufacturing industry started to receive foreign capital. SOEs were allowed to enter into joint ventures with foreign investors. Export subsidies were rescinded. Foreign trade companies became independent entities responsible for their profits and losses. The bank foreign exchange settlement and sale system came into effect.

[4] Chen Jingwen. 2000. *Deng Xiaoping's Opening up Theory and China's Opening up Policy*. Beijing: China Foreign Trade Publishing House.

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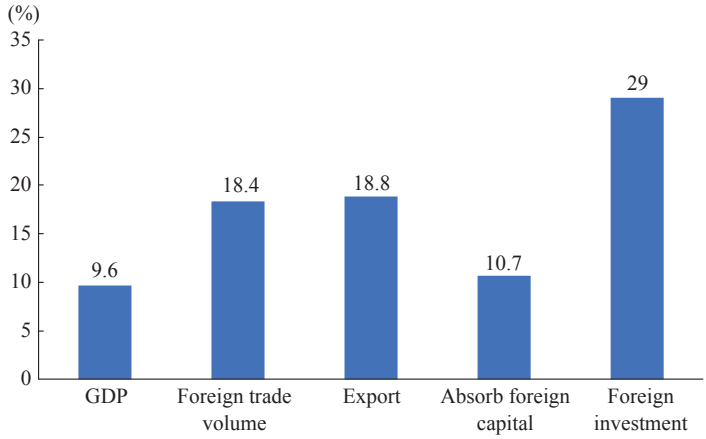

Figure 5: Growth in China's GDP and Various Aspects of Economic Openness

Source: The World Bank, the National Bureau of Statistics (NBS), the Ministry of Commerce, and the UNCTAD's World Investment Report 2019.

3.3 Opening-up after Entry into the WTO (2001-2007)

Factor endowment: In this stage, China's labor force accounted for a smaller but still significant share of the world total, and capital and technology shortages became less severe. In 2001, China's labor force accounted for 22.4% of the world's total, its investment volume accounted for 6.3% of the world's total, and its R&D input accounted for 2.5% of the world's total, and oil became a scarce resource, followed by fresh water and arable land (see Figure 6). After two decades of reform and opening-up and entry into the WTO, Chinese enterprises became more technologically advanced and competitive, and many could compete with multinational companies. Domestic consumption increased substantially. By the end of this period, China's factor structure was further improved.

Reform process: China officially joined the World Trade Organization (WTO) on December 11, 2001. Both before and after its entry into the WTO, China made rapid progress in market-oriented reforms, especially in the area of legislation. In 2003, the Third Plenum of the 16th CPC Central Committee issued the *Decisions of the CPC Central Committee on Improving the Socialist Market-Based Economic System* to propel reforms, establish a modern property rights system, improve a unified and fair market system, and give greater play to the fundamental role of the market in allocating resources. These policy initiatives turbocharged China's overall reform process.

Opening-up policy: In this stage, China opened up more regions and sectors to foreign capital. After opening up the manufacturing sector, China took steps to open up the service sector by phasing out most nontariff barriers, slashing tariff rates, increasing market access, and granting national treatment for foreign capital. According to its WTO commitments, China revised and enacted numerous regulations and rules to further open up such service sectors as banking, insurance, securities, telecom, construction, distribution, legal services, tourism, and transportation. By the end of 2005, China had opened up 100 out of the WTO's 160-odd service trade sectors to foreign investment, or 62.5%, which was close to the average level of developed countries.

3.4 Slowing Domestic Growth and Institutional Improvement (2008-2018)

Factor endowment: In this stage, China's labor force, though still huge, continued to shrink as a share of the world's total, but investment volume and R&D input increased rapidly. Arable land, fresh water, and oil became the scarcest factors. In 2008, China accounted for 22% of the world's total labor force, 7% of the world's arable land, 6% of the world's fresh water, 1.5% of the world's oil, 12.4% of the world's capital, and 7.6% of the world's R&D input (see Figure 6), ranking high in terms of

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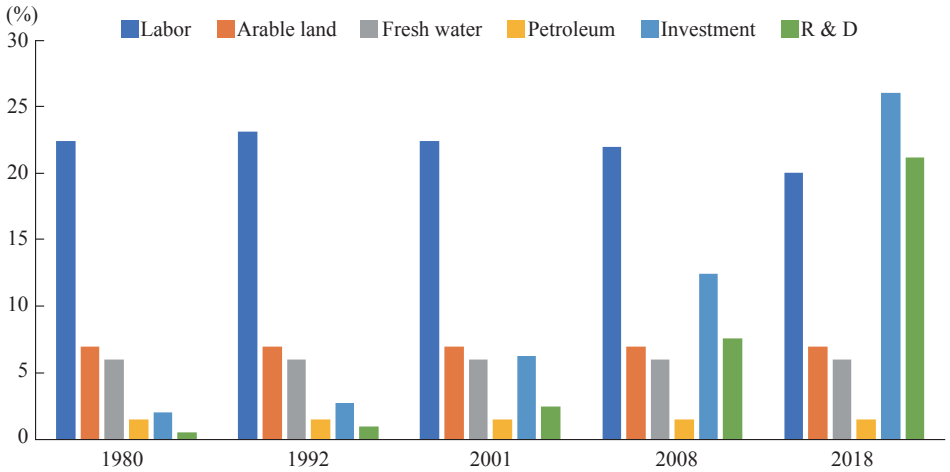

Figure 6: China's Production Factor Structure in Various Stages (as a share of the world total)

Notes: Due to limited information, the denominator for the R&D input ratio is replaced by OECD + 7 other countries/regions, and research input for the 2018 Group is 2017 data.
Source: We calculated the global total of each indicator according to different data sources. China's data is from the China Statistical Yearbook, the Ministry of Science and Technology, and the National Bureau of Statistics (NBS), among other ministries and commissions. Madam Zhang Ying's assistance in the search for R&D data is highly appreciated.

technological strength, supply chain, and domestic consumption. By 2018, China boasted relatively abundant capital but became more dependent on the importation of natural resources.

Reform process: Shifting growth drivers, coupled with the global financial crisis, led to a period of slowing economic growth. To foster new growth drivers, the Third Plenum of the 18th CPC Central Committee made the *Decisions of the CPC Central Committee on Major Issues Concerning the Comprehensive Deepening of Reforms*. The *Decisions* called for promoting the decisive role of the market in resource allocation, giving better play to the role of the government, and improving the market, macro-regulation, and open economic systems. Bolder steps were taken to transform China's economic development pattern, implement the minimum wage system, and develop pension, healthcare, and other social protection systems.

Opening-up policy: In opening up all regions and sectors, China further leveled the playing field for domestic and foreign-funded enterprises. In 2007, the Fifth Session of the 10th National People's Congress adopted the *Law on Corporate Income Tax*, which unified corporate income tax rates for domestic and foreign-funded enterprises. In March 2019, the Second Session of the 13th National People's Congress adopted the *Law on Foreign Investment*, which unified tax rates for domestic and foreign businesses.

3.5 Opening-up in the High-Income Stage (2019 onwards)

Factor endowment: Capital became the most abundant factor in this stage. China accounted for as much as 26% of the world total investment and 21.2% of the world total R&D input, both of which exceeded China's 20% share of the world total labor force. Natural resource shortages became more prominent. China's industrial performance continued to catch up with and overtake advanced world levels, and the domestic consumer market kept expanding.

Reform process: In this stage, China reformed government administration by devolving administrative power, enhancing regulation, and improving government services. As a result, China's investment environment improved. The government intervened less in economic activity, adopted a negative list for market access, and established further "competition neutrality" rules.

Opening-up policy: China's opening-up became more balanced and ceased to favor imports,

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domestic companies, and foreign investments over exports, foreign-funded enterprises, and outbound investments. The fundamental and decisive role of domestic and overseas markets and resources was brought into better play.

We reckon that with increasing technology and capital-intensive exports and a smaller trade surplus, China's trade dependence will diminish, or at least cease to increase, and so will foreign capital as a share of China's domestic capital. Foreign capital will flow into less reformed and less competitive service sectors. Outbound investment will continue to increase, especially in the capital- and technology-intensive sectors. Natural resource shortages will intensify, giving rise to the importation of resource goods.

4. Revisiting a Few Controversial Issues in China's Opening-up

Over the past four decades, a few rounds of broadly influential debates arose from China's opening-up program. In this section, we revisit those controversial issues.

4.1 Did Foreign Capital Reap the Most Profits from China's Labor-Intensive Exports?

Job creation was one of the biggest benefits of opening-up. Due to the size of its labor force, China's exports have been dominated by labor-intensive goods for a long time. In 2006, foreign-funded enterprises employed 42 million people in China. If jobs and labor exports from domestic-funded exporting companies are included, China's foreign-related economy directly created over 80 million jobs. The employment intensity of China's exports far exceeded that of imports. That is to say, with the same economic growth rate, many more jobs would be created if the opening-up policy was pursued. Most of China's exports are focused on labor-intensive processing sectors with electronic communication and textiles and apparel accounting for half of China's total exports. Other major export goods such as instruments and meters, stationery and sporting goods and furniture are typical labor-intensive products. Figure 7 shows the per capita net assets in China's few industrial sectors in 2002. Each column denotes the per capita average net assets in the sector expressed by the ratio between labor and capital. The smaller the per capita net assets, the higher the labor intensity. The column in the middle is the average value of all industries. Above it are the labor-intensive industries with significant exports, and below it are capital- and resource-intensive industries with significant imports. The implication is that export growth has created more jobs for China's abundant labor force.

Special importance should be given to labor compensation. Unlike return on capital or profits, labor compensation is the primary source of income for the medium- and low-income groups. Access to new jobs in non-farm sectors is the chief avenue for rural labor to earn more income, integrate into the modern economy, and develop marketable skills. Given China's development stage and primary contradiction, we must give prominence to employment and labor compensation. China's industrial upgrade has led to an increase in capital- and technology-intensive exports. In 2018, electromechanical products comprised 58.7% of China's total exports, followed by high-tech goods, which comprised 31.1%. In addition to labor compensation, China has gained higher returns on capital and technology.

4.2 Did Multinational Companies Acquire Most of the Wealth Created from China's Participation in the Global Division of Labor?

This argument contends that China received only a tiny amount of processing fees from its exports while foreign-funded companies took a massive share.[5]

In reality, "made in China" is only one part of the global value chain (GVC) for multinational companies, where China is often engaged in the final assembly process. Under this division of labor,

[5] Jiang Xiaojuan. 2006. "Understanding Opening up and Growth." *Comparative Studies*, no.26, Beijing: CITIC Press.

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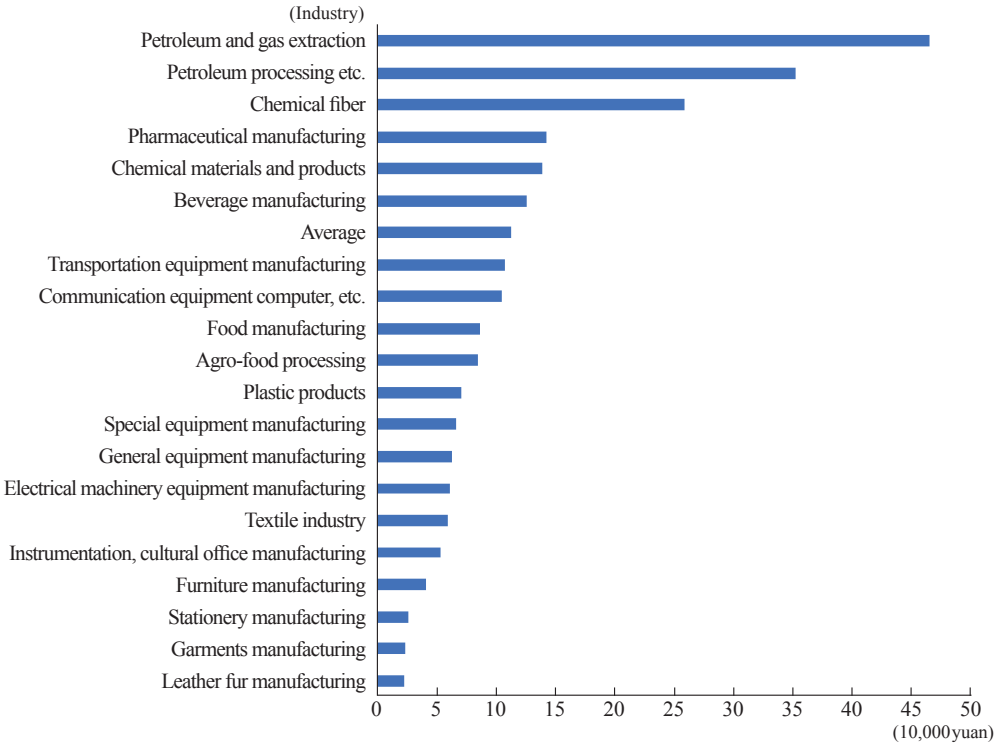

Figure 7: Labor Intensities of the Import and Export Sectors in 2002

Source: *China Industrial Statistical Yearbook* (2004)

China only earned a tiny portion of the export value of finished products.

Yet a distinction between value-added and export value must be made. Export value is based on sales income, which includes not only value created domestically but value transferred from overseas through imported inputs. Only the value-added goes into China's GDP, and the transferred value involves no input from China and does not go into China's GDP. Value-added created in China still has to be distributed among those who provide capital, technology, and labor. In this sense, China's export revenues may only derive from the value-added portion of the overall export volume. For instance, when China exports a laptop computer, half of its value is derived from imported inputs created overseas and does not go into China's GDP. Hence, China may only profit from the other half of the laptop's value, which is shared among various factors, including foreign capital. If the overall export value is the denominator, China's share of export profit becomes diluted. In today's global division of labor, a product is made by a multitude of countries, each of which only profits from the section in which it participates.

4.3 Did the Chinese Government Force Foreign-Funded Enterprises to Transfer Technology?

In the 1980s, China's FDIs were dominated by small and medium-sized projects financed from Hong Kong. Due to China's limited matching technology and supply chain, generally speaking, the earliest overseas-funded enterprises were barely above the average technological performance of Chinese companies. Since the 1990s, multinational companies have ramped up investments in China. After 2000, in particular, China received massive inflows of advanced technology.

From 2000 to 2001, we conducted interviews and questionnaire surveys of the Chinese branches of 127 multinational companies based in Beijing, Shanghai, Shenzhen and Suzhou, in which the level of firm technology was a key question. According to the results of our survey, most multinational companies

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provided advanced and relatively advanced technologies to their Chinese subsidiaries. Among them, 57 foreign-funded enterprises (45%) of total respondents employed relatively advanced technologies from their parent companies, and 53 (42%) of the respondents employed cutting-edge technologies from their parent companies. Put together, 87% of total respondents employed the most advanced and relatively advanced technologies from their parent companies. Only 17 foreign-funded enterprises adopted less advanced technologies from their parent companies, accounting for 13%. Among the surveyed enterprises, 83 employed technologies that were otherwise not available in China, accounting for 65% of the total respondents, and the other 44 adopted technologies advanced by Chinese standards, accounting for 35% of the total respondents. No foreign-funded enterprise adopted technologies that were out of date in China. Foreign-funded enterprises adopted advanced and relatively advanced technologies because of fierce competition in the Chinese market. Without advanced technologies, they could not outperform other foreign-funded enterprises as their rivals in China. According to our extensive surveys, multinational companies unanimously named competition as the reason behind their technology transfers to their Chinese subsidiaries.

Take the automotive industry, for instance, all top nine automobile groups invested heavily in China. General Motors (GM) invested in SAIC General Motors, Jinbei GM, Chang'an Suzuki, Changhe Suzuki, Jiangling Motors, Qingling Motors, Beijing Light Automobile, Beijing North Bell Special Purpose Vehicle, Nanya Corp., Nanjing Iveco and Skylark. Volkswagen Group invested in FAW-VW and SAIC-VW. Ford invested in Jiangling, Chang'an Ford and Hainan Mazda. Toyota invested in Tianjin Toyota and Sichuan FAW Toyota Motor. Daimler-Chrysler invested in Beijing Jeep, Yaxing-Benz, Beiben North Benz, Hunan Changfeng, Shenyang Aircraft Corp., Southeast Motor, Shenyang Aerospace Engine, and Yueda Kia Motors. Honda invested in Guangzhou Honda. Citroen-Peugeot invested in Dongfeng Peugeot-Citroen Automobile Co., Ltd. The Renault-Nissan Alliance invested in Sanjiang Renault, Zhengzhou Nissan, Hangzhou Dongfeng Nissan Diesel, and Fengshen. BMW invested in BMW Brilliance Automobile. Later, Chinese carmakers such as Chery, Geely, and Zhonghua joined the fray. Competition forced carmakers to launch new products and technologies and cut costs and prices. The US accusations of forced technology transfers are groundless.

As competition intensified, foreign-funded enterprises continued to introduce even more advanced technologies in China. Among the close to 100 projects established by multinational companies in 2016, almost all have employed the most advanced technologies, and many of the products were first launched globally. With an investment of 10 billion yuan, BASF (Guangdong) Verbund site project commenced in 2019. With a total investment of 50 billion yuan, Tesla Shanghai Gigafactory marks the first solely foreign-funded carmaker in China. Rapid progress is being made in the implementation of ExxonMobil's solely-funded project in Huizhou, the Sino-Italian helicopter project in Pinghu City, Zhejiang Province, and BP's 1,000KTA acetic acid project, among others. For the investing multinational companies, all these projects are their largest investments with the most sophisticated technologies and products across the world. No one could have forced them to invest and transfer technology on such a scale.

4.4 Did Multinational Companies Crowd out Chinese Companies?

As China opened up its market, less competitive and experienced domestic companies came under overwhelming competitive pressures from their multinational rivals, which became dominant players in certain sectors. With their strengths and ingenuity, Chinese enterprises finally established their market positions and coexisted with their foreign rivals. Based on our empirical studies, we illustrate the relationship between multinational companies and Chinese companies using the home appliances sector and the detergent sector as two examples.

4.4.1 Home appliances sector[6]

In the 1980s, China's home appliances sector thrived on foreign technology. After the 1990s,

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multinational home appliance manufacturers rushed to invest in China. In 2004, foreign-funded home appliances accounted for 32% of the sector's industrial value-added, 29% of fixed asset investments, and 51% of exports. In both domestic and international markets, China's home appliances manufacturers felt the pinch. Through in-house R&D, business restructuring and global procurement, Haier, Changhong, HiSense and other Chinese companies emerged as world-class home appliance manufacturers. In the recent decade, China's domestic home appliance manufacturers have occupied over three-fourths of the market share.

4.4.2 Detergent sector[7]

In the mid-1990s, multinational goliaths such as P&G, Unilever and Henkel flocked to China's detergent sector. All these companies ranked among the Fortune Global 500 companies. In 1999, Unilever had total assets worth 28 billion US dollars with a gross sales revenue of 44 billion US dollars. P&G had total assets worth 32.1 billion US dollars with a gross sales revenue of 38.1 billion US dollars, including an overseas sales revenue of 18.4 billion US dollars. In 1999, China's detergent sector only registered a gross sales revenue of 19.28 billion yuan, or 2.3 billion US dollars.[8] The sector's output value was 1/19 that of Unilever and 1/17 that of P&G. The overwhelming superiority of multinational companies led many to believe that China's detergent sector would suffer a heavy blow from international competition and no home-grown companies would survive.

With their seeming invincibility, foreign-funded enterprises set high prices for their products. The Sino-foreign joint ventures did little to promote original Chinese brands, letting them fall into obscurity, and instead went all out to promote foreign brands, whose market share increased slowly due to high prices. This lack of inexpensive products provided ample opportunity for second-tier domestic companies to flourish. They include listed companies that completed the corporatization reform, joint-stock enterprises, collective enterprises, and private enterprises. In 2000, Nanfeng (state-controlled listed company), Power (collective enterprise), and the Nice Group (joint-stock enterprise) seized the biggest market share.

Given China's hefty market size, local enterprises boast real and potential competitive advantages. No multinational would find it easy to dominate China's market for monopolistic profits. Wherever technology barriers are not insurmountable, local companies managed to survive and thrive amid competition from their multinational rivals. The assumption that multinational companies with their heft would overwhelm domestic companies does not hold in a market-based economy and contradicts China's opening-up experience.

5. Opening-up's Effects on Reforms

China's opening-up program has served as a key driver of the nation's modernization, liberated people's minds, and propelled the establishment and improvement of the socialist market economic system.

5.1 Opening-up Created New Institutional Demand

At the inception of China's reform and opening-up in 1978, the Chinese leadership followed a gradualist approach and started with experimental opening-up practices before taking further steps

[6] Jiang Xiaojuan. 2002. *Foreign-Funded Economy in China: Contributions to Growth, Performance and Competitiveness*. Beijing: Renmin University of China Press.

[7] Wang Luolin. 2004. *Report on Foreign Investment in China 2003-2004*. Beijing: China Social Sciences Press; Jiang Xiaojuan. 1996. "Survey on Foreign Investments in China's Detergent Sector." In *Foreign Investment Research Publication Series,* no.1.

[8] The detergent sector refers to "soap and synthetic detergent manufacturing" in China's industry classification, and includes "industrial enterprises with independent accounting in the light industry system by region" based on NBS data. Among various detergent products, this paper uses washing powder as an example to ensure comparability.

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forward. The decision to establish special economic zones was made to promote economic cooperation with various countries based on the principles of equality and mutual benefits and introduce much-needed technology and equipment. Special economic zones served as experimental fields to meet pressing needs and accumulate experience, and created demand for market-based economic systems. In these special economic zones, China established commodity, factor, and labor markets, and improved government-enterprise relationships, corporate ownership and governance structures, and economic administration and legal systems. With these market-based economic frameworks, the special economic zones served as experimental zones for both the opening-up and economic reforms.

5.2 New Institutional Supply from the Opening-up Program

Operation systems for market-based open economy have been around in quite a number of countries for many years. Opening up allows us to learn from other nations without repeating their trials and errors. For instance, China's efforts to enter the WTO expedited domestic institutional reforms. The basic WTO principles of national treatment, transparency, non-discrimination, and fair competition are consistent with the laws of the market-based economy. In applying for WTO membership, China ramped up reforms on many fronts, including the rule of law, transparency, government streamlining, and corporate reforms, to align with the WTO's multilateral trade regime. Without entry into the WTO, progress in these areas would have been slow.

5.3 Drawing upon Advanced Managerial Experience through Opening-up

Global competition forced China to deepen reforms. Corporate reforms: By learning from foreign-funded companies, Chinese companies enhanced governance and became more competitive. Economic reforms: In a bid to improve the business climate and enhance corporate competitiveness, China relaxed price control, reformed investment, regulatory, and foreign exchange systems, and allowed SOEs to operate more independently. Accounting reforms: In July 1993, China adopted new accounting systems following international practices to increase corporate transparency as the basis of market confidence and expectations. Transforming government functions: Local governments improved the investment environment, streamlined formalities, improved public and intermediary services, and extended the priority of public services from foreign-funded enterprises to all enterprises.

5.4 Developing Legal Systems

China's market-oriented legal reforms started with legislation on foreign capital. From 1983 to the end of 1991, the National People's Congress (NPC) - China's legislature - and the State Council enacted over 200 regulations on foreign-related economic affairs under the market-based economy.

In the above-mentioned aspects, opening-up has played a unique role in China's economic reforms.

6. Future Outlook: Horizontal Specialization and Neutral and Institutional Openness

Going forward, China will transition towards horizontal specialization, and neutral and institutional openness.

6.1 Horizontal Specialization

Over the years, China has been primarily engaged in the vertical international division of labor, exporting inexpensive labor-intensive goods and importing capital- and technology-intensive ones. With changing factor structure and industrial performance, China is expected to transition towards horizontal specialization.

With its huge market, China has formed complete industrial systems with economies of scale. Yet participation in the global division of labor is of vital importance. Participation in horizontal

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specialization allows each country to access commodity diverity and integrate into the global supply chain. No country may keep abreast with the trends of global industrial development in isolation from the global division of labor.

6.2 Neutral Competition in an Open Environment

China's opening-up policy has favored exports over imports and capital inflows over outflows. Foreign-funded and domestic companies have also faced differentiated policy treatments. This bias was determined by China's national conditions, development stage, and industrial competitiveness level. Similar strategies were followed by many countries in the same development stage. With drastic changes taking place in China's development conditions and environment, we should transition towards a neutral opening-up system and make better use of domestic and overseas markets and resources.

Neutrality between imports and exports: By introducing technology and other essential production factors, imports are as important as exports. Neutral import and export policies are essential for the market to play a decisive role in the broad and efficient allocation of resources.

Neutrality between receiving foreign capital and making outbound investments: By introducing foreign capital, China gained access to advanced technology, products, and managerial experience. Yet we should not lose sight of the importance of outbound investments in generating revenues, increasing exports, and leveraging the advantage of operating locally. A neutral policy on cross-border capital flow is conducive to optimizing capital allocation for higher returns on various factors.

Neutral treatment between foreign-funded and domestic enterprises: Companies should be allowed to compete in a level playing field irrespective of their origin. Only in this way will they leverage their strengths and contribute to efficiency and competitiveness in their respective sectors.

6.3 From Policy Openness to Institutional Openness

Over the past four decades, China has followed a gradualist approach to opening up, offering targeted policy guidance for different regions and sectors. Reforms have laid the groundwork for institutional opening-up. For instance, China has abolished trade policy preferences for specific sectors and regions and ensured policy consistency and transparency. The *Law on Foreign Investment* guarantees national treatment for foreign-funded enterprises. The government has improved the business environment by slashing regulatory red tape, giving rise to a multilateral framework for government administration.

Going forward, we should strive to bring our opening-up systems to perfection. Our legal system should treat all economic entities equally, no matter whether domestic or foreign, protect property rights, and improve law enforcement. Our institutional systems should be designed according to our national conditions and referencing international practices. We should draw upon international experiences from market-based economies to avoid trial and error rather than re-inventing the wheel. In other words, we should learn from others' mistakes.

6.4 Risks and Challenges from the Opening-up Process

Cross-border data security: Digital property rights and personal privacy are key issues in international trade. Based on our national security and long-term interests, we should put forth our position in consideration of those of other countries. Addressing the issue of data security is a key step in order for China's digital service firms to go global.

Managing anti-globalization forces: In both home and host countries, service globalization has aroused more resistance than did manufacturing globalization. For home countries, service outsourcing gives rise to concerns over the loss of white-collar jobs and the knowledge and capital spillovers that benefit host countries. Host countries worry about competition with local companies, invasion of foreign cultures, and social and economic impacts. Setbacks in service globalization are inevitable and should be

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approached rationally.

The international environment is fraught with uncertainties, which make outbound investments risky. We should take stock of our outbound investment experiences and come up with countermeasures for the market to play a decisive role in global resource allocation. The government should play a more active role in protecting outbound investments.

In the past seven decades, especially the recent four decades of reform and opening-up, China has explored a path of opening up with distinct "Chinese characteristics", which features both uniqueness and regularity. China's opening-up should be interpreted in light of respects to laws and its national conditions. Competition forced China to open up and learn from other countries, innovate, and deepen reforms. In this process, China has brought into play a great deal of synergy between reform and opening up. CE

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