

1978 REFORMS AND THE FOUR MODERNISATIONS

Background



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Summary

- 1978 reforms aimed at transitioning a state-run, Chinese economy towards an open market economy, away from state ownership.
- The reforms focused on four modernisations: targets for agriculture, industry, science and technology and defence.
- The reforms enabled China to attract foreign capital, modernise industry, import foreign technological inputs, and access global markets.

Introduction

In December 1978, at the Third Plenum of the Eleventh Central Committee of the Chinese Communist Party (CCP), the four-character policy *gaige kaifang* (改革开放) was issued by the Party. *Gaige Kaifang* refers to the reform and opening-up of China, engineered by Deng Xiaoping and other reform-minded officials, that began in 1978 and sparked the transformation of China. In the historic Third Plenary Session, the CCP leadership initiated reforms that focused on the economy, trade and investment. The policy was essentially the beginning of wholesale reforms affecting the economic and production system in China, which until that point followed a system of central planning and state ownership. The "Reform and Opening Up" policy ushered in by Deng Xiaoping served as a springboard for further investment and economic development in China.

The "Four Modernisations" (四个现代化) were targets for the development of agriculture, industry, defense and science and technology sectors under the "Reform and Opening Up" policy. They shifted the Party's work towards socialist modernisation, away from class struggle and ideology which had been paramount under Mao's era.

The concept of the "Four Modernisations" had been floated before its official launch in 1978. Zhou Enlai introduced this term in 1963 and Nie Rongzhen

mentioned that the Four Modernisations involved agriculture, industry, national defence, and science and technology. However, the execution of the Four Modernisations was delayed due to the Cultural Revolution.

The 1978 Reforms

Prior to the reforms initiated in 1978, China followed a centrally-planned economic system that was directly controlled by the State. The government allocated resources for different sectors of the economy, while also controlling prices, and setting production targets for each sector. This structure produced a real GDP rate of 6.7% from 1953 to 1978. However, this figure is contested as government officials at the local level would often exaggerate production levels.

Many scholars have attempted to calculate the actual average annual real GDP growth, and economists such as Angus Maddison estimate it to be around 4.4%. The economy was severely affected during this period, as living standards measured by per capita GDP on PPP basis, fell by 20.3% from 1958 till 1962, and fell further by 9.6% from 1966 to 1968. Mao's Great Leap Forward and the Cultural Revolution adversely impacted the economy and standards of living.

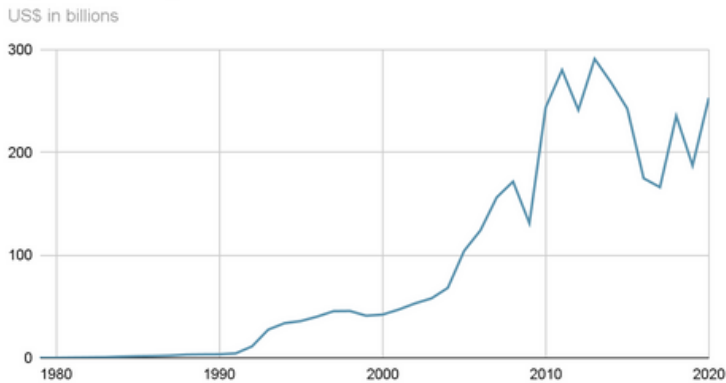
After Mao's death in 1976, China hoped to revive its economy and raise the living standards of its people. In 1978, China decided to gradually transition into a free-market economy that included opening up its trade with the West and inviting foreign investments in the country. Deng Xiaoping, however, maintained that China will remain committed to socialism while rebuilding its economy and society.

Foreign Investment: Inviting Capital

In order to attract foreign investment, the government established four Special Economic Zones (SEZs) located in the South-Eastern coastal region of the country. Additional economic and development zones were also introduced to attract foreign investment and businesses into China. These regions experimented

with trade incentives and tax reductions for foreign businesses. This allowed China to import high technological products, while simultaneously increasing exports. China created the Shenzhen Economic Zone in 1982, bordering Hong Kong, allowing companies in Hong Kong, Japan, USA and Taiwan to invest in China.

Figure 1: Foreign Direct Investment in China



Source: World Bank

Moreover, local and provincial governments played a leading role in the economy as economic control of enterprises was given over to provincial governments who were allowed to operate on free-market principles. Trade was gradually liberalised and tariff barriers were gradually removed, increasing FDI inflows. This slow and gradual process of liberalising the economy allowed China to identify policies that had favourable outcomes and implement them in other parts of the country. In 1978, before the reforms, foreign investments in China stood at US\$ 1 billion. By 2017, the number rose to US\$ 136.3 billion.

Agricultural Reform: From Communes to Household Responsibility

With the introduction of economic reforms, China also introduced agricultural reforms to increase agricultural output and improve the incomes of farmers and rural workers. Prior to the reforms, China had a commune system in place that was implemented in the 1950s. Labour and resources were organised into communes to fulfil a wide range of tasks: developing water conservation projects to building schools, hospitals, and more.

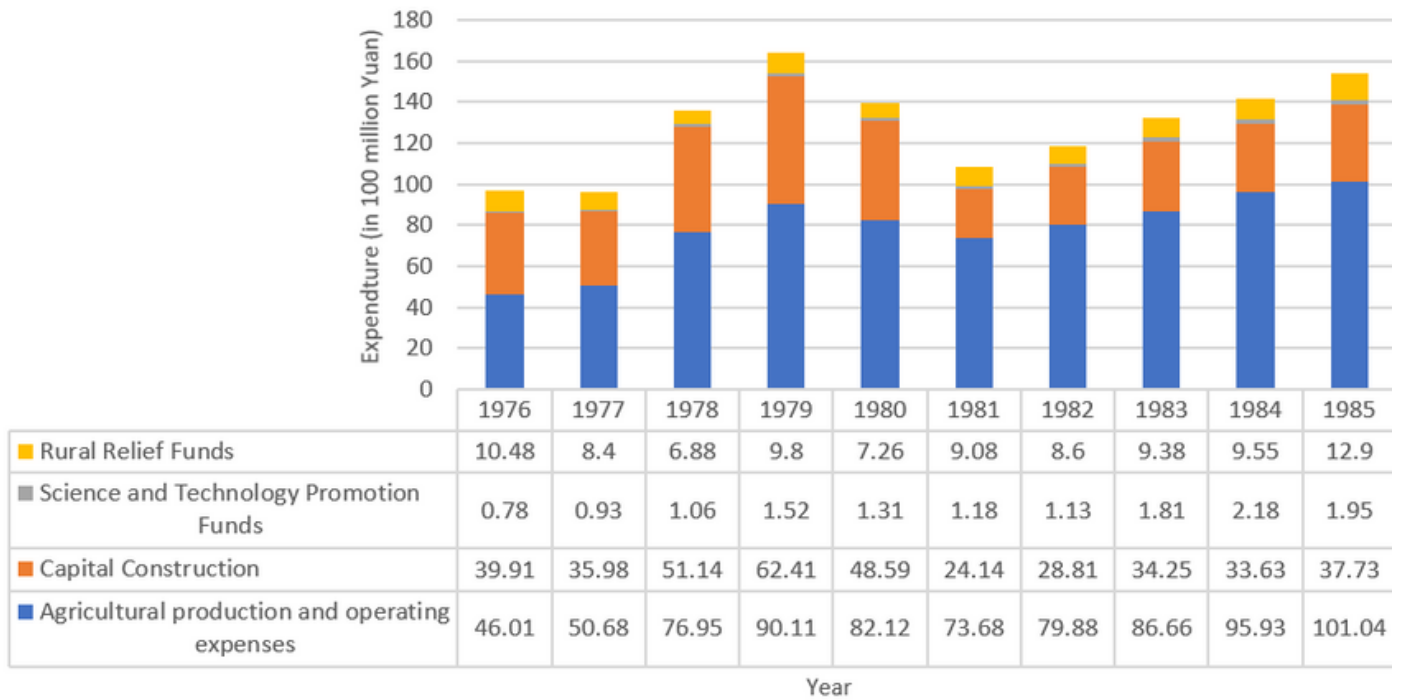
Rural cadres started to reorganise their communes by assigning a piece of land to every household and assigning an output quota to fulfil. By setting an output quota for every household, commune leaders were able to meet their output targets set by the government, while also allowing farmers to keep or sell the surplus produce. This system was labelled the “Household Responsibility System” (HRS), which was adopted by the Fourth Plenum of the Eleventh Central Committee of the Communist Party in 1979. Along with HRS, rural markets opened up, allowing farmers to produce and raise livestock as they wished, increasing rural household incomes and agricultural outputs. Despite being seen as capitalist activities, the land was still officially owned by the collective. However, households were assigned the right to use that land, and eventually, these rights were assigned on a permanent basis.

The government also loosened restrictions on selling to the market, allowing products to be sold in local markets, while maintaining the state procurement network. Later, the government also allowed farmers to sell their goods abroad through private companies. The state continued to play a large role in procuring farmers' produce, buying more than 95% of grain and 99% of cotton in 1984. The government changed its approach to pricing by allowing the market forces of demand and supply to determine prices of products produced by farmers, paying market prices for their procurement program. Moreover, the state reduced its budget for the agricultural sector and encouraged financial institutions' credit systems to support farmers.

With the reforms in place and expanding support from both the government and financial institutions, China's grain output grew from 365 million metric tons to 407 million metric tons. After the 1980s, China also became a net exporter of agricultural products like cotton, grains, soybeans, and more.

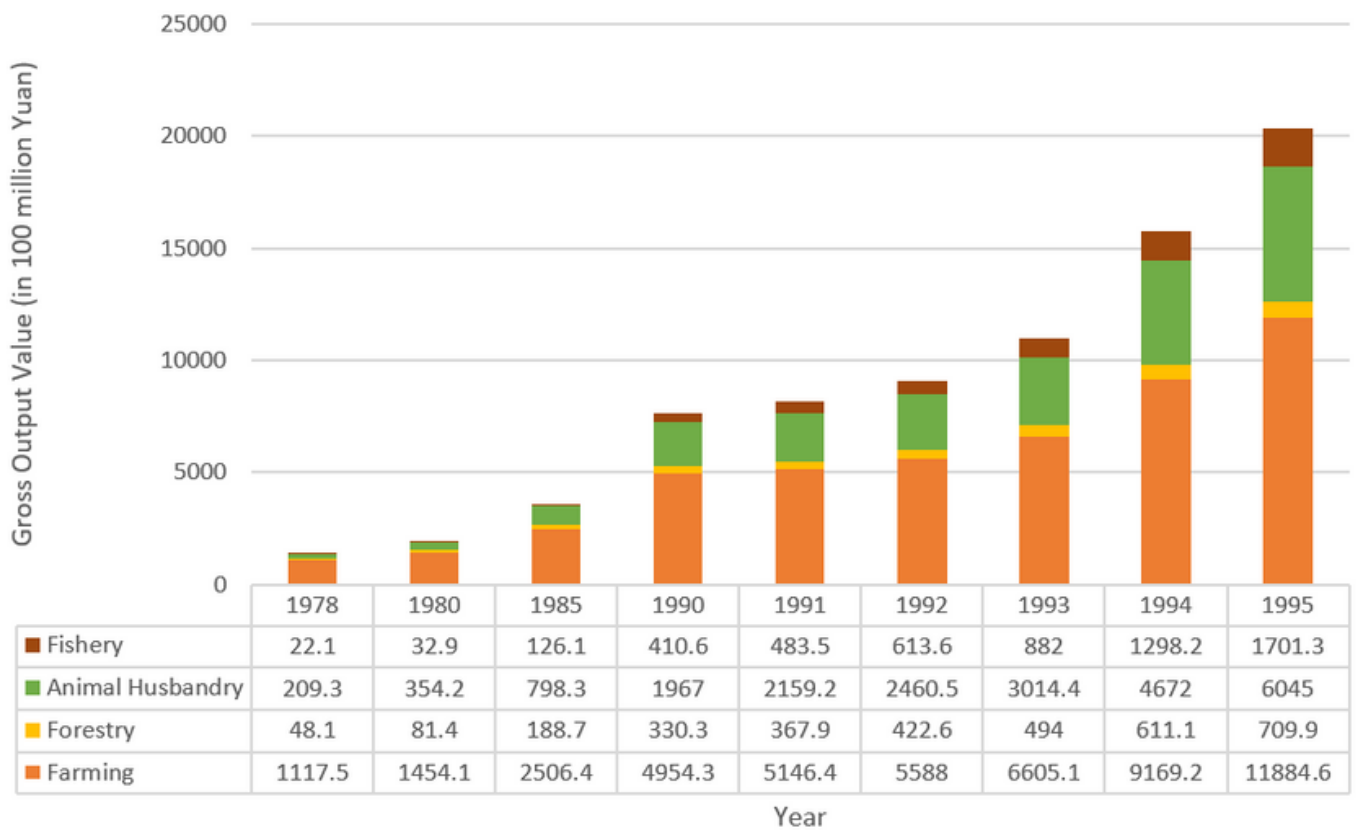
The agricultural sector produced US\$ 4 billion in trade surplus between 1980-1984, incentivizing farmers to produce more goods while receiving higher income. In fact, in 1978 the average per capita farm income stood

Figure 2: Government Expenditure for Agriculture (1976-1985): In 100 million Yuan



Source: National Bureau of Statistics

Figure 3: Gross Output Value of Farming, Forestry, Animal Husbandry, and Fishery (1978-1995): 100 million Yuan



Source: National Bureau of Statistics

at 134 yuan and it increased to 355 yuan in 1984. By 2003, farmers earned 438 yuan on average, accounting for 41.8 % growth from the previous year.

These reform efforts did not go unchallenged. There were questions raised by farmers and policy-makers about the viability of the new market-oriented economy. For one, despite the Party claiming to follow a socialist system, it allowed private investments and encouraged private enterprises, giving contradictory statements on the economic system of China.

Moreover, communes were a source of labour that maintained public infrastructure like schools and irrigation systems. Now that the commune system was dismantled, questions regarding who will be responsible for the maintenance of these systems had to be addressed. Another major problem was the increasing wealth and income gap between rural and urban areas, giving rise to corruption.

Industry: Enterprise Reform

Under Deng Xiaoping, China undertook a gradual industrial reform that took inspiration from the Western industrial experience. However, it retained a socialist outlook to its industrial reform, such as: promoting rural industries, ensuring agricultural reform before industrialisation, providing extensive governmental support, and ensuring that the government plays a larger role than the private sector.

Different stages of industrial reform:

- Between 1978-1988, the proto-industrialised phase: In this phase, the government encouraged rural enterprises across small towns and the countryside, growing from 1.5 million to 18.9 million enterprises, growing from 14 % of GDP to 46 % of GDP.
- Between 1988-1998, the first industrial revolution: The government pushed urban and rural industries to mass produce consumer goods, becoming the world's largest producer and exporter of textiles, cotton, and furniture. During this phase, Chinese industries relied heavily on imported machinery. Rural enterprises

continued to grow, and their industrial output doubled every three years between 1978 and 2000.

- From 1998-present, the second industrial revolution: As China's economy continued to grow exponentially, the domestic demand for intermediate goods like machinery, coal, steel, chemicals, etc. also grew. The transportation sector expanded, with more than 2.6 million miles of roads being built across the country.

In 1980, China took the first step in reforming the industrial sector by allowing enterprises to retain some profits they made, removing one of many barriers in the industrial sector. Similar to agriculture, industries were given more freedom to sell their goods in the market, as well as trade with foreign companies. Moreover, by the mid-1980s, industries, enterprises, and firms signed "responsibility contracts". Similar to the Household Responsibility System, these industries and firms were given complete freedom to sell their goods for profit, provided they fulfilled their obligations. However, a difference here is that the government continued to buy commodities at prices set by the state, while also allowing enterprises to sell to the market at market prices.

With the government promoting grass-root enterprises, growing foreign investments into the country and increasing profits, competitiveness rose and incentivized businesses to develop products and expand into new markets.

Science and Technology: Integrating with Growth

At the National Science Conference in March 1978, Deng Xiaoping stated: "The key to the four modernisations is the modernisation of science and technology." In the meeting, science and technology were given a key role in China's "New Long March" towards the establishment of a modern socialist society. Given that China had failed to keep up with the advanced technology and economic development its Asian neighbours such as Taiwan, Hong Kong, South Korea, and Japan had managed, the CCP leadership

Table 1: Gross Industrial Output Value (1970-1990): In 100 million yuan

Year	Total Industry	State-owned or Controlling Share Hold Industry	Collective-owned Industry	Individual Owned Industry	Industry of Other Types of Ownership
1970	2117	1855	262	-	-
1975	3207	2601	606	-	-
1978	4237	3289	948	-	-
1980	5154	3916	1213	1	24
1985	9716	6302	3117	180	117
1990	23924	13064	8523	1290	1047

Source: National Bureau of Statistics of China

stressed the urgency to integrate science and technology with economic development and growth.

The Maoist period (1957-1976) saw the stagnation of technological innovation and economic development due to its isolationist policy. The technology gap between PRC and modernised economies deepened during this period and China had to emerge from obscurity in the field of science and technology. In the post-Mao period, science and technology received strong political backing as part of the Four Modernisations.

The entire research and development structure was overhauled during the reform period. However, this didn't happen until 1985, when the CCP Central

Committee issued its decision on reforming science and technology. Technology was acknowledged as a commodity, and private or independently-owned research institutions were allowed to make their own informed decisions. As a result, the role of the government shifted from a position of control to that of supervision.

Rural industrial undertakings, urban private companies, and research institutes largely welcomed the reforms made in the science and technology system. These institutions enjoyed greater autonomy and tailored production according to market needs by adopting new technologies that were hugely successful. Nevertheless, a planned and restructured science and technology program had its limitations. It required changes to the

Table 2: Evolution of Technology in China (1949-2020)

Year	Programme	Areas	Institutional Backing	Year	Programme	Areas	Institutional Backing
1949-1977	Planned economy	Research, development and engineering	State Development Planning Commission and the State Science and Technology Commission (SSTC)	1988	Torch Plan	National high-tech industrial development zones and developing new technologies	State Council, MOST
1967-76	Cultural Revolution	Science & technology was put on the back burner	Central government	1993	Golden Projects: Golden Card, Golden Bridge, Golden Custom	Adoption of IT in key sectors: banking, telecom, etc	State Informatisation Expert Group
1978	1978 – 1985 National Science and Technology Programme	Program for long-term development: 8 S&T priority areas; rehabilitation and improvement of R&D institutions;	National government	1997	“973” Program - National Basic Research Program	Initiated to promote S&T development in research domain	MOST
1982	Key Technologies R&D Program	Three main areas of focus: agriculture, high-tech development, and social development	Ministry of Science and Technology (MOST)	1985	‘Decision on Reform of the Science and Technology Management System’	Creating a technology market with supporting institutions	State Council
1986	“1986 – 2000 Programme for Scientific and Technical Development”	Program for long-term development	National government	1997	National Center for Science and Technology Evaluation (NCSTE)	Created for peer reviewing government-funded S&T research	MOST
1986	“863” Plan - National High Technology Program	7 key high-tech areas: biotech, IT, automation, energy, new material, military areas	MOST	2001	10th Five-Year Plan (2001 – 2005)	Software, computer manufacturing, telecommunications, lasers and aerospace identified as pillar industries	
1986	Spark Plan	Agricultural technology	Government funded, bank loans	2006	Medium- to Long-Term Plan for the Development of Science and Technology (2005-2020)	20 areas of strategic research identified; Long term goals-become a S&T world leader; develop capabilities for indigenous innovation,	State Council

Source: M. J. Greeven (2004)

overall industrial economic system which in turn would incentivize state-owned industries to equip themselves with modern technological inputs.

Faced with these challenges, the Chinese Academy of Sciences (CAS) was reformed. While receiving state support and funding, the CAS also sought funding by linking research with production. Other research institutes soon followed in CAS's footsteps, becoming more competitive, and fostering domestic innovation. The government attempted to create an environment that would encourage innovation by passing regulations such as the Patent Law (1985) and the Technology Contract Law (1987) to protect intellectual property rights. The State Science and Technology Commission (SSTC) also drew up national policies such as the Spark Program, the Harvest Program, the National High-tech R&D Program (863 Program), and the Torch Program.

The change in the direction taken by the government enabled international technology transfer to help transform China's resources and labor, enabling the pursuit of economic growth. Nonetheless, it was important to ensure that some policies and reforms, such as price reforms, would limit the advances made in science and technology innovation and competitiveness in China.

National Defense: Building a Modern and Advanced Force

Along with targeted economic modernisation, emphasis was also placed on military modernisation after 1978. China's strategic and military vulnerability drove the CCP leadership to champion the Four Modernisations and sought to bring China's military in line with that of "advanced" nations.

Several broad components make up the entirety of Chinese military modernisation—component modernisation, manpower modernisation, doctrinal modernisation, and the support provided by the society to the Army. Since 1978, China attempted to modernise its military by building up its

military-industrial base and signing technology transfer contracts and knowledge-sharing agreements with Western countries. As a result, there was a push to understand and develop western military techniques, technology, and management of military and defense systems. Changes were sought to in the People's Liberation Army's (PLA) leadership and organization structure as well.

Attention was given to modernising training, revamping drill exercises, and improving individual skills and standards of performance. The military also disengaged from civilian politics. The Central Military Commission (CMC) of the CCP was created, PLA forces were streamlined and reorganized, and laws such as the Military Service Law was enacted in 1984. Military strategy and tactics were revised under "people's war under modern conditions". New policies on personnel were enacted to improve conditions and quality of service.

The defense establishment had to be transformed into a modern and advanced military force. The military-industrial base was aided by furthering defense research and development and integrating civilian and military industry. These reforms helped China enter the international arms market as well. Needless to say, there was protest from some in the PLA about the low priority given to military modernisation in the Four Modernisations initiative.

Conclusion

Since its introduction, the 1978 reforms have enabled China to transform from a centrally planned economy to relatively free market economy. These reforms are the foundations of China's rapid development it experienced in the later years. The economic and military might that China enjoys today was possible due to the emphasis put on the 1978 reforms and the Four Modernisations, namely agriculture, industry, military, and science and technology, along with a focus on foreign investments. However, problems like corruption, imbalanced development and income disparity have also arisen simultaneously.

Nonetheless, Xi Jinping's ambitions to make China self-reliant in technology and his plans for PLA modernisation are all based on reforms that Deng initiated in 1980s. Thus, the 1978 reforms occupy a very significant position in the development of modern China.

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