

MORGAN CREEK

CAPITAL MANAGEMENT

ALTERNATIVE THINKING ABOUT INVESTMENTS

New China Perspectives



Welcome to the latest issue of Morgan Creek's **New China Perspectives**. This issue is comprised of research from Morgan Creek's China-based investment team together with curated articles of interest. In addition to timely political and economic news covering greater China, Morgan Creek's China team seeks to provide in-depth perspectives on investing in the technology, consumer and healthcare sectors in the region. Our research leverages the "on the ground" insights of our team together with

Morgan Creek's decades-long experience in covering the region. To learn more about our team and investment offerings, please email chinateam@morgancreekc.com.

Best Regards,

Handwritten signature of Mark W. Yusko in black ink.

Mark W. Yusko
CEO & CIO

NOTES FROM THE BUND¹

In the prior newsletters, we highlighted China's "dual circulation" policy as a survival strategy in the midst of an increasingly decoupling world. We walked through some a rationale that explains why we think China will be successful in its approach.

To secure future growth, we believe it is critical that China makes indigenous breakthroughs in technology. Some observers believe this will be a difficult task, arguing that in the past few decades, China has only proven itself capable in adapting and localizing technology originated elsewhere. Does modern China have the ingredients to build a truly innovative ecosystem? Can China invent?

In the next few newsletters, we will discuss this topic and cover:

- Why China, despite possessing an advanced civilization that surpassed much of its western peers for thousands of years, missed the initial industrial revolution and is only now beginning to catch up
- If China, with what many of its advanced peers view as its non-western model of authoritarianism and lack of free speech, truly is able to encourage and sustain a culture of creativity
- What the comparative advantages of China are going forward, if any, in comparison with the United States.

In this newsletter, we will discuss the first point.

In the 15th century, China was at the peak of its power, possessing the technology to build what

was then the greatest naval fleet the world had ever known at 3,500 ships.² As a frame of reference, the most powerful navy today – the US – has a fleet of under 300 ships currently.³ China's navy in the 15th century was led by Admiral Zheng He, whose flagship was four times the size of Columbus' flagship Santa Maria that set sail more than six decades later.

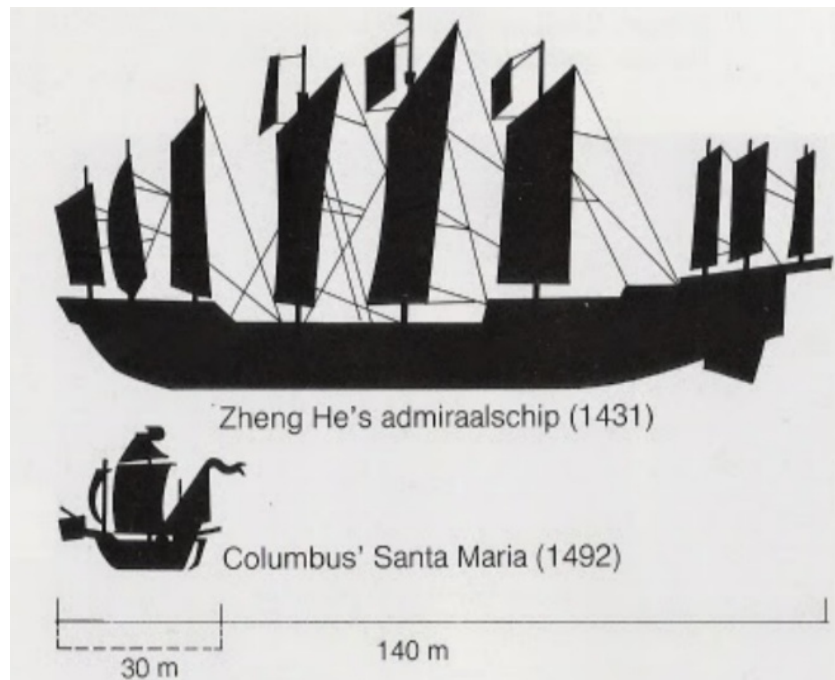


Figure 1: Admiral Zheng He's flagship comparison with the Santa Maria

Zheng He's seven voyages covered more than 30 countries and 300,000km⁴, and some even claimed he was the first to [circumnavigate the globe](#) at one century before Magellan. Underpinning China's ancient maritime technological feat is the Four Great Inventions – paper, printing, compass and gunpowder. These inventions set the stage for the development of capitalism and modern western civilization.

According to Marx:

“Gunpowder blasted the Knight class to pieces; the compass opened the world market and established colonies; and printing became a tool of Protestantism”

If China was so far ahead of its peers technologically, why did it miss humankind's greatest technological leap forward?

There are many theories floated as to why China missed on the first industrial revolution, including:

- Lack of motivation given limited career options in ancient China
The argument is that talent in China has historically always flowed towards administration rather than efforts to uncover the mysteries of the universe via the natural sciences. This is believed to be a consequence of the structure for career advancement in ancient China: the civil examinations. Given the size of China both in terms of land and population, there was significant need for government officials at all levels to govern the empire on behalf of the emperor. These administrators were selected via highly competitive exams, and success was the gateway to power and wealth. Therefore, the most talented individuals typically devoted decades trying to pass these exams based on traditional Confucian classics. This meant less talent and little to no resources were allocated to other pursuits including scientific discovery, hampering China's long term technological development.
- Isolationist policies

Shortly after Zheng He's seventh and final voyage, China shifted its priorities inward, dismantling its fleet and banning shipbuilding, just decades before Europe embarked on its Age of Exploration. There are many theories floated as to why, ranging from the death of the Admiral and his patron the Yongle emperor; increasing incursions from the nomads in the north which convinced China to spend more resources reinforcing the Wall; or financial strain of maintaining and operating a fleet when there was little need for trade given China was mostly self-sufficient.

Either way, China would miss the scientific revolution, the age of enlightenment and the industrial revolution.

On the other side of the world, there are also a few theories put forth to explain why Europe possessed the ingredients for the industrial revolution. The most recent of which was put forth by Priya Satia, a professor of British history at Stanford in her book, "Empire of Guns: The violent making of the industrial revolution", where she argues that Britain's defense industry played a key role in facilitating its great technological leap.

For context, it is important to remember that Europe prior to the industrial revolution was severely fragmented and locked in a series of prolonged wars featuring intense rivalry and competition internally. Circa 1500, there were more than 200 independent states in Europe (compared to the 44 European states today) and the single polity that existed, and which continues to exist, in China.⁵ While warfare was common back then, the nature and contours of the wars were vastly different. European wars were fought between rival states and could emanate from multiple directions; China's conflicts were primarily internal – either relatively infrequent civil wars/rebellions, or incursions from nomads in the north. The average European monarch was under much greater pressure to survive than the typical Chinese emperor was, and that paranoia forced them to invest more aggressively in technology advancement, in particular those that had military applications.

Viewed in that vein, [industrialism began with Britain's need for guns and other war supplies](#). As an example, Satia points out that the idea for "division of labor" which underpins all modern factories procedures today may have first been put into practice in the British gun making industry:

"At the beginning [of the late 17th century], British gunmakers could make roughly tens of thousands of guns per year. By the end of the period, 1815, they could make millions per year... the state would tinker with the design of the firearm they wanted...and settle on the design that would be more easily mass-produced...if there was a bottle neck in the production of a particular part, the state would provide the funds to train more people to make that part..."

And it was not just guns:

"What happens in firearms has ripple effects on other metallurgical industries...the British government would have needed to fight the war: cannons, barracks, cloth for uniforms, buckles..." The innovations made in manufacturing technologies and processes in these industries, according to Satia, were then adopted and spread to other civilian sectors including textiles, heralding a new chapter for industry.

We believe this claim is plausible. Today many of the projects initially conceived at DARPA ⁶, the R&D division of the US department of defense, are responsible for building the foundations of our modern digital world. DARPA inventions include the GPS, the computer, the internet and even Siri. That so much technological progress happens in the defense industry is not surprising. Defense is one of the few industries that western governments consistently allocate capital for research over the long term with less sensitivity to cost, and that approach ultimately allows for new technological breakthroughs.

The same ingredients of consistent funding over a long-term investment horizon were in place for almost a half century, facilitating the rise of another R&D powerhouse in a company that operated in a quasi-public sector: Bell Laboratories. Its parent company, AT&T, was the world's first modern monopoly and regularly reinvested much of its profits to its R&D division (Bell Laboratories) to pursue truly cutting-edge scientific research. Among its most famous inventions, include the basic building blocks of modern electronics (the transistor), communications (the laser) and energy (the photovoltaic cell). Bell Labs employed many scientists, nine of whom would later go on to win Nobel prizes.

China has now taken these lessons to heart:

- We believe China is committed to staying open, so as not to miss important technological developments that may originate in other regions of the world as it did in the Ming dynasty. Indeed, Chinese officials acknowledge, "[China cannot develop isolated from the world](#)". The chart below illustrates that the sectors barred for foreign investment in china steadily declines year after year.

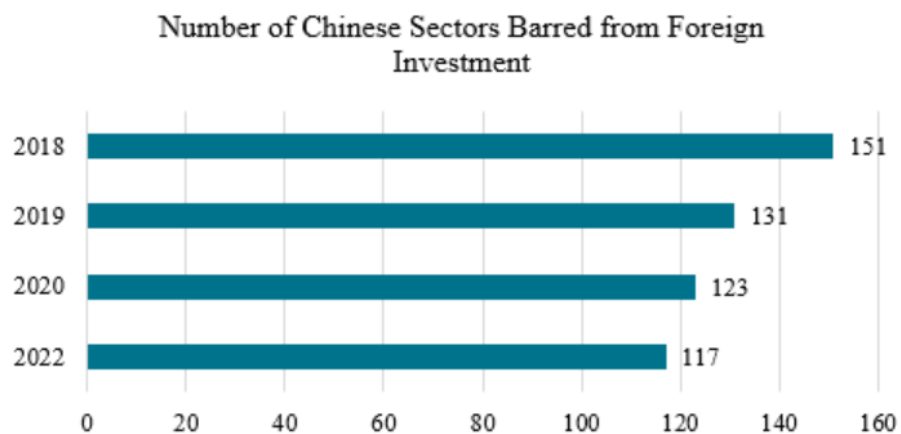
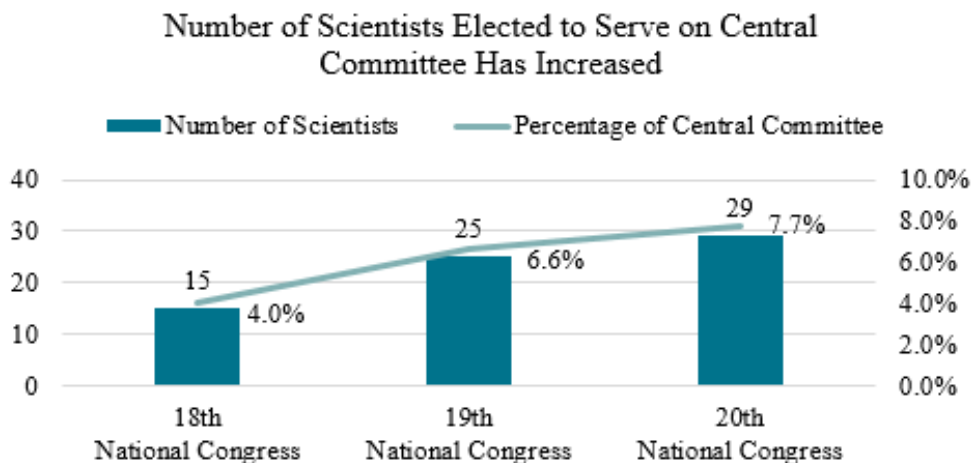


Figure 2: [China's 2022 Negative List for Market Access](#)

- China has also come to recognize the importance of cultivating scientists and arming them with consistent funding for their research. To give them greater representation within the system and utilize their talents, more scientists are increasingly elected to serve on the Central Committee, among the party's highest organ of authority. Specifically, the proportion of scientists on the central committee almost doubled from the 18th National Congress to the 20th National Congress. Meanwhile, China's total R&D expenditures is growing rapidly at approximately 33% annually.



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CHINA NEWS SPOTLIGHT

China Sends First Civilian Astronaut to Space as Shenzhou-16 Blasts Off: China sent its first civilian astronaut into orbit on Tuesday, as it launched the Shenzhou-16 mission to its space station for its second in-orbit crew rotation, marking another step forward for the country's ambitious space program. The three Shenzhou-16 astronauts blasted off from the Jiuquan Satellite Launch Center in the desert of China's Gansu province at 9:31 a.m. on Tuesday morning, headed for the Tiangong space station orbiting earth. [Read More.](#)

Experts See Need to Reduce Loan Interest Rates: The need for China to tamp down interest rate levels may have become more urgent as the country's economic rally is grappling with a sluggish recovery in demand and the pressure of debt costs on corporate earnings, political advisers and experts said. "It is worth every possible effort to adjust loan interest rates," said Gong Liutang, a member of the 14th National Committee of the Chinese People's Political Consultative Conference. [Read More.](#)

China's Services Activity Picks Up in May as New Orders Shore Up Consumption-led Economic Recovery: China's services activity picked up in May, a private-sector survey showed on Monday, as a rise in new orders shored up a consumption-led economic recovery in the second quarter. The Caixin/S&P Global services purchasing managers' index (PMI) rose to 57.1 in May from 56.4 in April. The 50-point mark separates expansion from contraction in activity. [Read More.](#)

Morocco, GOTION High-Tech Team Up to Build Africa's 1st Electric Car Battery Gigafactory: The Moroccan government and Chinese-European electric mobility company GOTION High-Tech on Wednesday signed a Memorandum of Understanding (MoU) to establish a gigafactory dedicated to producing electric car batteries and energy storage systems, the first of its kind in Africa. The project, estimated to cost MAD 65 billion dirhams (\$6.4 billion), aims to strengthen Morocco's position as a leader in the automotive industry in Africa. [Read More.](#)

Tech War: Southwestern Tech Hub Chengdu Offers US \$72 million in Subsidies to Local Semiconductor Projects Amid China's Chip Self-sufficiency Drive: The municipal government of Chengdu, China's inland electronics and technology hub, is offering up to 500 million yuan (US\$72 million) in subsidies to local semiconductor companies for major chip projects, as more cities answer the central government's call to boost development of the country's integrated circuit (IC) industry amid a tech war with the US. [Read More.](#)

Elon Musk Says His Shanghai Factory Makes the 'Highest Quality' Teslas: Tesla CEO Elon Musk has wrapped up his first trip to China in three years, after meeting a string of government officials and thanking workers at the company's mega factory in Shanghai. Musk's private jet took off from Shanghai's Hongqiao airport on Thursday, capping a whirlwind 48-hour trip by the billionaire, according to Variflight, a Chinese flight data app. [Read More.](#)

FDA to Allow Imports of Cancer Drug from China Amid Ongoing Shortage: The US Food and Drug Administration is working with Chinese drug maker Qilu Pharmaceutical to import the cancer medication cisplatin to boost supply amid an ongoing shortage. Canadian pharmaceutical company Apotex will distribute the injectable medication in 50-milligram vials on a temporary basis. It will be available for order by health care providers starting Tuesday. [Read More.](#)

Gracell Biotechnologies Presents Updated Data of Deep and Durable Responses for FasTCAR-T GC012F in Relapsed/Refractory Multiple Myeloma at 2023 ASCO Annual Meeting: Gracell Biotechnologies Inc. ("Gracell" or the "Company", NASDAQ: GRCL), a global clinical-stage biopharmaceutical company dedicated to developing innovative and highly efficacious cell and gene therapies for the treatment of cancer and autoimmune disease, today presented long-term follow-up data from a multicenter study evaluating GC012F, a B-cell maturation antigen (BCMA) and CD19 dual-targeted autologous CAR-T therapeutic candidate, in RRMM during an oral abstract presentation (abstract #8005) at the 2023 American Society of

Innovent's CRC Secures Breakthrough Therapy Status from China's NMPA: Innovent Biologics has secured breakthrough therapy designation (BTD) for IBI351 (GFH925) from the Center for Drug Evaluation (CDE) of China's National Medical Products Administration (NMPA) to treat previously treated advanced colorectal carcinoma (CRC) patients with the KRASG12C mutation. GFH925 is a new, orally active, potent KRASG12C inhibitor discovered by GenFleet Therapeutics. [Read More.](#)

¹The Bund is a historic waterfront area in central Shanghai, where Morgan Creek's office is located. From the 1860s to the 1930s, it was the rich and powerful center of the foreign establishment in Shanghai, operating as a legally protected treaty port. The picture above is part of the historical waterfront.

²Source: Digital History. https://www.digitalhistory.uh.edu/active_learning/explorations/1492/1492_zhenghe.cfm, as of 2021.

³Source: CNN. <https://edition.cnn.com/2023/01/16/asia/china-navy-fleet-size-history-victory-intl-hnk-ml/index.html>, 2023/01/06.

⁴Source: Facts and Details. <https://factsanddetails.com/china/cat2/4sub8/entry-7443.html>, as of Aug. 2021.

⁵Source: Annual Review. <https://www.annualreviews.org/doi/10.1146/annurev-polisci-050317-064428>, 2018/02/28.

⁶Defense Advanced Research Projects Agency ("DARPA") is a research and development agency of the United States Department of Defense responsible for the development of emerging technologies for use by the military.

Important Disclosures

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