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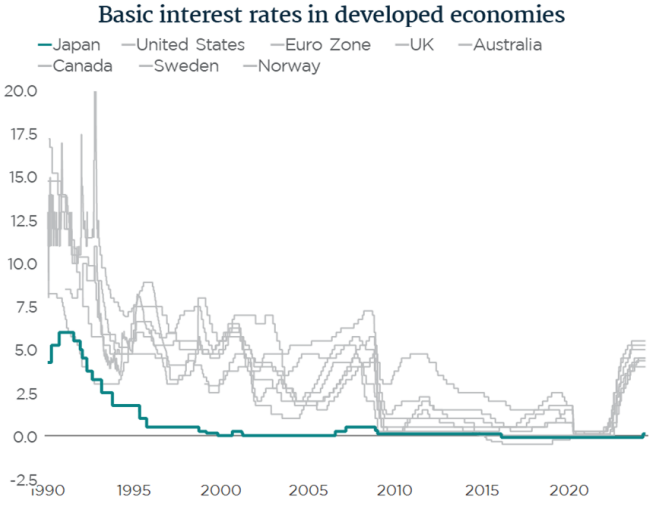
The End of Negative Interest Rates and the Outlook for Japan

> "There are four kinds of countries: developed, underdeveloped, Japan, and Argentina."
>
> Phrase attributed to Simon Kuznets, winner of the Nobel Economics Prize in 1971

In April this year, we witnessed the first increase in Japan's benchmark interest rate in nearly two decades, ending the policy of nominal negative interest rates and prompting a series of changes in the country's monetary policy framework. This decision comes in a context very different from that observed in other countries, which significantly raised their interest rates until last year and are now implementing interest rate cuts (notably emerging economies) or assessing the appropriate timing to begin their respective monetary easing cycles (mostly developed countries).



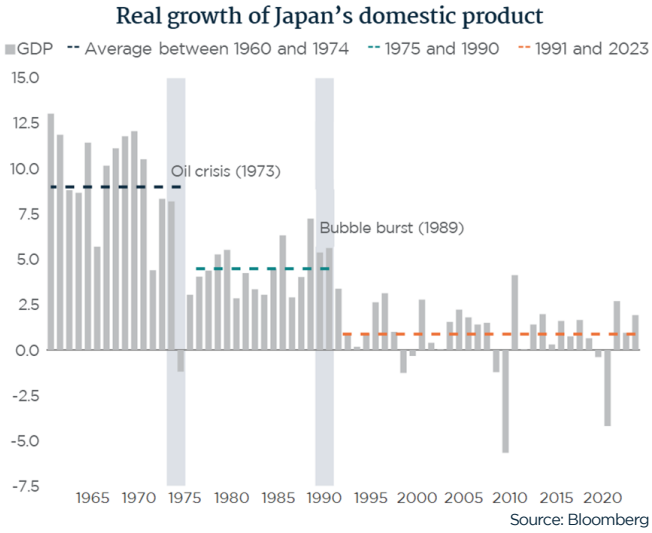
Source: Macrobond

We hope, throughout this letter, to present the reasons why the Bank of Japan (BoJ) finds itself in such a distinct situation from its counterparts in other economies and why we believe the April decision could mark a milestone for a structural change in the country's development. To do so, we will begin the discussion with a historical context over the past few decades to explain the challenges the country faces today and the prospects we can envision.

Rise and Fall of the World's Second Largest Economy

Sometime after the end of World War II, the Japanese economy began to grow significantly. This period became known as the "economic miracle", taking Japan from a devastated country to the second largest economy in the world. Such was its growth that the Japanese economy came to account for about 10% of the world's GDP by the end of the 1980s.

Activity slowed down following the 1973 oil crisis but still continued to grow relatively steadily, albeit at a lower level. It was only after the speculative bubble burst in 1989 that Japanese economic growth truly plummeted. As a result, the average annual GDP growth rate dropped from 9.0% between 1960 and 1974 to about 4.5% between 1975 and 1990 and 0.9% between 1991 and 2023. The period following the bubble burst became known as the "lost decade."[1]



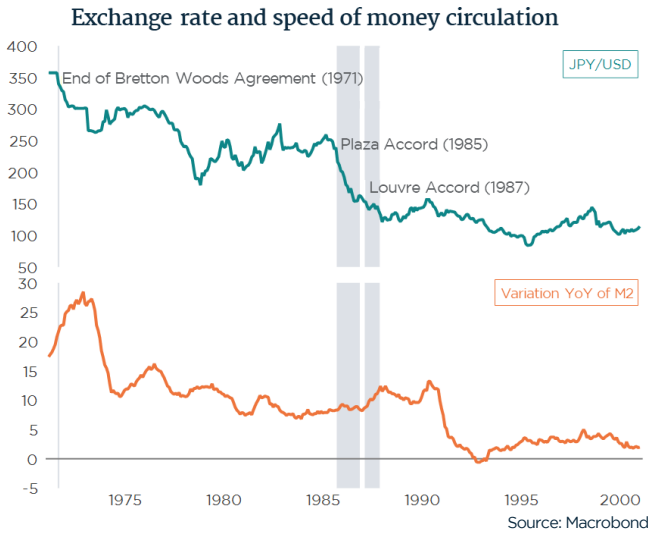
Source: Bloomberg

The Burst of the Bubble and Stagnation

The price of the Nikkei 225 (Japan's main stock index) virtually quadrupled between 1983 and 1989, as did prices in the real estate sector. At one point, it was estimated that the value of the Imperial Palace in Tokyo was equivalent to that of the entire state of California in the United States. In this context, the practice of *Zaitech* became common, where companies leveraged themselves to make financial investments in order to boost their revenues beyond their core activities.

The various explanations behind the speculative bubble are too wide-ranging to be discussed here in great detail, but it is known that this bubble was created against a backdrop of accelerating money supply and credit expansion. As illustrated by the chart below, the annual growth of M2, which represents the amount of money in circulation in an economy, increased from about 8% in 1984 to about 13% by the mid-1990. This can be associated with Japan's participation in the Plaza Accord (1985) and the Louvre Accord (1987), which initially involved coordinated exchange rate interventions with the United States, aiming to depreciate the dollar due to the high American current account deficit. Subsequently, there were unsuccessful attempts to stabilize the yen, which continued to appreciate over the following decades. It can be argued that the dollar purchases financed by the creation of yen from 1987 onward can explain much of the increase in the monetary base during this period.

[1] The term "lost decade" was initially created to refer to the 1990s but was later extended to longer periods, including even the recent past.



One of the main explanations for the economic stagnation during the "lost decade" can be found in the research studies of the economist Richard Koo, who attributed the phenomenon to a "balance sheet recession". According to this view, the expansion of the balance sheets of companies, which emerged from the bubble heavily indebted, lead firms to change their behavior, prioritizing debt minimization over profit maximization. The main practical implication of this change in preferences is that companies are unwilling to take out loans, regardless of the prevailing interest rate, thereby significantly reducing the effectiveness of the monetary policy. This explanation can be understood as an extension of the liquidity trap concept by the renowned British economist John Maynard Keynes, in which the fall in interest rates to certain levels leads market players to prefer more liquid assets (such as currency itself) over debt securities.

We cannot ignore the fact that Japan has also faced considerable challenges linked to the labor market, including an aging population, low participation by women in the workforce, and the wage formation equation known as *Shushin Koyo* ("lifetime employment"). Under this system, which is a cultural product of the post-war period, employees sign long-term contracts with companies and wages rise by seniority (rather than merit), providing little incentive for job changes, which reduces turnover and cyclical wage pressures.

It is understood that much of the country's lower-than-expected growth and inflation can be explained by these factors, along with the prolonged exchange rate appreciation, which has contaminated inflation expectations over time, creating the conditions for Japan to enter a "contractionary equilibrium".

The Economic Laboratory

After the bubble burst, Japan's GDP took nearly a decade to record its first decline (1998)[2] due to the shock caused by the Asian financial crisis (1997), which initially affected the Asian tigers (Singapore, South Korea, Hong Kong and aiwan) but quickly spread across the rest of the continent. In this context, a series of unconventional economic policies began to be adopted, including fiscal stimulus packages, the reduction of the benchmark interest rate to 0.15% (Zero Interest Rate Policy or ZIRP) in 1999, and the first global adoption of Quantitative Easing (QE).

In its initial version, during the tenures of Hayami and Fukui, QE consisted of purchases of Japanese government bonds (JGBs) and short-term debt securities (known as "tegata"). This expanded the bank's balance sheet from 115.3 trillion to 152.3 trillion yen between March 2001 and March 2006. Subsequently, during Masaaki Shirakawa's tenure, the BoJ carried out a second round of QE from October 2010 to March 2013. This raised the balance of assets from 121 trillion to 164 trillion yen, continuing the purchases of JGBs and tegatas but also including ETFs and REITs listed on the Tokyo Stock Exchange. Despite comprising a broader list of assets, this second version can be considered less intense than the previous one, given the bank president's reluctance to adopt this instrument.

These measures continued to fail in sustainably rescuing the Japanese economy from the contractionary equilibrium until the second term of then-Prime Minister Shinzo Abe began in 2012. The series of measures implemented by Abe, which became known as "Abenomics", was based on a three-pronged approach ('three arrows" as termed by the government): monetary expansion, flexible fiscal policy, and structural reforms.

In the monetary field, Haruhiko Kuroda, appointed to replace Shirakawa in March 2013, announced an adjustment in the monetary policy framework. He introduced Quantitative and Qualitative Easing (QQE) and committed to doubling the monetary base and achieving a core inflation target of 2% (up from 1%) within two years (popularizing the term "2-2-2 plan"). Despite the change in name, QQE remained largely unchanged, with purchases still concentrated in JGBs but with significantly more intense implementation than previous versions. Subsequently, in 2016, the authority also introduced the Negative Interest Rate Policy (NIRP) and Yield Curve Control (YCC) policy to reduce the volatility of the yield curve, influencing long-term rates through signaling and not just asset purchases.

On the fiscal side, a flexible policy referred to fiscal stimulus measures in the short term and possible fiscal consolidation in the future. In this sense, the government quickly adopted an expansionist policy but also committed itself to a zero primary deficit by 2020. It also raised the consumption tax from 5% to 8% in April 2014.

The reforms aimed to stimulate economic growth and encourage private investment through a series of annual plans. The initial version was announced in June 2013. The strategies included several policies intended to boost Japan's potential output, including deregulating the labor market – relaxing immigration laws and encouraging female participation in the workforce – and industrial policies targeting specific sectors.

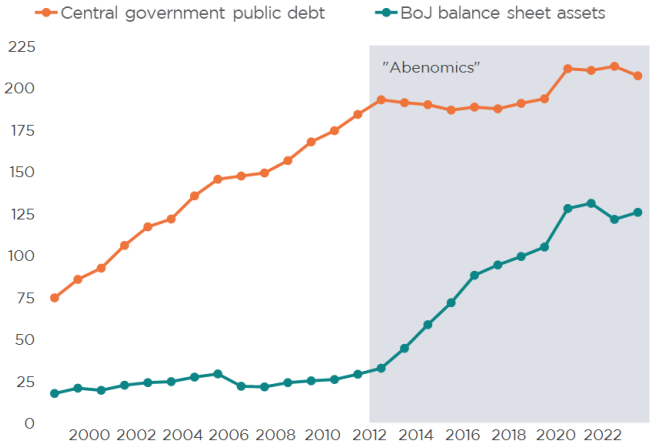
Ultimately, many of the government's objectives were not achieved. Inflation and economic growth fell short of the

[2] According to Koo, without the fiscal stimuli implemented by the Japanese government, the country could have plunged into a major depression, akin to what was observed in the United States in the 1930s.

target, and the elimination of the primary deficit was deemed unfeasible. Nevertheless, the economic situation improved, allowing the country to exit recession and deflation. However, the period was also marked by a significant expansion of the BoJ's asset balance, which approached 780 trillion yen by the end of 2023 (about 125% of GDP), and some additional growth in the already high public debt, which reached nearly 1,287 trillion yen (approximately 207% of GDP).

Public debt and Central Bank's balance sheet

Percentage of GDP



Source: Macrobond

Abe was the longest-serving prime minister in the country's history, serving four terms, with the last three being consecutive. It was only in August 2020, towards the end of his fourth term, that Abe announced his intention to resign due to deteriorating health[3]. He was succeeded by Yoshihide Suga and, subsequently, by Fumio Kishida, who currently holds the position. Despite his departure, the stimulative policies that characterized his government continued in the years that followed.

The Central Bank's Dilemma and April's Turning Point

In 1939, still within the context of the Great Depression, American economist Alvin Hansen published an article pointing out the possibility of an economic stagnation process in the United States, which became known as "secular stagnation." Years later, after the outbreak of the subprime crisis (2007), this concept was revived by economists such as then-U.S. Treasury Secretary Larry Summers, who pointed to developed economies like the United States, Europe, and Japan as examples of such stagnation, marked by persistently below-potential output, higher unemployment rates, and inflation below the target.

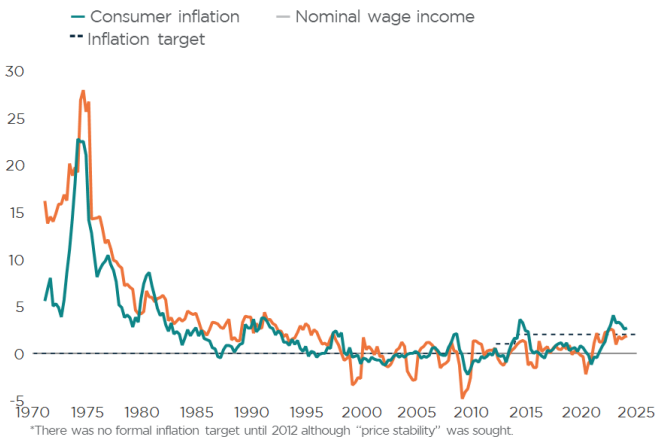
This theory lost traction after the shock caused by the COVID-19 pandemic, which led to synchronized fiscal and monetary expansion across almost all countries. Since then, the global economy has experienced a period of strong growth and accelerating inflation, which has proved to be an opportunity for Japan.

In the first half of 2022, the 12-month cumulative consumer inflation exceeded the 2% target for the first time since 2015, reaching a peak of 4.3% in January 2023, but has since declined, reaching 2.7% in March of this year. The main challenge for the BoJ lies in maintaining inflation slightly above the target in a sustainable manner, which in turn depends largely on two factors: establishing a "virtuous cycle" between prices and wages and anchoring inflation expectations in line with the target.

Recent data indicate that the pass-through relationship from prices to wages, as well as from wages to prices, has been showing some signs of revival since last year. The relationship between the two variables weakened significantly in the 1990s and practically dissipated from 2010 onwards. A symbolic evidence of this trend being reversed was the outcome of the spring wage negotiations ("spring wage offensive" or "Shunto")[4], which are expected to result in the largest wage increase in over three decades.

Inflation and wages

Variation YoY



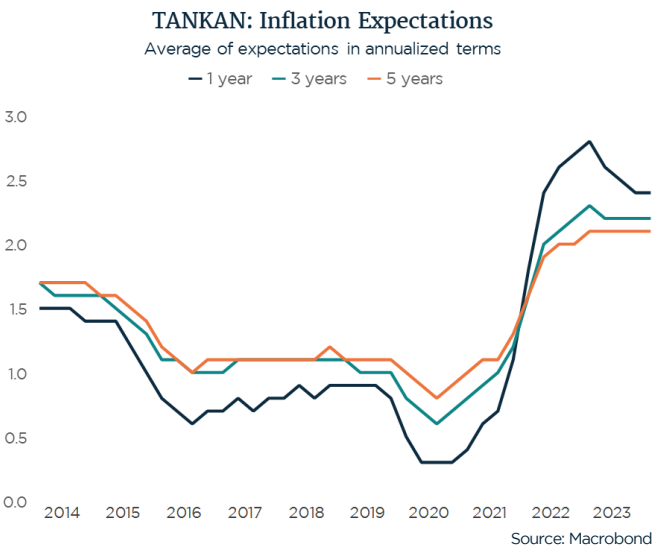
*There was no formal inflation target until 2012 although "price stability" was sought.

Source: Macrobond

At the same time, we can observe some progress in the re-anchoring of inflation expectations, which rose significantly between 2021 and 2022 and now appear to be stabilizing slightly above the target, in line with the Central Bank's objectives. This is depicted in the graph below, which illustrates the inflation expectations of economic agents responding to the TANKAN survey conducted by the BoJ.

TANKAN: Inflation Expectations

Average of expectations in annualized terms



Source: Macrobond

[3] Abe remained an important public figure until he was assassinated in July 2022, at the age of 67.
[4] Although only about 16% of Japanese workers are currently unionized.

In light of these advancements, the BoJ's April meeting resulted in a 10-basis point increase in the short-term interest rate, ending the negative interest rate policy and formally abandoning yield curve control (whose tolerance band had already been gradually widened over the past few years). Additionally, the monetary authority also declared an end to the purchase of ETFs and REITs, maintaining only the purchases of JGBs to minimize volatility in the yield curve, but without advocating a specific level for the rates. That said, financial conditions remain quite accommodative[5] and are expected to be maintained in this way to ensure the continuation of reflation.

The decision was well-telegraphed and is consistent with a gradual normalization of monetary policy, which could reduce the disparity between the country and the rest of the world if the current progress continues.

Outlook for the Economy and Markets

The changes in the Bank of Japan's monetary policy mark a crucial point in the country's economy. The gradual normalization of monetary policy brings both challenges and opportunities for investors.

The first implication of the new monetary framework is the prospect of higher interest rates, which affects, among other things, the cost of debt for households, companies, and the already highly indebted government. In practice, this creates a limitation on how much interest rates can rise without jeopardizing the sustainability of public debt.

These restrictions on interest rate increases, amid a context of elevated global interest rates for a longer period, help explain the performance of the yen, which has depreciated by more than 50% since 2021. From the Central Bank's perspective, a weaker currency can be seen as an ally, but the same cannot be said for the Ministry of Finance, which views excessive depreciation as a political problem.

One could speculate that some increase in interest rates, if accompanied by a reduction in the BoJ's participation in the purchase of public securities, could also result in an increase in domestic demand for government bonds, to the detriment of investment in foreign debt. It is worth noting that Japan is currently a major international creditor, holding more U.S. government bonds than any other country.

Despite the challenges, the Central Bank's success in combating deflation is likely to generate gains for the stock market, not only in nominal terms but also in real terms, as economic growth is resumed. Some specific sectors could benefit even more from monetary normalization, such as banks, depending on the evolution of interest rate spreads.

In conclusion, the end of the deflationary era in Japan could also become an important case study for economic science, which is accustomed to observing countries facing hyperinflation scenarios but has few successful experiences on the opposite end of the spectrum.

[5] Market estimates point to a neutral rate of around 1% in nominal terms.

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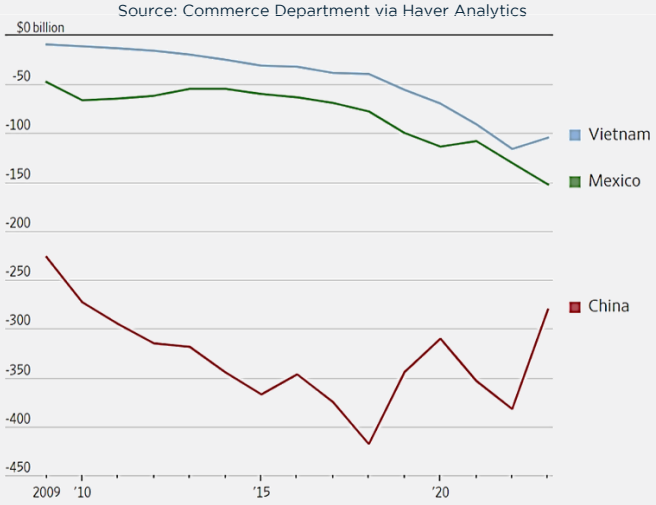
Geopolitical Tension Driven by Tariffs and Trade Policies

The recent turbulent global landscape provides an opportunity to evaluate the current situation and better understand the geopolitical risks we face, helping us measure the likelihood of these risks increasing or decreasing. Among the numerous challenges, focusing specifically on recent trade policies can give us a clearer perspective, even though other significant risks of wars and conflicts are still present.

Annual trade deficit of American goods with some countries
Source: Commerce Department via Haver Analytics



We can cite some relevant recent events: 1) the onset of the trade war between China and the United States in 2018; 2) measures to promote domestic production, such as the Inflation Reduction Act and the CHIPS Act; and 3) the ban on exporting advanced artificial intelligence chips from the United States to China.

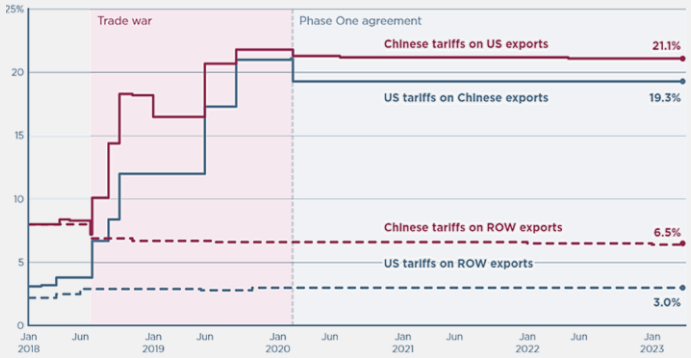
To comprehend the current geopolitical tension between the United States and China, it is crucial to consider the history of trade relations between these two global powers. Since the 1970s, when trade ties were reestablished after years of isolation, the American and Chinese economies have become increasingly interdependent. China has emerged as a dominant economic force, driven by rapid growth and an abundant labor force, while the United States maintains its position as the world's largest economy. These two nations play fundamental roles in the global economy, with interconnected supply chains and a significant volume of bilateral trade. However, political and ideological differences, along with concerns about unfair trade practices and security issues, have fueled growing tensions.

The election of Trump in 2016 brought a renewed focus on the American economy. A central theme of the political slogan "Make America Great Again" was to reduce the trade deficit with China, its largest trading partner at the time. Achieving this goal was to be done by increasing tariffs on a range of imports, with rates rising from 4% to 19%, covering 66% of Chinese exports.

Over the years, it is possible to assess the effectiveness of these measures, prompting the following questions: Has the trade deficit between China and the United States decreased? Additionally, has China complied with the "Phase One agreement" — an agreement signed in February 2020 for China to import more American products?

Firstly, when analyzing the trade deficit between the two countries, the answer appears to be yes. The deficit decreased from $418 billion (2% of GDP) in 2018 to $281 billion (1% of GDP) in 2023, as shown in the following graph. Although some effect may be attributed to higher inventory levels due to the lingering impact of the pandemic on the global trade chain, it is undeniable that there was a change in trend following the increase in tariffs.

Trade War tariffs between the US and China
Tariffs between the US and China and the rest of the world (ROW)
Source: Peterson Institute for International Economics (PIIE)



On the other hand, the initial effects of friendshoring and nearshoring are already noticeable, with countries like Vietnam and Mexico occupying this space. A recent emblematic announcement was made by Apple, reporting that 14% of iPhones are now produced in India, double the amount from last year.

Secondly, the "Phase One agreement" has proven to be ineffective since China has only complied with 58% of what was laid down in the agreement. Although it could be argued that the pandemic affected the agreement's implementation, there has been no revision or negotiation of new parameters in the Biden administration, meaning that tariffs, at least for now, are likely to remain in effect at current levels.

Besides the trade war, technology has been a central theme in recent years, which can be divided into three parts: communication, green energy, and chips. Not surprisingly, all these areas fall under the argument of national security, ensuring greater flexibility and expediency for executive actions.

5G was the first major clash, initiating a process of banning the Chinese company Huawei in the United States in 2017, a measure that remains in place today. The peak of this diplomatic crisis may have been the arrest of Huawei's chief financial officer in Canada, under a US arrest warrant. However, although this issue seems to have no further significant developments due to the lack of recent news, green energy and chips remain dynamic, representing yet another critical point to be monitored in the geopolitical landscape.

The Inflation Reduction Act (IRA) and the CHIPS Act are two related measures approved in 2022, highlighting the U.S. government's effort to make chips, electric cars, batteries, and solar panels supply chains more independent from the rest of the world. The IRA will allocate 386 billion dollars (0.6% of GDP per year) over the next 10 years to boost the consumption and production of clean energy. Meanwhile, the CHIPS Act will allocate $48 billion dollars (0.2% of GDP per year) over the next 5 years in construction subsidies in a bid to reduce dependence on Taiwan and increase the U.S.'s share from 10% to 20% in global production of state-of-the-art chips. An example is Taiwan Semiconductor Manufacturing Company Limited (TSMC), a Taiwanese multinational semiconductor manufacturing and design company, which recently received 6.6 billion dollars (equivalent to 10% to 30% of the investment needed for a high-tech chip plant) to build a plant in Phoenix, Arizona in the US.

While we see efforts to foster domestic production, we also observe measures to restrict other countries' access to key resources. The most prominent evidence of this was the U.S. Department of Commerce's ban on leading semiconductor industry companies such as Nvidia, TSMC, and ASML from selling chips and their artificial intelligence-related manufacturing equipment.

Despite United States efforts, China has made significant advances in this field, with two companies standing out: Huawei and SMIC. Huawei, a Chinese conglomerate, has emerged as a major chip designer, recently developing a chip with performance equivalent to Nvidia's A100 artificial intelligence chip, launched in 2020 and currently banned from being sold to China. On the other hand, SMIC, a Chinese state-owned chip manufacturer and TSMC competitor, is the 5th largest global chip maker and the largest in China. The fact that it is producing 7-nanometer chips indicates that sanctions have not been effective, maintaining the technological gap of 4 to 5 years between SMIC and TSMC unchanged.

Regarding China, it is possible to analyze its stance and behavior in face of events. Evidence reveals that the Asian country is more concerned with domestic issues, such as its economy (e.g., achieving growth targets) and its capacity development in strategic areas like chips. Furthermore, it is observed that China's strategy in international trade disputes seems to be more retaliatory towards American measures, adopting an "eye for an eye" approach. Additionally, Taiwan is important to highlight, currently representing a significant unknown and the greatest tail risk within the geopolitical context, both for its role as the largest producer of advanced chips (68% of global capacity) and its central role in international politics involving the three countries.

The upcoming American presidential election, scheduled for November 2024, adds further complexity to the issue due to the potential distinct outcomes between the candidates. Although premature, polls indicate a close race between candidates Joe Biden and Donald Trump.

While Trump has adopted an aggressive stance in his campaign statements, proposing a 60% import tariff on Chinese goods and 10% on goods from other countries, Biden has been more restrained so far, limiting the scope of products subject to tariff increases to steel and aluminum. Regarding Taiwan, neither candidate has emphatically expressed any drastic changes beyond military aid to the country.

Therefore, it is possible to assert that the upcoming American presidential election is an important geopolitical risk factor to be monitored. Under a future Biden presidency, the expectation is for a relatively more conservative stance in relations with China, with the caveat that the presidential race is highly competitive, making a change in strategy to remain competitive quite feasible. In a Trump administration, uncertainties are expected to be greater, both regarding the escalation of geopolitical risk and the potential impact on inflation (Fed researchers estimate that for every 25% tariff increase, inflation increases by 0.4%).

In summary, the trade war between China and the United States, initiated in 2018, marked a shift in bilateral relations, reflecting decades of increasing tensions due to trade, political, and ideological divergences. Meanwhile, measures to foster domestic production, such as the IRA and the CHIPS Act, represent a strategic response from the United States to global competition, especially from China, in the technology sector. The prohibition of advanced chip exports to China underscored concerns about security and technological sovereignty. Looking to the future, we expect to see a continuation of complexity and volatility in geopolitical relations, with significant implications for international trade and technological development.

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