

## **Analyzing Post-2010 China-US Defense Expenditures: Uncovering the New Arms Race**

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The New Arms Race encapsulates a dynamic geopolitical competition characterized by escalating military capabilities and strategic posturing between the U.S and China. Amidst the intensifying Sino-US arms race, the objective of this research is to examine the trends and patterns of Sino-US defense spending's (2010-2022) to analyze the evolving military competition's strategic, economic and social implications, contributing to the discourse on global security and stability. Data from reputable sources like SIPRI, IISS, plus official budget reports and defense White-Paper's inform the analysis. Using a mix-method approach, quantitative data is descriptively presented to highlight trends, patterns, and significant changes over time. Plus, qualitative analysis is conducted to interpret the implications of these expenses, drawing on International Relation's theories and expert opinions to assess how shifts in military spending influences power dynamics, alliances, and conflicts? The results show that, the global military expenditures surpassed \$2240 billion. China's defense spending has seen a 29-year consecutive increase, while the US maintains its top spender status, propelled by ongoing modernization efforts and diverse geopolitical strategies. This study is Grounded in the "Security Dilemma" framework, assumes that potential enemies would view a country's attempts to strengthen its security as a threat, setting off a cycle of action and reaction that deepens mutual suspicions and contributes to the potential for an arms race. Due to the Sino-US ongoing military modernization plans and diverse geopolitical strategies, it is suggested that this tendency will persist in the foreseeable future.

**Keywords:** New Arms Race, Defense Expenditures, Security Dilemma, Military Modernization.

In an era, characterized by escalating global tensions, numerous nations are amplifying their armaments at an unprecedented rate. Over the past two decades, global defense expenditures have experienced a manifold increase, reaching a pinnacle of \$2240 billion, the highest recorded point in history (SIPRI, 2023). A comparable peak in spending was previously observed during the zenith of the Cold War arms accumulation in the late 1980s. Nonetheless, in 1991, the sudden disintegration of the USSR altered the geopolitical landscape significantly. Subsequently, military expenditures experienced a sharp decline, large-scale military conflicts became a rarity, and economic prosperity was prevalent. By 1998, global spending plummeted to its nadir since the Cold War (Tian et

al., 2018). The paradigm shifted once again following the events of September 11, 2001. The attacks catalyzed a strategic recalibration within the United States towards Afghanistan and Iraq, instigating a substantial military mobilization in the War on Terror. As the US and its allies dispatched troops to Afghanistan and Iraq, global defense spending figures surged. This upward trajectory persisted until the first term of President Obama, during which war-weariness, internal budgetary constraints, and troop withdrawals exerted downward pressure on spending once more (Moyar, 2015).

During this period, Asia was experiencing a major geopolitical transition, with China's ascent to prominence (Clinton, 2011). In 1990, the US, the USSR, the UK, Germany, and France made up the top military spenders. But fast-forward to the second decade of 21<sup>st</sup> century, those top spenders have drastically changed. China has jumped from a share of two percent to thirteen percent of the global total, the second-largest military spender behind the US (IISS, 2024). The country's explosive economic growth allows it to increase spending for almost three decades. The Chinese defense budget saw a double-digit rise until 2015. China has recently increased its military spending as part of its long-term intentions to modernize and expand its armed forces in order to catch up with other powers amid the century (Maizland, 2020). Therefore, the Ministry of National Defense claims that the potential threats to China's national security posed by the new great power rivalry and "power politics" are what spurred the country to raise its military spending (Cordesman, 2019).

A unique geopolitical environment has been created by China's extraordinary military ascent. It has transformed the threat matrix for potential rivals. It helped prompt spending increase throughout the Asia-Pacific region. Defense spending rose in a number of varied nations, including Australia, South Korea, Vietnam, India, and Japan. Overall, in the whole of Asia, it is almost seen as an active Action-Reaction. Most importantly, the United States has taken notice too. Without a doubt, The US continues to be the unchallenged leading military force in the world. In 2023, its defense spending was higher than the next 15 biggest spenders combined (IISS, 2024). The US defense budget still dwarfs China by a significant margin. The United States continues to be the world's highest spender. Its defense budget accounted for almost 40.5 percent of the entire world's military spending. In 2023 alone, the US defense expenditure hits \$905.5 billion, an increase of 4.4 percent from 2022 (Rocha, 2024). The US military spending accounted for 3.5 percent of its GDP in 2022. Following the continuous real-terms decreases from 2010-15, the US increased its defense spending for eight consecutive years. A significant portion of this amount is allocated to R&D and the execution of long-term programs such as upgrading nuclear arsenal and large-scale military procurement (Rocha, 2024).

China's rise remains the main factor behind the increase in US defense expenditure because the US perceives it as a threat and strategic competitor. China is focusing on the modernization of the People's Liberation Army (PLA) along with improving Air force, Navy, Rocket Force, and the Strategic Support Force (Wuthnow, 2020). As a result, China is increasing its might in the Western Pacific and enhancing its A2/AD (Anti-Access/Area-Denial) capabilities. Now, It will create difficulties for the US submarines and aircraft carriers to approach mainland China and enter the South China Sea (IISS, 2024, p. 246). In spite of that, the US has operated in the western pacific Since WWII, and considers it as a private American lake (Kaplan, 2011). So, it is the pushing of the boundaries of the sphere of influence between China and the US. China's expanding power has been on the US radar for years. But the president Trump election ushered in a particularly hawkish national security staff, which pushed the idea that the world is entering a new era of great power competition, reviving justification for the large-scale conventional forces and nuclear arsenals. In order to get ready for possible conflict in the so-called era of great power competition, the Trump administration launched plans for military modernization. These included modernizing the navy's aircraft carriers, purchasing a new F-35 jet platform, developing next-generation bombers and submarines, upgrading nuclear forces, and pouring money into cyber operations and space force (Saeed & Yaqub, 2023).

Consequently, the problem is that the persistent escalation in Sino-US defense expenditures has significant implications for both global power equilibrium and regional geo-strategic stability. Since, one's pursuit of security may be perceived as an escalation by others. Therefore, this research seeks to explore how the increasing Sino-US defense expenditures and the resultant New Arms Race influence the global power equilibrium. It will also explore how these developments affect global geopolitical stability and regional geo-strategic dynamics, as well as their broader economic and social implications on international relations. The objective is to analyze the trends in defense spending by these two nations, assess the consequent effects on regional security and bilateral relations, and to illuminate the evolving military competition's strategic, economic and social implications, contributing to the discourse on global security and stability.

In that respect, this study uses a mixed-methods approach, combining quantitative and qualitative instruments to thoroughly examine the trends and patterns of Sino-US defense expenses and their impacts on the

global and regional geopolitical landscape. Data on military expenditures are descriptively presented, utilizing statistical methodologies to highlight trends, patterns, and significant changes over time. Complementing this, qualitative analysis is conducted to interpret the implications of these expenses, drawing on International Relation's theories and expert opinions to assess how shifts in military spending influences power dynamics, alliances, and conflicts? Data is collected from secondary sources i.e., books, articles, research journals, newspapers plus official budget reports, defense white-papers, and data reports published by SIPRI, IISS, UNROCA and World Bank. By combining these methodologies, this research offers nuanced perspective that captures both the empirical data and complex geo-political contexts in which these expenditures occurring.

### **Theoretical Framework**

This study is Grounded in the "Security Dilemma" theoretical framework. The idea of the "Security Dilemma" is a core concept in International Relation's coined by John Herz in 1950 (Herz, 1950). It explains the geo-strategic environment in which two or more states, even fundamentally defensive in their intentions, end up in a cycle of mutual suspicion and arms accumulation. This occurs because, under conditions of anarchy, States cannot be assured of each other's intentions. As a result, one state's security-related measures may be viewed as threats by other states, setting off a cycle of action and reaction that escalate tensions and increases the likelihood of conflict and Arms Race (Tang, 2009). In this case, China's expanding military might and economy in recent years have notably shifted the global power equilibrium. As per the DOD annual report to congress, titled "Military and Security Developments Involving China, 2020," declares that, the PLA has surpassed the US forces in various aspects, such as missile advancements, warship numbers, and air defense systems ((DoD, 2020). China claims that its military growth and economic development primarily aim at safeguarding its territorial integrity and economic interests. Therefore, China is upgrading its armed forces, enhancing its navy, developing advanced missile technology, and strengthening its capabilities in cyber and space domains. In turn, the United States, the established hegemon, views China's ascent with a blend of apprehension and doubt. While acknowledging China's defensive motives, the US remains uncertain about China's future actions. This uncertainty prompts the US to bolster alliances such as the Quad and AUKUS with Japan, India, South Korea, Taiwan, and Australia, increase military presence in the Indo-Pacific region, and heavily invest in new military technologies. Consequently, the Security Dilemma theory offers insight into the strategic rivalry between the US and China. It will create intense security competition and a spiral arms race both globally and regionally. Despite both nations claiming defensive strategies, uncertainties and defensive actions fuel mutual suspicion and power accumulation, elevating the risk of conflict and underscoring the tragic nature of the security dilemma.

### **Unraveling Defense Expenditure: Inclusive and Exclusive Elements:**

The defense spending patterns demonstrate the economic resources spent by a state for military purposes. Defense expenditure is a controversial subject because there is no universally acceptable definition of military expenditures. The UN Office of Disarmament Affairs (UNODA) defines military expenditures in three separate categories consist of research and development (R&D), construction and procurement expenditures, and operational costs. The Operating costs include the spending on Personnel, Conscriptions, Materials for current use, and Maintenance and repair. The Procurement and Construction expenditures include the procurement of aircraft and engines, Missiles, including nuclear and conventional warheads and bombs, Ships and boats, armored vehicles, artillery, ammunition, electronics and communications and non-armored vehicles. The construction includes the construction of air bases, airfields, missile sites, naval bases, Personnel facilities, Medical facilities, Training facilities, Warehouses, depots, Command & administration facilities, Shelters and Land. The Research and development expenditures include the cost of basic and applied research, development, testing, and evaluation casts (UNODA, 2023).

According to the Stockholm International Peace Research Institute (SIPRI), all monetary expenditures made on the armed forces, defense ministries, peacekeeping forces, and other governmental organizations involved in defense projects, such as paramilitary forces, and military space operations are considered military expenditures. It also covers human costs (such as wages, benefits, and other social services for both military and civilian staff), as well as costs associated with operations and maintenance, purchasing, research and development, and military assistance (SIPRI, 2024). Whereas, NATO defines military spending as the sums of money that nations spend throughout a fiscal year to pay for their own national armed forces. Conversely, many nations opt to define their own military expenditures, despite efforts by UNO, SIPRI, and NATO to provide a uniform definition. The Chinese defense budget defines the military expenditures as the allocation to three different areas i.e., personnel, training and sustainment, and equipment. Personnel expenditures include salaries, allowances, foodstuff, comforter, clothing, insurance, subsidies and pensions, plus welfare of the veterans. Training and sustainment expenses

include training, institutional education, maintenance and installations of facilities, and additional spending on a routine basis. Equipment expenditures cover R&D, testing, procurement, maintenance, shipping, and arsenal and equipment storage (Crane et al., 2005). The scope of defense spending includes all active, militia and reserve troops.

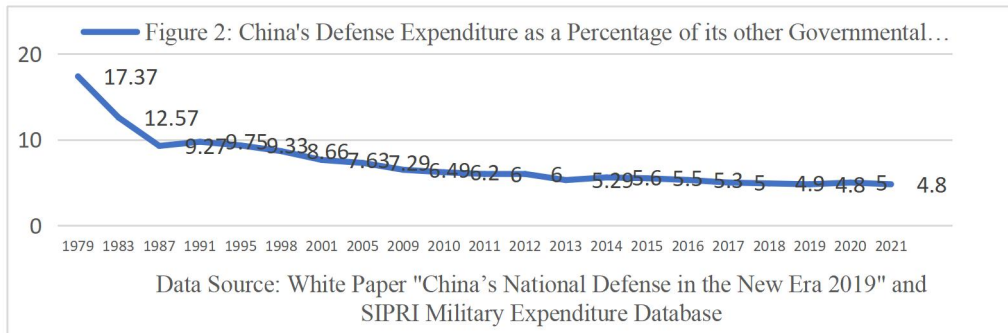
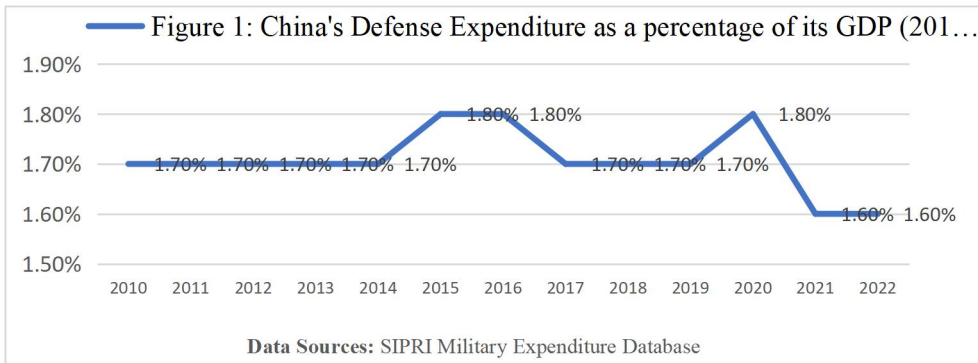
While significant portions of defense spending, which are typically included in Western budgets, are absent from China's official defense budget. It includes expenditures on nuclear weapons and strategic rocket programs, expenses for paramilitaries such as People's Armed Police, external weapons procurement, subsidies for the defense-industrial complex, some R&D related to defense, and extra-budget revenues and expenditures by sub-national governments. These sections are included in other parts of the state budget (Tian, 2021). Furthermore, according to the SIPRI definition, demobilization, the conversion of facilities used for the production of armaments, veteran's welfare, civil defense, and the disposal of weapons are not included in the military spending category (Archer & Willi, 2012). However, the US also does not include considerable sections of defense spending in the official DOD budget. According to Winslow Wheeler, Spending on Homeland Security, Veterans Affairs, the National Nuclear Security Administration at the Department of Energy, cyber-security, FBI expenses, and security costs in the State Department budget for diplomacy, UN peacekeeping, armaments assistance to allies, reconstruction aid for Iraq and Afghanistan, and foreign aid for other nations should all be included in the US defense budget (Amadeo, 2020).

The absence of this data from defense budgets implies that substantial amounts are ignored. Consequently, we may draw the conclusion that the actual global expenditures of maintaining a military force must be far more than those reported in official budgets and other documents released by international and regional organizations, and without thorough reporting on this increased defense spending in each country, a comprehensive worldwide assessment is unfeasible (Archer & Willi, 2012). The Armed Forces entail the strategic, land, naval, air, administrative, command and control, and other forces that are equipped, trained, and organized to support security forces and may be deployed in a practical manner. However, the global defense spending patterns are pronounced in four categories: Operating Costs: which include wages and pensions, as well as the price of servicing and fixing military infrastructure and equipment, as well as the cost of maintaining and training units, service organizations, headquarters, and support components. Procurement and construction expenditures, which include national infrastructure and equipment programs, make up the second category. The third category consists of R&D expenses connected to defense that are intended to bring new equipment into use and, finally, Foreign Military Assistance (FMA) or foreign aid is the fourth category in the global defense spending.

### **The China's Defense Expenditures**

China is engaged in a coherent struggle to construct an affluent country and powerful armed forces, and it is resolute for the growth of the national economy and defense (Jintao, 2012). Recently, the Chinese military expenditures have increased as rapidly as the economy as a whole. It was the impressive growth rate at a time when worldwide defense spending, including the US have been mostly stagnant or declining (Cordesman, 2022). To build the armed forces, China has taken into consideration developing the economy to meet the needs of national security and allocated the appropriate scale and proper amount of defense spending. Since the Deng Xiaoping opening-up and reforms, China has raised up its defense spending from a sustainability level to moderate growth (Luttwak, 2012). Today, The People's Liberation Army (PLA) receives a vast number of resources. salaries have grown, they are at a competitive enough level to draw in enough soldiers, even if there are now more civilian jobs available. The majority of the abandoned bases, depots, barracks, and other sites have been replaced or renovated, and sufficient facilities, tools, and equipment for maintenance have been made available.

As a whole, the growth of defense spending intertwined with the growth of other governmental expenditures and the national economy. In terms of GDP, China's military spending decreased from 5.43% in 1979 to 1.60% in 2022. For the previous three decades, it has remained below 2%. The detail is shown in figure 1. Whereas, in terms of government spending, defense spending fell by more than 12.57 percentage points from 17.37% in 1979 to 4.80% in 2021 (Xuanzun, 2021) (For details, see figure 2). The numbers exhibit a pronounced declining trend. Currently, however, the PLA is able to procure new weapons, new platforms, munitions, and auxiliary equipment enough for every division of each service. It is also able to build and upgrade every facility, plus concurrently the PLA is increasing its training and operating tempo. As a result, China is reining back the fervent qualitative improvement, quick and all-around military buildup, and numerical gains in the number of soldiers and weaponry across all services. which Marxists explain as having the ability for significant quantitative increases to have their own qualitative impacts (Luttwak, 2012). China's influence will spread around the world as long as its military and economy continue to expand quickly. It creates a general anticipation that China would undoubtedly surpass the United States as the world's superpower in the near future.



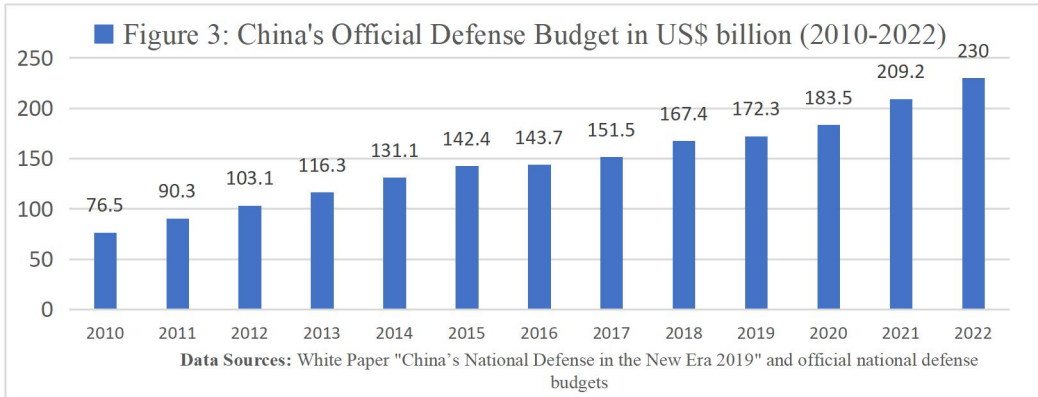
### Post-2010 Trends of China's Defense Expenditure

To keep up with the rejuvenation of the country, China aims to build a strong and equipped military proportionate with the country's national security, global image and development interests. Beijing is attempting to minimize the gap with the most powerful military in the world and to overcome the insufficient military capabilities in modern warfare (Bommakanti & Kelkar, 2023). China allocates its defense budget to three distinct categories in terms of utilization i.e. personnel, equipment and training and sustainment (Erickson, 2019). The salary, food, housing, clothes, insurance, pensions, and other benefits paid to officers, soldiers, and civilian employees of the defense ministry, as well as post-retirement funding from the military budget, are often included in "personnel" operational costs. Training and sustainment operating cost go toward building and maintaining posts and infrastructure, training personnel, institutional education, and other everyday expenses. The expenses associated with equipment encompass research and development R&D, experimentation, acquisition, upkeep, transportation, and storage of weapons and equipment (Erickson, 2019). The following uses of the upward trend in defense spending that began in 2010 have been identified by the 2019 Defense White Paper:

- To adopt social developmental and economical strategies for the social welfare of the personnel, to increase salaries and to enhance training, living and working conditions of the troops.
- To increase arms procurement and equipment's, upgrading the old plus replacing the outdated and procuring and developing the new, for instance, fighter jets, aircraft carriers, main battle tanks, and missiles, to gradually modernize the equipment.
- To intensify military reform, to support principal reforms in command systems and leadership, force composition and structure, and institutions and policies.
- To intensify strategic level training of the armed forces for actual combat, training of services and arms, joint training at Theater Commands and get better the situation for networked, simulated, and force-on-force training; and
- To Support different assignments, include the United Nations Peace Keeping Operations UNPKOs, disaster relief efforts, humanitarian assistance operations, and vessel protection operations in high seas.

From 2010 to 2022, China's defense spending augmented from \$76.5 billion to \$230 billion (for details, see figure 3). China's governmental expenditure and GDP raised at average rates of 10.43 percent and 9.04 percent respectively, while its military spending raised by an average of 9.42 percent. On average, government spending on defense accounted for 5.26% of total spending and 1.28% of GDP. China's defense spending as a proportion of GDP climbed in line with government spending, but stayed stable (Bommakanti & Kelkar, 2023). China induces firm mechanisms of budget management and allocations on its defense spending. It pursues a demand-oriented

defense expenditure that is planning-led and harmonious with its capability (Erickson, 2019). China's defense forces are rapidly standardizing defense expenditures, restructuring the centralized collection and payment of military money, and improving the administration of funds and assets in order to fortify and enhance budget management.



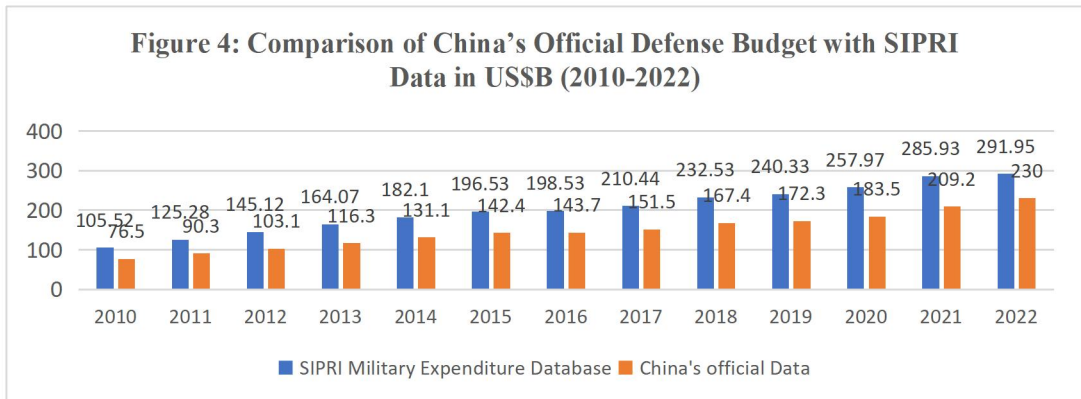
**SIPRI Estimate of Chinese Military Expenditure**

The Stockholm International Peace Research Institute (SIPRI) assessed a number of supplementary elements outside of China's official national defense budget and approximated the country's military spending. The SIPRI estimation of China's defense expenditure is fabricated principally of five additional spending categories i.e.

- The People's Armed Police (PAP),
- The China Coast Guard,
- Additional military research, development, testing and evaluation spending,
- Additional military construction expenditure, and
- Payments to demobilized and retired soldiers (Tian, 2021).

According to the SIPRI report, in 2019 alone, these added expenditure categories accounted about 27 percent of total estimated Chinese defense expenditure. The additional largest item is R&D and T&E expenditure, which amounted 10 per cent or \$25.0 billion of the total defense spending. Furthermore, pension payments, retirement, and demobilization were the second largest item at \$20.3 billion, 8.4 per cent of the total defense spending. Whereas, The PAP expenditure was \$17.9 billion, which was the third largest item accounted for 7.4% of the total (Tian 2021).

Meanwhile in 2019, the China Coast Guard spending was estimated to have been \$1.6 billion, 0.7 per cent of the total. While spending on other military construction was estimated \$14 million, less than 0.01% of the total defense spending. According to SIPRI data, China continues to be the world's second-largest military spender, behind the United States, with expenditures that are about three and a half times more than those of India, the next-largest spender. According to SIPRI, China's defense expenditure in 2022 as a share of its GDP was 1.6 per cent. While, its defense expenditure as compare to its governmental expenditure decreased from 5.4 per cent to 5.0 per cent. According to the SIPRI data, from 2010 onward, China's defense spending augmented from \$105.5 billion in 2010 to \$291.95 billion in 2022 (SIPRI, 2022) (for details, see figure 4).



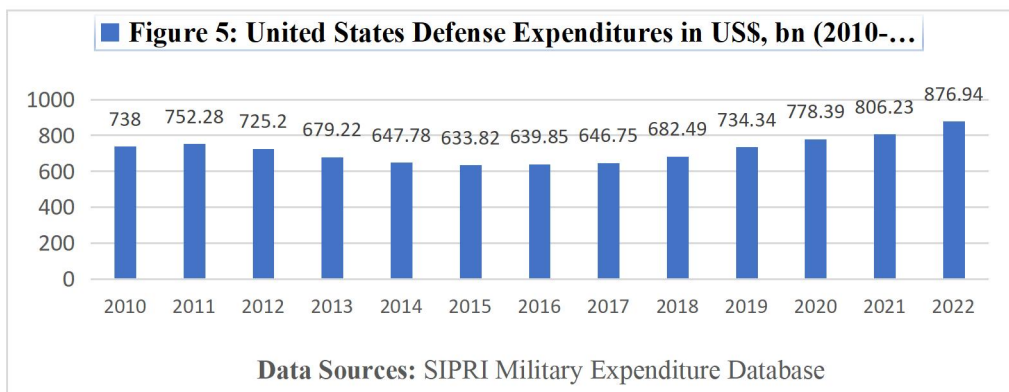
### The United States Defense Expenditures

For the United States, security challenges that were once considered developing are now becoming a reality. Early in 2023, a Chinese high-altitude surveillance balloon crosses over before being shot down by a US Air Force (USAF) F-22 Raptor aircraft. Additionally, there was a joint naval drill conducted by Russia and China in international waters near Alaska, highlighting their increasing activity in Arctic waters (Begum & Khan, 2023). These events add to Washington's expanding national security agenda. This agenda includes initiatives to modernize its defense forces, foster strong relationships with European and NATO allies, and enhance its presence and partnerships in the Indo-Pacific region (IISS, 2024, p. 18). Furthermore, The Biden administration has significantly contributed to global support for Ukraine for the second consecutive year. Since February 2022, the US has furnished over \$44 billion worth of equipment's. This assistance includes Patriot air and missile defense systems, mine-clearing tools, and unmanned aerial vehicles (UAVs) (Penzenstadler, 2023).

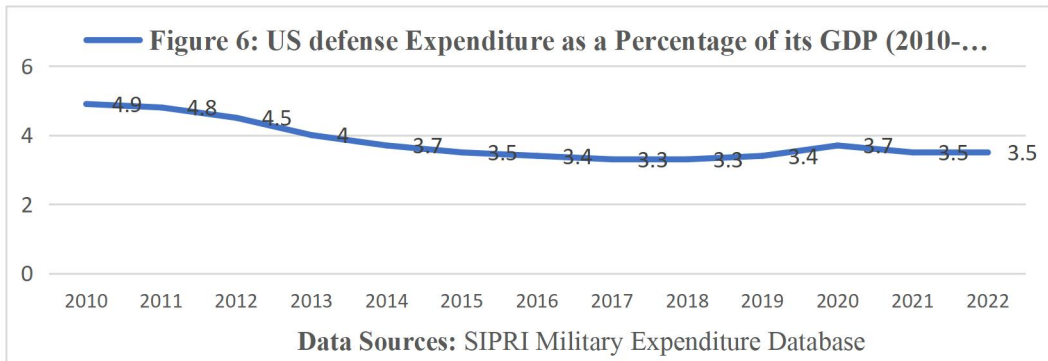
Hence, Lloyd Austin, the US Secretary of Defense, highlighted that the National Defense Strategy (NDS) demarcates the Department of Defense's trajectory for the upcoming crucial decade. This path encompasses safeguarding the American people, fostering global security, capitalizing on new strategic openings, and upholding and safeguarding democratic values. Therefore, the implementation of National Defense Strategy remained his top priority; while, the Pentagon was also working to sustain military readiness (Gunzinger & Autenried, 2021). The United States defense spending in 2023 was \$905.5 b. it was the seventh consecutive year in which the US defense expenditures have been grown after uninterrupted real-terms reductions amid 2010-2017 (IISS, 2024). Post-2018 increases in military spending attributed to R&D and accomplishment of numerous long-term projects for example the large-scale arms procurement and the modernization the US nuclear arsenal ((DoD), 2020).

in recent years, The US top strategic competitor, China is the main drivers behind the increases in US defense expenditures because it is an apparent threat to the US hegemonic status around the globe (Amadeo, 2020). Therefore, with a projected military budget of \$905.5 billion in 2023, the United States continues to be the top military spender in the world, making up 40.5% of the global total military spending (IISS, 2024, p. 18). The US spending on weapons procurement and research and development R&D alone were larger than China's total defense budget (Béraud-Sudreau, 2020). Therefore, the US spent approximately as much on its military as the remaining 15 largest spenders collectively. The US spent 3.7% of its GDP in 2020 on its defense, up by 0.3% from the previous year (SIPRI, 2023). The US has boosted its military spending in response to China's ascent, mirroring its historical containment strategies against past rising powers in the 20<sup>th</sup> century like Imperial Japan, Imperial Germany, Nazi Germany and during the cold war against the USSR. China represents the most significant geopolitical challenge for the US in the 21<sup>st</sup> century (Mearsheimer, 2010), and containment measures will likely be implemented accordingly.

Moreover, the US maintains its top spender status primarily because its dominance relies on two interconnected factors. Firstly, the US champions and drives the global capitalist economic system, which inherently bolsters its economic standing and influence. Secondly, the American military might, that reinforces its position by projecting power and deterrence globally. Together, these two elements form the backbone of American hegemony, ensuring its continued prominence on the world stage (Ikenberry, 1989). Whereas, China's emergence as a formidable competitor poses a significant threat to both pillars of American hegemony. Economically, China's rapid growth challenges the dominance of the US-led capitalist system (Layne, 2008), while its expanding military capabilities directly challenge American military might (Friedberg, 2018). Therefore, in addition to maintaining its status as the top spender, the US faces the imperative to address and counter the growing influence of China on both economic and military fronts to safeguard its hegemonic position.



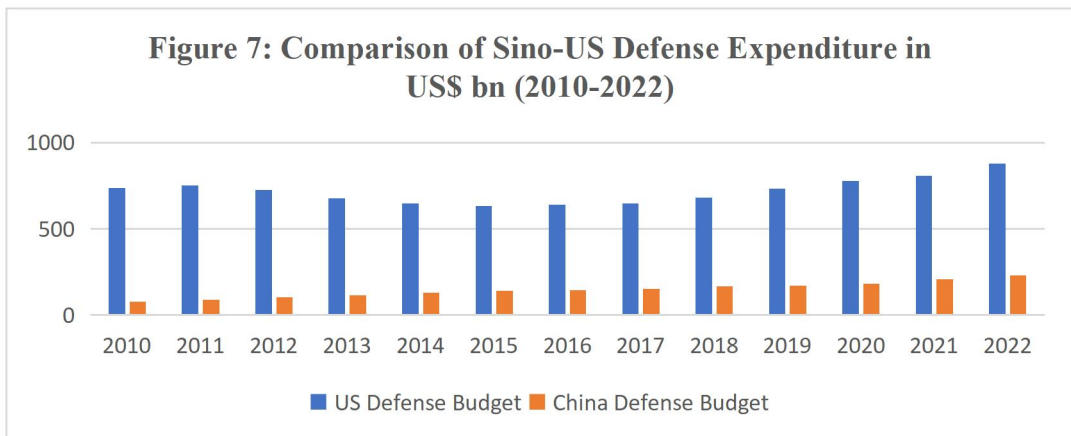




**Comparison of SINO-US Defense Expenditure (2010-2022)**

Comparatively to US defense spending, China's defense spending is comparatively low both as a proportion of GDP and as a percentage of total government spending. In terms of total defense expenditures, China in 2021, expends on its defense only 26 percent of the US total defense spending, which is about a quarter of the US defense expenditure. In terms of defense expenditure, China ranks second in the world, whereas the US is the top spender in the world. Comparatively speaking, since 2010, China has averaged spending 1.3 % of its GDP on defense, whereas the US has spent 3.81 %. Furthermore, Russia spends 4.4 percent of its GDP, India 2.5%, France 2.3%, the UK 2.0%, Germany 1.2% and Japan 1.0%. China is the least spender among all permanent member of the UNSC and ranks sixth worldwide in terms of defense spending as a percentage of GDP.

From 2010 to 2022, China's average defense spending as compare to other governmental expenditures are 5.15 per cent, although, the US defense expenditure in the same time was 9.8 percent of its governmental expenditures. Furthermore, Russian expenditures was 12.4%, India spent 9.1%, United Kingdom's 4.8%, France 4.0%, Germany 2.8% and Japan 2.5%. Therefore, China is the 4th largest spender as a proportion of other governmental spending. At the moment, China's economy is the second biggest in the world. China's national security demands, therefore, dictate how much the country spends on defense. The growing size of Chinese economy also dictates it. Furthermore, the figure 7 illustrates the enduring dominance of the US in terms of defense expenditures juxtaposed with the constant growth of China's military budget.



**Strategic Implications**

**Military Capabilities**

Grasping the subtleties of defense expenditure and its ensuing influence on the military prowess of major global entities such as China and the US requires an in-depth exploration into their respective military financial allocations and strategic focuses. As per the SIPRI reports, in 2022, the US and China emerged as the foremost two nations concerning military spending, with the US allocating \$876.94 billion and China allocating \$291.95 billion (SIPRY, 1949-2022). This substantial financial commitment to defense not only bolsters their military capabilities but also signifies a strategic intent to sustain and enhance their global military dominance and strength (Freeman & Solmirano, 2014). The distribution of these resources, which are employed for technological progression, personnel training, and the development of strategic military infrastructure, crucially molds the military capabilities of both countries, thereby impacting their strategic and tactical military maneuvers on the international arena.



## **Global Power Dynamics**

The arms competition, especially between predominant powers such as the US and China, consistently exerts a significant influence on global power dynamics, affecting alliances and molding international relations. The amplification in military expenditures and advancements in military technology frequently result in a reconfiguration of power structures and alliances on the global platform (Futter, 2016). For example, the US's strategic realignment towards Asia and its focus on fortifying alliances with nations like India, Japan and Australia can be interpreted as an effort to counterbalance China's ascending military might and sway in the region. Consequently, the arms race not only impacts the bilateral relations between the US and China but also infiltrates the wider global power structures, forming alliances and strategic collaborations throughout the international community on the larger geo-political chessboard.

## **Regional Impacts**

The arms race, in addition to shaping global power dynamics, also significantly impacts regional stability and security, especially in the Asia-Pacific region. The enhancement of China's military capabilities and its bold maneuvers in the South China Sea have elicited concerns among neighboring nations and bear consequences for regional stability (Fravel, 2011). Likewise, the strategic alliances of the US and its military presence in the region also sway the security dynamics and could potentially affect the strategic decisions of other regional players. Consequently, the arms race emerges as a pivotal element that not only affects the bilateral relations between major powers but also molds the security and stability of the wider region, influencing the strategic considerations and policies of other nations within the Asia-Pacific. The resurgence of new great power competition and arms buildup between the US and China on the global level will trigger the arms race at the regional level too. In the Asia-Pacific region, countries as diverse as Japan, South Korea, Taiwan, Vietnam and other South East Asian States are increased their defense expenditures and arms buildup (Tan, 2024). In the meantime, Japan is reinforcing the country's military might. Japan will spend \$56.7 billion in FY 2024 on defense amid the increasingly tense security environment in the Indo-Pacific region. The budget increased by 16.5 percent, amounting to \$7.93 billion (1.13 trillion yen) more than the previous fiscal year. This represents a record high for Japan's defense budget for the tenth consecutive year.

Furthermore, Taiwan also plans to boost its military spending and arms acquisition amid increased tensions with China. Taiwan raised its defense expenditure from 1.8% of GDP in 2016 to 2.5% of GDP in 2024. Taiwan announced a record defense budget of NTD \$606.8 billion (approximately USD \$19.1 billion) for FY 2024 (Gomez, 2023). Taiwan is facing challenges in sourcing military equipment from foreign suppliers, with the US being its primary source of armaments. Analysts suggest that the US is significantly arming Taiwan with the aim of deterring China's influence. Furthermore, North Korea's Kim Jong Un is aiming for a major buildup in his nation's nuclear weapons stockpile starting in 2022, which is located a thousand miles north of Taiwan. Kim is building a fleet of formidable mobile rocket launchers that can deliver a nuclear warhead to any location in South Korea. According to the Korea Institute for Defense Analyses, Kim's plan may lead to the development of 300 nuclear bombs in the near future, which would be a significant improvement over the 2022 projection that he only had 20 assembled nuclear weapons (Lendon, 2023).

This development could potentially place North Korea ahead of the US and France in terms of nuclear stockpile, trailing only behind Russia, the US, and China according to SIPRI's rankings. As a result, the possibility of South Korea developing its own nuclear arsenal has been raised. To reassure its ally, the US has affirmed its unwavering support for South Korea, promising to utilize a comprehensive range of defense capabilities, including nuclear, conventional, and missile defense, if necessary. And so, the cycle continues. It is a significant competition in Asia-Pacific, featuring three prominent nuclear powers alongside a rapidly developing one, the world's leading economies, and long-standing alliances all striving for an advantage in highly disputed land and sea regions. On one side, there is the United States with its allies Japan, Taiwan and South Korea as opposed to China in collaboration with Russia and North Korea.

## **Economic and Social Implications**

### **Economic Impact**

The economic repercussions of considerable defense expenditures by countries, especially globally influential ones like the US and China, are complex and infiltrate various facets of their individual economies. Hartley (2011) notes that defense spending can harbor numerous economic consequences, encompassing impacts on employment, economic growth, and fiscal equilibrium. For example, the US Department of Defense was identified as the world's largest single employer in 2015, highlighting the employment ramifications of defense expenditures (Hussain, 2019). Conversely, China's defense spending, which has been on a consistent upward trajectory, is

perceived as a mechanism to further its global strategic ambitions and bolster its domestic military-industrial complex (Cheung, 2013). Therefore, while defense spending fuels economic activity and can serve as a catalyst for employment and technological progress, it also signifies a considerable distribution of resources that could be deployed in other sectors.

### **Social and Political Impact**

The arms race and related military expenditures not only bear economic consequences but also markedly impact the social and political terrains within countries. The militarization of national financial plans frequently entails social compromises, potentially redirecting resources away from social domains such as health and education, which can have enduring effects on social progression (Dunne et al., 2005). On the political front, significant military spending and a focus on military capabilities can sway national priorities, policy formulation, and even the political dialogue, often becoming entwined with matters of national security, patriotism, and international politics.

### **Opportunity Costs**

Examining the economic and social repercussions of defense expenditure requires a scrutiny of the opportunity costs entailed in dedicating significant resources to the military sector. The "guns vs. butter" model exemplifies the trade-off between a country's spending on defense and civilian commodities (Brauer & Dunne, 2004). The resources devoted to defense spending could alternatively be invested in different sectors, such as education, healthcare, and infrastructure, which might have varied outcomes for economic expansion and social evolution. In the context of comprehending opportunity costs, it is crucial to analyze the potential advantages and compromises related to alternative resource allocations. According to the budget document of the US government FY 2024, the Department of Defense (DOD) has requested \$842 billion in discretionary budget authority for FY-2024, marking a \$26 billion or 3.2-percent increase from the 2023 enacted level. Conversely, other governmental sectors have put forth their own budget requests: the Department of Agriculture (USDA) seeks (\$30.1 billion), the Department of Commerce requests (\$12.3 billion), the Department of Education (ED) requests (\$90 billion), the Department of Energy (DOE) requests (\$52 billion), the Department of Health and Human Services (HHS) requests (\$144 billion), the Department of Homeland Security (DHS) requests (\$60.4 billion), and In order to provide sustainable, safe, healthy and inclusive communities and inexpensive housing for all, the Department of Housing and Urban Development (HUD) has requested \$73.3 billion in discretionary budget for FY-2024 (The White House, 2023).

Meanwhile, a notional 7.2% increase from the 2023 budget, China's 2024 defense budget was set at RMB 1.7 trillion (\$231 billion). In addition to defense spending, China allocated funds to other governmental sectors, including debt payments (\$108 billion), diplomacy (\$8.4 billion), education (\$22.9 billion), public security (\$31.6 billion), and science and technology (\$51.5 billion) (Ministry of Finance, 2024). These allocations offer insights into both nations' spending priorities and fiscal landscapes. The significant allocation of resources to defense underscores the potential trade-offs with investments in critical sectors like education, healthcare, housing, and infrastructure, suggesting a need for strategic balance and allocation considerations in government budgeting.

### **Case Studies**

#### **Technological Advancements**

The growing arms race has been significantly influenced by military technical advancements, particularly between major powers like China and the United States. The arrival of the F-35 Lightning II, an advanced multi-role stealth fighter, by the United States has significantly strengthened its air superiority (O'Rourke, 2010). Meanwhile, China's missile development, particularly the DF-21D, dubbed the "carrier killer," has enhanced its capabilities to constrain adversary movements and changed the strategic landscape in the Asia-Pacific region (Heginbotham et al., 2015). Such improvements not only improve each nation's military strength, but also affect strategic outlooks, threat assessments, and the larger dynamics of the arms race.

#### **Conflict and Cooperation**

The US and China have experienced both conflict and cooperation, with their military capabilities having a major impact on both. A prominent instance of a confrontation that resulted in heightened diplomatic tensions between the two countries is the 2001 EP-3 incident, which included a mid-air collision between a People's Liberation Army Navy (PLAN) J-8II fighter jet and a US Navy EP-3E ARIES II signals intelligence plane. (Rosenthal & Sanger, 2001). Furthermore. The destruction of a Chinese spying balloon by a US fighter jet sparked a diplomatic crisis between the two nations. The incident occurred over US airspace on February 5, 2023 leading to

condemnation from the Chinese Foreign Ministry. Despite explanations from the White House about the precautionary measures taken, the prolonged delay in ordering the strike fueled criticism and heightened tensions. The situation escalated as China defended the balloon's purpose while US authorities insisted it was engaged in espionage, leaving both countries entangled in conflicting narratives and strained relations (Zhao, 2024). In contrast, cases of cooperation have been observed, such as the anti-piracy operations in the Gulf of Aden, where the navies of both countries cooperated to combat piracy, demonstrating that shared security concerns and common interests can facilitate cooperation in broader strategic competition (Erickson & Strange, 2013). Thus, the politics and military capabilities of both China and the United States had a significant impact.

### **Future Trajectories**

#### **Potential Scenarios:**

The forthcoming paths of the China-US arms race, considering the prevailing trends, unveil a variety of possible scenarios spanning from ongoing strategic rivalry to potential conflict or collaboration. As per the U.S. Department of Defense's 2020 China Military Power Report, there is a notable augmentation in China's military capabilities, with progress in domains such as missile creation, naval assets, and cyber warfare capabilities, thereby presenting numerous challenges to U.S. strategic interests both in the Indo-Pacific region and worldwide ((DoD), 2020). Conversely, scholars, including Friedberg (2018), have delineated potential scenarios that encompass an escalated arms race, unintended conflict arising from miscalculations, or a cold peace defined by persistent competition devoid of direct conflict.

#### **Risk Mitigation**

Minimizing risks and averting escalations in the China-US arms race require a comprehensive strategy that includes diplomatic, military, and confidence-building actions. The establishment and preservation of open communication channels, the creation of mechanisms for crisis management, and the execution of confidence-building measures, such as military-to-military exchanges and agreements on behavior in disputed areas like the South China Sea, are vital (Medcalf et al., 2015). Additionally, participating in dialogues aimed at forming mutual comprehensions on strategic matters and investigating possible arms control measures could also act to diminish risks and avert unintentional escalations (Khalilzad & Shapiro, 2002).

#### **Cooperation Opportunities**

Even amidst the predominant strategic rivalry, there are pathways for military and strategic collaboration between China and the US, especially in domains where their interests align. Spheres like counter-terrorism, nuclear non-proliferation, and maritime security, especially in tackling non-traditional security threats such as piracy, offer opportunities for cooperation (Kirchner et al., 2016). Involvement in cooperative initiatives in these spheres could not only address mutual security issues but also potentially foster trust and create mechanisms for dialogue and cooperation that could prove advantageous in navigating the wider strategic competition.

#### **Conclusion**

The global defense expenditure landscape has dramatically altered over the past decades, reaching a historic high of \$2240 billion, where The US and China dominate the arena. The US has retained its position as the world's biggest defense spender, while China raised its defense expenditures uninterruptedly for three decades. China's rise in defense capabilities has developed a unique geopolitical situation, prompting an arms buildup across the Asia-Pacific region among countries like Japan, South Korea, Vietnam, India, and Australia. This phenomenon reflects an active action-reaction dynamic in Asia, driven by mutual suspicions and strategic rivalry, particularly between the US and China. In 2023, The US accounted for almost 40.5% of total global defense spending and continues to invest heavily in defense (Internal Balancing) to counter the perceived threat from China. Furthermore, The US is reinforcing alliances such as the Quad and AUKUS (External Balancing) and increasing its military presence in the Indo-Pacific region. Despite China's defense spending being a smaller portion of its GDP as opposed to the US, its rapid modernization of PLA and advancements in various military domains are outstanding. Both the US and China investing heavily in upgrading their nuclear arsenals, bombers, submarines, and developing advanced weapons systems such as hypersonic missiles and anti-satellite weapons. These advancements have significant geopolitical implications, as they could potentially shift the balance of power on Earth. China's rapid increase in military expenditures, coupled with President Xi's ambitious plans to fully modernize the armed forces, signals a desire to assert itself as a global superpower equal to the US militarily. Meanwhile, the US, under both the Trump and Biden administrations, has continued its arms buildup, committing substantial resources to upgrading its nuclear capabilities and maintaining its military superiority. The rapid progress on both sides indicates a dangerous escalation in tensions, raising concerns about the stability and security of the international order. In a nutshell, The US remains the foremost military power, but the strategic rivalry with China is intensifying, driven by uncertainties and defensive actions that fuel an ongoing arms race. These dynamic

underscores the critical need for dialogue and confidence-building measures to mitigate the risks of conflict and ensure stability in the international system.

In a future scenario shaped by heightened Sino-US relations and an arms race, the geopolitical landscape may become increasingly volatile. Both countries have significantly increased military spending until 2035 to achieve technological advances in AI-powered weapons, hypersonic missiles and space defense systems. The competition extends into space, deep-sea, cyberspace and other emerging war domains with frequent and sophisticated cyberattacks disrupting critical infrastructure globally. In the Asia-Pacific region, countries like Japan, Taiwan, North Korea, South Korea, and India have expanded their military capabilities in response, creating a multi-layered regional arms race. The South China Sea becomes a flash point for frequent naval clashes, and tensions around Taiwan escalate where both the US and China perform provocative military exercises. Economically, heavy defense expenses leading to higher national debt and reduced costs for social security, which exacerbates domestic inequalities. As both forces are trying to provide key resources and technologies, the global supply chain has become increasingly common, causing financial turmoil and stopping trade. Moreover, from a diplomatic point of view, traditional alliances, such as NATO, Quad, AUKUS have been strengthened, and the Chinese Belt and Road Initiative (BRI) has created a new alliance. However, arms control treaties have been dismantled and undermined by mutual mistrust and rapid technological development, making new agreements difficult to achieve. Furthermore, the international community faces a polarized world in which geopolitical competition overshadows cooperative efforts to address global challenges such as poverty, environmental degradation, climate change and pandemic preparedness. This situation highlights the far-reaching implications of Sino-US relations and the international community at large. The arms race affects global security, economic stability and international relations.

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