Overseas or Submarines?

Understanding and Explaining China’s Naval Modernisation and Maritime Strategy

Morten Hetmar Vestergaard
Introduction

The 21st century looks poised to be a century of power transition. Hundreds of years of Eurocentric domination of the international system crumpled after two world wars that saw the European great powers decimate one another and with them the collapse of their colonial empires. Followed by the bipolar rivalry of the two superpowers during the Cold War, the end of the millennium saw only one contender standing tall above the rest. The United States remains the most powerful country on the planet and it will likely remain so for the foreseeable future. Nobody is even close to matching the military prowess and global power projection capability of the US. But decisive change is taking place in international politics. Few doubt that the unparalleled rise of China will significantly change the regional political and power dynamics, and China’s impact on the global stage is only set to increase.

When the Chinese civil war ended 60 years ago the country was on its back, exploited, occupied, downtrodden, and poor. Not many, perhaps none, have moved so fast and so far from weakness to strength as China since then. At the end of the 19th century Meiji Japan used the slogan “rich nation, strong army.” China has coined its own version of this is “prosperous country and a strong army.” The rise of China as an economic powerhouse has laid the foundation for the rise of China as a major military power in Asia and indeed the world. Beijing often states, that it has learned from the fate of other rising powers, and that it will not repeat the mistakes of the past. China will not follow the path of Imperial Germany leading up to World War I, or that of Nazi Germany and Imperial Japan before the Second World War. China will try to transcend the traditional ways of emerging great powers, and its rise will be peaceful. Surely, this is how China wishes to be perceived.

China’s increasing power is based on a number of simple facts: Its territorial extent and strategic location, the size of its population, the value and rapid growth of its economy, the immense magnitude of its share of global trade, and the strength of its military. Whether one views a rising China as benign or aggressive, the reality of these facts demands the attention of every other country in the world. China’s ascent towards great power status and potential rival to U.S. predominance has a military component, and the modernisation of the People’s Liberation Army Navy (PLAN) in particular has been a focal point in strategic and security circles. By referring to China’s to the country’s soaring defence budget and growing military might, one is merely pointing out an obvious fact, albeit an important one. Military power is an imprecise term in the sense that different kinds of military capabilities enable different kinds of military strategies. Particular strategies and distinct capabilities in turn direct specific force postures. In short, we need to understand what the Chinese naval forces can and cannot do in order to explain and understand why and how the inevitable rise of China is going to unfold. We need to look at capabilities.

2 Gries, Peter Hays (2005), China’s New Nationalism: Pride, Politics, and Diplomacy, University of California Press, Berkely, p.105
Problem Statement

Is China a Revisionist State? - Understanding and Explaining China’s Naval Modernisation and Maritime Strategy

This paper will attempt to explain the change in Chinese naval capabilities based on structural realism. Theoretically informed propositions based on offensive and defensive realism regarding Chinese strategic behaviour will lead to predictions on Chinese naval capability development and force posture. This will be tested against empirical data on the evolution of Chinese naval capabilities and trends in the modernisation of the Chinese navy and maritime strategy.

Studying the behaviour of states, not their intentions

This paper endeavours to understand and explain the military-strategic behaviour of China in the maritime domain from a structural realist perspective. This entails, that the analysis in this paper explicitly omits considering whether the regime type of China has any bearing on its behaviour. Furthermore, who is in charge of China’s foreign and defence policy matters not. The structural realist theoretical approach applied here means that when Xi Jinping took over the presidency of China from Hu Jintao on 14 March 2013 little will change in China’s strategic behaviour in the foreign policy arena. Methodologically speaking, this implies that one should refrain from the attempt to get inside a statesman’s head to figure out any future intentions. This can only amount to speculation. What we can know with relative certainty is the development of capabilities, in other words what China can do, not what it wants to do.

Data collection

The year 1997 is chosen as a starting point for two reasons. Firstly, the modernisation of the Chinese Navy began in earnest in the beginning of the 1990s but did not discernibly start to have an impact on observable hardware acquisitions until the middle of the decade. Secondly, the Taiwan Strait Crisis in 1996 is widely believed to have had a catalytic effect on China’s determination to build a modern navy. The U.S. navy’s show of force and China’s inability to prevent American carrier strike groups from steaming into the Strait was a major wake-up call for China that underscored its relative weakness in the naval domain.

Methodological Challenges

Ranking among any state’s best guarded secrets are the exact military capabilities and the performance data of its military hardware. Intelligence agencies of major powers spend enormous resources spying on each other to extract such information, and they often get it wrong. For example, it is widely accepted, that the United States and its NATO allies had overestimated the military power of the Soviet Union right up until its collapse at the end of the Cold War. The non-

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existence of weapons of mass destruction in Saddam Hussein’s Iraq is a recent example of misjudgement that gained almost instant notoriety.

Hence, serious methodological difficulties present themselves when conducting empirical research on the strategic behaviour and aspirations of major powers. Many observers point out the nebulous nature of Chinese political decision making, and especially the nature of its military modernisation and strategy. Indeed, Deng Xiaoping’s 24 Character strategic guiding principle explicitly emphasise the prudence of hiding China’s military capabilities until the modernisation process of the country has fully matured. A case in point from the naval domain is China’s recently commissioned aircraft carrier. The former Soviet carrier Vayrag was purchased in Ukraine by a private Chinese company in 1998 under the pretext of turning it into a floating casino in Macau. Instead, the Vayrag was towed to a shipyard where it was fully refitted with military equipment and subsequently launched as the new pride of the Chinese Navy. The Chinese Defence White Papers released in 2009 and 2011 never mentioned any carrier being introduced into the PLAN though the implications of such a vessel in operation are significant.

Sources
The primary data sources utilised in this paper relies on authoritative sources such as IHS Jane’s Fighting Ships, The U.S. Naval Institute’s Guide to Combat Fleets of the World, and The Military Balance by International Institute for Strategic Studies from 1997-2013. The Military Balance is commonly acknowledged to be accurate and it is widely used and referenced in academic journals. The Military Balance is for the most part up to date, but catalogues defence assets either at the start of a year or at the end of the preceding year. When using the IHS Jane’s electronic data base the dates given in references in this paper are the dates of entry listed as ‘latest update.’

The data collected for this paper is compiled in tables, but because of the volume they cannot meaningfully be embedded in the text in full scale. Key data are therefore presented in extract and in the form of graphic figures. The reader is kindly advised to consult the tables in the appendices for the detailed empirical documentation on the matters referred to in the text.

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5 Curiously, China is already home to Minsk World, a theme park based on an ex-Soviet aircraft carrier in Shenzhen, and a carrier-themed amusement park, Tianjin Binhai Aircraft Carrier Theme Park.
Theoretical Framework

Realist theory relies on deductive reasoning so that conclusions and explanations of specific behaviour can be drawn on the basis of general assumptions. Realism functions on the assumption that there is an observable reality which can be investigated without being directly affected by the observer.\(^6\) International Relations theory should concern itself with what is and not what ought to be.

Theory blindness, i.e. being sure that a certain theoretical prediction must surely fit the reality of things, can be guarded against by making multiple hypotheses on the basis of theory. Accordingly, it is indeed possible to “test” theories, and this is what this paper intends to do - to test four different hypotheses regarding the military-strategic behaviour of China in the maritime domain.

Structural Realist Assumptions

The following five assumptions\(^7\) are the bedrock of structural realist thought: The system is anarchic and, survival is the primary goal, great powers and almost all states possess offensive capabilities, no state can be certain about others’ intentions, and actors are rational.\(^1\) Structural realism departs from this set of assumptions, which form the basis of reasoning, and most realists would not find much to quarrel about here.

Kenneth N. Waltz and John J. Mearsheimer have come to be the premier advocates of defensive and offensive structural realism respectively. This paper operates within the boundaries of the structural realist theoretical framework, and it is on the basis of Waltz and Mearsheimer I make propositions and hypothesize on the rise of China in the maritime domain.

Defensive Realism - Kenneth N. Waltz

Waltz avers that the anarchy of the international system entails that its units can rely on nobody but themselves to guarantee their survival, and hence the primary aim of the state is security. The security of any unit is compromised with an increase in the power of other units in the system. Therefore, states care deeply about their position in the balance of power.\(^8\) Whatever measures a state takes to enhance its own security it does so at the expense of others, inducing a similar behaviour in the other units in the system. This traps states in a security dilemma regardless of whether or not they have any aggressive intentions because “the source of one’s own comfort is the source of another’s worry.”\(^9\) It also entails that the struggle for power will always be a ‘zero-sum’

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game even though power is an unlimited resource, because states are concerned with relative gains as opposed to absolute gains.

Even so, Waltz asserts that prudent statesmen will seek an *appropriate amount* of power because “excessive strength may prompt other states to increase their arms and pool their efforts against the dominant state.” Superfluous power accumulation is counter-productive because it provokes the other great powers in the system to rally and check the rising state. Therefore, states should not aspire to become a hegemon, either in their own region or globally. According to Waltz, the chief concern of states then “is not to maximize power, but to maintain their position in the system.” This results in states having few incentives to behave offensively, which is why Waltz’ theory has been charged with having a ‘status quo bias.’ Indeed, the structure of the international system does not only discourage aggressive behaviour, it drives states to concentrate on maintaining their position in the balance of power. Hence, the structural realist theory of Waltz is termed defensive realism.

**Defensive Realist Predictions on the Rise of China**

The defensive realism of Waltz has is relatively optimistic on the prospect of China rising peacefully. Surely, China will increase its military prowess and attempt to better its position in the balance of power, and China’s neighbours and the U.S. will balance against China. Defensive realism does not predict that security competition will vanish, but it will not be so fierce exactly because China, as all states, realises that unyielding power maximisation in the pursuit of regional hegemony is in the end self-defeating. Furthermore, defensive realists believe that nuclear weapons also add to the possibility of China rising peacefully alongside its neighbours. It is very hard to expand when faced with another nuclear power and that seriously decreases the likelihood of war. Nuclear weapons do not abolish security completion, as was clearly evident between the Soviet Union and the United States during the Cold War, but large-scale major war between nuclear-armed adversaries is less likely because of the massive costs a retaliatory nuclear strike involves. China realises this and will limit its aims accordingly and will therefore be easily contained and possible to cooperate with. In other words, if China does try to maximise its power and dominate Asia, it is strategically unwise behaviour. Continuous economic growth and rise on the global political stage is best pursued not by reaching for the crown of regional hegemony and building a navy with large power projection capabilities, but by attaining a relatively defensive military capability focused on deterrence and periphery defence.

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10 Ibid, p. 616
12 Ibid.
Offensive Realism - John J. Mearsheimer

The offensive realism of Mearsheimer asserts that great powers "maximize their relative power." In that respect he is closer to Morgenthau’s claim that a perpetual power-struggle is the result of man’s innate lust to dominate others, the ‘animus dominandi.’ However, unlike Morgenthau, Mearsheimer does not find the source of causation in human nature but in the anarchical structure of the international system. What drives states to accumulate as much power as possible is a search for security. Security as the motivator and structure as causation associates Mearsheimer with Waltz, obviously, but the two differ on the crucial point of how much power is enough. Waltz thinks that the pursuit of power has its limits, indeed, too much of it is self-defeating, but Mearsheimer sees the search for power and security as unquenchable:

“For defensive realists, the international structure provides states with little incentive to seek additional increments of power; instead it pushes them to maintain the existing balance of power. [...] Offensive realists, on the other hand, believe that status quo powers are rarely found in world politics, because the international system creates powerful incentives for states to look for opportunities to gain power at the expense of rivals, and to take advantage of those situations when the benefits outweigh the costs. A state’s ultimate goal is to be the hegemon in the system.”

As noted above, Waltz perceives such relentless power maximization as counter-productive, and evidently believes that an amount of sufficient security to guarantee survival tenable. The power needed to ensure this is surely markedly less than the ‘hegemonic’ amount suggested by Mearsheimer.

Mearsheimer outlines an international system consisting of ‘insular’ and ‘continental’ great powers that all aspire to regional hegemony through the build-up of military capabilities. He identifies Russia and China as great powers that, despite the predominance of U.S. power, can contest and impede an American invasion of their homeland. Additionally, Mearsheimer put great emphasis on “the stopping power of water.” Great powers cannot conquer each other over vast expanses of water such as the Pacific Ocean, so geography matters a good deal since it divides the world into regions. Thus regional hegemony is attainable and desirable for great powers. The United States is the only regional hegemon in modern history with its domination of the Western hemisphere, but even so it is not satisfied. A regional hegemon will strive to prevent the rise of “peer competitors” by trying to maintain a balance of power between at least two great powers in other regions with a potential hegemon. If the international system contains only one hegemon it will be a status quo power because it has achieved the ultimate goal any state can entertain, regional hegemony and no

18 Ibid, p. 381.
rivals in the rear view mirror. Other great powers that are not regional hegemons are by nature revisionist as they seek to maximize their share of world power. Therefore, the structural realism of Mearsheimer is labelled offensive realism.

**Offensive Realist Predictions on the Rise of China**

Offensive realism takes a quite pessimistic view on the possibility of China rising peacefully. China’s ultimate goal is to become the regional hegemon of Asia, and it will increase its military power to make sure that no other Asian state can credibly threaten it.

China’s military expansion and potential regional dominance will cause most of China’s maritime neighbours, including Japan, South Korea, Singapore, Vietnam and the Philippines to join the U.S. to contain China. Their goal would to form a balancing coalition with the aim of containing China and in the end weaken it so much that it doesn’t constitute a threat any longer. The USA will not tolerate the rise of peer competitors and a potential regional hegemon in North East Asia and together with its allies the U.S. will engage in intense security competition with China, just as they did in Europe with the Soviet Union during the Cold War. China’s goal on the other hand is to eventually push the Americans out of Northeast Asia, just as the U.S. squeezed the European great powers out of the Western hemisphere in the nineteenth century.

Taiwan is a crucial issue since its geographic location gives it great importance in controlling the sea lanes of East Asia. For that reason alone, it is unlikely that the U.S. and Japan would accept China controlling Taiwan. For the same reason, China wants to unite Taiwan with mainland China. Hence, Taiwan will be a central issue in any anti-China balancing coalition, which will rile China and fuel the security competition between Beijing and Washington.

Offensive realism recognises that nuclear weapons reduce the likelihood of war between states, but not that it will lessen the security competition and power maximizing behaviour of China. After all, nuclear weapons did not hinder military build-up between the U.S. and the Soviet Union during the Cold War.

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20 Ibid, pp. 41-42.
Graphic illustration of relations between hypotheses

The figure represents the four hypotheses as continuous layers of ambition. The hypotheses are theoretically informed predictions, but they should not necessarily be viewed as mutually exclusive, but rather as the reach of strategic scope, military capabilities, and geographical extension. For example, if the data is supportive of H4 it does not mean that China will forsake the capabilities predicted in H3, H2, and H1. So each ring represents additional capabilities, meaning that data supporting H4 does not mean a significant reduction in Chinese coastal warfare capabilities or lessening of A2AD missile capabilities.

With regards to geographical extension, a furthering of ability to control maritime territory presupposes control of waters closer to Chinese shores. For example, capabilities developed for operations within the first island chain naturally mean that defence of littoral waters is not neglected. On the other hand, data suggesting a long-term commitment to blue water navy capabilities such as large destroyers capable of autonomous deployment does not automatically mean that China has attained full control of its regional waters.
Securing the Realm – testing H1

Security competition will persist in North East Asia, but the room for cooperation is big and the risk of conflict low. The structural forces bearing down on China are relatively benign, and the increasing integration into global trade and the world economy leaves China with little incentive to rock the boat. After all, the two decades of unprecedented growth in China has been taking place under exactly the conditions of U.S. supremacy that offensive realism claims China will eventually seek to upset.

So far, this has served China well. The U.S. has provided the maritime security needed for China to engage in and profit tremendously from seaborne trade. China acknowledges the U.S. as the world’s premier naval power, and will not seek to challenge this fact, thus having no need to expand its navy aggressively. Engaging in an aggressive naval build up would be foolish as it would scare China’s neighbours into forming a balancing coalition led by the United States. Nevertheless, the structural forces will compel China to modernise and increase its naval power, but the likelihood of war is very small, because there is so much more to gain from cooperation.

Coastal defence has been the strategic approach of the Chinese Navy for at least the first four decades of the birth of the People’s Republic of China in 1949. If Beijing has no aspirations to become a serious sea power, China will continue to concentrate its military power around the PLA ground forces protecting its land borders. Consequently, the PLAN will remain the maritime equivalent tasked with border defence. The focal point of naval development and procurement will be directed to coastal defence equipment, not only as part of a natural modernisation process of military hardware that gradually becomes obsolete. The coastal defence of the PLAN is expected not only to be maintained and modernised but significantly built up and constitute the chief force posture.

**Predicted Posture:**

- With no ambition to dominate the regional seas, China will modernise, strengthen, and build up its coastal defence forces.
- A limited number of nuclear-powered submarines with ballistic missiles (SSBN) for assured nuclear deterrence and second strike capability.
- Small and short-range conventional-powered submarines such as will be the focus of the PLAN’s submarine force. The relatively shallow waters off the Chinese littoral do not require large ocean-going submarines.
- Littoral warfare vessels such as missile-armed patrol craft, and coastal antisubmarine ships able to fend off enemy ships close to Chinese shores.

**Geographical extension:** Coastal orientation only in doctrine and hardware. The reach of PLANs conventional submarines and littoral combat ships restricts the range which the PLAN will be able to launch operations, more or less within China’s territorial waters.
Nuclear-powered Ballistic Missile Submarines

China’s main nuclear deterrence is undertaken by the Second Artillery Force, the service responsible for the China’s conventional and nuclear ballistic missile arsenal. China’s strategic missile force ranks among the largest in the world with a wide assortment of short, intermediate, and medium range ballistic missiles (SRBM, IRBM, MRBM) as well as land-attack cruise missiles (LACM), including an estimated 72 intercontinental ballistic missiles (ICBM) capable of delivering nuclear warheads to most of the globe.\(^\text{21}\) Even with the massive destructive power of the Second Artillery Force, a limited but modern nuclear-powered ballistic missile submarine (SSBN) capability would greatly enhance China’s nuclear deterrence. Possessing a second strike capability, meaning being able to retaliate with nuclear weapons after having suffered a nuclear attack greatly reduces the likelihood of being attacked.

China’s search for a submarine-based nuclear deterrent has been long in the making. In 1960s and 1970s, when American and Soviet submarine design made great headway, China’s nuclear submarine development was marred by technical and systemic failures. After the deployment of the *Han*-class (Type-093) nuclear-powered attack submarine (SSN) in 1974, China started to make up for lost time in their pursuit of a sea-based nuclear deterrent.\(^\text{22}\) The 6,604-ton *Xia*-class (Type-092) SSBN was launched in 1981 and commissioned in 1987, though the submarine was marred by many troubles. A second of class was reported launched in 1982 but unconfirmed reports have asserted that one of the vessels was lost in an accident in 1985.\(^\text{23}\) The *JL-1* Submarine Launched Ballistic Missiles (SLBM) it carries are of the relative short range of 1700 km, and the single and by now ageing and troubled-plagued *Xia* never conducted a deterrent patrol, and it is not considered to be operationally deployed.\(^\text{24}\)

But the undersea nuclear deterrent capability of China is undergoing a generation change with the advent of the *Jin*-class (Type 094) SSBN. The *Jin*-class is quite a bit bigger, suggesting longer range and endurance, though the actual tonnage displacement remains unknown. Several submarines are needed in order to entertain a continuous at-sea deployment as maintenance and repair work is regularly required which necessitates docking for long periods of time. China now fields three *Jin*-class SSBNs with one more vessel in build, so at least four *Jin*-class SSBNs are certain. Some official American estimates assess that China will probably deploy five submarines of the *Jin*-class.\(^\text{25}\) However, according to the U.S. Office of Naval Intelligence, the *Jin*-class is noisier than the Russian *Delta III*-class SSBN build more than thirty years ago.\(^\text{26}\) Also, the *Jin*-class is...
relatively small. As mentioned, the exact tonnage displacement is unknown, but estimated at around 8,000-10,000 tonnes. The American Ohio-class SSBN is twice the size at 19,000 tonnes, and the Jin is outright dwarfed by the massive Russian Typhoon-class that displaces 26,500 tonnes, making it three times as big as China’s new SSBN. Additionally, the Jin-class only has capacity for 12 JL-2 SLBMs in comparison with the 20 SLBMs carried by the Typhoon, and 24 by the Ohio. Furthermore, the JL-2 SLBM is has been repeatedly delayed and it is not yet operational, although it probably will be within a few years’ time. The range of the JL-2 SLBM is estimated at 7400 km. That would not make it able to target the U.S. homeland, except Alaska, from Chinese littoral waters as it would plunge into the water about 800 km from Seattle. In order to reach the 48 contiguous American states, the JL-2 would need to be fired from somewhere west of Hawaii.

In sum, China has achieved a mediocre sea-based nuclear deterrent, assuming the JL-2 is successfully deployed. Four Jin-class SSBNs will provide Beijing with an SSBN fleet close to having a near-continuous at-sea presence. Compared with the abundance of American nuclear strategic missile submarines and the Russian undersea mammoth, the Chinese SSBN fleet is not much to boast about. But compared to where China was less than a decade ago, with an old, small, accident prone, and non-operational single Xia-class SSBN, the introduction of the Jin-class is big accomplishment and impressive stride. As such, the current SSBN fleet of the Chinese Navy corresponds well with the predicted posture.

Conventional-Powered Attack Submarines

H1 envisions China to invest in a conventional-powered submarine force with relatively small vessels to operate in the Chinese littoral. Well into the 2000s, China relied on Soviet-designed Romeo-class submarines that the PLAN had procured and deployed in substantial numbers, as well as the Ming-class, China’s domestically produced version of the Romeo. The SSK fleet of Romes and Mings was indeed quite impressive by the numbers. From 1997-2002, China continued to build more of the Ming-class, and in 2005 it deployed 19 submarines of the Ming-class and 35 of the Romeo-class. From then on though, the PLAN started shedding itself of the Romeo-class and it is now completely phased out. 16 Ming are still in service, but by most estimates the Ming-class is now more or less completely obsolete. A sound replacement for the Ming-class is the Song-class that saw the first of class commissioned in 1999. The Song-class SSK displaces 2286 tonnes, roughly the same size as the Ming which displaces 2147 tonnes. All around a better submarine than the Ming and armed with anti-ship cruise missiles as compared with the torpedo-only Ming, the Song-class SSK can be regarded as part of the natural modernisation step of the Chinese Navy.

31 See Appendix A.
However, if the PLAN’s SSK fleet is to be build up for coastal defence with littoral combat submarines, the force posture of H1 predicts a nearly sole focus on fielding small submarines. Anti-submarine warfare would be difficult in China’s shallow and noisy littoral waters, and small SSKs would be “ideally suited for submarine operations” as they can hide and “manoeuvre between the rocks and shoals, where acoustics are clouded.” No replacement for a Romeo-size submarine has been commissioned into the Chinese Navy. Additionally, the Chinese are scrapping the Romeos altogether and continues to decommission the Ming-class.

The graph illustrates the point made above. As a share of the tonnage displacement of the entire PLAN submarine fleet, the Romeos and Mings was more or less steady until 2005. Seen over the entire period of time, the development is striking. In 1997, the two submarine classes displaced 111,529 tonnes compared to a total displacement of 144,769, constituting 77% of the entire submarine fleet. In 2013, with only the Mings remaining, they displaced 34,352 tonnes out of a total of 214,401 tonnes, only 16%. The Song-class is not included as it is seen as an eventual substitute for the Ming-class. If the Song-class is included in calculation the 16 Ming-class and 16 Song-class SSKs would have a combined displacement 70,928 tonnes. Relative to the total tonnage of 214,401, they still make up only 33% of the entire PLAN submarine in terms of tonnage.

Over the period of time from 1997-2013, China has built a submarine force geared for a whole lot more than coastal defence, decreasing the explanatory power of Hypothesis 1. The PLAN fields a submarine fleet that greatly surpasses the limited number and relatively small size predicted in H1. The nature and implications of China’s enlarging fleet of advanced conventional-powered submarines.

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submarines will be discussed in following chapters, as they have reached a level of both quantity, quality and size that serves better to be analysed within the offensive realist framework of Hypothesis 3.

**Patrol and Coastal Combatants**

Until the mid-2000s, the PLAN’s force of missile patrol boats were made up of old and basically obsolete vessels based on Soviet designs. China has sought to modernise and upgrade its coastal and littoral combatants in the first decade of the 21st century. Part of this process has been the development of anti-ship missile carrying fast attack craft (FAC) and the gradual decommissioning of older missile and torpedo boats. The PLAN still deploys 11 *Huangfen*-class (Type-021), 6 *Houjian*-class (Type-037/II), and 20 *Houxin*-class (Type-037/IG) FACs equipped with anti-ship missiles. But a new and advanced missile craft has made its entrance and has attracted much attention, the *Houbei*-class (Type-022).

**The Houbei-class**

The programme to deploy domestically produced fast attack craft equipped with advanced ASCMs came to fruition in the late 2000s. After extensive trials the first ship was launched in 2004. Construction of the *Houbei*-class apparently stopped in 2009, and it is unclear whether China will built more. However, it seems clear that the PLAN has decided that the future of its coastal combatants will be centred on this new catamaran-hulled FAC. The design of the *Houbei*-class is based on a commercial fast-ferry of Australian origin. The Chinese-Australian joint venture began designing high-speed aluminium catamarans, patrol and rescue vessels, and eventually the Chinese Navy adopted the design and technology and developed the *Houbei*. The wave-piercing catamaran-hull gives the *Houbei* considerably better seakeeping as it can cruise in rougher seas than mono-hull patrol craft of similar size. The large number of ships that emerged in a relatively short period of time, being built simultaneously in at least six different shipyards, also implies that the *Houbei*-class has been a high priority for the PLAN.

Although the *Houbei*-class is armed with a Russian six-barrel AK-630 30mm close-in weapon system (CIWS) and a FLS-I short range SAM-missile system for self-defence, it is basically an ASCM platform. The *Houbei* is equipped with 8 C-802/YJ-83 (CSS-N-8 Saccade) sea-skimming ASCMs with mid-course guidance and active radar homing to 120 km (65 nm) and later versions up 180 km (97 nm) at 0.9 Mach, indeed a very potent ASCM. Other sources claim that the ship is packing even greater punching power with the newer-version C-803 ASCM with greater range of

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33 IISS Military Balance 2013
34 IHS Jane’s Fighting Ships, China – Patrol Forces, 12 February 2012
35 Lague, David, Insight – From a Ferry, a Chinese Fast Attack Boat, Reuters, 1 June 2012
36 Seakeeping is a measure of how well adapted a ship is to the conditions at sea, especially how well the vessels performs in rough weather.
37 IHS Jane’s Fighting Ships, China – Patrol Forces, 12 February 2012.
up to 135 nm and higher speed. In any case, the large missile-launch houses at the stern of the ship indicate that the Houbei could fire different types of missiles.

**Number of units Patrol and Coastal Combatants, 1997-2013:**

![Graph showing the development of the number of patrol and coastal combatants](image)

*Patrol and Coastal Combatants, units:* The total number of units is patrol and coastal combatants, excluding inshore and riverine patrol boats, like the Shanghai-class and Haizhui-class that weigh less than a 100 tonnes. Large numbers of these small craft have either been assigned to paramilitary forces such as the People’s Armed Police, border guards, or Custom Service, or simply broken up or stored. For comparative reasons, they have therefore been excluded here.

The graph shows the development of the number of patrol and coastal combatants. The PLAN had 150 torpedo boats in service in 1997, three years later only 16 remained, and they had entirely been taken out of service in 2006. The coastal patrol craft with ASW mortars saw a 25% reduction from 100 to 75 over the time period 1997-2013. The number of guided-missile fast attack were more than halved from 188 missile craft 1997 to 92 ships just two years later in 1999 with large numbers of relics from the Soviet Union being scrapped. The number of missile craft were sliced again in a single year from 96 in 2005 to 55 in 2006 a further reduction of 43% in that single year time-span. Then, the numbers of missile start rising again with the advent of the Houbei with a total number of guided-missile FACs reaching 102 in 2013. The total number of patrol-type coastal combatants has gone from 435 to 177 craft, a striking reduction in units of 60%. Evidently, China has not concentrated the efforts of its naval modernisation process on coastal defence and patrol boats.

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The torpedo boats that China had relied on for decades like the *Huchuan*-class has disappeared altogether. Likewise, the ancient Soviet-designed *Huangfen*-class missile crafts have gradually been decommissioned with only 11 remaining in service. It is also evident, that the weak ASW capabilities of PLAN coastal combatants have not been upgraded. China has not deployed any new class of ASW-capable patrol boats in the time period that has been investigated. The anti-submarine deficiency has been an area of particular weakness of in the Chinese Navy. The still only moderate ASW capability of the PLAN is increasingly being handled by frigates, helicopters and marine patrol aircraft.\(^\text{42}\) ASW-operations are clearly no longer the role played by “submarine chaser” patrol craft as China did in the 1970s and 1980s. In whole, the development is clear. The trend is not going towards a large coastal defence force; it is going decidedly in the opposite direction. To be sure, the near-littoral strength of the PLAN has been upgraded and strengthened by the advent of the *Houbei*-class. However, the graphical representation of the evolution of the PLAN’s patrol and coastal combatants above shows an unmistakable trend of decreasing emphasis on China’s coastal defence.

Balancing the Hegemon and Its Regional Allies - testing H2

The substantial and continuous growth in U.S. defence spending and increasing focus on Asia and the Western Pacific has not gone unnoticed by China. Furthermore, China has also taken note of the increase in naval power of other regional actors. China does not have expansionist aims and does not seek to dominate its region, but nonetheless feels compelled to balance against the growing naval power of the other countries in East Asia. Japan has for the first time in more than three decades decided to deploy more submarines. South Korea is pursuing a transition from brown water to blue water navy capabilities and is investing heavily in submarines. India is striving to operate two carrier strike groups in the near future and is engaging in extensive naval modernisation. Vietnam is also becoming a player in the maritime domain, and Australia and Indonesia are likewise investing in naval assets and increasing their focus on China. This accumulates into a sense of encirclement or outright containment in China and hence fuels the Chinese need to build up its naval forces to guarantee its own security. This is defensively motivated behaviour, not driven by revisionist aims but by fear of falling behind. China is status quo-seeking and aims to retain its position in the balance of power in East Asia. The strictly littoral navy predicted in Hypothesis 1 is deemed insufficient to effectively counter the growing clout of other regional navies and China is obliged to field a more potent navy.

**Predicted Posture:**

- Larger coastal combatants such as corvette-sized ships that can check an opponent further from the Chinese coast to augment the guided-missile fast attack craft deemed enough for strictly littoral combat.
- Surface vessels suitable for autonomous deployment that can meet a potential enemy relatively far off the Chinese coast. Guided missile destroyers (DDG) and guided missile frigates (FFG) with expected capabilities including layered anti-air defence systems to defend themselves against aircraft and anti-ship missiles. In addition, anti-submarine warfare (ASW) capabilities with at least two different kinds of sonar systems, one hull-mounted, another buoy-based (towed-array) and perhaps assisted by helicopter-borne sonar.
- Increase in numbers of conventional-powered submarines of small to medium size, roughly around 2000 tonnes. China’s older submarines are likely to be replaced by more modern classes, armed not only with torpedoes but also with anti-ship missiles to deter enemy forces from venturing close to the Chinese littoral.
- Deployment of an anti-ship ballistic missile (ASBM). An ASBM deterrence would be a unique Chinese capability and if operational would constitute an obstacle for U.S. carriers to operate strike groups from within the first island chain.

Geographical extension: Roughly to the limit of China’s exclusive economic zone, about 200 nautical miles (nm) from the Chinese coast, to be able to check an opponent well before they reach Chinese coastal waters.
Balancing the Hegemon and Regional Powers

Hypothesis 2 predicts China to engage in more vigorous balancing behaviour. China’s growing military might beckon to be balanced, but perhaps from a Chinese point of view, the necessity of balancing is the other way around. After the end of the Cold War, American defence spending fell sharply, but started rising again around the turn of the millennium. After the terror attacks on the U.S. the 11 September 2001 and the ensuing Global War On Terror, the U.S. defence budget has risen to the same level as it was at the height of the Cold War in the 1980s, even disregarding the contingency funding for the wars in Iraq and Afghanistan.

The figure shows that the U.S. defence budget is higher than the combined defence spending of the 13 countries that spends the most on defence after the United States. Such a marked gap between number one and the rest compel other countries to spend more on defence themselves. In short, China’s growing defence budgets is an expression of balancing against the U.S. and its allies in Northeast Asia in order to retain its position in the balance of power in the region.

As we have seen from the analysis of Hypothesis 1, China has modernised and upgraded its littoral and coastal defence forces, but not in a way that could meaningfully be accounted for by the predicted posture of H1. Still building on defensive realism, H2 envisions China balancing the growth of naval forces in the region by moving from a purely coastal defence posture to a navy capable of checking an enemy force farther from Chinese shores. Even though H2 pictures China as status quo-oriented and not seeking to overturn the balance of power in the region, it will try to keep its position. After all, meeting an opponent on somewhat equal footing in the middle of the South or East China Sea is to be preferred over engaging a potential invasion force in the coastal waters. As
such, H2 is reminiscent of Waltz’s advice to the prudent statesman of seeking ‘an appropriate amount of power.’

Let us now investigate the predicted force posture of such balancing behaviour.

**Larger Coastal Combatants**

H2 envisage China to deploy larger coastal combatants somewhere between its patrol and fast attack craft, and frigates in terms of tonnage displacement. Until now, the PLAN has not deployed any such surface combatants. However, it soon will. A programme for a corvette-size ship is in progress, the *Jiangdao*-class (Type-056). The vessel has been called a “next generation stealth frigate” by Chinese media and the *Jiangdao*-class possesses relatively modern weaponry. Here, it shall be labelled a corvette because of its size and displacement (1500 tonnes). The lead ship of the new class was laid down in 2010, launched in 2012, and commissioned on 25 February 2013. At least 10 additional ships have been launched and 18-20 ships of the class are expected. One analyst mentions as many as 30 vessels likely to be procured, another up to three dozen. Likely missions for the Type-056 include naval base defence, coastal patrol, and escorting.

As an add-on to the more than 60 *Houbei*-class FACs, the *Jiangdao*-class corvette is a good guess on how China could have a fleet of coastal and patrol combat ships to be more assertive in the Chinese littoral and to some extent even farther from Chinese shores. It can surely outgun what most other rivals could muster in this area. The atrophied navy of The Philippines surely is no match, and neither Vietnam has much to show with regards to surface combatants. But China’s new corvette-sized patrol ship is probably a substitute for the aged *Jainghu*-class frigates and *Houxin*-class missile FACs. As such, the *Jiangdao* is more accurately regarded as upgrading and modernising existing capabilities, not an indicator of a tendency in the Chinese Navy as a whole to attain a defensive coastal posture.

**Large Surface Combatants Suitable for Autonomous Deployment**

For the Chinese Navy to meet and engage enemy ships in open sea relatively far away from the coast, it must be able to deploy large surface ships that can take care of themselves. At least since the Second World War, it has been clear to all naval strategists that one of the greatest threats to large surface warships comes from above. Hence, modern day large surface ships intended for autonomous deployment and operating independently of friendly air cover need layered air

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defences. Layered air defence consists of a ship-launched long-range SAM missile system, a second short-range SAM system and as a last line of defence a close-in-weapon system (CIWS), a Gatling-type rapid rate-of-fire gun for shooting down incoming missiles in its terminal phase. This naturally requires air search and fire-control radars for targeting of the SAMs.

Autonomously deployed combatants also need protection against attacks from below and need anti-submarine warfare capabilities. This entails torpedoes and ASW mortars, as well as the sensors to detect submarines, hence the need for several sonar systems. Bow-mounted sonar augmented by towed-array sonar, and ideally complemented by helicopter-borne sonar. The helicopter would also carry ASW weapons to engage enemy submarine.

Lastly, autonomously deployed surface combatants should, of course, also be capable of fighting other surface ships. Certainly its main guns are for this purpose, but more importantly it needs to be equipped with surface-to-surface missiles (SSM). This necessitates adequate radar systems for surface search radar in tandem with the fire-control radar.

**Towards a Modern Surface Fleet**

In the 1970s, the first-generation *Luda*-class (Type-051) guided-missile destroyers (DDG) and *Jianghu*-class (Type-053) guided-missile frigates (FFG) of Chinese indigenous design were built and deployed by the PLAN. The first of class *Luda* DDG was commissioned in 1971 and the last, the *Luda III*-class (Type-051G) variant in 1991. In all 10 ships of the different versions of the *Luda*-class and 12 different *Jianghu*-class frigates are still in service, but they are very much yesterday’s principal surface combatants.

China’s surface fleet has been vastly expanded both in quantity and quality in the last decade and “the PLA(N) surface force is now one of the largest in the world, and its capabilities are growing at a remarkable rate”, according to a report from the American Office of Naval Intelligence from 2009. This trend has only accelerated since then, with the commissioning of nine additional *Jiangkai II* frigates a third *Luyang II*-class destroyer, as well as launching two *Luyang III*-class destroyers expected to be commissioned in 2013.

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50 See Appendix B.


52 See Appendix B for details on the development of principal surface combatants in the PLAN inventory.

53 IHS Jane’s Fighting Ships, *Destroyers, Luyang III (Type-052D)*, 11 March 2013.
The following section examines China’s modern destroyer fleet, in order to analyse the progressive development of capabilities in detail and adequately test the predicted posture in the H2.54

**Sovremenny-class**

In 1996 China ordered two Sovremenny-class destroyers from Russia, and they were commissioned into service in 1995 and 1996 respectively. 2002 saw the order of an additional two Sovremenny-class destroyers. They remain the biggest surface combatants in the in the PLAN inventory, each displacing 8067 tonnes. They are ships of quite impressive capabilities, especially its ASCMs has been noted.55 The Sovremenny-class is fitted with ASW mortars and torpedoes and requisite hull-mounted sonar augmented by ASW helicopters.19 Its layered air defence is comprised of an outer SAM layer of the 2 SA-N-7 Gadfly/Uragan, a second SAM layer is the 8 SA-N-11 (Grisson), and finally AK630 Gatling-gun CIWS. This is bound together with numerous radar systems for air and surface and fire-control radars.56 In short, the Sovremennys provide good air defence. According to the report from the Office of Naval Intelligence the sophisticated air surveillance systems such as Russian Top Plate radar can be linked with SAM systems and radars such as the Chinese-made Dragon Eye phased-array radar enabling the ships to provide area air defence.57 That being said, the Sovremennys are mostly for surface combat. All four destroyers carry 8 of the Russian-made Raduga SS-N-22 Sunburn supersonic anti-ship cruise missile. This very highly capable ASCM flies at Mach 3 and accelerates to Mach 4.5 in the attack phase. On the first two Sovremenny-class DDGs delivered to China the Sunburn had a range of 160 km, but on the next two destroyers, an upgraded version reaching as long as 240 km was installed.58

**The Luyang-class**

The Luyang-class destroyers are modern area air defence multirole destroyers capable of autonomous deployment far away from the Chinese coast. Naturally, the Luyang II (Type-052C) represents a significant improvement compared to the initial design, and the newly launched Luyang III-class yet another upgrade of China’s destroyer fleet.

The Luyang I (Type-052B) is China’s first indigenously designed attempt at a true blue-water multirole guided missile destroyer. The two Luyang I-class ships are equipped with 16 C-802 (YJ-83/CSS-N-8 Saccade) ASCMs with a 120 km range, 6 light weight torpedoes and 100mm calibre guns. It has medium-range layered air defence with SA-N-12 Grizzly SAMs (48 missiles) with radar and infra-red (IR) homing up to 35 km, and a Type-730A close in weapon system (CIWS). It also

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54 Space limitations do not allow for an equally extensive examination of the frigates in the PLAN inventory.
features a hangar with capacity for one naval combat helicopter\textsuperscript{xi} that augments anti-submarine warfare (ASW).\footnote{IHS Jane’s Fighting Ships, 
_DestROYERS, Luyang I (Type-052B)_ (2013).}

The _Luyang II_ (Type052C) represents a substantial upgrade compared with the former on almost all fronts. It incorporates stealth features and has C-602 (YJ-62) ASCMs with increased range of up to 280 km.\footnote{IHS, _C4ISR 
& Mission Systems: Radar, Surveillance Radar_ (2012).} Most significantly though, are the vastly improved area air defence capabilities. The _Luyang II_ features the Dragon Eye (Type-346) phased-array air search/fire-control radar and the HHQ-9 VLS SAM. The Dragon Eye radar is reportedly comparable to the similar to the U.S. Navy’s Aegis system,\footnote{IHS, _C4ISR 
& Mission Systems: Radar, Surveillance Radar_ (2012).} and HHQ-9 SAMs are designed to effectively counter high-performance cruise missiles, tactical ballistic missiles, anti-ship missiles and aircraft with a range of up to 100 km flying at Mach 3. Little more is known about the system, but it is reported to be able to track 100 targets and engage 50 targets simultaneously (though the _Luyang II_ only packs 48 missiles).\footnote{IHS Jane’s Naval Weapon Systems, 
_Surface-to-Air Missiles_ (December 2012).}

In addition, the ship’s hangar facilities have been enlarged to have capacity for 2 helicopters, improving the destroyers’ surface and anti-submarine capabilities.\footnote{IHS Jane’s Fighting Ships, 
_DestROYERS, Luyang II (Type-052C)_ (2013).}

The first two _Luyang III_ (Type-052D) destroyers were seen under construction in 2012 at Jiangnan Shipyard in Shanghai. They were laid down in 2010 and then launched for sea trials in August 2012 and expected to be commissioned in 2013. Most noteworthy of this new class is an improvement of Dragon Eye phased-array radar in combination with a new VLS system capable of launching surface-to-surface and anti-submarine missiles. In addition, the HHQ-9 features 64 as compared to 48 SAMs, and the air defence capabilities is improved by a FL-3000N short-range SAM system. Moreover, some observers have suggested that a change to the vertical launch systems might mean that the _Luyang III_-class could incorporate a naval version of the DH-10 land-attack cruise missile.

A total of 10 ships are suggested as plausible, but this will surely take time before such numbers are commissioned into the PLAN, as lengthy trials of the new class are expected in line with the Chinese track record of testing and assessments.\footnote{Tringham, Jane, _China Launches First Type-052D Destroyer_ (2012); IHS Jane’s Fighting Ships, 
_DestROYERS, Luyang III (Type-052D)_ (2013).}
The graph above shows the aggregate tonnage of the entire fleet of principal surface combatants and modern surface combatants. ‘Modern’ is defined both as the year of build, i.e. how old the designs are, but also on the basis of whether the ships can be deemed fit for autonomous deployment, i.e. that they have adequate air defence systems and a hangar with the capacity to bring a helicopter, in most cases for ASW-purposes.\textsuperscript{xiii} As such, they appear in Appendix B with the abbreviation DDGHM for the destroyers and FFGHM for the frigates.\textsuperscript{64}

The tendency decipherable from the graph is clear. In terms of overall tonnage displacement the PLAN fleet of principal surface combatants has almost doubled in size. The total tonnage has increased from 130,101 tonnes in 1997 to 247,916 in 2013, a growth of 90%. This is in itself a remarkable number that speaks volumes of the substantial growth in Chinese naval power. In terms of modernisation of the fleet, from old and relatively inept ships to modern and capable ships, the growth is just truly breath-taking. In 1997, the Chinese could muster four of the relatively small Jiangwei I-class frigates with a combined displacement of 9,144 tonnes. In 2013, the tonnage displacement of modern destroyers and frigates is 167,396 tonnes. This means that the PLAN’s inventory of modern surface combatants capable of autonomous deployment has increased with a mindboggling 1,730% since the Taiwan Strait Crisis.

The sheer scale of these numbers makes it very hard to see the development and modernisation of the Chinese fleet of destroyers and frigates as status quo-motivated balancing behaviour as predicted in H2. The behaviour of China in this area must be one of the most striking examples of power-maximising behaviour.

\textsuperscript{64} The two Luzhou-class destroyers does not have a hangar, but have been included here since they were commissioned as late as 2006 and 2007 respectively.
Conventional-Powered Attack Submarines

The argument concerning the growth in quality and quantity of PLAN’s SSK submarine fleet vis-à-vis the requirements for fulfilling Hypothesis 1 must be repeated here. H2 does envision a larger number of conventional submarines in order to balance against increasing naval power of the countries in the region. In combination with the modern destroyers and frigates discussed above, a more robust underwater fighting force would have a greater deterrent effect on the U.S. Navy as well as the navies of Japan and South Korea. But, as argued in H1 so is the case regarding the submarine posture predicted in H2. China has moved past the point of status quo-seeking balancing behaviour in its determined efforts to deploy a much more potent submarine force. Arguably, either a successful Song-class programme or the 12 Kilo-class SSKs armed with ASCMs would suffice from a balancing point of view. The two series moving ahead in unison and the development of the Yuan-class more than hints at a submarine force deployed for a more strategically offensive purpose. The conventional-powered submarine force deployed by the PLAN as of now will be examined closely in the chapter testing Hypothesis 3.

The Anti-Ship Ballistic Missile

The possibility of the development of an Anti-Ship Ballistic Missile (ASBM) by China has understandably attracted a great deal of attention, especially in the United States.  

There is little doubt that the ASBM is based on the DH-21. This is a tried and tested missile in the Chinese inventory. However, the ASBM has long been discussed, and it has probably reached initial operational capability, but whether it could actually hit a moving carrier at sea is unknown. Sometimes the talk of the coming of the Chinese ASBM has reached hyperbole heights. Already in 2005, the Pentagon learned that Chinese engineers were working on an ASBM project. According to a retired American rear-admiral the thought of a ballistic missile able to target U.S. aircraft carriers had some of his colleagues “running around with their hair on fire.”

A Chinese ASBM would surely be intended for use against U.S. Navy aircraft carriers, and if operational it would have serious implications for American operations within the first island chain. As such, an ASBM would have a significant deterrent quality with the capability to strike moving aircraft carriers at sea. Together with the several platforms from which the PLAN can deliver ASCMs it is not unthinkable that China could saturate American Aegis area air defences and the point defence systems of the carriers themselves. But the ASBM alone is probably not the game-

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66 Hagt, Eric & Durnin, Matheww, China’s Anti-ship Ballistic Missile, naval War College Review, Vol. 62, No. 4, Autumn 2009, p. 89  
67 The Economist, Peril on the Sea, 10 June 2010.
changers some have made it to be for a number of reasons.\textsuperscript{68} A ballistic missile launched 1500-2000 km away would take around 12-13 minutes to reach its target, and would need to make corrections to its trajectory in the last 20-30 seconds. An aircraft carrier can move approximately 300-350 m in 20-30 seconds, as it would be aware that the missile is approaching.\textsuperscript{69} Furthermore, an ASBM would be a “system of systems” with numerous problems that China most likely have not yet solved, not the least sufficient numbers of advanced satellites for space-based targeting.\textsuperscript{70}

In sum, the advent of the ASBM would surely provide China an extra deterrence for the U.S. Navy to consider, and it might effectively make American carrier operations close to Chinese waters more difficult. But the ASBM, if it is demonstrably working and deployed does not seem to be such a game-changing carrier-killer missile as it might seem at first look.

**Concluding on H2: Balancing the Hegemon and Its Regional Allies**

The coastal defence forces considered in H1, especially the *Houbei*-class (Type-022) FAC armed with ASCMs, augmented by the recently commissioned *Jiangdao*-class (Type-056) corvette in the number of units expected in the next couple of years, together with modern frigates and destroyers and the advanced submarines more than meets the predicted force posture in H2. This again leads to the conclusion, that defensively oriented balancing behaviour is not the end of the line for the strategic ambitions of China in the maritime domain.

The ASBM discussed indeed seem to have a very potent deterrence role to play if it becomes operational. There is little doubt that China is labouring hard to make that happen, and perhaps it already has, but as discussed there are numerous challenges for China to overcome before the ASBM will be the awesome aircraft carrier menace that is sometimes believed.

The massive growth in the size of the fleet principal surface combatants is of great significance. On the one hand, it surely meets the posture predicted in H2, that China would build a surface fleet suitable for autonomous deployment. The PLAN’s new frigates and destroyers with anti-air warfare (AAW) capabilities of layered air defences protecting the ships themselves are improving, there has been a marked shift to ships that also have hangar capacity for an ASW helicopter augmented by the hull-mounted sonar systems and generally improving the protection from submarine attacks. This all makes the ships able to operate far from the Chinese coast without air cover from aircraft. More significantly though is the improving capabilities in area air defence, so that the destroyers and frigates are not only capable of point defence, i.e. themselves, but of providing air cover for large areas where other ships like the *Houbei* FAC and *Jiangdao* corvette could operate protected from AShM and aircraft. Additionally it would also provide diesel-electric submarines air cover from ASW aircraft, conceivably allowing much greater possibility to surface to snorkel depth and recharge batteries As such, the explanatory power of H2 is significantly decreased.

\textsuperscript{68} Lennox, Duncan, *China’s ASBM Project: Keep Calm and Carry On*, IHS Jane’s Defence Weekly, 16 February 2011
\textsuperscript{69} Ibid.
In Pursuit of Regional Dominance - testing H3

China will seek to be the premier naval power within the first island chain and into the waters beyond that. It will build a navy with some power projection capability that can overwhelm China’s smaller maritime neighbours and change the balance of power in the region. Hence, China’s strategic behaviour will be revisionist in nature.

China will continue to take a forceful stance in the East China Sea with regards to Japan and Beijing will uncompromisingly assert its claims in the territorial disputes in the South China Sea. China will construct a navy that can handle these disputes. The development of power projection capabilities is not directly aimed at the U.S. Navy, but to establish the Chinese navy as the dominant force vis-à-vis other countries in the region, such as Japan, South Korea, Vietnam, and the Philippines. The PLAN will seek to have the capabilities to ensure that China effectively makes a Taiwanese declaration of independence ever less likely. This includes anti-access/area denial (A2AD) strategy that is indeed aimed at deterring, denying or delaying U.S. intervention in China’s Near Seas demarcated by the first island chain.

China will insistently maximise its power, but avoid confrontation with the system leader. China accepts that it cannot match American naval power in Western Pacific and that the PLAN will not have the capabilities to do so in the foreseeable future. Nevertheless, China’s strategic behaviour will be characterised by building up naval forces even though it risks provoking balancing behaviour by other countries in the region.

Predicted Posture:

- Amphibious assault capabilities to enforce claims on disputed islands such as the Diaoyou/Senkaku Islands, the Spratly Islands, the Paracel Islands, and the Scarborough Shoal. Such amphibious capabilities are operating in groups and do not need to be multifunctional vessels suitable for autonomous deployment.
- Large and advanced submarine force with medium-sized conventional-powered submarines (SSK) up to 3000 tonnes, augmented by nuclear-powered attack submarines (SSN). China will continue the build-up of an imposing underwater fighting force equipped with advanced weaponry such as anti-ship cruise missiles.
- Aircraft carrier programme capable of offering limited power projection capabilities, furthering China’s status as a dominant major regional naval force more directed against other regional powers and not against the United States.

Geographical extension: China’s Near Seas - the Yellow Sea, the East China Sea and the South China Sea, with an A2AD capability within the first island chain.
Moving from the defensive realist world of Waltz, the third hypothesis takes off from predictions of China’s strategic behaviour building on offensive realism as formulated by Mearsheimer. As mentioned earlier, a key difference between these two variants of structural realism is the question of how much power is enough. Hypothesis 3 envisages China to strive for a position of regional dominance. Elements of this strategy are clearly directed towards the U.S. Pacific Fleet and especially to counter its carrier strike groups. Another component of the pursuit of regional dominance is for China to have the naval power to back up its territorial claims in the East China Sea and especially the South China Sea.

Building on the capabilities discussed in the testing H1 and H2 we shall now turn to look at predictions for China’s naval posture and a resulting strategic behaviour designed for China to achieve regional dominance of the maritime domain in its Near Seas. Again, it is important to emphasise that the hypotheses are not mutually exclusive, but layers of strategic scope, military capabilities, and geographical extension. This means, when progressing from H2 to H3, we presuppose the naval forces that we have so far concluded China to have. Not the naval forces in the predicted postures of the two previous hypotheses, but the actual naval forces described and analysed in the previous two chapters. In order to achieve the dominating status in the maritime region envisioned in H3 China would need additional capabilities, even higher numbers of advanced conventional-powered submarines as well as amphibious assault ships.

As previously examined, the hefty numbers of the Houbei-class (Type-022) FAC, the soon-to-be commissioned large quantities of the Jiangdao-class (Type-056) corvette, and remarkable numbers of Jiangkai II-class (Type-054A) and Jiangwei II-class (Type-053H3) FFGHMs, Luyang II-class (Type-052C) the coming Luyang III-class (Type-053D) and the large Sovremenny-class DDGHMs are beginning to make up a relatively formidable regional surface fleet. Such a fleet, in combination with amphibious assault capabilities constitutes a considerable power-projection capability of the PLAN, and with a conceivably much more offensive purpose than what has been envisaged by H1 and H2. Now, we shall investigate the predicted posture of H3.

**Amphibious Capabilities**

China’s amphibious forces are focused on short-range amphibious assault missions for a Taiwan contingency and to pose a credible threat of invasion of Taiwan. The PLAN has a 10,000 man strong marine brigade, and the PLA Army a much larger force of somewhere between 300-500,000 men with some degree of amphibious training. These are stationed in five army groups on the coast opposite Taiwan. They are equipped with a variety of vehicles and weapons, including amphibious tanks and specialised amphibious assault equipment like trucks for preparing landings on Taiwan’s expansive mud flats. But the focus here is not on the PLA Army, nor on Taiwan invasion preparedness, but on the amphibious forces that China is building up for operations farther afield.

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The PLAN’s principal amphibian vessel is the Yuzhao-class (Type-071) Landing Platform Dock (LPD) with a displacement of 18,500 tonnes. The existence of the programme was somewhat shrouded in mystery, but the veil was raised with the construction of the first of class in 2006. Since then, two more ships have been built and a fourth vessel is under construction. The Type-071 addresses the PLAN’s previous shortcomings in sealift and power projection capabilities. With regards to weapons, the Yuzhao is very lightly armed with one 76 mm gun and 4 30 mm AK630 guns. Obviously, the firepower it comprises is not its quality, but the power it can project is what matters. The Yuzhao LPD has a capacity for four Z-8 Super Frelon helicopters and it can carry a number of vehicles and 500-800 troops. It can accommodate four Utility Craft Air Cushion (UCAC), probably the Jiangsha II-class of which 10 are in service, or two of the bigger Landing Craft Air Cushion (LCAC).

China is not amassing an amphibious force to be able to place ground forces in large numbers on distant shores of foreign countries. The three and soon to be four amphibious assault LPDs are starting to look like something that can be used for regional issues such as settling the territorial claims in the South China Sea. China could then quite easily project its power to the Spratly or Paracel islands if it came to a conflict with Vietnam. Not un conceivable is punitive missions against the Philippine island of Palawan. China occupied the Mischief Reef close to Philippine island of Palawan in 1994, and further production of the Type-071 LPD surely makes such missions within the reach of the Chinese Navy. In sum, the limited power projection capability of an amphibious force predicted in Hypothesis 3 is if not completely achieved, then at least well in the making.

**Conventional-powered Attack Submarines**

China has for long been committed to the development of its submarine fleet, and a significant capability change is taking place in the area of undersea warfare in the PLAN. It is evident that a remarkable transformation towards more, bigger, and better submarines has taken place and that the progression has not ended, but is an on-going process. The build-up of modern and advanced conventionally powered attack submarines is one of the most remarkable aspects in the modernisation of the Chinese military, and something that has attracted much attention. At the same time, China has bought large numbers of modern submarines from Russia while developing and deploying even bigger numbers of domestically designed SSKs.

The most striking example was the unprecedented signing of a contract on the delivery of eight new Type 636 Kilo-class diesel submarines from Russia in May 2002 equipped with the Klub/Sizzler

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72 IHS Jane’s Fighting Ships, Amphibious Forces, Yuzhao (Type-071) Class, 13 February 2013.
73 Ibid.
74 IISS Military Balance 2013, p. 290.
75 Both IISS Military Balance 2013 and IHS Jane’s Fighting Ships state 10 Jiangsha II-class hovercraft are in service, although the later say that numbers are uncertain; IHS Jane’s Fighting Ships, Amphibious Forces, 11 February 2013; IISS Military Balance 2013, p. 290.
76 IISS Military Balance 2013, p. 290.
ASCM. This deal was in addition to the four Kilo-submarines that China had already acquired. Whether out of hope or insight, some Western analysts saw the purchase of the Russian submarines as a sign that China had significant problems with its own Song-class diesel powered submarines program. However, that does not seem to have been the case. The five years passing between the launch of the first to two Songs did indicate considerable engineering and design trouble, but with the launch of the third and fourth vessel with improved design in 2002 suggests that the Song programme is moving ahead in unison with the Kilo purchases. Indeed, the remarkable incidence where a Chinese submarine surfaced within nine miles of the American aircraft carrier Kitty Hawk was accomplished by a Song-class submarine. China has since commissioned further three Songs in 2004, another three in 2005 and two in 2006, pointing to a certain degree of satisfaction with the programme within the PLAN and Chinese leadership. The purchase of the eight new submarines from Russia does not entail that China is losing faith in its home-build design, but they are to work in unison. The PLAN has now deployed no less than 16 Song-class SSKs.

The graph shows the increase in PLAN submarine tonnage. It is true that the number of units fluctuates around 60-70 vessels in the investigated period, some years going up and others down.

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78 Novichkov, Nikolai, China’s Russian Kilo Buy May Put Song Submarine Future in Doubt, Jane’s Defence Weekly, 12 June 2002, p.3.
81 IHS Jane’s Fighting Ships – Submarines, Patrol Submarines, 11 February 2012.
82 See Appendix A.
The growth of the combined tonnage of the submarine fleet, however, demonstrates the expansion of the fleet in terms of size of the vessels. In 1997, the submarine fleet displaced 144,768 tonnes, and in 2013 it had risen to 222,989, an increase of 54%.

In addition to the purchase of the *Kilos* and development of the *Song*, China produced a third advanced SSK, the *Yuan*-class. The *Yuan* is bigger than the *Song* displacing more than 3000 tonnes as compared to the *Song*’s 2286. The submerged displacement of the *Yuan*-class could not be obtained, but with a surfaced displacement of 2900 tonnes it is most surely of comparable size with the *Kilo*-class that displaces 3125 tonnes. As such, it can be considered ocean going.

**Number of conventional-powered attack-submarines, 1997-2013:**

The graph above shows the aggregate number of units and the development in over time. The total number of conventional-powered attack-submarines has remained virtually at the same level, with 53 submarines in 1997, 61 for the first of 2000s and going down again to 56 in 2013. In 1997, only 4 of the 53 submarines could be characterised as modern, 3 *Kilo*-class and 1 *Song*-class, the rest of the fleet consisting of the antiquated *Romeo*-class and the Chinese *Ming*-class version built from the same platform. In 2013 however, the picture is completely reversed. Only 16 *Ming* remain and by now, the PLAN has commissioned 40 modern and relatively big conventional attack submarines capable of firing advanced anti-ship cruise missiles.

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83 [IHS Jane’s Fighting Ships, Patrol Submarines, Yuan Class (Type041), 12 February 2013](#).

84 Graph produced from the numbers in Appendix A, excluding the submarines that serve as test platforms.
The PLAN submarine fleet has taken decisively more offensive posture since the Taiwan Strait Crisis in 1996, with two domestically produced programmes, the Song and Yuan. As mentioned in analysis of Hypothesis 1 the 16 medium-sized (displacing 2286 tonnes) submarines of the Song-class alone would be a replacement for the Ming-class. However, the big AIP-equipped Yuan-class, displacing more than 3000 tonnes when submerged, is an ocean-going submarine surely not designed for operations in the shallow Chinese coastal waters. As the Song, the Yuan-class carries the YJ-82 ASCM and quite possibly wake-homing torpedoes. No less than 12 submarines of the class have been commissioned between 2006 and 2012. In tandem with this quite impressive build up is the procurement of the 12 Kilo-class, Russia’s top-of-the-line export diesel-electric submarine. The very stealthy Kilo submarine’s long-range supersonic Sizzler ASCM very likely the super-cavitating Shkval torpedo gives the PLAN SSK fleet a formidable offensive punch capability.

The trend towards building a fleet of fairly big SSKs is remarkably obvious and corresponds very well with the predictions made in Hypothesis 3. The large numbers in the PLAN inventory of modern SSKs with advanced ASCMs and torpedoes constitute a key part of China’s concerted effort in acquiring Anti-Access/Area Denial to deter or deny the American Pacific Fleet freedom of movement within first island chain and into the waters beyond. This entails jeopardizing U.S. aircraft carrier strike groups operating out of their military bases in Japan and South Korea and eventually Guam with the goal of making American power projection and intervention riskier and more costly.

The Chinese SSK fleet is certainly an overwhelming force in the South China Sea relative to naval power of the Philippines, Malaysia, and Vietnam that are all claiming part of the sea conflicting with China’s to it almost all of it.85

**Aircraft carrier**

In the first half of the first decade in the 21st century many scholars and analysts were of the persuasion that China was not going to have a go at fielding aircraft carriers, let alone restructuring the PLAN to be carrier-centric not the least because of the immense costs involved.86

However, they have been proven at least halfway wrong. On 10 August 2011, the Liaoning began sea trial in the north Yellow Sea, making into reality what had been a Chinese desire for 80 years. Echoing the introduction of China’s first SSBN, major General Lou Yuan stated that “well begun is half done... the effect of having something is completely different from having nothing.”87 Originally bought under the excuse of turning it into a floating casino the Ukrainian- bought ex-

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85 Brunei has claims on parts of the disputed territory in the South China Sea and the oil and gas fields south of the Spratly Islands, but the tiny country’s miniscule navy of 2800 soldiers and 11 patrol craft hardly deserves to be mentioned, IISS Military Balance 2013, p. 226.


Varyag was never filled with blackjack tables and slot machines, but with radars and weapon systems as “there would be no gambling with this strategic opportunity.”

Although many have stressed the significance of China’s first aircraft carrier, the strategic consequences in the near-term future are perhaps not game-changing. It could surely not hold its own against the U.S. Navy and it is not intended for use against the Americans. Indeed, Chinese naval analysts readily admit that their new pride would be very short-lived if it was deployed against the superior forces of the U.S. Navy. The Chinese carrier does however have major strategic impact for smaller powers in the region. It represents a limited power-projection capability, but together with the rest of the surface fleet discussed above, it could surely provide sustained air cover and be a platform for maritime or land strike fighter aircraft.

As such, together with the amphibious forces analysed above, and operating together with China’s new modern surface fleet and increasingly potent conventional submarines, a single aircraft carrier could further tip the balance of power in the South China Sea, making countries like the Philippines, Malaysia and Vietnam think twice before standing up to China. Likewise, the Liaoning could surely make China act make more decisively and uncompromisingly in the maritime disputes in the South China Sea. But, the Liaoning is probably not suitable for use outside China’s region and certainly not if the United States would be likely to use force.

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China wants to dominate Asia the way the United States dominate the Western hemisphere. China will seek to maximize the power gap between itself and its neighbours Russia and Japan, aspiring to severe military superiority, so that no state in Asia has the wherewithal to threaten it. A conquering rampage and territorial expansion on the Asian landmass is not the purpose of China’s military might. Rather, like with the U.S. in the Americas, China wants to be able to dictate acceptable behaviour in its region and to have its way on issues that matters to China.

China will continue to expand and modernise its navy and intensely pursue the development of a blue-water navy with serious power projection capabilities. This includes developing the capabilities to confidently operate in distant seas and into the Indian Ocean to the west and the Western Pacific beyond Japan to the east.

China knows that such aggressive behaviour will trigger a balancing coalition, but is also knows that the only way around this problem is to maximize its power even further. This entails that China’s naval development is aimed at rivalling the U.S. Navy. China’s strategic behaviour will be extremely revisionist in nature, aiming at regional hegemony.

**Predicted Posture:**

- China wants to be a significant sea power in the Western Pacific and the Indian Ocean. China will continue to deploy long-range ocean going surface vessels suitable for autonomous deployment such as with such as multifunctional destroyers and frigates with layered air defence and sophisticated radar, sonar, and weapons systems.
- Replenishment at sea (RAS) vessels and other support vessels intended to enable continuous deployment far off Chinese shores, indeed in distant regions.
- China will invest heavily in large ocean going submarines. Big nuclear powered attack submarines (SSN) are a major constituent. Nuclear ballistic submarines carrying nuclear nuclear-armed intercontinental ballistic missiles (ICBM) will increase in number and ensure China a credible second strike capability and first-rate deterrence capability.

Geographical extension: The high seas, including the Western Pacific and the Indian Ocean Region.
**Nuclear-powered Submarines**

In order to be a true blue-water navy and project power over long distances, H4 envisions China to invest massively in nuclear-powered attack submarines (SSN). Nuclear-powered submarines can remain submerged for much longer periods of time since they do not have to surface to recharge batteries, and they are able to attain higher underwater speed. Additionally they should have superior overall stealth capability because of the long submerged cruise range. However, generally speaking conventional-powered submarines are quieter when running on batteries than SSNs which tend to make more machine noise.

The PLAN’s first SSN was the *Han*-class (Type-091), a relatively small SSN displacing 5639 tonnes commissioned in 1984, and eventually China deployed five of the class. However, two have been decommissioned and now the PLAN only has three *Han*-class SSNs in service. China’s next-generation SSN, the *Shang*-class (Type-093) was laid down in 1994, but it took a whole of 12 years before it commissioned into service in 2006. A second vessel followed the year after and two additional vessels are in build.

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![Submarine Quieting Trends](image)

Relative noise levels of nuclear submarines. Source: U.S. Office of Naval Intelligence, 2009

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91. See Appendix A.
The graphical representation above is from the report by U.S. Office of Naval Intelligence from 2009 mentioned earlier and it clearly shows the Chinese submarines lagging far behind in perhaps the most important asset of a submarine, its stealth, and consequent risk of being detected.

The nuclear-powered submarine force of China can be seen as a bellwether on China’s strategic behaviour with regards to power projection capabilities and naval policies in general.93 The desire to field both SSBNs and SSNs is clearly there, but requisite skills are not. Especially the noise levels of the submarines are significantly higher than American or Russian designs, and “China’s naval strategists are not naive and do not believe its submarine fleet will close the gap in the near- or even mid-term.”94 There is a new SSN in the offing though, the Type-095. This will be China’s third-generation SSN based on the Shang-class design. The U.S. Department of Defence predicts up to five of the class,95 and as can be seen on the graph above, the Type-095 is featured and expected by 2015.

A yardstick for how mature China’s nuclear-powered submarine is the numbers deployed. Some assessments of the possible numbers of PLAN SSBN and SSNs from a decade ago have proved to wildly inaccurate. A Russian estimate from 2003 proposed Chinese intentions of acquiring 10 SSBNs and 12 SSNs by the end of the first decade of the 21st century,96 and in 1999, a Chinese naval strategist envisaged that China must field 12 SSBNs and no less than 30 SSNs to augment 36 conventional submarines.97 Said strategist must be sorry now with a PLAN inventory of 4 SSBNs and 5 SSNs. Discounting the relic Xia-class and Han-class, China can only muster 5 nuclear-powered submarines in total.

China is not even remotely close to fielding a large nuclear-centred submarine fleet of the predicted posture of Hypothesis 4. Held up with the demonstrated impressive build-up of advanced conventional-powered submarines discussed in H3, the trend is surely not going in the direction of a large fleet of SSNs. However, a small caveat is perhaps in its place. The fact that China is fielding any nuclear-powered submarines at all is surely much more than nothing. The commissioning of a sole Xia-class SSBN was a question of having or not having an SSBN, in spite of its noisy performance, radiation leakage and short range of its single-warhead JL-1 SLBM. The Jin-class is not wrongly viewed in the same light of having or not having a continuously deployed sea-based nuclear deterrent. It is another, though moderate, climb up the ladder towards great power status. Likewise with the Shang-class SSN, they do constitute a modest capability in the domain of nuclear-powered underwater combatants. At least, the 4 Shangs mean that China is in the SSN game, and the coming of the Type-095 is further testament that China will remain a nuclear-powered submarine player.

97 Han Tang, cited in ibid.
Large Surface Combatants for Autonomous Deployment

For China to gain entrance to the exclusive club of countries with a power projection capability beyond its own region, H4 predicted the continuous deployment of more long-range oceangoing surface combatants suitable for autonomous deployment such as the multifunctional destroyers and frigates with increasingly advanced layered area air defence, anti-surface warfare and weapons systems previously discussed. As discussed in H2, China clearly moved ahead in this field with breath taking pace. Though not perhaps capable of a true blue-water surface fleet, the trend in this direction is so overwhelming that it gives credence to the predicted force posture i H4 as well. Perhaps the Luyang I-class destroyer and the Jiangkai I-class frigate will not be able to keep up in a Chinese bit for extra-regional strategic ambitions, but the Luyang II-class probably is, and if the Luyang III-class will keep up the exponential modernisation and upgrade of capabilities and be deployed in large numbers. Beijing is surely well on its way. However, the PLAN would also need the requisite support ships to keep its destroyers deployed and operational in distant waters, especially replenishment-at-sea oilers on will be needed. Hence, we shall look at the development in the logistic and support ships.

Logistics and Support Ships

The modern destroyers and frigates that the PLAN now fields enable Beijing to operate in distant waters, exemplified by China’s participation in anti-piracy missions in the Gulf of Aden. Yet, possessing the surface combat ships that do the actual patrolling and potential fighting is inadequate without the logistics and support vessels enabling long-term deployment in distant waters. The crucial element such auxiliary ships play in modern navies is even more pronounced if access to overseas bases is not an option. China does not have any naval bases, or any other military bases for that matter, in other countries. It is, therefore, essential especially to have ships capable of carrying out replenishment at sea (RAS) in order to sustain operations farther away from the Chinese coastal waters.

The Chinese navy has not had this capability until very recently. The PLAN has been deploying a large auxiliary fleet for a long time in a range of different classes, running the full spectrum of logistics support, repair, hydrographical survey and research ships and a number of small oilers and tug boats. 98 Here, the focus will be on replenishment oilers with RAS capability.

The diagram shows the total number of oilers in the Chinese navy. The vast majority of these transport oilers are coastal and relatively short-range oil tankers (AOT) or water tankers (AWT). The Guangzhou-class, built in the 1970s and 1980s, of which six are in service today (two of which oilers, the remaining four are water tankers), the Fulin-class commissioned in 1972, reportedly some equipped with a single underway replenishment rig, of which more than 20 were constructed (14 AOT, 5 AWT) and the remaining going into commercial service, and the Fuzhou-class built between 1964-1972 with 18 ships still in service today (11 AOT, 7 AWT).

Replenishment at Sea

The first class of ships built for the Chinese Navy to conduct underway replenishment was the Fuqing-class. The ship became operational in 1979 and only two were commissioned into the PLAN. A third was converted to commercial use in 1989, and a fourth vessel was sold to Pakistan in 1987. The two Fuqing-class RAS-capable oilers remain in service today.

China acquired the RAS-capable Nanyun-class (Komandarm Fedko-class) fleet replenishment craft (AOR) from Russia in 1992 for a reported $10 million. The single ship was commissioned by the

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99 IHS Jane’s Fighting Ships, Auxiliaries, 15 February 2013.
101 Ibid; IHS Jane’s Fighting Ships, Auxiliaries, 15 February 2013.
102 IHS Jane’s Fighting Ships, Auxiliaries, Fuqing Class, 14 February 2013.
PLAN in 1996 and remains in service today. The vessels has RAS rigs on both sides and refuelling at the stern, as well as a helicopter landing and small hangar, a range of 12,000 km, and a cargo capacity of at least 9,630 tons of fuel.\textsuperscript{104}

Until 2007, these three relatively old ships were the only ocean-going replenishment oilers in PLAN inventory, a major weakness in its blue-water navy aspirations. However, the PLAN has deployed the two first vessels of a modern, indigenously designed RAS-capable supply ship, the \textit{Fuchi}-class (Type-903). These ships were laid down in 2002, launched in 2003, and commissioned in 2004. An additional two vessels were laid down in 2010 and launched in the spring of 2012, and is expected to be commissioned into the PLAN in 2013.\textsuperscript{105} The \textit{Fuchi}-class apparently bears a noticeable resemblance with the one \textit{Similan}-class (Type-R22T) tanker built for Thailand by China State Shipbuilding Corporation in 1994. The RAS-capable tanker compliments Thailand’s \textit{Chakri Naruebet} aircraft carrier and the \textit{Naresuan}-class frigates, giving the Thai Navy full deployment capability.\textsuperscript{106} With the commissioning of China’s first aircraft carrier this is worthy of notice. China’s new and modern frigates and destroyers along with the \textit{Liaoning} air craft carrier will be substantially more valuable and versatile with the four \textit{Fuchi}-class RAS-capable ships.

\begin{center}
\begin{tikzpicture}
\begin{axis}[
    title={RAS-Capable Oilers, Units},
    xlabel={Year},
    ylabel={RAS-Capable Oilers, Units},
    xmin=1997, xmax=2013,
    ymin=0, ymax=8,
    ytick={0,1,2,3,4,5,6,7,8},
    legend pos=north west,
]
\addplot+[mark size=1pt]
coordinates{
};
\end{axis}
\end{tikzpicture}
\end{center}


\textsuperscript{106} IHS Jane’s Fighting Ships, \textit{Auxiliaries, Similan (Hudong) class (Type R22T)}, 13 March 2013; \textit{Frigates, Naresuan class (Type25T)}, 3 April 2013;
The graph illustrates the described development in RAS-capable oilers, 1997-2013. The lack of overseas bases and few modern RAS-capable ships remain a shortcoming in China’s blue-water navy ambitions, but the launch and soon-to-come commissioning of the additional Fuchi-class ships more than doubles the number of AOR ships of this class in the PLAN’s inventory. This development bears testament both to the fact that Beijing is keenly aware of its weaknesses in this area, and that the PLAN is addressing the issue by launching new ships. Worth mentioning in this context is that the two Fuchi-class ships already in service have been part of the on-going anti-piracy missions off the coast of the Horn of Africa.

To be sure, the majority of China’s trade is seaborne as is its oil imports, so it makes good sense for a stronger China to seek to protect its shipping. In addition, it is a signal of China’s entrance on the global stage as a “responsible stakeholder” shouldering some of the burden of protecting common goods such as safe passage on the seas. This echoes the addition to the Deng Xiaoping’s 24 character strategy that though a rising China should pay heed to the strategy’s central message of biding its time and modernise before sticking its head out, China should none the less start “making some contributions.” But the anti-piracy missions also have an arguably more valuable role to play for Beijing. It allows the PLAN to gain valuable experience with out-of-area operations and get accustomed to the replenishment tasks essential to sustaining its destroyers and frigates in distant waters. The training and experience gained is crucial if China want to operate with confidence over long distances on the world’s high seas.

China has moved somewhat in the direction of building a fleet for out of area operations, but not nearly in the same extremely revisionist degree envisioned by H4. The predicted focus on a submarine fleet containing numerous SSBNs and an attack submarine fleet centred on SSNs has clearly not been the case. China does not possess a serious nuclear submarine programme, and the tendency has clearly been to invest in conventional-powered submarines. However, the PLAN has laboured hard at building up a fleet of modern destroyers and frigates suitable for autonomous deployment which has been discussed when testing the previous hypotheses. H4 predicted that China would need to field a fleet of support vessels capable of conducting RAS-operations and maintaining a large fleet for out of area operations. The PLAN has showed a tendency in addressing this long-standing deficiency, but China has not deployed nearly enough RAS-capable support ship to back up the prediction in H4. In sum, China is not behaving as a tremendous revisionist and H4 is not backed up by data sufficient to support the predicted posture.
Conclusion

This paper asked one of the most basic questions in international politics, certainly so within the structural realist theoretical tradition. It asked whether China is a revisionist power. The answer is yes.

The defensive realism of Kenneth Waltz sees all great powers as inherently status quo-oriented. The structural forces compel the strongest states in the system to have a keen eye on the balance of power and to retain their position or only incrementally increase it. Nevertheless, security is quite plentiful because the status quo orientation of the great powers will restrict their appetite for power. Being too strong frightens the other great powers and will drive them to form a balancing coalition and eventually contain the revisionist or bring about its downfall.

On the other hand, the offensive realism of John Mearsheimer sees the same structural forces to cause the great powers to be revisionist of nature. The quest for security obliges states to maximise their power. There is no knowing when enough power is enough and thus the hunger for power is insatiable. States pay a great deal of attention to the balance of power, but they are always looking for ways to change it in their favour, and the only way to be sure that others will not endanger one's safety is to be stronger than them. Hence, the strategic behaviour of great powers is innately revisionist.

On the basis of this fundamental divide this paper generated four hypotheses to explain the strategic behaviour of China in the maritime domain by measuring the capabilities of the People’s Liberation Army Navy. The predicted posture in each hypothesis portray where the main thrust of naval capability development and modernisation would be demonstrable.

**Hypothesis 1** predicted a naval posture of on the basis of defensive realism to secure the realm, the naval equivalent of digging trenches. H1 predicted three areas where the focus of China’s modernisation process would be centred – a small force of nuclear-powered ballistic missile submarines for deterrence, small and short range conventional-powered attack submarines, and coastal surface combatants to patrol and defend the Chinese littoral.

The empirical data examined found evidence for a sea-based nuclear deterrence with an SSBN fleet of a size and composition as predicted. Few in number, not that impressive, but just enough to give China a continuous at-sea deployment and nuclear second strike capability.

However, regarding the coastal patrol craft expected to be the decisive surface force for a strategy of strictly coastal defence, the data showed a tendency in the opposite direction. The fleet of patrol craft has indeed been upgraded with a new and vastly more capable ship, but the overall number of coastal defence ships declined decisively.

The third predicted key component of a very defensively oriented force posture was a submarine fleet centred small, short-range submarines optimised for littoral combat. Modernisation of the Chinese submarine fleet has been overwhelmingly towards more and bigger long-range vessels with
offensive weaponry, moving reality further away from the predicted posture. Therefore, H1 must be rejected as having the least explanatory power.

**Hypothesis 2** proposed a naval posture of a more assertive but nonetheless defensive composition. Motivated not by revisionism, but by the preponderance of American power and the growing naval strength of other regional powers, China would engage in more vigorous balancing to retain its position.

The predicted posture consisted of larger littoral defence ships capable of operating and checking an opponent farther away from Chinese shores. Such ships are not operationally deployed by the Chinese Navy, but the data suggested a new corvette to be put into service in large numbers in the near-term. However, potential numbers of future ships does not constitute reality, and the testing of the hypothesis relies on behaviour in the investigated period of time. Consequently that particular prediction is soundly rejected.

Secondly, another aspect of the predicted force posture was surface vessels suitable for autonomous deployment. The investigated data showed a growth of modern and capable destroyers and frigates that has been nothing short of staggering. From a near-zero starting point, the increase in terms of tonnage displacement has taken place at such a breath-taking pace that it bears repeating. The surface fleet of the PLAN’s modern destroyers and frigates grew by 1730%. On the one hand, the data utterly meets the prediction. Actually, so much so that it far surpasses the expected size of the surface fleet, and it seems hard to explain this behaviour from a defensive realist stance. Such a stunning increase in capabilities in such a short time span must be labelled power-maximizing behaviour if the term is ever to have meaning.

The third predicted posture concerned the composition of the fleet of conventional submarines in the Chinese Navy. Again, the investigated data went above and beyond the predicted posture. One new class of the domestically produced SSKs was found to be a prudent choice as the replacement of older classes and thus met the prediction. But the advent of a substitute in tandem with the deployment of big foreign-bought and highly advanced SSKs, in addition to an indigenously produced large SSK rapidly being instated the navy in fairly large volumes far exceed the predicted posture. The point raised about the growth of surface combatants must be repeated here, as the increase in the Chinese submarine fleet cannot be explained as status quo-seeking behaviour.

The last point raised was the introduction of an anti-ship ballistic missile. Maybe the Chinese ASBM has already been deployed, although it is not known for certain. H2 envisions the ASBM to be used as deterrence only, and the data examined showed that the missile’s range is probably too short range to deny U.S. carriers to operate within the first island chain.

**Hypothesis 3** envisioned China to be revisionist of nature and attempting to build a navy with the aim of gaining regional dominance.

The first element of the predicted posture regards the build-up of amphibious forces for a limited power projection capability. The data shows that China is indeed moving in that direction with three large ships for this purpose already commissioned and a fourth in build. Operating in regional
waters, the amphibious force in the making supports the trend of a Chinese navy seeking to revise the balance of power in the region.

Especially so in the light of the second prediction. The posture predicts an impressive submarine fleet of numerous and large conventional submarines. As has been clearly evident, China has built exactly that in the period of time investigated. The current submarine force corresponds well with the prediction in H3 to become a dominant naval power in the region.

Thirdly, the introduction of an aircraft carrier has come to fruition. On its own, the single carrier is not the tool of great power projection, and it is not something that will push the Americans out of Northeast Asia. But, it will conceivably offer China great leverage in the maritime disputes with the other littoral countries in the South China Sea

Seen as a combined force, building on the findings in H1 and H2, the PLAN surely looks determined to dominate its maritime domain. With the new missile-armed patrol craft and impressive submarine fleet operating under the cover of China's area air defence surface fleet and the advent of an aircraft carrier provide China which such a navy. Therefore, Hypothesis 3 is found to have a high degree of explanatory power regarding China’s strategic behaviour in the maritime domain.

**Hypothesis 4** envisaged China to be an extremely revisionist power. Not satisfied as being the dominant force in the region, China was further expected to have extra-regional ambitions and build a true blue-water navy. China would not yield and relentlessly maximise its power and develop capabilities to push into the Indian Ocean and the Western Pacific.

The predicted posture of H4 entailed a fleet of SSBNs remarkably larger than the very modest nuclear-deterrence force expected in H1. This has by no means been the reality. The data does not support any tendency for China to invest heavily in large numbers of SSBNs. Even more so, the evidence showed that China has not based its fleet of attack submarines on nuclear-powered vessels. Evidently, China has invested heavily in conventional-powered SSKs as pointed out above.

The second element of the posture of H4 was numerous and large surface combatants suitable for autonomous deployment. As pointed out on the conclusion of H2, this has certainly been the case. China is not in a position to maintain a fleet of modern destroyers and frigates, but it has evidently gone out of its way to build up one as fast as possible. As noted above, this has indeed taken place at a tremendous pace.

In order to maintain a surface fleet in distant waters H4 predicted China to build of a fleet of support ships with long-range replenishment capabilities. China has showed determination to move ahead in this area, but from the data collected, China is still far from having the capabilities in this area as predicted.

The overall conclusion of this paper, based on the empirical evidence investigated, is that Hypothesis 3 generated by offensive realism has the most explanatory power regarding China’s strategic behaviour in the maritime domain. China *is* a revisionist state.
H3 - In Pursuit of Regional Dominance
### Appendix A

**Submarines of the People’s Liberation Army Navy**

<table>
<thead>
<tr>
<th>Class</th>
<th>Units, 2013</th>
<th>Displacement</th>
<th>Laid down/Launched/Commissioned</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Golf</em>-class SS (SLBM test platform)</td>
<td>1</td>
<td>2,388</td>
<td>NA/1966/NA</td>
</tr>
<tr>
<td><em>Romeo</em>-class, SSG (test platform)</td>
<td>1</td>
<td>1,830</td>
<td>Built in 1962</td>
</tr>
<tr>
<td><em>Qing</em>-class SSB (SLBM test platform)</td>
<td>1</td>
<td>5,000 est.</td>
<td>NA/2004/NA</td>
</tr>
<tr>
<td><em>Ming</em>-class SSK (4 Type 035/12 Type 035G/4 Type 035B)</td>
<td>16</td>
<td>2,147</td>
<td>NA/1971-1979, 1996-2002/last of class 2002</td>
</tr>
<tr>
<td><em>Yuan</em>-class SSK (Type 039A/B)</td>
<td>12</td>
<td>2,900 (surfaced)</td>
<td>NA/2004-2011/2006-2012</td>
</tr>
<tr>
<td><em>Xia</em>-class SSBN (Type 092)</td>
<td>1</td>
<td>6,604</td>
<td>1978/1981/1987</td>
</tr>
</tbody>
</table>

[^107]: IHS Jane’s does not list tonnage displacement for the Jin-class. Various other sources give differing estimates. [www.sinodefence.com](http://www.sinodefence.com) estimate 8-9,000 tonnes submerged, while [www.globalsecurity.org](http://www.globalsecurity.org) assesses displacement to be 11,000 tonnes submerged. Both these websites are referenced in academic articles, see, for example: Lyle, GoldStone & Murray William, *Undersea Dragons: China’s maturing Submarine Force*, International Security vol. 28, no. 4, 2004, p. 166, note 20, and p. 170, note 37.
<table>
<thead>
<tr>
<th>Year</th>
<th>SSBN</th>
<th>Units</th>
<th>Combined Tonnage</th>
<th>SSN</th>
<th>Units</th>
<th>Combined Tonnage</th>
<th>SSK108</th>
<th>Units</th>
<th>Combined Tonnage</th>
<th>Total Units</th>
<th>Total Tonnage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>1 Xia</td>
<td>1</td>
<td>6,604</td>
<td>5 Han</td>
<td>5</td>
<td>28,195</td>
<td>3 Kilo</td>
<td>13 Ming 1 Song 36 Romeo (1 Golf, 1 Romeo)</td>
<td>55</td>
<td>109,969</td>
<td>61</td>
</tr>
<tr>
<td>1998</td>
<td>1 Xia</td>
<td>1</td>
<td>6,604</td>
<td>5 Han</td>
<td>5</td>
<td>28,195</td>
<td>3 Kilo</td>
<td>16 Ming 1 Song 36 Romeo (1 Golf, 1 Romeo)</td>
<td>58</td>
<td>116,479</td>
<td>64</td>
</tr>
<tr>
<td>1999</td>
<td>1 Xia</td>
<td>1</td>
<td>6,604</td>
<td>5 Han</td>
<td>5</td>
<td>28,195</td>
<td>4 Kilo</td>
<td>17 Ming 1 Song 41 Romeo (1 Golf, 1 Romeo)</td>
<td>65</td>
<td>130,924</td>
<td>71</td>
</tr>
<tr>
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<td>1</td>
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<td>28,195</td>
<td>5 Kilo</td>
<td>17 Ming 1 Song 34 Romeo (1 Golf, 1 Romeo)</td>
<td>59</td>
<td>121,239</td>
<td>65</td>
</tr>
<tr>
<td>2001</td>
<td>1 Xia</td>
<td>1</td>
<td>6,604</td>
<td>5 Han</td>
<td>5</td>
<td>28,195</td>
<td>4 Kilo</td>
<td>19 Ming 3 Song 35 Romeo (1 Golf, 1 Romeo)</td>
<td>63</td>
<td>129,856</td>
<td>69</td>
</tr>
<tr>
<td>2002</td>
<td>1 Xia</td>
<td>1</td>
<td>6,604</td>
<td>5 Han</td>
<td>5</td>
<td>28,195</td>
<td>4 Kilo</td>
<td>19 Ming 3 Song 35 Romeo (1 Golf, 1 Romeo)</td>
<td>63</td>
<td>129,856</td>
<td>69</td>
</tr>
<tr>
<td>2003</td>
<td>1 Xia</td>
<td>1</td>
<td>6,604</td>
<td>5 Han</td>
<td>5</td>
<td>28,195</td>
<td>4 Kilo</td>
<td>19 Ming 3 Song 35 Romeo (1 Golf, 1 Romeo)</td>
<td>63</td>
<td>129,856</td>
<td>69</td>
</tr>
</tbody>
</table>

108 Submarines in parentheses are test platforms, mainly for SLBM trials. The Qing-class however, is believed also to be a test bed for air-independent technology as well as the JL-2 and/or projected JL-3 SLBM. In addition, it is speculated that the single Qing may be used to test the DF-21D ASBM, IHS Jane’s Fighting Ships, Submarines – Auxiliary Submarines, 12 February 2013.
<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Group</th>
<th>Best</th>
<th>Distance</th>
<th>Event Details</th>
<th>Year</th>
<th>Distance</th>
<th>Distance</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>Xia</td>
<td>1</td>
<td>6,604</td>
<td>5 Han</td>
<td>28,195</td>
<td>2004</td>
<td>129,856</td>
<td>69</td>
<td>163,655</td>
</tr>
<tr>
<td>2005</td>
<td>Xia</td>
<td>1</td>
<td>6,604</td>
<td>5 Han</td>
<td>28,195</td>
<td>2005</td>
<td>129,856</td>
<td>69</td>
<td>163,655</td>
</tr>
<tr>
<td>2006</td>
<td>Xia</td>
<td>1</td>
<td>6,604</td>
<td>4 Han</td>
<td>22,556</td>
<td>2006</td>
<td>112,197</td>
<td>58</td>
<td>141,357</td>
</tr>
<tr>
<td>2007</td>
<td>Xia</td>
<td>1</td>
<td>6,604</td>
<td>4 Han</td>
<td>22,556</td>
<td>2007</td>
<td>132,692</td>
<td>63</td>
<td>161,852</td>
</tr>
<tr>
<td>2008</td>
<td>Xia</td>
<td>3</td>
<td>26,604</td>
<td>4 Han</td>
<td>34,694</td>
<td>2008</td>
<td>126,248</td>
<td>62</td>
<td>187,546</td>
</tr>
<tr>
<td>2009</td>
<td>Xia</td>
<td>3</td>
<td>26,604</td>
<td>4 Han</td>
<td>34,694</td>
<td>2009</td>
<td>133,106</td>
<td>65</td>
<td>194,404</td>
</tr>
<tr>
<td>2010</td>
<td>Xia</td>
<td>3</td>
<td>26,604</td>
<td>4 Han</td>
<td>34,694</td>
<td>2010</td>
<td>133,106</td>
<td>65</td>
<td>194,404</td>
</tr>
<tr>
<td>2011</td>
<td>Xia</td>
<td>3</td>
<td>26,604</td>
<td>4 Han</td>
<td>34,694</td>
<td>2011</td>
<td>147,934</td>
<td>71</td>
<td>209,232</td>
</tr>
</tbody>
</table>
Curiously, IISS Military Balance 2012 counts 68 tactical submarines, but only lists 59. Presumably, the 9 “missing” vessels are the decommissioned Romeo-class SSKs.
### Appendix B

**Principal Surface Combatants of the People’s Liberation Army Navy**

<table>
<thead>
<tr>
<th>Class</th>
<th>Units, 2013</th>
<th>Displacement</th>
<th>Laid down/Launched/Commissioned</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Luyang I-class</strong> (Type 052B)</td>
<td>2</td>
<td>7,112</td>
<td>2001/2002/2004</td>
</tr>
<tr>
<td><strong>Luyang II-class</strong> (Type 052C) DDGHM</td>
<td>3 (3 in build)</td>
<td>7,112</td>
<td>2002-2011/2003-2012/2004-2014</td>
</tr>
<tr>
<td><strong>Luhai-class</strong> (Type 051B) DDGHM</td>
<td>1</td>
<td>6,096</td>
<td>1994/1997/1999</td>
</tr>
<tr>
<td><strong>Jiangkai II-class</strong> (Type 054A) FFGHM</td>
<td>13 (7 in build)</td>
<td>3,556</td>
<td>2005-2011/2006-2012/2008-2013</td>
</tr>
<tr>
<td><strong>Luda-class</strong> (Types 051/051D/051Z) DDGM</td>
<td>6</td>
<td>3,302</td>
<td>First of class 1971; last completed 1990</td>
</tr>
<tr>
<td><strong>Luda-class mod</strong> DDGH Decommissioned</td>
<td>Decommisioned</td>
<td>3,302</td>
<td>NA/NA/NA</td>
</tr>
<tr>
<td><strong>Luda III-class</strong> (Type 051DT/051G/051G II) DDGM</td>
<td>4</td>
<td>3,302</td>
<td>NA-1988/NA-1990/1982-1991</td>
</tr>
<tr>
<td><strong>Jianghu I/II/V-class</strong> (Types 053H/053H1/053HG)</td>
<td>6/5/6</td>
<td>1,448</td>
<td>First of class mid-1970s; last completed 1996</td>
</tr>
<tr>
<td><strong>Jianghu III-class</strong> (Type 053H2)</td>
<td>3</td>
<td>1,955</td>
<td>Completed in 1986, 1987, 1989</td>
</tr>
<tr>
<td><strong>Jianghu IV-class</strong> (Type 053HTH)</td>
<td>1</td>
<td>1,575</td>
<td>1984/1985/1986</td>
</tr>
<tr>
<td>Year</td>
<td>DDG/H/M</td>
<td>Units</td>
<td>Combined Tonnage</td>
</tr>
<tr>
<td>------</td>
<td>----------</td>
<td>-------</td>
<td>------------------</td>
</tr>
</tbody>
</table>
| 1997 | DDG/H: 2 Luhu  
DDGH: 2 mod. Luda  
DDGM: 2 Luda  
DDG: 1 Luda III  
14 Luda  
DDGHM: 2 Luhu  
DDGH: 2 mod. Luda  
DDGM: 2 Luda  
DDG: 1 Luda III  
14 Luda | 21 | 72086 | FFGH: 4 Jiangwei I  
FFG: 1 Jianghu II  
26 Jianghu I  
3 Jianghu III  
2 Chengdu | 36 | 58015 | 57 | 130101 |
| 1998 | DDGHM: 2 Luhu  
DDGH: 2 mod. Luda  
DDGM: 2 Luda  
DDG: 1 Luda III  
14 Luda  
DDGHM: 4 Jiangwei I  
FFG: 1 Jianghu II  
26 Jianghu I  
4 Jianghu III | 21 | 72086 | FFGH: 4 Jiangwei I  
FFG: 1 Jianghu II  
26 Jianghu I  
4 Jianghu III | 35 | 56060 | 56 | 128146 |
| 1999 | DDGHM: 1 Sovremenny  
1 Luhai  
2 Luhu  
DDGH: 2 mod. Luda  
DDGM: 2 Luda  
DDG: 1 Luda III  
13 Luda  
DDGHM: 4 Jiangwei I  
6 Jiangwei II  
FFGH: 1 Jianghu II  
FFG: 26 Jianghu I  
3 Jianghu III | 22 | 80153 | FFGH: 4 Jiangwei I  
6 Jiangwei II  
FFGH: 1 Jianghu II  
FFG: 26 Jianghu I  
3 Jianghu III | 35 | 56060 | 57 | 136213 |
| 2000 | DDGHM: 1 Sovremenny  
1 Luhai  
2 Luhu  
DDGH: 2 mod. Luda  
DDGM: 2 Luda  
DDG: 1 Luda III  
13 Luda  
DDGHM: 4 Jiangwei I  
6 Jiangwei II  
FFGH: 1 Jianghu II  
FFG: 26 Jianghu I  
3 Jianghu III | 22 | 82360 | FFGH: 4 Jiangwei I  
6 Jiangwei II  
FFGH: 1 Jianghu II  
FFG: 26 Jianghu I  
3 Jianghu III | 40 | 75884 | 60 | 158244 |
| 2001 | DDGHM: 2 Sovremenny  
1 Luhai  
2 Luhu  
DDGH: 2 mod. Luda  
DDGM: 2 Luda  
DDG: 1 Luda III  
13 Luda  
DDGHM: 4 Jiangwei I  
7 Jiangwei II  
FFGH: 1 Jianghu II  
FFG: 26 Jianghu I  
3 Jianghu III | 23 | 90300 | FFGH: 4 Jiangwei I  
7 Jiangwei II  
FFGH: 1 Jianghu II  
FFG: 26 Jianghu I  
3 Jianghu III | 41 | 78277 | 62 | 168577 |
| 2002 | DDGHM: 2 Sovremenny  
1 Luhai  
2 Luhu  
DDGH: 2 mod. Luda  
DDGHM: 4 Jiangwei I  
8 Jiangwei II  
FFGH: 1 Jianghu II  
FFG: | 23 | 90300 | FFGH: 4 Jiangwei I  
8 Jiangwei II  
FFGH: 1 Jianghu II  
FFG: | 42 | 80670 | 63 | 170970 |
<table>
<thead>
<tr>
<th>Year</th>
<th>DDGHM:</th>
<th>DDG:</th>
<th>FFGH:</th>
<th>FFG:</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>49</td>
<td>3</td>
<td>26</td>
<td>26</td>
<td>3 Jianghu I 3 Jianghu III</td>
</tr>
<tr>
<td></td>
<td>Luda</td>
<td>Luda III</td>
<td>Luda</td>
<td>Luda</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>13</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>57</td>
<td>5</td>
<td>42</td>
<td>42</td>
<td>63 170970</td>
</tr>
<tr>
<td></td>
<td>Luhai</td>
<td>Luda III</td>
<td>Luhu</td>
<td>Luda</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>57</td>
<td>5</td>
<td>42</td>
<td>42</td>
<td>170970</td>
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<tr>
<td></td>
<td>Luhai</td>
<td>Luda III</td>
<td>Luhu</td>
<td>Luda</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>57</td>
<td>5</td>
<td>44</td>
<td>44</td>
<td>71 204940</td>
</tr>
<tr>
<td></td>
<td>Luhai</td>
<td>Luda III</td>
<td>Luhu</td>
<td>Luda</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

110 Confusingly, the IISS Military Balance 2006 registers two Guangzhou-class DDGHMs. Guangzhou is the name of the lead ship in the Luyang I-class (Type-052B). Six ships named Guangzhou-class surely do sail but they are tankers, two oilers (AOTL) and four water tankers (AWTL), IHS Jane’s Fighting Ships, Auxiliaries, 15 February 2013.
<table>
<thead>
<tr>
<th>Year</th>
<th>DDGHM</th>
<th>FFGHM</th>
<th>DDGM</th>
<th>DDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>4 Sovremenny 1 Luhai 2 Luhu 2 Luyang I 2 Luyang II DDGH: 1 Luda II DDGM: 2 Luzhou 4 Luda mod. (Type-051DT) DDG: 1 Luda III 11 Luda</td>
<td>4 Jiangwei I 10 Jiangwei II 2 Jiangkai I FFGH: 9 Jianghu II 1 Jianghu IV 6 Jianghu V FFG: 13 Jianghu I 3 Jianghu III</td>
<td>48</td>
<td>99564</td>
</tr>
<tr>
<td>2008</td>
<td>4 Sovremenny 1 Luhai 2 Luhu 2 Luyang I 2 Luyang II DDGH: 1 Luda II DDGM: 3 Luda mod. 2 Luzhou DDG: 1 Luda III 11 Luda</td>
<td>4 Jiangwei I 10 Jiangwei II 2 Jiangkai I FFGH: 9 Jianghu II 1 Jianghu IV 6 Jianghu V FFG: 11 Jianghu I 3 Jianghu III</td>
<td>46</td>
<td>96160</td>
</tr>
<tr>
<td>2009</td>
<td>4 Sovremenny 1 Luhai 2 Luhu 2 Luyang I 2 Luyang II DDGH: 1 Luda II DDGM: 2 Luzhou 3 Luda mod. DDG: 10 Luda 1 Luda III</td>
<td>2 Jiangkai I 4 Jiangkai II 4 Jiangwei I 10 Jiangwei II FFGH: 9 Jianghu II 1 Jianghu IV 6 Jianghu V FFG: 11 Jianghu I 3 Jianghu III</td>
<td>50</td>
<td>98,428</td>
</tr>
<tr>
<td>2010</td>
<td>4 Sovremenny 1 Luhai 2 Luhu 2 Luyang I 2 Luyang II DDGH:</td>
<td>2 Jiangkai I 6 Jiangkai II 4 Jiangwei I 10 Jiangwei II FFGH: 9 Jianghu II</td>
<td>52</td>
<td>105,540</td>
</tr>
</tbody>
</table>

Likewise, the IISS Military Balance 2007 catalogs the two Luyang II-class (Type-052C) as Lanzhou-class DDGHMs. Lanzhou is the name of the lead ship, not the class specification.
| Year | DDGHM: | FFGHM: | FFG: | | | |
|------|--------|--------|------| | | |
| 2011 | 1 Luda II  
2 Luzhou  
3 Luda mod.  
DDG:  
10 Luda  
1 Luda III | 1 Jianghu IV  
6 Jianghu V  
FFG:  
11 Jianghu I  
3 Jianghu III | | 52 | 107,648 | 78 | 238164 |
| 2012 | 1 Luhai  
2 Luhu  
2 Luyang I  
2 Luyang II  
DDG:  
2 Luzhou  
9 Luda I  
1 Luda II  
1 Luda III  
2 Luda mod. | 2 Jiangkai I  
7 Jiangkai II  
4 Jiangwei I  
10 Jiangwei II  
FFGH:  
1 Jianghu IV  
FFG:  
11 Jianghu I  
8 Jianghu II  
3 Jianghu III  
6 Jianghu V | | 52 | 103176 | 78 | 233692 |
| 2013 | 1 Luhai  
2 Luhu  
2 Luyang I  
3 Luyang II  
DDG:  
2 Luzhou  
6 Luda II  
4 Luda III | 2 Jiangkai I  
13 Jiangkai II  
4 Jiangwei I  
10 Jiangwei II  
FFGH:  
1 Jianghu IV  
FFG:  
6 Jianghu I  
5 Jianghu II  
3 Jianghu III  
6 Jianghu V | | 50 | 117400 | 74 | 247916 |
Appendix C

Abbreviations:

A2AD – Anti-Access/Area Denial
AIP – Air Independent Propulsion
ASBM – Anti-Ship Ballistic Missile
ASCM – Anti-Ship Cruise Missile
AShM – Anti-Ship Missile
ASW – Anti-Submarine Warfare
ASuW – Anti-Surface Warfare
CCP – Chinese Communist Party
CDS – Combat Direction System
CIWS – Close-In Weapon System
DDG/H/M – Guided Missile Destroyer/with Hangar/with Surface-to-Air Missile defence
FAC – Fast Attack Craft
FFG/H/M – Guided Missile Frigate/with Hangar/with Surface-to-Air Missile defence
ICBM – Intercontinental Ballistic Missile
KMT – Kuomintang
LACM – Land-Attack Cruise Missile
LCAC – Landing Craft Air Cushion
LPD – Landing Platform Dock
MRBM – Medium Range Ballistic Missile
PLA – People’s Liberation Army
PLAN – People’s Liberation Army Navy
PLAAF - People’s Liberation Army Air Force
PRC – People’s Republic of China
RAS – Replenishment at Sea
SAM – Surface-to-Air Missile
SLBM – Submarine-Launched Ballistic Missile
SLOC – Sea Lines of Communication
SRBM – Short Range Ballistic Missile
SSM – Surface-to-Surface Missile
SSK – Conventional-powered attack submarine
SSBN – Nuclear-powered Ballistic Missile submarine
SSN – Nuclear-powered attack submarine
UCAC – Utility Craft Air Cushion
VLS – Vertical Launch System
The first assumption is that the main actors in international politics are great powers and that they operate in an anarchic system. Anarchy is the ruling principle; it only implies that there is no higher authority in the international system than the state.

The second assumption is that all states hold a certain degree of offensive military capability and have the power to harm other states. Hence, the distribution of military capabilities in the state system is a conditioning factor in a state’s strategic behaviour.

The third assumption is that states can never be certain of other states’ intentions. Intentions are impossible to determine with certainty, and intentions can change over time and a present ally might be the rival of tomorrow.

The fourth assumption is that the primary goal of any state is survival. States want to maintain their sovereignty, their territorial integrity and control over domestic political affairs. If the security of a state, or indeed its survival, is threatened, it cannot pursue any other goal or interest it might entertain.

The fifth assumption is that states are rational actors that think and act strategically to ensure its survival in the international system. States are able to make rational strategic choices because they understand the international system, and have a sense of the relative power of the units within the system.

On 18 April 2013, the Director of the U.S. Defence Intelligence Agency told Senate Armed Services Committee that the JL-2 and the Jin-class SSBN “may reach initial operational capability around 2014;” Richardson, Dough & Isby, David C., China yet to Deploy DF-41 and JL-2, IHS Jane’s Missiles & Rockets, 30 April 2013.


The ship is being built at an impressive rate at four different shipyards simultaneously, further indicating that large quantities are indeed in the offing and expected to be commissioned fast, with the additional 10 units expected to be commissioned in 2013-2014, IHS Jane’s Fighting Ships, Corvettes, Jiangdao (Type 056) Class, 11 March 2013.

The Jiangdao-class features a 76 mm main gun as well as two 30 mm CIWS, an 8 cell HQ-10/FL-3000 short-range SAM system and most likely YJ-83 ASCMs. It has a helicopter deck, but no hangar. The sensor suite includes fire-control radar, surface-search perhaps for the helicopter, and targeting radar for the SSMs. There are also features in the design that indicates that towed array sonar can be fitted.

The sinking of the massive 35000 tonnes battleship HMS Prince of Whales and HMS Repulse by Japanese fighter bombers and torpedo planes is a classic example. The two huge warships had no friendly planes protecting them and could do little to stop the Japanese onslaught. They were the first capital ships to be sunk by air attacks in high seas, and it shocked the naval world as it happened on 10 December 1941, only days after the Japanese attack on Pearl Harbour, Naval History & Heritage Command, Online Library of Selected Images, Washington, Washington D.C., http://www.history.navy.mil/photos/sh-foirm/uk/uksh-p/pow12.htm, accessed 30 April 2013.


The development of more and more advanced ASCMs that is faster and stealthier, with improved homing, navigation and guidance, as well as better evasive manoeuvrability in its terminal approach has made some doubt the continued usefulness of a gun-based CIWS. Several manufacturers are developing missile-based systems as the inner-most layer of defence against sea-skimming ASCMs, Scott, Richard, The Last Line of Defence, Jane’s Navy International, 12 February 2002.

Either the Russian Kamov Ka-28 Helix or the Harbin Zhi-9C Haitun of domestic Chinese design.
44 missiles in all, and homing up to 25 km and an altitude range of 15-14 km.

Either a Harbin Zhi-9A Haitun or Kamov KA-28 Helix.

The C-602/YJ-62 ACSM is equipped with inertial-GPS guidance and terminal active radar homing.

The term ‘modern’ includes the Jiangwei-class I and II frigates, the Jiangkai-class I and II frigates, the Sovremenny-class destroyers, the Luzhou-class and the Luyang I and II-class destroyers. It does not include the Luyang III-class as it has not been commissioned into service yet.