Demystifying Trade Warfare

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Historically, navies have been employed for the conduct of trade warfare. However, naval discourse on the subject has ranged from advocacy as prime employment of naval power to relegation as a secondary role that is best avoided. World Wars I and II witnessed wide-ranging application of trade warfare with varying degrees of success. Global seaborne trade has transformed significantly since the great wars, with large merchant fleets servicing an interconnected and globalised trading system. Furthermore, the contours of merchant shipping have altered in terms of the large numbers and size of merchant vessels, registry under flag of convenience nations and diverse forms of trading. In recognition of the prospects of a conflict, most nations have also developed large strategic reserves of resources. Examination of the history of trade warfare brings to fore that the effects of a trade warfare campaign are difficult to gauge and manifest themselves after a prolonged duration. These factors, amongst others, question the relevance of navies pursuing a trade warfare strategy at the cost of naval resources that could be allocated to other naval tasks in a conflict. The article examines arguments for and against the conduct of maritime trade warfare in the twenty-first century and distils possible answers for its conduct.

War on commerce to choke or disrupt the adversary's seaborne trade has been practised since the beginning of trade across the seas. Trade warfare has been traditionally executed by either stopping the flow of trade using a naval wall in the sea, such as a blockade, or by attacking commercial shipping plying to the adversary's ports. The strategic effects of maritime trade warfare have ranged from degradation of economies

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to scarcity of military supplies and even starvation. Technological advancements in the twentieth century significantly altered the conduct of maritime trade warfare, especially during World Wars I and II. World War I bears evidence of Britain's effort to blockade Germany, also known as the 'starvation blockade'.[1] Meanwhile, during World War II, trade warfare was a significant component of the German maritime strategy against Britain and the United States (US).[2] Commerce raiding was also employed successfully by the US against Japan to cripple its mercantile marine fleet and sever its sea lines of communication (SLOCs).[3] In recent times, the Iran–Iraq War during the 1980s witnessed the use of missiles and mines to target merchant shipping.

The globalisation of trade, proliferation of merchant vessels registered with flags of convenience, nature of maritime trade, legal challenges in trade interdiction and blockades, technological advancements in shipping, long gestation time for trade warfare to have any effect and the quandary of resource allocation for competing naval missions in a conflict query the relevance of trade warfare in naval wars. Can mechanisms be developed to deconstruct the complexity of maritime trade to develop a trade warfare strategy? Are the effects of trade warfare on an adversary due to the so-called dependency on seaborne trade overplayed? What would be the time frame in which the effects of trade warfare would manifest? What would be the quantum of naval effort required for an effective trade warfare strategy? Would the quantum of effort required for trade warfare be at the cost of deficiencies for other naval missions? The article examines these questions and seeks to distil answers from the concoction of arguments propounded by both the proponents and the opponents of trade warfare.

Lessons from the History of Trade Warfare

The idea of protecting own SLOCs while threatening that of the adversary dates back to after 1000 BC when seaborne trade flourished between the Phoenician and Greek cities. The risks to maritime trade from nations and pirates led to the creation of constabulary forces at sea and the development of a sea power strategy centred on maritime trade prosecution and protection.[4] The first recorded naval battle with trade as the source of conflict was fought off Sardinia between the Greeks and the Etruscans in about 540 BC.[5] Arguably, a significant dimension of the Peloponnesian war was the conduct of trade warfare. Commerce warfare on the seas was executed by attacking shipping, along with the

employment of 'privateers', control of the SLOCs and blockade of ports. Eventually, Athens could not protect its trade leading to its surrender.[6]

Trade warfare was often waged by private players authorised by governments issuing 'letters of marque'. The distinction between the hitherto practice of piracy supported by governmental letters of support and trade warfare executed by private interests aided by 'letters of marque' was almost indiscernible.[7] From the mid-sixteenth into the seventeenth century, fleet actions were relegated to a secondary position in naval warfare as commerce warfare at sea assumed a position of prominence. The seventeenth and the eighteenth centuries witnessed large-scale conduct of trade warfare in naval conflicts in Europe between the British, French, Spanish, Dutch and others.[8] The French strategy of *guerre de course* (commerce raiding), set in motion at the end of the seventeenth century, involved the use of smaller and faster craft to attack the enemy's seaborne trade while avoiding the main fleet (that is, *guerre d'escadre* or war of fleets). The strategy was developed as a counter to France's inability to fund and support a large navy. The Anglo-French rivalry during 1793–1802 and 1803–15 wars witnessed a competition between the strategies of main fleet engagement and commerce raiding. The French seized close to 11,000 British ships from 1793 to 1815, sending insurance rates skyrocketing. The attempts to choke British trade, coupled with their continental strategy, had noteworthy economic effects. However, the British managed to eventually reverse the successes of the French commerce warfare by resorting to a worldwide convoying system, based on the Convoy Acts of 1793, 1798 and 1803.[9] Noting the remarkable success of the French in commerce warfare, Alfred Mahan commented: 'at no time has war against commerce been conducted on a larger scale and with greater results than during this period.'[10]

The Declaration of Paris of 1856, agreed to by 55 nations, delegitimised the use of 'privateers' for commerce warfare and attempted to lay down guidelines for the conduct of a naval blockade.[11] However, nations with weaker navies at the time, such as the US, Spain and Mexico, refused to sign the Declaration of Paris as it particularly disadvantaged them against the larger navies.[12] Notwithstanding the Declaration of Paris, 'privateering' resurfaced during the American Civil War, though its success was limited due to the Union blockade and closure of ports for sale of prize vessels.[13]

The late eighteenth century and the beginning of the nineteenth century witnessed notable technological developments in naval warfare,

such as the advent of torpedoes, mines, battleships and the turbine engine, amongst others. In 1869, Captain Grivel of the French Navy argued for the prominence of *guerre de course*, opining that it was the 'only viable naval strategy' to challenge the asymmetric naval advantage of Britain as the Declaration of Paris merely outlawed 'privateering' and not commerce raiding.[14] The Jeune École (or 'new school') that succeeded Grivel's conceptualisation presented a more radical view and argued for the disbandment of the traditional fleet battle-based approach and its replacement by navies purposed and equipped to conduct *guerre de course*. From 1874 onwards, these precepts were largely publicised by Admiral Theophile Aube and journalist Gabriel Charmes, and gained substantial traction in 1886 when Admiral Aube became Minister of Marine. Converting thought to action, Admiral Aube suspended France's battleship construction programme and focused effort on developing capabilities required for commerce raiding, such as submarines and torpedo boats. However, by the early 1900s, these ideas fell out of favour and France reverted to a more conventional fleet outlook.[15]

World War I witnessed Britain carrying out a blockade of Germany. Meanwhile, Germany realised that Britain's transatlantic trade reinforced its ability to fight and therefore, it resorted to unrestricted trade warfare using submarines. This led to the sinking of two American vessels, *Lusitania* and *Arabic*, in May and August 1915. The resultant political uproar in the US led to a pause in unrestricted trade warfare.[16] As the war advanced, Germany recognised that the recommencement of unrestricted trade warfare might draw the US into the war, but surmised that Britain would fold much before the effects of the US entering the war would adversely affect the German fortunes. Eventually, in January 1917, Germany chose to recommence unrestricted trade warfare; and contrary to its earlier estimates, Britain did not capitulate and the entry of the US into the war decisively affected Germany's fortunes.[17] The British blockade of Germany, albeit over a prolonged duration, proved to be successful. In contrast, the German counter-blockade strategy of unrestricted submarine war, even with the sinking of 12.5 million tons of allied and neutral shipping, was a strategic failure.[18]

Drawing on the experiences of World War I, Britain again established a blockade of Germany in World War II. In response, Germany conducted unrestricted trade warfare on Allied shipping using aircraft and submarines. During the war, Germany sank 5,150 Allied merchant ships displacing 21.57 million tons. Besides the destruction of Allied

merchant shipping, the attacks also had 'negative second-order' effects on the military preparedness of Britain. Germany, in turn, paid a heavy price for the campaign by losing 788 submarines and crew.[19] However, Germany could not consolidate its initial success as it never managed to construct the number of submarines that Admiral Doenitz desired for an effective campaign and nor were the available U-boats utilised intelligibly. As the war dragged on, convoying operations, improved air cover and anti-submarine warfare (ASW) tactics stacked the odds against the U-boats. By 1942, the gains of the initial U-boat successes were being steadily reversed by the Allied forces.[20]

Meanwhile, in the Pacific War, the US employed 288 submarines, surface ships, aircraft and mines to conduct a successful trade warfare campaign against Japan. The campaign led to the destruction of 8.1 million tons of merchant shipping, eventually crippling Japan's industrial base and leading to starvation.[21] On the other hand, the British blockade of Germany had mixed results due to Germany maintaining large stockpiles and developing substitutes for materials such as oil and rubber. The German counter-blockade efforts were supported by resources obtained from conquered territories.[22]

Post-World War II, blockades have been conducted by a variety of means with varying degrees of success. The US-led air and sea blockade of North Korea during the Korean War, aimed largely at Wonsan harbour, was largely unsuccessful. During the Vietnam War, two US blockades were conducted: first, targeting naval infiltrators from North to South Vietnam in 1965; and second, the mining effort around North Vietnam's harbours beginning in 1972. Both these blockades were largely successful, but support to the Viet Cong via Cambodia, Ho Chi Minh trail and from mainland China kept the North Vietnam military adequately supplied. Eventually, both blockades did channel Vietnam towards the Paris Peace Accords of January 1973. However, two years after the blockades ended, South Vietnam was invaded and merged into North Vietnam.[23]

The use of exclusion zones to simplify the problem of identifying shipping bound for a belligerent was exercised effectively during the Falklands War in 1982. On 12 April 1982, the British government announced that it would enforce a maritime exclusion zone (MEZ) of 200 nautical miles around the Falklands Islands. Neutral shipping and Argentine merchantmen were not affected by this declaration. However, on 30 April, a total exclusion zone (TEZ) was enforced. The

TEZ applied to Argentine warships, auxiliaries, merchant vessels and aircraft. The declaration avowed the targeting of any vessel whether naval or merchant, and any aircraft whether military or civilian, that was operating in support of the Argentine forces. The British declaration faced limited international dissent, besides the isolated Russian protest in concert with Argentina. The Russian protest was centred around the argument that the British TEZ was limiting freedom of the high seas. In response, Argentina claimed the waters of the TEZ and declared it would target all British vessels and aircraft entering the zone.[24] Subsequently, the sinking of *General Belgrano* outside the 200 nautical miles TEZ, on 2 May, met with much condemnation, but led to the Argentine Fleet seeking safety in its harbours.[25] The successful British blockade was enforced in a short time from 12 April to 22 July. As there was limited time to board ships, inspect cargos or provide warnings, the blockade was enforced using combative means of attacking and destroying vessels. The British effort was supported by exceptional intelligence and the use of Ascension Islands as a 'gateway' to regulate the flow of maritime traffic off Falklands.[26] However, it is worth noting that the geographical isolation of the Falklands Islands was predisposed to the enforcement of a blockade, and British success emphasised the vulnerability of island nations to a blockade.

Iraq invaded Iran in September 1980, citing self-defence. Subsequently, Iran issued a notice to mariners (NOTMAR) establishing shipping lanes for vessels passing the Strait of Hormuz, denied access to Iraqi ports and warned countries in the region against offering port facilities to Iraq.[27] In August 1982, Iraq established an MEZ around an Iranian oil facility on Kharg Island.[28] During the so-called 'Tanker War', both sides targeted each other and neutral merchant shipping by varied means such as airstrikes, missile attacks and mining. Iran mined approaches to Kuwaiti ports which were serving as proxy ports for shipment of crude oil by Iraqi.[29] The indiscriminate attacks on merchant shipping led to Kuwait reflagging its vessels under the US, seeking protection under its neutral status. A total of 546 merchant ships were targeted during the war, of which 239 ships were tankers. However, very few sank.[30] The shipping through the region witnessed an initial decrease of 25 per cent, which was soon made up as more ships were employed to carry crude oil despite the risks. The belligerents also reduced the price of their oil exports to absorb the increased insurance premium.[31]

Legal Dimensions of Maritime Trade Warfare

Blockade and Exclusion Zones

The first naval blockade was declared by the Dutch on 27 July 1584, prohibiting access to Flemish ports to cut off Spanish military supplies. However, it was much later during the Crimean War (1854–56) that the law of blockade started taking shape.[32] The first instance of a formal law addressing the subject of blockade was articulated in the Declaration of Paris in 1856, which was further codified in the London Declaration of 1909. The London Declaration enunciated 21 provisions for 'Blockade in time of war'. The Declaration was never ratified but outlined five essential principles of belligerent blockade law. As a first principle, the right to establish a blockade was limited to countries engaged in 'open hostilities'. Second, the blockade would have to be formally declared with adequate notice to neutrals. Third, the blockading belligerent must have sufficient power to enforce the blockade, outlawing the so-called 'paper blockades'. Fourth, the blockade must be applied to vessels of all nations without discrimination; and fifth, the blockade 'must not bar access to ports and coasts of neutral states and straits, canals and international rivers which give access to territory not belonging to or occupied by the enemy'. Ships violating the blockade, irrespective of cargo or origin, could be seized and condemned to prize courts. However, such vessels were not to be destroyed, especially when crew safety was in doubt.[33]

The traditional close blockade linked to the London Declaration was made redundant by the use of long-distance blockades during World War II.[34] During the blockade of Germany, the British developed the system of certification at the port of origin to ease the problem of identification of cargo and consignee. British officials abroad issued certificates, such as 'Cargo Navicert' or 'Ship Navicert', that marked a ship safe from being diverted or captured during the enforcement of the blockade. Furthermore, technological developments, such as long-range weaponry, submarines and air power, led to the reinterpretation of the London Declaration. Nevertheless, the principles of the London Declaration remain pertinent to this day and are largely replicated in the military manuals of the US Navy and the German and Canadian Armed Forces.[35]

Articles 93–104 in Section II of the San Remo Manual on International Law Applicable to Armed Conflicts at Sea, 12 June 1994, further enunciate the considerations for a blockade. The articulation is largely in consonance with the London Declaration, while incorporating

a large number of humanitarian concessions and providing adequate latitude for measuring effectiveness and choosing methods and means for the implementation of a blockade.[36]

Principles of declaration, demarcation, notification, impartiality and provisions for neutrals in a blockade have widespread consent. However, there is no agreement on the principle of measuring the effectiveness of a blockade, largely due to the varied means of enforcing a blockade and the subjective nature of its effect. Nations may maintain a blockade by use of military aircraft, ships and mines. However, the use of only mines as a means of enforcing a blockade is permissible if the mines are controlled. Blockades are no longer limited to conflict and may be enforced by the United Nations Security Council (UNSC) under Article 42 of the United Nations (UN) Charter.[37] However, it is worth noting that naval blockades of ports or coasts not mandated by the UNSC are viewed by the UN as an act of aggression 'regardless of a declaration of war', but it does not view limited naval operations such as exclusion zones similarly.[38]

Exclusion zones can be viewed as a reinterpretation of the traditional blockade by limiting the use of seas with a threat of force. Promulgation of an exclusion zone married to the threat of force for any transgression serves to simplify the identification problem of vessels bound for the belligerent. The origin of exclusion zones stems from the advancements in naval technology that afford the ability to limit neutral trade by the use of offensive naval capability at distances far beyond the traditional close naval blockade. The exclusion zones of Britain and Germany during World War II were justified on the grounds of belligerent reprisal.[39] Post-World War II, such an assertion is invalid as belligerent reprisal violates Article 2(4) of the UN Charter. During the Falklands War, the establishment of exclusion zones was justified as a self-defence measure under Article 51 of the UN Charter.[40]

Article 87(1) of United Nations Convention on the Law of the Sea (UNCLOS, 1982) amplifies that freedom of the high seas. Besides being subjected to UNCLOS, it also recognises the relevance of other rules of international law, thereby offering a window for the legitimacy of exclusion zones. However, this window is partially closed by Article 87(2) which enunciates that states shall exercise the existing freedoms 'with due regard' for the interests of other states 'in their exercise of the freedom on the high seas'. Article 88 further amplifies that the high seas shall be reserved for peaceful purposes.[41] Nevertheless, exclusion

zones are not necessarily in contravention of UNCLOS; however, the justification under Article 87(1) of UNCLOS may be questionable.

Articles 105–108 of the San Remo Manual define the use of zones but do not mention MEZs or TEZs. Accordingly, the extent, location and duration of the zones are to adhere to the principles of necessity and proportionality, and the promulgation of zones do not absolve the belligerent of obligations under international humanitarian law. The articles emphasise that the rights of neutral states to the legitimate use of the seas must be honoured, access to neutral ports should not be impeded and neutral ships and aircraft must have safe passage. Significantly, Article 108 states: 'the commencement, duration, location and extent of the zone, as well as the restrictions imposed, shall be publicly declared and appropriately notified'.[42]

As exclusion zones will be enforced by a threat of force by the armed forces and can be viewed as a form of 'economic coercion', they violate Article 2(4) of the UN Charter. Thus, unless the UN or any suitable legal mechanism sanctions exclusion zones, the legal justification of an exclusion zone is feasible only under Article 51 of the UN Charter (right to self-defence).[43]

Targeting Merchant Ships

The status of merchant ships is enunciated in various provisions of the Hague Conventions of 1907, such as Convention (VI), 'Relating to the Status of Enemy Merchant Ships at the Outbreak of Hostilities'; Convention (VII), 'Relating to the Conversion of Merchant Ships into Warships'; and Convention (XI), 'Relative to Certain Restrictions with Regard to the Exercise of the Right of Capture in Naval War'. However, these conventions do not specifically address the issue of the legality of targeting merchant ships.[44] Nonetheless, the importance attached to the safety of merchant ships is evident from Convention VI, which has a provision of grace period for an enemy ship to leave if it were present in the adversary's port at the time of the outbreak of hostilities.[45]

The London Naval Conference in 1909, while attempting to collate the prize court rules for the International Prize Court as enunciated in Hague Convention XII, formulated a 'Declaration Concerning the Laws of Naval Warfare'. Chapter IV of the Declaration authorised destruction of a neutral vessel, instead of being attached as a prize, if taking the ship into port 'would involve danger to the safety of the warship or to the success of the operations in which she is engaged at the time'.[46] The

London Treaty of 1930 was another attempt to draft rules on naval targeting and, in particular, address the issue of merchant ships being targeted by submarines.[47] The London Protocol of 1936 further codified Article 22 of the London Treaty (1930) and stated that a merchant vessel could be targeted on persistent refusal to stop or resistance to visit and search. However, even under such circumstances, safety of the crew and passengers would have to be ensured.[48]

Furthermore, there may be circumstances when neutral merchant vessels are integrated in the war effort of the belligerent. Under such circumstances, they become objects of attack, much like belligerent merchant ships. For instance, during World War II, the US as a neutral in the beginning, and subsequently as a belligerent, conformed to British trade protection methods.[49] During the Nuremberg tribunal post-World War II, Admiral Doenitz was charged with carrying out unrestricted submarine warfare in contravention of the London Protocol of 1936. Eventually, though he was pronounced not guilty of conducting unrestricted submarine warfare against enemy armed merchant ships, Doenitz was found guilty of sinking neutral ships and not conforming to warning and rescue guidelines as per the London Protocol. The integration of merchant shipping in the allied war effort was a significant factor that weighed in favour of Doenitz in the judgement of the tribunal.[50] In recent times, the Iran–Iraq Tanker War also witnessed the flouting of the London Protocol, reaffirming the view that nation states may choose to contravene customary law for national interests.

Article 41, Section I, Part III, of the San Remo Manual prohibits attacks on merchant vessels as they are considered civilian objects,[51] until they are construed to have military objectives as per Article 40. While the San Remo Manual defines military objectives as 'those objects which by their nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage' (Article 40), attacks on merchant vessels could be justified as the cargo could be directly or indirectly contributing to the enemy's war-waging effort. However, it does not free the attacker from obligations of the safety of the crew as per customary humanitarian law.[52] While the signatories of the London Protocol have not reneged on the agreement, its nature remains non-binding and part of customary law for the non-signatories. The San Remo Manual is also akin to customary law. However, the principles related to the targeting of merchant ships

as enunciated in these documents have been replicated in most military handbooks. Nevertheless, as was evidenced during the tanker wars, states may choose to violate the provisions of the London Protocol to target the enemy's trade.[53]

Challenges to Maritime Trade Warfare in the Twenty-First Century

Global Nature of Trade

The conduct of trade warfare during World Wars I and II was supported by the nature of trade that could be isolated with reference to the adversary, with limited adverse outcomes for allies. In contrast, the global nature of the world economy in the twenty-first century is founded on connectivity and sharing of resources. The seamless transportation of raw materials over distant lines of commerce to the country of manufacture is a foundational trade practice of the globalised economy.[54] Opponents of trade warfare argue that in a deeply connected global economy, isolation of an adversary's trade would be virtually impossible. Furthermore, due to the nature of global trade, maritime trade warfare against a country could have worldwide collateral economic consequences, especially when the country being targeted is deeply integrated into the global supply chain. For instance, prior to World War I, Germany accounted for approximately 15 per cent of the global manufacturing, while presently China accounts for 25 per cent of the global manufacturing production.[55] Consequently, diplomatic and economic pressure from countries indirectly affected by trade warfare may be a significant factor limiting its conduct.

Nature of Global Shipping

A key challenge in the conduct of maritime trade warfare is the identification of the flag state and ownership of merchant vessels. Merchant shipping during the years of great wars was largely owned and operated by flag states and therefore, segregation and prosecution were not as problematic. Presently, merchant ships can be owned by private individuals, corporatised family companies, large corporations and public or semi-public enterprises.[56] Furthermore, shipping companies can choose the flag to fly on the ship; often, to facilitate favourable taxation arrangements and ease of operation, this is not the state of ownership. This practice has been enabled by the rise of shipping registered in flag of convenience countries, such as Panama, Marshall Islands and Liberia.[57]

These countries are also the leading flags of registration by deadweight tonnage. The magnitude of the problem is evident from the statistic that these three countries account for 42 per cent of the world's shipping fleet registered to a foreign flag.[58] Technological developments such as a paperless bill of lading are aimed at improving cargo transparency for ports and regulatory agencies by providing access to the digital data within the electronic bills of lading.[59] While such an initiative would help identify irregular shipping, it may not address the problems of ambiguous ownership and registration. The problems of identification of the flag state, ownership and destination of goods will be notable challenges in the conduct of trade warfare.

Ships: Many More and Bigger

The mushrooming of seaborne trade has been supported by the scale and size of merchant shipping fleets. Before World War II, the world shipping tonnage, including tankers, was 57 million gross register tons. Through the war, close to 21 million tons of shipping was sunk, but the loss was compensated by a corresponding surge in shipbuilding capacity. The gross tonnage of global merchant shipping at the end of the war was 69 million tons.[60] In comparison, the merchant marine gross tonnage in 2020 was 2.06 billion deadweight tonnage (DWT) with about 98,140 ships.[61] During World War II, the oil tankers were a mere 10,000–15,000 DWT. The largest oil tankers today can top 500,000 DWT.[62] The exponential rise in the number and size of merchant vessels amplifies the challenge of sanitising merchant shipping that might be contributing to a belligerent's war effort. Furthermore, the targeting of large oil tankers would also lead to catastrophic oil spillage and damage to the fragile marine ecosystem. Examination of a large number of merchant ships would also require an equally large number of warships to police the shipping lanes and exercise the right of visit, board and search to ascertain nationality, ownership and the presence of contraband.

While the sinking of merchantmen is fraught with legal challenges, the increase in the size of the merchant vessel notably highlights the quantum of ordnance that would be required to sink or disable a merchantman. For instance, presently, the smallest oil tanker or dry and bulk ore carriers are two to four times larger than oil tankers of World War II.[63] Modern merchant vessels are multiple hulled and can absorb punishment without easily going down. The Iran–Iraq Tanker Wars witnessed almost indiscriminate targeting of merchant vessels, but very

few were sunk. In all, 546 commercial vessels were damaged, of which 61 per cent were tankers, with only 55 of them certified as 'constructive total losses'.[64] There have not been studies measuring the impact of ordnance on merchant vessels. However, a parallel can be drawn with the quantum of ordnance required to sink large warships. Some studies have shown that seven missile hits would be required to disable an aircraft carrier.[65] Similar quantum of ordnance may be required to sink a large merchant vessel. Therefore, unrestricted trade warfare on large merchant ships would be a considerable drain on the ordnance carried by warships.

Mines, a Low-Cost Option

The use of mines to enforce a blockade can be a lucrative low-cost option, additionally freeing up naval resources which otherwise would be employed for enforcing blockade or carrying out trade interdiction. For instance, the effect of mining by American forces during Operation Starvation blockading Japan in 1945 led to calorific intake in Japan dropping from its pre-war level of 2,000 calories per person to 1,650 calories per person. Additionally, the mining campaign reduced importation of raw materials into Japan 'below a critical point'.[66] The mining campaign of North Vietnam ports during the Vietnam War blocked the flow of essential war-waging supplies to the People's Army of Vietnam, indirectly contributing to the success of Operation Linebacker.[67] During the Iran–Iraq War, the use of mines over large areas of the Gulf and territorial waters of neighbouring countries resulted in damage to numerous merchant vessels.[68] However, the use of mines in support of a blockade would have to be in conformance with recognised customary international law on the use of mines.

Partial Cargo Conundrum

The requirement to identify trade headed for the belligerent is further complicated by the circumstance that goods are often bought and sold at sea. Oil is often bought at a cheap price and stored at sea in tankers while waiting for the prices to surge. For instance, Brent crude in May 2020 was trading at $14 a barrel higher than a year ago.[69] During a conflict, belligerents may buy oil and other war-waging resources after the ships have transited past a blockade by declaring that the goods were bound for a neutral. Furthermore, bulk and general cargo carriers and container ships often have cargo destined for numerous destinations along the general route of the voyage, which may be neutral countries

or an ally. Therefore, seizing or sinking of such vessels on the pretext of them being bound for the belligerent would have second-order diplomatic and economic consequences, possibly increasing the scope of the conflict. Moreover, unsold cargo is often traded at intermediary ports along the voyage, leading to the addition of more destinations or rerouting. Belligerents may leverage this practice to evade blockades and inspections.

Reserves, Rationing and Alternatives

Nation states have circumvented the ill effects of a blockade by utilising their strategic reserves, rationing their populace and industry, seeking alternative substitutes and developing terrestrial trade routes. During the British blockade of Germany in World War I, the German government issued food cards for bread and flour, and eventually resorted to a system of rationing by 1916. It also mandated the addition of potato flour to wheat, thereby creating the infamous *k-brot*. Additionally, the German conquest of Rumania led to the sourcing of oil and grain through terrestrial routes, bypassing the British blockade.[70] During World War II, the US used various voluntary and regulatory means to reduce the national consumption of gasoline by 32 per cent.[71] Rationing and prioritisation of resource utilisation coupled with the likely slowdown of non-war-related industries in a conflict are bound to reduce resource consumption. Nation states also maintain strategic reserves of key combat resources catering for a normal consumption rate for a month to three months or more. This affords the ability to parry the blow of trade warfare till the outer limit of the exhaustion of strategic reserves. Additionally, countries also seek to utilise terrestrial routes to circumvent the blockade at sea. For instance, China has a 12,000 kilometre (km) rail link to London that sweeps across Russia and parts of Europe. The one-way journey can be completed in 18 days, opening up the possibility of sourcing resources through terrestrial lines of commerce.[72]

Trade Interdiction at Choke Points

Intercepting the adversary's trade at choke points is an oft-repeated maritime course of action during a conflict. However, is it legally tenable? While the San Remo Manual is not binding in its applicability, it does codify customary law. As per the manual, the right to visit and search merchant vessels is limited to outside neutral waters. Furthermore, there are specific conditions under which neutral merchant vessels are

exempt from visit and search.[73] Additionally, the manual prohibits the use of neutral waters as a sanctuary by belligerents and forbids belligerent hostile action in straits, including visit, search, diversion or capture.[74] Moreover, as per the UNCLOS, although limited in its applicability only to peacetime, the rights of transit passage through international straits are not to be impeded by belligerents. It can therefore be concluded that trade interdiction in straits would not be compliant with customary international law. As per merchant shipping traffic data of 2017, every day, approximately 231 vessels transited through the Malacca Strait.[75] Hypothetically, the conduct of trade interdiction sufficiently distant from Malacca Strait would need ample sea space to examine merchant vessels and would have to be supported by adequate naval forces. Furthermore, if post-examination vessels have to be led to other destinations, the location of the port and naval resources required for such an enterprise are significant challenges.

Oil and Maritime Trade Warfare

Crude oil and its numerous derivatives are considered the lifeline of an adversary's war-waging effort. A maritime strategy relying on the blockade or interdiction of oil supplies of the enemy is commonplace amongst most modern navies. However, the validity of the assumption that the choking of seaborne oil trade will have a decisive effect on a conflict merits further examination. Most nations maintain strategic oil reserves to ensure an uninterrupted supply of oil and its derivatives during a conflict or when the global oil supply chain becomes inoperative or under-produces. For instance, China has strategic crude oil reserves exceeding 600 million barrels, corresponding to a 100 days of seaborne oil import. China maintains a domestic production of 3.5 million barrels per day, which may be significantly supplemented by terrestrial oil imports from Kazakhstan and Russia.

Additionally, oil interdiction or blockade of a major oil consumer may also cause considerable instability in the global oil market, with significant global economic implications.[76] A successful oil blockade might even lead to an escalation of the conflict akin to the Japanese attack during World War II on the oil-rich Dutch East Indies, in response to the US-led oil embargo, even as Japan possessed 'one-and-a-half-year supply at stable consumption rates'.[77] Gabriel Collins has examined the prospect of an oil blockade of China by the US. He argues that China would utilise a multi-pronged strategy to counter an oil blockade. The counter-

blockade strategy would draw upon limiting domestic consumption, diversifying and increasing terrestrial oil supplies and blending product extenders such as methanol into gasoline and diesel fuel.[78] This mix of strategies can be employed by most countries, except that the island nation states would not have the recourse to terrestrial oil imports. Collins builds numerous scenarios to gauge the 'holdout' time of China in the face of an oil blockade. He argues that if China employs the entire gamut of counter-blockade strategies, including the construction of emergency pipelines to Russia, the 'holdout' time would range from 10 to 61 months.[79] Depending on the strategic oil reserves and the counter-blockade strategies of a nation state, the effect of an oil blockade could be experienced over the near term or the long term. Thus, a maritime trade warfare strategy focused singularly on oil blockade may not have a decisive effect on the conflict. Nevertheless, it could have second-order effects as part of a comprehensive military action plan.

Technology and Trade Warfare

As mentioned earlier, the world merchant fleet in 2020 stands at a staggering 98,140 ships.[80] However, despite the mammoth increase in the number of ships plying the global commons, the maritime domain has become increasingly transparent with quantum jumps in vessel tracking technology and regulatory mechanisms. The advent of Automatic Identification System (AIS), space-based AIS, long-range identification and tracking (LRIT), open source intelligence (OSINT) sources, port vessel monitoring systems, ship reporting systems and satellite surveillance have provided the ability to monitor and track merchant and other vessels of interest. Nevertheless, these monitoring tools are not foolproof and can be compromised by 'jamming, spoofing or hacking, as evidenced by various incidents'.[81] Vessels may also voluntarily switch off AIS and other vessel monitoring systems. While nations have developed maritime domain awareness (MDA) systems that could facilitate the conduct of trade warfare, the validation of the information gleaned from MDA systems would often have to be ensured by the physical presence of naval assets.

Options for a Trade Warfare Strategy

In an article, Gabriel Collins and William Murray have attempted to address the issue of naval resources required to conduct trade interdiction or blockade off Malacca Strait, concluding that it would take a major

naval power about six warships and one replenishment ship to effectively conduct boarding and inspection off Malacca Strait. Furthermore, if Sunda and Lombok Straits were added to the mix, the number of ships would increase to 16 warships and four replenishment ships.[82] Considering the duration over which the effects of trade warfare manifest, a blockade or trade interdiction strategy against a major adversary would entail a long-term commitment of naval resources, constraining the availability of naval assets for other combat tasks.

A blockade or trade interdiction strategy that uses multifarious methods, beginning with blockading the trade at the port of origin, could be a viable solution. The start point of such a strategy could be the identification of the adversary's trade flow and associated vulnerabilities. The key industries of the adversary contributing to its war-waging effort need to be studied and mapped to dependency on overseas seaborne trade, followed by the identification of ports of origin and the development of historical database of use of merchant vessels for such trade. The sources of belligerent trade and their vulnerabilities can also be exploited using diplomatic and trade levers on the trading partners. Diplomatic pressure and reciprocal trade concessions too could be employed to limit the terrestrial oil supply options of the adversary. In 1929, well before World War II, the British set up a Ministry of Blockade and began gathering economic intelligence and identifying German trade vulnerabilities. The ministry was tasked with formulating a trade warfare campaign that would best exploit German vulnerabilities.[83] Trade interdiction and blockade strategies require a multi-agency approach, akin to the British effort during World War II.

Besides using diplomatic pressure to force governments to desist from trading with the adversary, a system of certification akin to the British use of the 'navicert' system, along with a destination delivery clause to address resale during transit, could be considered for implementation.[84] The issue of 'Cargo Navicert' or a 'Ship Navicert' by British officials at the port of the origin served as evidence that the ship and the cargo had been cleared from the consideration of contributing to the belligerent's war-waging effort.[85] Such a system, coupled with robust processes to monitor the real-time position of the merchant vessel, would limit vessel inspection requirements of the blockade. In case of a vessel altering its destination or resorting to in-transit sale violation after crossing a blockade outpost, the vessel could be seized during the return passage or even targeted as a deterrent measure. Targeting of merchant vessels

might lead to loss of life, large oil spills and derelict cargo, with attendant legal and environmental consequences. However, these consequences are possibly outweighed by the likely deterrent effect on other prospective blockade runners.

Promulgation of exclusion zones, rerouting of merchant traffic and targeting and seizure of blockade runners can be efficient coercive and regulatory tools to police seaborne trade bound for the belligerent. Armed prosecution of blockade runners might mean braving diplomatic pressure from an occasional conflagration with a neutral state; however, such action might accrue significant deterrent value, especially for trade on neutral and flag of convenience shipping. Execution of an effective maritime trade warfare strategy is also contingent on understanding the legal connotations of the various means of conducting trade warfare and interpreting them favourably. The success of a maritime trade warfare campaign needs to be wedded to other complementary courses of action, such as targeting the adversary's strategic storage facilities, port facilities, terrestrial lines of supply, raw material processing plants and oil refining plants.

The employment of navies for maritime trade warfare must be founded on a trade warfare doctrine that caters to both its offensive and defensive facets. The enforcement of blockade or the conduct of trade interdiction needs to be backed by a robust information and intelligence network. Economic intelligence gathered over time would form the foundation of such an intelligence and information database. The blockade enforcement plan must seamlessly manage information, beginning with the departure of vessels of interest from their ports of origin to their arrival at their final destination. The gathered intelligence would have to be rendered into an operational plan sustainable over a prolonged duration of time that duly factors available naval resources and their capabilities. Most navies do not conduct visit, board and search operations with an intensity comparable to the quantum that would be required while enforcing a blockade. Enforcement of blockade and trade interdiction procedures would have to articulated in doctrinal and tactical terms and practised on a comparable scale to gauge naval operational capacity and capability and identify shortfalls. This would entail vessel boarding and search drills, exercising routing, seizure and escort of prize vessels to designated ports and exercising command and control and regulatory procedures for blockade and trade interdiction.

Conclusion

History bears evidence that blockades and trade interdiction campaigns have paid dividends over an extended duration of application. Furthermore, considering the strategic reserves of essential resources maintained by major nation states, the effects of trade warfare are unlikely to be felt in the near term. Besides, the aphorism that future wars will be short and hence time for trade warfare to take effect will not be enough is not written in stone. Trade warfare might begin before the commencement of the war and may continue all through. Geography has a central vote in the success of a maritime trade warfare strategy as island nations are more susceptible to trade warfare, while countries with land-based trade tend to circumvent the cessation or constriction of maritime trade by developing or strengthening alternate terrestrial lines of supply. Historically, the failure of blockades has been linked to the nature of the theatre, flawed political objectives, deficient diplomatic heft and the ability of the enemy to develop counter-blockade strategies. However, in the twenty-first century, blockades have transitioned from being enforced close to the adversary's coast to more distant enforcement.

The execution of trade warfare strategy amongst countries with significant dependencies on seaborne trade would require a substantial commitment in terms of naval resources. The primacy of essential naval tasks with counter-force aims might leave little to spare for the conduct of trade warfare. Nation states may choose to limit the conduct of trade warfare to selective missions of trade interdiction. Nevertheless, the success of a trade warfare strategy is contingent upon using all forms of enforcement, such as: mines, aerial, surface and sub-surface means; formulation of distant blockade methods; countering of adversary's counter-blockade strategies; development of new forms of maritime trade warfare, like cyberattacks and port infrastructure degradation; judicious use of zones of exclusion to favourably shape the maritime geography; adequate resource allocation with a multi-agency approach; and nurturing enforcement capacity and execution capability. However, trade warfare strategies are not to be employed in isolation but have to be supported by complementary efforts in the theatre.

The complexity of the functioning of the international maritime trading system further amplifies the challenge of conducting trade warfare. However, certain measures, such as identification of adversary's critical sea dependency for resources, shaping of the diplomatic environment, an effective economic intelligence system, efficient MDA systems using all

available means, developing effective trade warfare-oriented intelligence, surveillance and reconnaissance (ISR) system and adoption of a whole-of-government approach to target the adversary's trade vulnerabilities, can be used to deconstruct the complexity of international maritime trading system.

It would be fair to surmise that the enemy would likewise target or constrict own maritime trade. Therefore, trade warfare strategies have to cater for both offensive and defensive options, and such strategies have to be founded on suitable trade warfare doctrine.

Notes

1. Bruce A. Elleman and S.C.M. Paine (eds), *Naval Blockades and Seapower: Strategies and Counter-Strategies, 1805–2005*, New York: Routledge, 2006, p. 6.
2. Colin S. Gray, *The Leverage of Sea Power: The Strategic Advantage of Navies in War*, New York, NY: The Free Press, Macmillan Inc., 1992, p. 80.
3. Ibid., p. 84.
4. Andrew Lambert, *Seapower States: Maritime Culture, Continental Empires and the Conflict that Made the Modern World*, London: Yale University Press, 2018, p. 17.
5. Ibid., p. 21. The Battle of Alalia was fought from 540 BC to 535 BC off the coast of Corsica.
6. John Nash, 'Sea Power in the Peloponnesian War', *Naval War College Review*, Vol. 71, No. 1, 2018, p. 132.
7. Douglas C. Peifer, 'Maritime Commerce Warfare: The Coercive Response of the Weak?', *Naval War College Review*, Vol. 66, No. 2, 2013, p. 85.
8. Ibid., p. 87.
9. Paul M. Kennedy, *The Rise and Fall of British Naval Mastery*, London: Penguin, 2004, pp. 131–32.
10. A.T. Mahan, *The Influence of Sea Power upon History, 1660–1783*, New York: Dover Publications, 1987, pp. 193–94.
11. Peifer, 'Maritime Commerce Warfare', n. 7, p. 95.
12. Ibid., p. 97.
13. Ibid., p. 98.
14. Ibid., pp. 101–02.
15. Geoffrey Till, *Seapower: A Guide for the Twenty-First Century*, London and Portland, OR: Frank Cass, 2004, pp. 68–70.
16. Peifer, 'Maritime Commerce Warfare', n. 7, pp. 105–06.

17. David C. Gompert, Hans Binnendijk and Bonny Lin, 'Germany's Decision to Conduct Unrestricted U-Boat Warfare, 1916', in *Blinders, Blunders, and Wars: What America and China can Learn*, RAND Corporation, Santa Monica, CA, 2014, pp. 64–65.
18. Peifer, 'Maritime Commerce Warfare', n. 7, p. 106.
19. Christopher J. McMahon, 'Maritime Trade Warfare', *Naval War College Review*, Vol. 70, No. 3, 2017, p. 5.
20. Timothy Mulligan, *Neither Sharks nor Wolves: The Men of Nazi Germany's U-Boat Arm, 1939–1945*, Annapolis, MD: Naval Institute Press, 1999, pp. 55–58.
21. McMahon, 'Maritime Trade Warfare', n. 19, p. 20.
22. Geoffrey Till, 'Naval Blockade and Economic Warfare in the European War, 1939–45', in Bruce A. Elleman and S.C.M. Paine (eds), *Naval Blockades and Seapower: Strategies and Counter-Strategies, 1805–2005*, New York: Routledge, 2006, n. 1, pp. 129–30.
23. Bruce A. Elleman and S.C.M. Paine (eds), *Naval Blockades and Seapower: Strategies and Counter-Strategies*, 1805–2005, New York: Routledge, 2006, n. 1, pp. 6–7.
24. Christopher Michaelsen, 'Maritime Exclusion Zones in Times of Armed Conflict at Sea: Legal Controversies Still Unresolved', *Journal of Conflict & Security Law*, Vol. 8, No. 2, 2003, pp. 373–74.
25. Charles W. Koburger Jr, 'SLOCs and Sidewinders: The 1982 Falklands War', in Bruce A. Elleman and S.C.M. Paine (eds), *Naval Blockades and Seapower: Strategies and Counter-Strategies, 1805–2005*, New York: Routledge, n. 1, pp. 194–95.
26. Ibid., p. 197.
27. George K. Walker, '*Guerre de Course* in the Charter Era: The Tanker War, 1980–1988', in Bruce A. Elleman and S.C.M. Paine (eds), *Commerce Raiding: Historical Case Studies, 1755–2009*, Newport, Rhode Island: Naval War College Press, 2013, p. 240.
28. Michaelsen, 'Maritime Exclusion Zones in Times of Armed Conflict at Sea', n. 24, p. 375.
29. Frank Uhlig, 'A Second Opinion', *Naval War College Review*, Vol. 56, No. 2, 2003, p. 49.
30. McMahon, 'Maritime Trade Warfare', n. 19, pp. 21–22.
31. Ibid., p. 31.
32. Wolff Heintschel von Heinegg, 'Naval Blockade and International Law', in Elleman and Paine (eds), *Naval Blockades and Seapower: Strategies and Counter-Strategies, 1805–2005*, New York: Routledge, n. 1, p. 11.

33. Michaelsen, 'Maritime Exclusion Zones in Times of Armed Conflict at Sea', n. 24, pp. 377–78.
34. Close blockade involved denying access to enemy coasts by amassing naval forces close to its coast, while long-distance blockades involved directing merchantmen bound for the enemy to discharge cargo at own or friendly ports. The idea of long-distance blockade was conceptualised by the British during World War I.
35. Heinegg, 'Naval Blockade and International Law', n. 32, pp. 15–16.
36. International Committee of the Red Cross, 'Treaties, States Parties, and Commentaries: San Remo Manual on Armed Conflicts at Sea, 1994—Methods of Warfare', available at https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/Article.xsp?action=openDocument&documentId=96F4C27D2F07BE8FC12563FB0049E4BC, accessed on 30 October 2020.
37. Wolff Heintschel von Heinegg, 'Naval Blockade and International Law', in Bruce A. Elleman and S.C.M. Paine (eds), *Naval Blockades and Seapower: Strategies and Counter-Strategies, 1805–2005*, New York: Routledge, n. 1, pp. 18–21.
38. 'Definition of Aggression'—Resolution, General Assembly of the United Nations, 14 December 1974, GA Res. 3314, UN GAOR, 29th Session, Supp. No. 31, at 142, Art. 3; UN doc. A/9631, 1974.
39. Reprisals are legal sanctions, which imply that if it were not for the illegalities committed by the opponent, such practice would be prohibited.
40. Michaelsen, 'Maritime Exclusion Zones in Times of Armed Conflict at Sea', n. 24, p. 373.
41. 'United Nations Convention on the Law of the Sea', available at https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf, accessed on 23 February 2021.
42. International Committee of the Red Cross, 'Treaties, States Parties, and Commentaries', n. 34.
43. Michaelsen, 'Maritime Exclusion Zones in Times of Armed Conflict at Sea', n. 24, pp. 379–81. Article 2(4) states: 'All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations.'
44. H.B. Robertson, Jr, 'U.S. Policy on Targeting Enemy Merchant Shipping: Bridging the Gap between Conventional Law and State Practice', *International Law Studies*, Vol. 65, 1993, pp. 339–40.
45. 'The Avalon Project—Laws of War: Status of Enemy Merchant Ships at the Outbreak of Hostilities (Hague VI); October 18, 1907', available at https://

avalon.law.yale.edu/20th_century/hague06.asp, accessed on 31 October 2020.

46. Robertson, Jr, 'U.S. Policy on Targeting Enemy Merchant Shipping', n. 44, p. 340.
47. L.F.E. Goldie, 'Targeting Enemy Merchant Shipping: An Overview of Law and Practice', *International Law Studies*, Vol. 65, 1993, p. 6.
48. Robertson, Jr, 'U.S. Policy on Targeting Enemy Merchant Shipping', n. 44, p. 341.
49. Sally V. Mallison and Thomas W. Mallison, 'The Naval Practices of Belligerents in World War II: Legal Criteria and Developments', *International Law Studies*, Vol. 65, 1993, p. 90.
50. Robertson, Jr, 'U.S. Policy on Targeting Enemy Merchant Shipping', n. 44, pp. 342–43. Shortly after the war began, the British Admiralty manned its merchant vessels with orders to send position reports upon sighting submarines, thus integrating merchant vessels into the warning network of naval intelligence.
51. Article 41 states: 'Attacks shall be limited strictly to military objectives. Merchant vessels and civil aircraft are civilian objects unless they are military objectives in accordance with the principles and rules set forth in this document.'
52. 'San Remo Manual on International Law Applicable to Armed Conflicts at Sea, 12 June 1994', available at https://www.legal-tools.org/doc/118957/pdf/, accessed on 1 November 2020.
53. Robertson, Jr, 'U.S. Policy on Targeting Enemy Merchant Shipping', n. 44, p. 344.
54. For example, the iPhone manufactured in the US has components and raw material sourced from as many as 15 countries. The global economy in 2018 was valued at $19.6 trillion compared to $24 billion in 1900. McMahon, 'Maritime Trade Warfare', n. 19, p. 26.
55. Gabriel Collins, 'A Maritime Oil Blockade against China', *Naval War College Review*, Vol. 71, No. 2, 2018, p. 51.
56. Tim Soare, 'Who Owns the World's Ships?', MarineTraffic Blog, 12 August 2015, available at https://www.marinetraffic.com/blog/who-owns-the-worlds-ships/.
57. 'What is a Flag of Convenience?', available at https://www.hg.org/legal-articles/what-is-a-flag-of-convenience-31395, accessed on 3 November 2020.
58. United Nations Conference on Trade and Development (UNCTAD), *Review of Maritime Transport 2020*, New York: UN, 2021, p. 44.
59. Ibid., pp. 123–24.

60. John S. Maclay, 'The General Shipping Situation', *International Affairs*, Vol. 22, No. 4, 1946, p. 488.
61. UNCTAD, *Review of Maritime Transport 2020*, n. 58, p. 35.
62. National Research Council, *Tanker Spills: Prevention by Design*, Washington, DC: National Academy Press, 1991, pp. 29–30.
63. UNCTAD, *Review of Maritime Transport 2019*, Geneva: UN, 2020, p. ix.
64. McMahon, 'Maritime Trade Warfare', n. 19, p. 21. Constructive total loss means that the cost of repair of a damaged ship/vessel is more than the value of the ship/vessel.
65. Wayne P. Hughes, *Fleet Tactics and Coastal Combat*, 2nd edition, Annapolis, MD: Naval Institute Press, 2000, p. 161.
66. Frederick M. Sallagar, *Lessons from an Aerial Mining Campaign* (*Operation* '*Starvation*'), Santa Monica, CA: Rand Corporation, 1974, pp. 56–58.
67. Spencer C. Tucker, 'Naval Blockades during the Vietnam War', in Bruce A. Elleman and S.C.M. Paine (eds), *Naval Blockades and Seapower: Strategies and Counter-Strategies, 1805–2005*, New York: Routledge, n. 1, p. 173.
68. Wayne P. Hughes, *Fleet Tactics and Coastal Combat*, 2nd edition, Annapolis, MD: Naval Institute Press, 2000, p. 161.
69. Firat Kayakiran, Javier Blas and Alex Longley, 'Storing Crude at Sea Becomes a Profitable Option for Traders', available at https://www.worldoil.com/news/2020/3/19/storing-crude-at-sea-becomes-a-profitable-option-for-traders, accessed on 6 November 2020.
70. Paul G. Halpern, 'The Blockade of World War I', in Bruce A. Elleman and S.C.M. Paine (eds), *Naval Blockades and Seapower: Strategies and Counter-Strategies*, *1805–2005*, New York: Routledge, n. 1, p. 103.
71. Bradley Flamm, 'Putting the Brakes on "Non-Essential" Travel: 1940s Wartime Mobility, Prosperity, and the US Office of Defense', *The Journal of Transport History*, Vol. 27, No. 1, 1 March 2006, p. 71.
72. Marcelo Duhalde, Adolfo Arranz and Marco Hernandez, 'Plugging China into Europe', *South China Morning Post*, available at http://multimedia.scmp.com/news/china/article/One-Belt-One-Road/europe.html, accessed on 6 November 2020.
73. 'San Remo Manual on International Law Applicable to Armed Conflicts at Sea, 12 June 1994', n. 52, Part V, Section II, Articles 118–120.
74. Ibid., Part II, Section I, Articles 15–17.
75. Marcus Hand, 'Malacca Straits VLCC Traffic Doubles in a Decade as Shipping Traffic Hits All Time High in 2017', *Seatrade Maritime News*, 19 February 2018, available at https://www.seatrade-maritime.com/asia/exclusive-malacca-straits-vlcc-traffic-doubles-decade-shipping-traffic-hits-all-time-high-2017, accessed on 6 November 2020.

76. Collins, 'A Maritime Oil Blockade against China', n. 55, pp. 52–53.
77. S.C.M. Paine, *The Japanese Empire: Grand Strategy from the Meiji Restoration to the Pacific War*, Cambridge, United Kingdom, and New York, NY: Cambridge University Press, 2017, p. 148.
78. Collins, 'A Maritime Oil Blockade against China', n. 55, p. 59.
79. Ibid., p. 68.
80. UNCTAD, *Review of Maritime Transport 2020*, n. 58, p. 36.
81. Ibid., pp. 123–24.
82. Gabriel B. Collins and William S. Murray, 'No Oil for the Lamps of China?', *Naval War College Review*, Vol. 61, No. 2, 2008, p. 87.
83. Geoffrey Till, 'Naval Blockades and Economic Warfare, Europe 1939–1945', in Bruce A. Elleman and S.C.M. Paine (eds), *Naval Blockades and Seapower: Strategies and Counter-Strategies*, *1805–2005*, New York: Routledge, n. 1, p. 119.
84. Collins, 'A Maritime Oil Blockade against China', n. 55, p. 56.
85. Till, 'Naval Blockades and Economic Warfare, Europe 1939–1945', n. 83, p. 123.