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政策研究所

7-2019

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Recommended Citation

Cheng, L. K. H., Whitten, G. W., & Hua, J. (2019). The national security argument for protection of domestic industries (PSEI Working Paper Series No.1). Retrieved from Lingnan University website: <http://commons.ln.edu.hk/pseiwip/1>

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The National Security Argument for Protection of Domestic Industries

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PSEI Working Paper No. 1

July 2019

Pan Sutong Shanghai-Hong Kong Economic Policy Research Institute (PSEI)

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Acknowledgements

The authors would like to thank the Pan Sutong Shanghai-Hong Kong Economic Policy Research Institute, Lingnan University, for generous support.

The National Security Argument for Protection of Domestic Industries

Leonard K. Cheng¹, Gregory W. Whitten², and Jingbo Hua³

July 2019

Abstract: Tracing the origin of the national security argument for protection of domestic industries to Adam Smith, Alexander Hamilton, and Friedrich List, we study its post-GATT applications with reference to Article XXI of the WTO. We compare the use of tariff, production/input subsidy, and government procurement as alternative instruments of protection from the perspective of economic efficiency and study the disapproval of inward FDI to gain insights into the underlying national security concerns. The case studies of a) the US tariffs on aluminum and steel, b) German disapproval of the acquisition of a technology firm Leifeld Metal Spinning by a Chinese firm, and c) US' all out global effort to cripple China's telecom equipment giant Huawei are presented for illustration.

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I. Definition and dimensions of national security

According to Harold Brown, US Secretary of Defense under President Jimmy Carter, “national security ... is the ability to preserve the nation's physical integrity and territory; to maintain its economic relations with the rest of the world on reasonable terms; to preserve its nature, institution, and governance from disruption from outside; and to control its borders.”⁴ The scope of national security in the US has expanded over time to include “economic security, energy security, physical security, environmental security, food security, border security, and cyber security.”⁵ The 2017 *US National Security Strategy* covers physical security, border security, military security, economic security, energy security, and cyber security. China’s definition of national security is “the regime, sovereignty, unity, territorial integrity, welfare of the people, sustainable economic and social development, and other major interests of the state are relatively not faced with any danger and not threatened internally or externally.”⁶ For Russia national security refers to “the security of the individual, society and the state from external and internal threats in all spheres of life.”⁷ Clearly, these major world powers have adopted definitions of national security with different levels of generality and specificity.

While “national defense” may be a narrower concept, e.g., “to secure a country against being attacked by its enemies,” in the U.S. *2018 National Defense Strategy* the mission of the US Department of Defense is “to provide combat-credible military forces needed to deter war and protect the security of our nation. Should deterrence fail, the Joint Force is prepared to win.”

In addition to all essentials of military capability and readiness, a key dimension of national security is “economic security,” which in the US means “the ability of a nation state to maintain and develop the national economy, without which other dimensions of national security cannot be managed. In larger countries, strategies for economic security expect to access resources and markets in other countries, and to protect their own markets at home.”⁸

⁴ See this attribution to Brown at https://en.wikipedia.org/wiki/National_security.

⁵ These dimensions of national security are taken from https://en.wikipedia.org/wiki/National_security.

⁶ From China’s National Security Law given at <http://en.pkulaw.cn/display.aspx?cgid=250527&lib=law>.

⁷ It is taken from the “National Security Concept of the Russian Federation” at <https://fas.org/nuke/guide/russia/doctrine/gazeta012400.htm>.

⁸ See <https://definitions.uslegal.com/n/national-defense/>

More specifically, major elements of national security include:

- a) Domestic production and stockpile of defense products: The capability of producing defense products domestically if necessary, the availability of inputs required by the military to sustain war efforts, including military hardware, weapons systems, and food, clothes, boots, equipment, etc. for military personnel;
- b) Communication systems: Telecommunication system, internet, satellites, etc. that are required for military command and coordination;
- c) Key infrastructure: Continued operation of public utilities, including transportation infrastructure, water supply, power grids, etc. that enable the general population to continue their economic activities, including reliable supply of goods and services to the military in a war;
- d) Cyber-security and financial system security: The former is closely related to the security of communication and infrastructure, and the latter ensures that the financial circulation system, which is indispensable to the continuous functioning of the national economy, is resilient, and
- e) New technologies that are crucial to the capability of fighting a war in the 21st century on land, sea, space, outer space, and cyber space.

II. Legal Aspects of the National Security Clause: Article XXI of GATT and Its Interpretation

Article XXI, paragraph (b) of GATT, now incorporated into the WTO, states that members are entitled to take “any action which it considers necessary for the protection of its essential security interests

- (i) relating to fissionable materials or the materials from which they are derived;
- (ii) relating to the traffic in arms, ammunition and implements of war and to such traffic in other goods and materials as is carried on directly or indirectly for the purpose of supplying a military establishment;
- (iii) taken in time of war or other emergency in international relations”⁹

⁹ https://www.wto.org/english/docs_e/legal_e/gatt47_02_e.htm#art21 Accessed 15 May 2019

A crucial question about the application of this article for protecting domestic industries is who has the right to decide whether “real security interests” are at stake. Regarding the interpretation of this article, the Congressional Research Service (November 28, 2018, p.2) remarks that “neither the WTO members nor a WTO panel have formally interpreted the Article XXI exceptions to define its scope.”¹⁰ Arguably, this situation arises because member states consider the WTO to lack the authority to determine and interpret national security matters, matters of crucial importance for members’ sovereignty.

Even though the article intends members to be “self-judging”, an expectation remains that members invoke the article only “in good faith for national security reasons rather than to circumvent its trade obligations and protect domestic industries.”¹¹ Historically, the article was included as “a general exception applicable to the entire Charter” of GATT based on the agreement that this exception should not be too wide to allow the possibility that “under the guise of security, countries will put on measures which really have a commercial purpose.”¹²

The infrequent appearance of “national security” as a key term in GATT or WTO documents largely validates the decision to trust members to self-police the (mis)application of Article XXI exceptions. WTO Documents Online, which houses the official documentation of the WTO from 1995 onwards, indicates that “national security” is a topic in 167 documents. Of these, 46 are dated prior to the election of Donald Trump on November 8th, 2016, while the remaining 121 are dated after that election.¹³

Of the pre-2016 cases, The *Analytical Index of the GATT* (Index), which summarizes “the interpretation and application” of GATT, describes a few notable ones where member states conflicted over the invocation of Article XXI, in particular, what constitutes “essential security interests.”¹⁴ Czechoslovakia in 1949 complained that US invocation of Article XXI to deny export licenses for products such as electrodes and wire erred by confusing “military potential” with “essential security interests.”¹⁵ The US response included the statement “that if at any

¹⁰ Congressional Research Service (2018, p.2).

¹¹ Congressional Research Service (2018, p.4).

¹² WTO (undated, p.600)

¹³ Accessed 27 April 2019

¹⁴ Accessed 27 April 2019 https://www.wto.org/english/res_e/publications_e/ai17_e/ai17_e.htm

¹⁵ <https://docs.wto.org/gattdocs/q/GG/GATTCP3/33.PDF> p. 8

time it were thought that a decision had been based on false premises, the interested party could have recourse to the appeal board which was instituted for that purpose.”¹⁶

Supporting the US, the UK delegate stated “every country must be the judge in the last resort on questions relating to its own security. On the other hand, every Contracting Party should be cautious not to take any step which might have the effect of undermining the General Agreement. Particular cases involved should be examined in detail by the two governments concerned; no purpose would be served by a general inquest by the contracting parties.”¹⁷

Adopting the U.S. logic a dozen years later, Ghana justified a 1961 boycott of Portuguese goods by invoking Article XXI:(b) (iii), stating:

*“under this Article each contracting party was the sole judge of what was necessary in its essential security interests. There could therefore be no objection to Ghana regarding the boycott of goods as justified by its security interests. It might be observed that a country's security interests may be threatened by a potential as well as an actual danger. The Ghanaian Government's view was that the situation in Angola was a constant threat to the peace of the African continent and that any action which, by bringing pressure to bear on the Portuguese Government, might lead to a lessening of this danger, was therefore justified in the essential security interests of Ghana.”*¹⁸

The UK-Argentine conflict over the Falkland Islands (Malvinas) in 1982 led to trade restrictions imposed for non-economic reasons by the EEC, Canada, and Australia. Each of these economies had suspended imports from Argentina as a consequence of the conflict.¹⁹ The responses of all three economies relied on the fact that a Contracting Party’s Article XXI invocation could not be questioned by any other Contracting Party and required no notification or justification as “every contracting party was – in the last resort – the judge of its exercise of [inherent] rights.”²⁰ The US concurred with this argument, stating that “that GATT, by its

¹⁶ <https://docs.wto.org/gattdocs/q/GG/GATTCP3/SR22.PDF> p. 4

¹⁷ <https://docs.wto.org/gattdocs/q/GG/GATTCP3/SR22C1.PDF>, cited in the Index, p. 600 and

¹⁸ <https://docs.wto.org/gattdocs/q/GG/SR/19-12.PDF> p. 10

¹⁹ <https://docs.wto.org/gattdocs/q/GG/L5399/5317.PDF>

²⁰ <https://docs.wto.org/gattdocs/q/GG/C/M157.PDF> p. 10

own terms, left it to each contracting party to judge what was necessary to protect its essential security interests in time of international crisis.”²¹

Two cases involving Nicaragua offer an interesting comparison of the drastically different positions taken by countries that imposed trade restrictions by invoking national security and countries at the receiving end of the restrictions, with Nicaragua being the same country in opposite situations in these two cases. The first case is from the 1980s. The US imposed a total economic embargo on Nicaragua after the USSR-backed Sandinistas came to power in 1979.²² The US invoked Article XXI to justify its action.²³ Nicaragua complained that the US action violated its obligations and requested a panel to adjudicate the matter after consultations between the US and Nicaragua failed, stating “The right of any contracting party to ask for and to have a panel could not be challenged;” “the panel should take into consideration all GATT provisions, including Article XXI; ... as any action taken under Article XXI could be either genuine or based on false premises, it would be for the Contracting Parties under Article XXIII:2 to investigate any such matter and to give a ruling on it.”²⁴

The US responded that a panel would serve no purpose as each Contracting Party had the right to decide what constituted essential national security interests and that Nicaragua’s actions were a politicization of GATT. A large number of small economies supported Nicaragua’s case while other economies such as Canada and the European Community stated non-opposition to forming a panel while noting that a panel might prove ineffective.²⁵ After moves by the US to delay Nicaragua’s request for a panel, the US agreed with conditions: “the Panel could not examine or judge the validity of or motivation for the invocation of Article XXI:(b)(iii) by the United States in this matter.”²⁶ Contrast this response with the US response to Czechoslovakia in 1949 described earlier.

The panel’s final report states that “as [the panel] was not authorized to examine the justification for the United States’ invocation of a general exception to the obligations under

²¹ Ibid, p. 8

²² <https://docs.wto.org/gattdocs/q/GG/L5999/5803.PDF>

²³ <https://docs.wto.org/gattdocs/q/GG/C/M191.PDF> p. 41

²⁴ Ibid pp. 42-43

²⁵ Countries supporting Nicaragua included Colombia, Argentina, Poland, Uruguay, Peru, Brazil, Cuba, Chile, Spain, Romania, Jamaica, India, Hungary, Yugoslavia, Trinidad & Tobago, Czechoslovakia, Venezuela, and Mexico.

²⁶ <https://docs.wto.org/gattdocs/q/GG/L6199/6053.PDF> p. 2 I.3

the General Agreement, it could find the United States neither to be complying with its obligations under the General Agreement nor to be failing to carry out its obligations under that Agreement.” Although this panel’s report was not accepted by GATT, its conclusion (or lack thereof) suggests that a national security justification for trade barriers makes those barriers beyond examination for their validity or lack of it.

The second case is from 1999-2000. In November 1999, Honduras sought to ratify the Ramírez-López treaty with Colombia that, from Nicaragua’s perspective, infringed on Nicaragua’s rights in the Caribbean Sea and potentially created “unpredictable results which might jeopardize peace and stability in the region” owing in part to “the immediate movement of Honduran troops and military equipment to the northern frontier of [Nicaragua].”²⁷ In December 1999, Nicaragua imposed tariffs on goods and services from Colombia and Honduras, cancelled fishing licenses for Colombian and Honduran ships, and defended its actions by citing Article XXI.²⁸ Colombia requested consultations in early 2000 and, after the consultations’ failure, a panel in order to resolve the dispute.²⁹ On this occasion, as a member that invoked the article, Nicaragua argued that the article’s provisions “cannot be subjected to an examination by a panel” until and unless the WTO General Council invalidates the self-policing nature of the exception.³⁰

Tariffs enacted by President Trump on national security grounds will likely force the WTO to wrestle with Article XXI soon again. The WTO’s Dispute Settlement Body agreed on November 21, 2018 to establish panels to hear complaints about the US decision to impose tariffs on aluminum and steel imports and may once again consider whether the circumstances enveloping the trade restriction are examinable.³¹ Predicting the panels’ results are impossible, but examining an earlier case provides an interesting comparison. A WTO panel decision in 2013 on China’s claim that any WTO Member should have the right to determine which products were “essential” in order to qualify for an exception under Article XI:2(a) revealed the uniqueness of Article XXI.³² In its decision against China’s claim, the panel stated that

²⁷ S/C/M/41 paragraph 115 and WT/DSB/COM/5/Rev.1, p. 3; Honduran delegate to the WTO denied Nicaragua’s claim about troop movements.

²⁸ S/C/N/115 G/C/4, p. 1

²⁹ WT/DS188/1, S/C/M/41 paragraph 116, WT/DS188/2

³⁰ Table 1 in Cheng, Whitten, and Hua (2019) offers a comparison between the US approach to Nicaragua in 1985 and Nicaragua’s approach to Colombia in 2000.

³¹ Congressional Research Service (November 28, 2018, 5).

³² WT/DS394/R, 7.241 p. 81 and 7.261 p. 85.

Article XI:2(a) does not contain the qualifying phrase “which it considers necessary” which appears in Article XXI, and therefore the panel was in a position to examine the circumstances and reach a judgment on China’s claim under Article XI.

Rodrik (2019) argues that since tariffs imposed by the Trump administration are “trade follies” that are “beggar-thyself” as opposed to “beggar-thy-neighbor” policies, the WTO ought to stay out. This line of argument seems strange because the stated purpose of the US tariffs on aluminum and steel were manifestly intended to protect domestic industries and workers (see Section VIII.3 below) and did hurt foreign exporters. That is, US tariffs on aluminum and steel are indeed “beggar-thy-neighbor” policies, even though they may also produce “beggar-thyself” effects. Moreover, preventing Pareto-inferior outcomes of “prisoners’ dilemma” games of non-cooperative trade policy was precisely the reason for reaching agreements on GATT and WTO rules and regulations on the basis of enlightened self-interest and cooperation. Nevertheless, given the presumption of “self-judging” under Article XXI, any findings of the panels may have only moral authority. Will they authorize victims of the US tariffs on aluminum and steel to retaliate with their own tariffs? Let’s wait and see.

Besides the danger of using the national security interest as a pretext for protectionism, for large countries the article may also be used to extract “terms of trade” gains at the expense of exporting countries. The next section examines how early economic theorists considered these and other issues related to national security, to be followed by Sections IV and V which review two different approaches to analyzing the economic implications of national security objectives.

III. The National Defense and Infant Industry Arguments for Trade Protection

Adam Smith (1776, pp. 429-31) considered national defense as an exception to the general principle of free trade in international economic relations.³³ Alexander Hamilton, the first US Secretary of the Treasury, argued for protection of American manufacturing industries against their counterparts from Britain, the most advanced nation in the eighteenth and nineteenth centuries.³⁴ The German-American economist Friedrich List developed these arguments

³³ Mayer (1977, 363) makes reference to Smith’s first exception to the free trade principle.

³⁴ Breslin (2011, pp.1334-1335) considers the system first established by Hamilton and continued to be supported by US governments as proof of the US being the first “capitalist developmental state”, which

further.³⁵ List is well-known for making the “infant industry” argument for protection in his writings on the “national system” of political economy. Echoing Hamilton, List argued that nations less developed than Britain, such as the US and Germany, needed to protect their industries from Britain’s “supremacy of the pre-dominant manufacturing, commercial and naval power” with temporary tariffs on imports.³⁶ To List, the higher domestic prices in the short-run were present sacrifices for future gains, because “in the course of time, by the nation being enabled to build up a completely developed manufacturing power of its own, those goods are produced more cheaply at home than the price at which they can be imported from foreign parts”³⁷. Besides such economic gains, the manufacturing power resulting from the trade protection also secures “industrial independence in case of war.”³⁸

Nevertheless, List stressed that restriction on imports would be “justifiable only until that manufacturing power is strong enough no longer to have any reason to fear foreign competition” and that “only the most important branches of industry” should be protected.³⁹

IV. Traditional Economic Analysis of the National Defense Objective⁴⁰

Given the national defense objective postulated by politicians, military strategists, economists, etc., the focus of international trade economists’ analysis is usually whether trade

among other things put in place a tariff structure that protected domestic manufacturers from competition from more advanced countries.

³⁵ List considers that the appropriate level of economic analysis is at the national level, not at the two levels that Smith focused on, namely, the individual personal level and the level of the entire humanity that was described by him as a “universal union” (see Population Council (2007, pp. 594-597).

³⁶ Population Council (2007, p.597). Other quotes from List are taken from the same source unless stated otherwise. List argues that free trade would be justifiable if countries were equally developed and are part of a “universal union” living in “an everlasting peace”, but that “in the present conditions of the world a new unprotected manufacturing power cannot possibly be raised up under free competition with a power which has long since grown in strength and is protected on its own territory.”

³⁷ Population Council (2007, p.599).

³⁸ Population Council (2007, p. 6003). List also states that a nation “must possess sufficient power on land and at sea to defend its independence and to protect its foreign commerce” (Population Council (2007, p. 603).

³⁹ Population Council (2007, p. 605).

⁴⁰ A less conventional economic approach to the analysis of national defense is that of Thompson (1979). In his approach, the national defense expenditure a home country is required to incur in order to deter foreign aggression is a function of domestic private capital. The capital of any particular industry may reduce or increase the required national defense depending on the sources of externalities (e.g., military use of private capital at the time of war) or distortions (e.g., price ceilings and wage controls imposed by the home government during a war), thus calling for taxes on or subsidies for capital in different industries. In his model, trade means exports and imports of capital goods only (consumption goods are assumed to be non-tradables), thus a tariff on imports may be optimal beyond the optimum tariff argument because it is equivalent to a capital subsidy.

protection is optimal.⁴¹ The standard analysis is to maximize economic welfare of a representative consumer subject to a “non-economic” national defense constraint (objective).⁴² Depending on the specifics of the national defense constraint, the optimal policy may be a tariff, a domestic production subsidy for certain industries that are considered key to national defense, or an input subsidy (say, for skilled labor) if the private benefits that accrue to the input are below the social benefits of some inputs crucial to the production of defense products.

These results are economically intuitive because from the perspective of the theory of distortions (or theory of the second-best), first-best policies are those that directly target the root causes of distortions which make the market solution (including free trade for an open economy) sub-optimal. Unsurprisingly, a tariff is generally not the first-best policy because it is equivalent to the combination of a production subsidy and a consumption subsidy of the same magnitude. Similarly, a production subsidy, equivalent to subsidies for all productive inputs in proportion to their relative costs, may not be the first-best policy either because generally the supply of all inputs may not be subject to distortions proportionally, if at all.⁴³

Possible disruptions to international trade that cut off imported products important to national defense are another reason for reducing foreign dependence.⁴⁴ If the stockpiling of critical imported products fails to address national defense needs adequately, then protection of the relevant domestic industries would be necessary, but again output or input subsidies are more efficient than tariffs.

Note that any optimal policy analysis of a “large country” will always suggest an “optimum tariff” in addition to other policy elements that offset distortions in the product or input markets. However, the optimality of a tariff that is rooted in the presence of market power

⁴¹ E.g., Mayer (1977), Srinivasan (1987), and Tolley and Wilman (1977).

⁴² Srinivasan (1987) is a good example. But Mayer (1977), by showing that a tariff is superior to free trade under the condition of possible trade disruptions and ex post rigidity in changes of domestic production, argues that the justification of a national defense tariff is based on the usual economic efficiency criteria rather than on non-economic objectives.

⁴³ Srinivasan (1987) also discusses the use of trade embargoes by the home country to assist allies and hurt adversaries and to achieve global geopolitical objectives. We shall not be concerned with such motives because they are less connected to the protection of domestic defense related industries.

⁴⁴ See Tolley and Wilman (1977) and Mayer (1977). Without any national defense objective, Cheng (1987) demonstrates that the lack of ex ante and ex post substitutability in production and consumption plus uncertain international markets (i.e., uncertain international relative prices and probability of complete foreclosure of international markets) may lead to a high degree of self-sufficiency. For an extension to the case of intermittent trade disruptions and short-term production rigidity, see Cheng (1989).

also hinges on the assumption that foreign countries will not retaliate even when the home country attempts to improve its own “terms of trade”⁴⁵ at their expense. Clearly, the game involving optimum tariffs for a group of large countries has the features of the Prisoners’ Dilemma game, where the non-cooperative Nash equilibrium is worse than no tariffs at all. As mentioned in Section II, signatory countries of GATT and WTO members agreed to establish rules and regulations to restrain countries from pursuing selfish trade policies that in the end will hurt all countries. That is to say, the benefits associated with an optimum tariff are more elusive than real because retaliation by other large countries is virtually guaranteed.

V. Arms Race and Trade Protection

A defense economist’s approach to analyzing the national defense objective is to maximize this objective subject to some given level of economic wellbeing. For example, Brito’s (1972) two-player differential game model of an “armaments race”⁴⁶ presents a country’s national welfare as a function of both national defense and economic wellbeing. While economic wellbeing is a function of private consumption, defense is a positive function of the home country’s stock of armaments and a negative function of a foreign adversary’s, and the rate of change of the stock of armaments equals the rate of new investment in armaments less the rate of their depreciation.

Bruto uses this model to explore the existence and stability of a Nash equilibrium. He shows that a Nash equilibrium exists under certain conditions, but unsurprisingly the stability of the equilibrium is complicated as it depends on the behavior of the players’ reaction to deviation from the equilibrium stocks of armaments and their expected future values. Nevertheless, total disarmament appears to be unstable, even if it were a Nash equilibrium.

Bruto’s model has only one-good, “net national product,” whose quantity is fixed. The question posed is how to allocate this fixed quantity between private consumption and investment in defense armaments. Consequently, Brito and others adopting similar models can never answer questions about international division of labor based on comparative advantage.

⁴⁵ An improvement in the terms of trade means that the price paid for imports by home consumers net of the tariffs collected by the home government goes down as a result of the tariff.

⁴⁶ A differential game is a game in continuous time in which the law of motion of the state variables (the two stocks of armaments in this case) is given by a set of (two in this case) differential equations.

In reality, foreign trade enables the division of labor even for defense products, so that issues faced by the major powers involve both cooperation and competition. The fact that countries gain from trade in the form of more and cheaper goods than can be produced domestically ought to be a basic point of departure in discussing trade and other policy issues related to national security. Small countries usually import their armaments rather than produce them domestically, reflecting these countries' lack of production technologies, key materials, or scale economy.

Defense economists are perhaps less concerned about the scope of protection and the subtle differences between tariffs and production/input subsidies as instruments to assist domestic industries, but the goal of achieving the same degree of national security at minimum economic costs should never be forgotten, not the least by economists.

VI. Protection of High Tech Industries that Are Important to National Security

The definition of “infant industries” in any developing country evolves over time not only in relation to its mature counterparts found in the advanced countries, but also as a result of the continuous emergence of new industries in the world. In the 21st century, “infant industries” in emerging economies such as China and Russia often refer to “high tech” or “new tech” industries which are built upon the fruits of intensive R&D efforts. Developing country members of the WTO are entitled to certain types of short-term trade protection of their infant industries, but as specific developing countries succeed in building their economic capabilities and increasing their global market shares, the WTO must soon confront the question of countries “graduating” to different development levels.

Many important industries are developed on the basis of new technologies. The 2018 US *National Defense Strategy* (p.3) includes as new technologies “advanced computing, ‘big data’ analytics, artificial intelligence, automation, robotics, directed energy, hypersonics and biotechnology”. The 2017 U.S. *National Security Strategy* (p.20) states that “the United States will prioritize emerging technologies critical to economic growth and security, such as data science, encryption, autonomous technologies, gene editing, new materials, nanotechnology, advanced computing technologies, and artificial intelligence. From self-driving cars to autonomous weapons, the field of artificial intelligence, in particular, is progressing rapidly”.

The *2015 China National Defense White Paper* does not provide information on new technologies the Chinese military wishes to prioritize, but it does recognize the need to follow the global trends in making armaments intelligent, autonomous, invisible, and precise over long distance, and the need to compete in outer space and cyber space as well as informatics.⁴⁷ The 10 technological areas identified in *Made in China 2025*,⁴⁸ like the 10 areas identified in Germany's *2019 National Industrial Strategy 2030*,⁴⁹ are largely civilian in nature, though one area of German focus is directly on armaments while China targets artificial intelligence and robotics.⁵⁰

VII. Three Case Studies of National Security Protection

Since economic security is considered an important component of national security, it may be tempting to use national security as a pretext for protectionist policies. In this section three cases in which national security has been cited as the reason for protecting domestic industries or national competitiveness are presented: a) US tariffs on aluminium and steel; b) US trade and technology embargoes against Huawei Technologies and attempts to block it in third markets; and c) Germany's decision to block the acquisition of a domestic technology firm by a Chinese firm.

Case 1: US Aluminum and Steel

In March 2018, President Trump imposed a 25% tariff on steel and a 10% tariff on aluminum from key exporting economies, notably China, the EU, Canada, and Mexico, on national security the grounds by invoking the 1962 US Trade Expansion Act⁵¹. The affected economies subsequently filed complaints with the WTO⁵² while the US has since rescinded

⁴⁷ See the document at http://www.chinadaily.com.cn/interface/toutiao/1138561/2015-5-26/cd_20821000.html.

⁴⁸ See the document at http://www.gov.cn/zhengce/content/2015-05/19/content_9784.htm

⁴⁹ See the document at <https://www.bmw.de/Redaktion/EN/Publikationen/Industry/national-industry-strategy-2030.html>.

⁵⁰ In *The New Face of Industry in France*

(https://www.economie.gouv.fr/files/nouvelle_france_industrielle_english.pdf) a total of 34 industries are identified, including driverless vehicles, telecom sovereignty, and robotics.

⁵¹ Cornell Law School. (n.d.). 19 U.S. Code § 1862 - Safeguarding national security. Retrieved from <https://www.law.cornell.edu/uscode/text/19/1862>.

⁵² World Trade Organization. (2018, April 9). China initiates WTO dispute complaint against US tariffs on steel and aluminium products. Retrieved May 8, 2019, from https://www.wto.org/english/news_e/news18_e/ds544rfc_09apr18_e.htm.

tariffs on Canada and Mexico in conjunction with negotiations for the United States–Mexico–Canada Trade Agreement (USMCA).⁵³

Key facts undermine the credibility of the US justification. According to the American Iron and Steel Institute, total US steel consumption in 2018 was 95.3 million tons, only 3% of which went to National Defense and Homeland Security (Figure 1). US aluminum firms produced 73.2% of the 4.9 million tons that the US consumed in 2018. Then US Department of Defense (DoD) Secretary James Mattis stated:

*“[T]he U.S. military requirements for steel and aluminum each only represent about 3% of U.S. production. Therefore, DoD does not believe that the findings in the reports impact the ability of DoD programs to acquire the steel or aluminum necessary to meet national defense requirements.”*⁵⁴

Examining employment trends in the US for aluminum and steel production shows a slight growth in the former and a slight contraction in the latter (see figures 2 and 3). Hence, defending the tariffs by citing a vulnerable domestic industry vital to maintaining ongoing national security appears questionable at best.

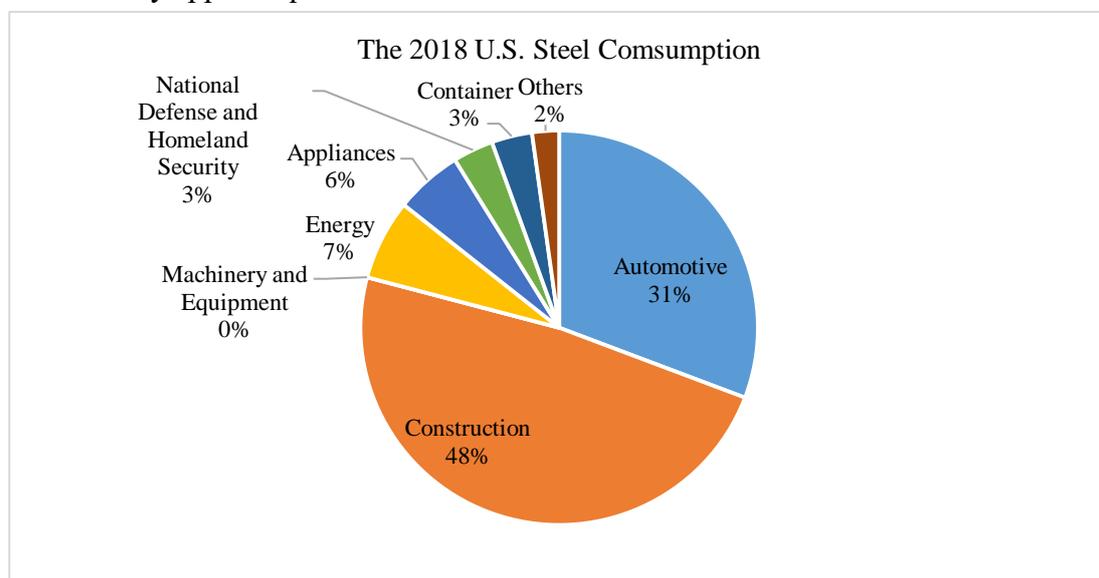


Figure 1

⁵³ Leonard, J., J., Deaux, and J. Wingrove, (2019, May 17). Trump Removes Steel, Aluminum Tariffs on Canada and Mexico. Retrieved May 20, 2019, from <https://www.bloomberg.com/news/articles/2019-05-17/u-s-poised-to-remove-steel-aluminum-tariffs-on-canada-mexico>.

⁵⁴ <https://www.forbes.com/sites/johnbrinkley/2018/03/01/fear-and-loathing-abound-as-trump-vows-to-enact-steel-and-aluminum-tariffs/#1b817fff15a6>.

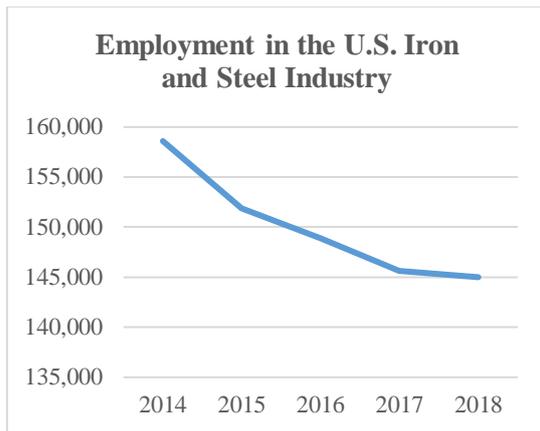


Figure 2



Figure 3

Case 2: Huawei Technologies

The US government has recently targeted Huawei Technologies, arguably the world’s largest telecommunications equipment manufacturer since 2012, ostensibly for national security. Past history and recent tactics suggest other motives.

In April 2018, the US Federal Communications Commission (FCC) issued a notice listing Huawei’s 5G technology as a threat to US national security and advised that Huawei be blocked from US markets.⁵⁵ In addition, Robert Strayer, Deputy Assistant Secretary for Cyber and International Communications and Information Policy, stated that Huawei’s 5G equipment would put the US and its allies at Chinese government espionage.⁵⁶ Furthermore, the US government has repeatedly urged allies to bar Huawei from their markets on pain of losing US-gathered intelligence.⁵⁷

In December 2018, Canadian authorities in Vancouver, at the request of the US government, arrested Wanzhou Meng, Huawei’s Chief Financial Officer and daughter of the company’s founder, for extradition to the US on fraud charges.⁵⁸ The indictment charged

⁵⁵ Pai, A., M. Clyburn, M. O’Rielly, and B. Carr, (2018, April 18). *FCC Proposes to Protect National Security Through FCC Programs* (United States, Federal Communications Commission). Retrieved May 8, 2019, from <https://www.fcc.gov/document/fcc-proposes-protect-national-security-through-fcc-programs-0>.

⁵⁶ Schulze, E. (2019, February 28). Top US official urges allies to reject 'deceitful' Huawei citing China spying fears. Retrieved May 8, 2019, from <https://www.cnbc.com/2019/02/27/mwc-2019-top-us-official-urges-allies-to-reject-deceitful-huawei.html>.

⁵⁷ Bing, C. and J. Stubbs, (2019, April 15). US to press allies to keep Huawei out of 5G in Prague meeting: sources. Retrieved May 8, 2019, from <https://www.reuters.com/article/us-usa-cyber-huawei-tech/u-s-to-press-allies-to-keep-huawei-out-of-5g-in-prague-meeting-sources-idUSKCN1RR24Y>.

⁵⁸ Bilefsky, D. (2019, March 06). What You Need to Know About the Huawei Court Case in Canada. Retrieved

Huawei and other defendants with using banking services in the US in order to conduct business with Iran, violating US sanctions and committing bank fraud, conspiracy to commit wire fraud, and conspiracy to defraud the US.⁵⁹ The FBI announced “companies like Huawei pose a dual threat to both our economic and national security, and the magnitude of these charges make clear just how seriously the FBI takes this threat”.⁶⁰

Yet, Huawei’s experience with the US offers an alternative interpretation of recent events and suggests economic motives for US actions. Cisco Systems, a US networking giant well known for its routers, had long dominated markets where Huawei now provides fierce competition. In 2003, Cisco sued Huawei for plagiarizing its networking hardware source code. Despite solid evidence, Cisco reached an accommodation with Huawei in 2004.⁶¹ 3Com, a former American rival of Cisco, formed a joint venture with Huawei in March 2003 and cornered China’s market away from Cisco.⁶² In 2012, Cisco again sued Huawei for copyright violation.⁶³

To succeed in the high tech industries, a firm must own a sufficient fraction of the patents of key technologies, as they not only provide secured ownership of innovative products, but also form the basis of intellectual property (IP) suits and countersuits. Thus, in high tech industries such as telecom equipment and semiconductors, lawsuits over IP are not uncommon, because IP lawsuits form part of the firms’ competitive strategy. To succeed in these lawsuits, having a sufficient number of key patents is vital. Huawei’s entanglement in multiple lawsuits is therefore unsurprising given its ascent to prominence from an unknown entity.⁶⁴

May 8, 2019, from https://www.nytimes.com/2019/03/06/world/canada/huawei-meng-wanzhou-arrest.html?_ga=2.163647354.458389932.1557299493-566384709.1556764253.

⁵⁹ Department of Justice. (2019, January 28). Chinese Telecommunications Conglomerate Huawei and Huawei CFO Wanzhou Meng Charged with Financial Fraud. Retrieved May 8, 2019, from <https://www.justice.gov/usao-edny/pr/chinese-telecommunications-conglomerate-huawei-and-huawei-cfo-wanzhou-meng-charged>.

⁶⁰ Ibid.

⁶¹ Scott, T. (2003, March 25). Huawei Admits Copying Code From Cisco in Router Software. Retrieved June 5, 2019, from <https://www.wsj.com/articles/SB10485560675556000>.

⁶² Chase, J. and J. Zilber, (2019, June 04). When 3Com met Huawei. Retrieved June 5, 2019, from <https://www.fastcompany.com/90356781/when-3com-met-huawei>.

⁶³ Leske, N. (2012, October 11). Cisco says Huawei misstated facts in 2003 copyright case (K. Barry, Ed.). Retrieved June 5, 2019, from <https://www.reuters.com/article/us-cisco-huawei/cisco-says-huawei-misstated-facts-in-2003-copyright-case-idUSBRE89A1GF20121011>.

⁶⁴ T-Mobile accused Huawei of IP theft in early 2019 (<https://www.forbes.com/sites/thomasbrewster/2019/01/28/the-us-just-charged-huawei-with-stealing-a-t-mobile-robot-idea/#3e96b15e3484>) whereas South Korea’s Samsung sued Huawei over patent disputes (<https://www.scmp.com/tech/china-tech/article/1986319/chinas-huawei-casts-wider-net-its-4g-patent->

Reports suggest that Chinese companies (Huawei and ZTE, etc) have become the world's biggest 5G related patents holders (34.02%), giving them great advantage for the future rollout of 5G technologies.⁶⁵ The American-based CNBC reported that while US network companies were still testing their 5G infrastructure, Huawei had already taken its central position in the race by signing contracts with network operators in China and other countries, and shipping completed equipment overseas.⁶⁶

Recognizing the economic motivations for US government actions may explain why some US allies find calls to boycott Huawei unpersuasive. While both Australia and New Zealand are following US recommendations, the German government has announced “no equipment supplier, including Huawei, should, or may, be specifically excluded.”⁶⁷ British reaction has been mixed,⁶⁸ but the official UK position remains that Huawei's equipment does not undermine national security since risks will be limited owing to a non-spying agreement to be signed between UK government and Huawei.⁶⁹

On May 15 2019, the U.S. Department of Commerce announced that it will put Huawei on its “Entity List”, implying that it and its subsidiaries cannot do business in the US and with U.S. related companies.⁷⁰ Most recently, U.S. Senator Marco Rubio filed legislation on June 10, 2019 that would prevent Huawei from seeking damages in US patent courts, after the

disputes).

⁶⁵ Tanaka, A. (2019, May 02). China in pole position for 5G era with a third of key patents. Retrieved June 10, 2019, from <https://asia.nikkei.com/Spotlight/5G-networks/China-in-pole-position-for-5G-era-with-a-third-of-key-patents>.

⁶⁶ Kharpal, A. (2018, March 07). China 'has the edge' in the war for 5G and the US and Europe could fall behind. Retrieved May 8, 2019, from <https://www.cnbc.com/2018/03/07/china-has-the-edge-in-the-war-for-5g-us-and-eu-could-fall-behind.html>.

⁶⁷ Gapper, J. (2019, January 30) Huawei is too great a security gamble. Retrieved 17 June 2019 from www.ft.com; Buck, T. (2019, April 14). German regulator says Huawei can stay in 5G race. Retrieved June 10, 2019, from <https://www.ft.com/content/a7f5eba4-5d02-11e9-9dde-7aedca0a081a>.

⁶⁸ Surrey University computer expert Alan Woodward has announced that Huawei Matebook laptops possessed a security flaw similar to the “backdoor” created by the US National Security Agency (NSA) and Huawei subsequently fixed the flaw. Prof. Woodward also noted Huawei has previously sent one version of its software to British government testing while distributing a different version to retailers. Consequently, Huawei vowed to enhance quality control but the UK's National Cyber Security Centre found “no tangible progress” towards Huawei's promises.

⁶⁹ Sabbagh, D. (2019, May 14). Huawei 'prepared to sign no-spy agreement with UK government'. Retrieved June 10, 2019, from <https://www.theguardian.com/technology/2019/may/14/huawei-founder-shut-down-china-eavesdrop>.

⁷⁰ Bureau of Industry and Security. (2019, May 16). Department of Commerce Announces the Addition of Huawei Technologies Co. Ltd. to the Entity List. Retrieved from <https://www.commerce.gov/news/press-releases/2019/05/department-commerce-announces-addition-huawei-technologies-co-ltd>.

Chinese firm demanded that Verizon Communications Inc pay \$1 billion to license its patented technology. The Senator's action might unintentionally make the US guilty of what it has charged China: stealing others' IP!

Case 3: Leifeld Metal Spinning

Though the US and China readily come to mind as significant international trading partners, Germany and China also have significant bilateral economic relations. Since 2016, China has been Germany's biggest trading partner,⁷¹ and Germany has retained its position as China's most important EU trading partner for forty years.⁷² A key dimension of this relationship is China's acquisition of German firms. The Chinese private automobile company Geely purchased almost 10% of Daimler's equity, one of the world's biggest and best-known automobile companies.⁷³ However, such high profile acquisitions may be responsible for Germany's decision in 2017 to tighten its regulation of inward Foreign Direct Investment (FDI). The German government now subjects all proposed inward FDI to compulsory national review and has veto power for any acquisition of 25% or more of equity share in sensitive industries.⁷⁴

In August 2018, the German government debuted this veto power over a proposed acquisition of a German company, Leifeld Metal Spinning AG (Leifeld) by Yantai Taihai, a private Chinese company with government shareholding that focuses on the civil nuclear power market and metal melting technology. Leifeld is a German company with a leading global position in producing metal spinning machine tools widely used in the automotive, chemical, and aerospace industries.⁷⁵ Approximately 30% of Leifeld's 2018 orders and profits came

⁷¹ Nienaber, M. (2018, February 21). China remains Germany's biggest trading partner in 2017 (S. Fenton, Ed.). Retrieved May 8, 2019, from <https://www.reuters.com/article/us-germany-economy-trade/china-remains-germanys-biggest-trading-partner-in-2017-idUSKCN1G5213>.

⁷² Song, Y. (2018, May 24). Sino-German relations will usher in greater development in the new era 新时期中德关系将迎来更大发展. Retrieved May 8, 2019, from http://www.gov.cn/xinwen/2018-05/24/content_5293273.htm.

⁷³ Hansen, H. (2018, December 19). With eye on China, Germany tightens foreign investment rules. Retrieved May 8, 2019, from <https://www.reuters.com/article/us-germany-security-m-a/with-eye-on-china-germany-tightens-foreign-investment-rules-idUSKBN1OI0UP>.

⁷⁴ Nienaber, M., Martin, M., & Nasr, J. (2018, August 08). Germany plans tighter scrutiny of foreign investments in defense (M. Trevelyan, Ed.). Retrieved May 20, 2019, from <https://www.reuters.com/article/us-germany-m-a/germany-plans-tighter-scrutiny-of-foreign-investments-in-defense-idUSKBN1KT17C>.

⁷⁵ Leifeld Metal Spinning AG. (n.d.). Portrait: We are not just a partner - we make it possible for companies to find new ways of forming metal. Retrieved from <https://leifeldms.com/en/home/>.

from China.⁷⁶

Compared with telecommunication giants like Huawei and Cisco, Leifeld is a relatively small company: profits in 2018 were only 5.2 million euros. However, the German government rejected the acquisition after a review showed possible negative impact on Germany's national security. Yet, both Leifeld and Yantai had argued that Leifeld's technology would be used only in the civil nuclear industry. Mikko Huotari, deputy director at the Mercator Institute for China Studies in Berlin, believes that the German government feared that Chinese expropriation of Leifeld's advantaged technologies may threaten German industries.⁷⁷ Moreover, the German news media Deutsche Welle argues that the correct interpretation of China's ambitions as embodied in *Made in China 2025* is that China will vigorously develop high technologies and consequently challenge Germany's leadership position for global high-tech industries.⁷⁸ Thus, it seemed to be all about national competitiveness, but Germany was free to pursue its own industrial policy as there are no multilateral agreements that govern FDI policies. We shall return to this point in Section VIII.2 below.

VIII. National Security and National Defense as Justification for Trade Protection under the Trump Administration

On December 18, 2017 President Trump unveiled the US *National Security Strategy* (*NSS*) with a focus on economic security, (treated as synonymous with American prosperity), the promotion of which is one of the Strategy's four pillars. The other three are (1) Protecting the US homeland, people and way of life, (2) Preserving peace through strength (as outlined in the US *2018 National Defense Strategy* (*NDS*), and (3) Advancing American influence.⁷⁹

VIII.1 *NSS* and *NDS*

⁷⁶ Arne, D. (2018, August 1). Germany Toughens Stance and Blocks China Deal. Retrieved May 8, 2019, from <https://www.bloomberg.com/news/articles/2018-08-01/germany-said-to-block-company-purchase-by-chinese-for-first-time>.

⁷⁷ Ibid.

⁷⁸ Becker, A. (2018, July 27). Germany's response to China's shopping spree is long overdue. Retrieved June 10, 2019, from <https://www.dw.com/en/opinion-germanys-response-to-chinas-shopping-sprees-is-long-overdue/a-44857127>.

⁷⁹ See White House (2017a and 2017 b).

Both the 2017 *NSS* and 2018 *NDS* of the US were predicated on the judgment that “the reemergence of long-term, strategic competition by revisionist powers” (identified explicitly as China and Russia, which were thought to “want to shape a world consistent with their authoritarian model”) has replaced terrorism and rogue states as the top challenge to the US superpower position. Between the two, a rising China with both military and economic might is regarded as a more formidable adversary than Russia. Perhaps reflecting a US aspiration to preserve its position as the world’s only and uncontested superpower forever,⁸⁰ one of the goals of its *NDS* is a “decisive” and “dominant” military advantage over any adversary.⁸¹ This goal reflects President Trump’s vision that national security for the US does not mean military parity or a moderate military edge, but an overwhelming military advantage and total military domination over any perceived adversary.⁸² In implementing the *NDS*, protecting the US “National Security Innovation Base” (NSIB) is considered essential to maintaining the country’s technological advantage.⁸³

The approach adopted by President Trump toward national security is termed “principled realism”, meaning that under his administration the US is ready to (a) give precedence to nation states over multilateral organizations; (b) wield its national power in international politics; (c), advance American principles (i.e., his “America First” doctrine), and (d) “use all of the tools of statecraft” to protect U.S. interests.⁸⁴

In the above US national security and defense documents, China is said to be posing a “serious intellectual property threat” to the US⁸⁵ and engaging in “predatory economics to coerce neighboring countries to reorder the Indo-Pacific region to their advantage” with the

⁸⁰ See, e.g., Wertheim (2019).

⁸¹ See U.S. Department of Defense (2018, p.5 and p.11).

⁸² According to Navarro (October 10,2018), President Trump believes that the “best way to deter our enemies and prevent war is for America to have the strongest military in the world, our armed forces to prevail overwhelmingly.”

⁸³ See Cheng, Whitten and Hua (2019), Section VIII.4, for additional discussions.

⁸⁴ See White House (2017 a). As elaborated in White House (2017 b, p.34), the range of economic tools include “sanctions, anti-money-laundering and anti-corruption measures, and enforcement actions—can be important parts of broader strategies to deter, coerce, and constrain adversaries.” As has been seen in Huawei’s case, all of these means and more have been employed to cripple the Chinese telecom equipment giant that has surpassed its U.S. counterparts in 5G technologies.

⁸⁵ It is stated in White House (2017 a, p.21) that “Every year, competitors such as China steal U.S. intellectual property valued at hundreds of billions of dollars.... Over the years, rivals have used sophisticated means to weaken our businesses and our economy as facets of cyber-enabled economic warfare and other malicious activities. In addition some actors use largely legitimate, legal transfers and relationships to gain access to fields, experts, and trusted foundries that fill their capability gaps and erode America’s long-term competitive advantages.

goal of seeking “Indo-Pacific regional hegemony in the near-term and displacement of the United States to achieve global preeminence in the future.”⁸⁶ As the world’s incumbent superpower seemingly determined to retain its singular hegemonic power forever,⁸⁷ the US would be understandably worried about the regional challenges posed by China and Russia in Asia-Pacific and Europe, respectively.

VIII.2 Alleged Chinese “Economic Aggression”

How China’s Economic Aggression Threatens the Technologies and Intellectual Property of the United States and the World, a 2018 report from the White House Office of Trade and Manufacturing Policy, reflects the Trump administration’s antagonistic views towards China’s economic success and technological progress. It defines “economic aggression” as “aggressive acts, policies, and practices that fall outside of global norms and rules.”

A closer examination of the six allegations about China’s “economic aggression”, however, reveals that except for activities illegal under international law or in violation of multilateral and bilateral agreements on trade, investment and IP, the alleged mis-behavior has been observed in many other countries (including the US) during their economic and technological catch up. For instance, the charge of “[protecting] China’s home market from imports and competition” can be leveled against the US during the 18th and 19th centuries when it shielded its manufacturing industries from more advanced British producers. In fact, the “Hamilton-List Infant Industry” argument is a testament of the US pre-WWI, protectionist economic policies, which were emulated subsequently by Germany, Japan, South Korea and other “latecomers” to the global process of industrialization.

“Protect China’s home market” is one of four allegations that the report has identified but without elaborating.⁸⁸ The report has focused instead on two other allegations related to technologies and intellectual property:

⁸⁶ See U.S. Department of Defense (2018, p.2).

⁸⁷ While some people deny out of sensitivity that the US is a hegemon at all, given the possibly negative connotation of a hegemon, others speak proudly (such as the late economist Charles Kindleberger) of the hegemonic stability that the US has brought to the world order and the danger of chaos and instability when a unipolar world order is replaced by a multi-polar world order.

⁸⁸ The other three allegations are (1) “Expand China’s Share of Global Markets”, (2) “Secure and Control Core Natural Resources Globally”, and (3) “Dominate Traditional Manufacturing Industries.” An objective observer of world events and history would easily conclude that these allegations can be made against the US

- a) Acquire key technologies and intellectual property from other countries, including the US;
- b) Capture the emerging high-technology industries that will drive future economic growth.

As in the case of the first four allegations, the above allegations describe acts or intentions that any aspiring country seeks to accomplish in a competitive world. Indeed, even the US has every reason to engage in activities as described under allegation (b), though as the world's technological leader its expected gains from the technologies and IP of other countries would be more limited. Yet, as the technological gaps between the US and other economies narrow, the situation may change. Also, its own history has demonstrated it engaged in allegation (a) too when European countries dominated the world economy.

Under allegation (a), the report has identified five charges in the first category of “physical theft and cyber-enabled theft of technologies and IP.” But as the report admits, “reverse engineering” (one of the five charges), for example, can be legal. It is easy to see that the same applies to other alleged activities. The second category has in total 15 charges of “coercive and intrusive regulatory gambits to force technology and IP transfer”, which may largely be the result of the lack of global agreements on foreign direct investment (FDI) policies, unlike the WTO agreements that regulate international trade and trade policies. Furthermore, like many other developing countries, China can and does set its own rules on inward FDI, so long as they do not violate bilateral or multilateral FDI agreements.

The third category of “economic coercion to force technology and IP transfer” has two charges, one of which touches upon China's restriction on exports of critical raw materials, which is similar to but more straightforward than President Trump's decision to ban US firms from supplying mobile phone chips, operating systems, and apps to Huawei, whose technologies are widely regarded as more advanced than those of the US. In the category of “information harvesting” there are three charges and in the category of “technology-seeking, state-financed FDI” there are two charges.

as well either now or in its history.

A litmus test of all of the above allegations, charges and sub-charges is whether the Chinese acts have broken any international law or violated any bilateral and multilateral agreements. If yes, China is guilty; if not, China is a scapegoat of the complainants' own failures, and 5G is a good example. Reading "*How China's Economic Aggression Threatens*" requires an effort to separate the wheat of facts and substance from the chaff of propaganda and half-truths. An overall impression a critical reader might garner is that China has pursued a proactive (even "aggressive") program for the purpose of upgrading its economy and technologies. Yet such a reader would be unlikely to conclude that China has embarked on "economic aggression" to destroy other economies for its own gains.

Needless to say, if any economy is dissatisfied with its investment relationships with others, it can negotiate for a solution and appeal to multilateral organizations like the WTO if the economies are bound by multilateral agreements. The US may have its conception of international norms by which it expects other countries to abide, but other countries may not accept them without reaching an agreement through meaningful negotiation. China's recent enactment of its Foreign Investment Law will go some meaningful distance towards addressing the concerns and dissatisfaction of its trading partners regarding their FDI in China.

VIII.3 "Economic Security is National Security"

Immediately under the title "Pillar II Promote American Prosperity" in the *NSS* is the quote "Economic Security is National Security". Like "America First", this maxim is another distinct principle (or dogma) of President Trump and has been illustrated multiple times by Peter Navarro,⁸⁹ Assistant to the President and Director of the White House Office that produced the above-mentioned report on China's alleged "economic aggression".

But what does economic security mean? Navarro provides several examples: "The Trump administration's new defense sales policies also create great jobs at great wages. That's pure economic security"⁹⁰ and "a strong manufacturing base is critical to both economic prosperity and national defense"⁹¹. There is no question that increased defense spending on any given industry will increase job opportunities and wages in that industry, but questions remain. First,

⁸⁹ See, for example, Navarro (Oct 10, 2018, Dec 9, 2018 and March 21, 2019).

⁹⁰ See Navarro (December 9, 2018).

⁹¹ See Navarro (October 4, 2018).

does national security require general trade protection for the entire manufacturing sector? Second, even within specific industries, such as aluminum and steel, are all products essential to national defense? Since these products are used by both the military and civilian sectors, a general tariff protection amounts to a combination of “real security interests” (permitted under Article XXI) and veiled protectionism (a violation of commitments to other WTO members).

From the point of view of US’s own welfare and optimal policy, it would be rational to focus trade protection and support (e.g., procurement policies, production subsidies and R&D subsidies) on those products used by the Departments of Defense and Homeland Security. In addition, a national defense procurement policy (which can offer prices way above import prices) would be an economically efficient instrument to achieve national security objectives, a point made by Helpman (1989) three decades ago. To the extent that there is civilian consumption, not only will civilian consumers pay more for the protected products, but also their loss in consumer surplus will exceed the total gains of all of the domestic producers, resulting in the net loss known as the “consumer’s triangle”. Moreover, to the extent that US trading partners retaliate with tariffs, US exporters will also suffer a net loss. Finally, trade protection may also cause additional losses in production efficiency due to lessened competition.

Thus, the question is not whether domestic firms producing products that actually go into national defense should be protected, but whether products consumed by civilians should also be protected at a net cost to the entire country. What Navarro calls “great jobs” and “great wages” created by trade protection are in fact at the expense of American consumers. The economic literature contains a recurring theme about the high cost of jobs arising from trade protection. The cost of manufacturing jobs created by tire tariffs imposed by the Obama administration was US\$900,000 per job, that created by washing machine tariffs imposed by the Trump Administration was US\$817,000 per job, and that by steel tariffs imposed by the Trump administration was US\$650,000 per job.⁹²

⁹² See Tankersley (2019).

IX. Disallowance of Inward FDI on National Security Grounds

Direct investment, unlike portfolio investment, confers control rights to investors. Foreign direct investment (FDI) provokes additional concerns about motives and the effect of foreign control of firms located in the home country, especially on national security, including national defense, vital technologies, economic competitiveness, crucial intelligence, and perhaps even ideology and culture. Given the importance of technology in inter-firm and international competition, a common motive for undertaking FDI in technologically advanced countries like the US, Germany and Japan is procuring advanced technology and related IP. Another motive of FDI is securing natural resources for the investing countries' development, as exemplified by some FDI in Australia, Canada and African countries.

In the US, the Committee on Foreign Investment in the United States (CFIUS) is an interagency committee set up to review inward FDI proposals to determine their effect on the country's national security⁹³. CFIUS can veto FDI proposals or require mitigating measures before approving. CFIUS releases data on the number of proposed transactions (mergers and acquisitions), how many were withdrawn before investigation, how many were withdrawn after investigation, and how many led to Presidential action (rare). However, CFIUS does break down this information by investing country or reveal why specific transactions were rejected.⁹⁴

The following table shows that during the period of 2005-2015, the transactions of Chinese FDI in the US rose from single digits until 2010 to double digits in the next five years. Its total number of covered transactions during this period was 127, higher than those of Japan and Germany, the world's biggest economies after the US and China. However, its number was smaller than those of the UK, an active provider of FDI throughout the world, and Canada, a close neighbor of the US. However, when we consider only 2011-2015, the total number of Chinese transactions at 107 was the largest among this group, reflecting a sustained increase in China's outward FDI.

⁹³ See <https://home.treasury.gov/policy-issues/international/the-committee-on-foreign-investment-in-the-united-states-cfius>

⁹⁴ Some withdrawals might be due to commercial considerations rather than CFIUS disapproval.

Table 1: CFIUS' Covered Transactions by Country, 2005-2015

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
China	1	0	3	6	4	6	10	23	21	24	29	127
Germany	2	4	6	3	1	2	3	4	4	9	1	39
France	9	9	7	12	7	6	14	8	7	6	8	93
UK	24	25	33	48	17	26	25	17	7	21	19	262
Canada	6	8	21	6	9	9	9	13	12	15	22	130
Japan	3	6	1	8	4	7	7	9	18	10	12	85

The six countries in table 1 account for 59.5% of US inward FDI proposals reviewed by CFIUS. The number of transactions withdrawn and disallowed by CFIUS by country are not provided, and the aggregate information released shows that over this period 11.5% of the transactions were withdrawn or disallowed; only three cases led to intervention by President Obama in 2006 and 2012.

A search for media reports on disallowed transactions of Chinese investment in in the US during 2008-18 has netted 20 cases.⁹⁵ An examination of these cases reveals that the target firms in these unsuccessful bids made and tested semiconductors; produced telecom and data transmission equipment and products; supplied aluminum products to the US military; conducted projects for the military involving polymers; and made electrical propeller for heavy duty trucks. Other target firms included a well-known stock exchange, a gold mine, a supplier of breeding pigs, and a few others (in LED production, data analysis, securities brokerage, and entertainment) whose connection to national security was minimal, if at all. We should point out that in some cases US firms themselves rejected Chinese inward FDI for fear that CFIUS would not approve the acquisition; an example was a Chinese effort to acquire the legendary Fairchild Semiconductor in 2016.⁹⁶

China lacks an equivalent to CFIUS that publishes data on approved and unapproved FDI transactions. Chinese authorities have rejected few FDI proposals, partly reflecting China's policy to attract FDI in certain sectors and explicit bans and restrictions in others. The disapproval of Coca Cola's acquisition of the juice maker Huiyuan in 2009 was clearly not a

⁹⁵ For details, see Appendix I in Cheng, Whitten and Hua (2019).

⁹⁶ See "Fairchild rejects \$2.6 billion Chinese offer" (<https://www.ft.com/content/ebd398d6-d4e7-11e5-969e-9d801cf5e15b>).

case of national security, but reflected concerns about market concentration and monopoly power. China's refusal to approve US mobile phone chip giant Qualcomm's acquisition of NXP Semiconductors in the Netherlands might be just a casualty of the Sino-US trade war in 2018 when the US threatened to shut down ZTE by banning it from essential inputs supplied by US suppliers.

To get a sense of what kind of inward FDI that China does not welcome, we can examine the "Negative List" published by China's National Development and Reform Commission (NDRC). The 2019 version of the list has few items under "manufacturing," none of which belong to high tech industries, a reflection of the fact that China is not a leader in high tech manufacturing and thus welcomes FDI in these industries.⁹⁷ Two notable items under manufacturing are "printing of publications" and "satellite TV broadcasting ground facilities." Their presence arguably arises from a desire to control information for public consumption rather than to protect manufacturing technologies with implications for national defense or competitiveness. Indeed, a number of items under "information transmission", "business services", "scientific research", "education", "culture, sports and entertainment" all are related to information for the public (and particularly students). In a sense, they are all about national security in the spheres of ideology and culture.

Analyzing data on FDI disapproval cases around the world lies beyond the scope of this paper (though the Leifeld case from section VII is such an example) and is complicated by the lack of readily-available data. Hence, we mention briefly only a few interesting cases. In the same year of the Leifeld case, the German government blocked acquisition of an electricity network operator 50Hertz by a power Chinese grid company. Two years earlier Germany blocked Chinese investment in a semiconductor equipment firm due to US disapproval. Beyond the US and EU, Australia disapproved Chinese investment in its natural resource and public utility firms.⁹⁸

X. Concluding Remarks

⁹⁷ See <http://www.ndrc.gov.cn/zcfb/zcfbl/201906/W020190628615780569680.pdf> accessed on July 9, 2019.

⁹⁸ Chinalco's investment in Rio Tinto (a mining company) in 2009; State Grid's investment in TransGrid (electricity grid company) in 2015; State Grid and CK Infrastructure's investment in Ausgrid in 2016, and CK Asset Holdings' investment in APA Group (a gas pipeline company) in 2018, where CK Infrastructure and CK Asset Holdings were Hong Kong based companies.

We would like to make three points to conclude this paper. The first concerns the use of appropriate policy instruments to achieve the goal of national security. Helpman (1989) argues that the common national defense arguments can at most justify the targeting of very specific activities, e.g., output subsidy and subsidy for skill acquisition and maintenance, depending on the sources of market distortions. Since many firms produce multiple products and only a fraction of their products is used for national defense (as we saw above, only 3% of aluminum and steel produced in the US was used by the US Department of Defense), he proposes that a government procurement policy be used as a target-specific policy instrument to achieve the national defense objective.⁹⁹ This approach is in stark contrast to that of Navarro, who supports President Trump's across-the-board tariffs on all aluminum and steel imports without concern about the costs incurred by consumers. In this instance, it would be difficult to resist the temptation of using the analogy of scalpel and sledge hammer to illustrate the difference in effect between a specific government procurement policy and an across-the-board import tariff. There should not be any doubt that general trade protection is both costly to the US as a whole and unfair to US trading partners.

A second point is whether WTO's national security clause can be used to justify not only the protection of domestic industries, but also attempts to block foreign competitors aggressively in third markets. The answer is likely to be "no."

A third point is the way the US Government has responded to the perceived threat of a rising China. The US's response to the challenge of USSR's Sputnik launched in 1957 was to mount a space program of its own, which succeeded in beating its rival by putting man on the moon first in 1969. In dealing with Huawei's leadership in 5G mobile technologies, the US not only has blocked its entry into the US market on the grounds of national security threats, but also attempted to persuade its allies to disqualify the firm without substantial evidence on the alleged threats but with only threats to withhold intelligences from its allies; to extradite the daughter of Huawei's founder on grounds of violation US sanctions against Iran when no such prosecution against any corporate executives has ever taken place in case of proven violations by US and foreign firms; to put Huawei and its subsidiaries on a the US Department of

⁹⁹ While an investment subsidy can be used to address underinvestment in certain type of manufacturing capital, Helpman (1989) argues that there is too much uncertainty about the real world with respect to the occurrence of underinvestment. Finally, he points out that the arguments that lead to an optimal trade protection are inconsistent with the negative empirical relationship between the probability of trade embargoes and the extent of trade interdependence.

Commerce's "Entity List"; to ban US suppliers from supplying mobile phone chips, operating systems, apps, etc. to Huawei; and even to the extent of threatening to not honor the company's US patents. Observing from outside the US, one wonders if the world's only superpower has lost confidence in its ability to compete against its perceived challenger according to the internationally accepted rules and norms and has to resort to whatever powers it still possesses and to adopt tactics that are not only hegemonic, but also unethical by international standards. Only history will tell.

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