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& Thomas Pantle

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Paul Harris & Darren J. Lim
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Editor's note

In the last decade, strategic competition between China and the US has intensified. Meanwhile, the rule-based order under US leadership has crumbled, with smaller powers bearing the brunt of the cost. Interdependence, previously seen as beneficial to world peace and prosperity, is now viewed with suspicion and a source of vulnerability. The focus of many policymakers has shifted from positive-sum gains to zero-sum outcomes. With these trends, countries around the world are increasingly deploying and responding to geoeconomics, that is, economic tools for geopolitical purposes. By doing so, they often have to face the choice or trade-off between security and prosperity goals.

Geoeconomics covers a wide range of topics, including economic coercion in trade and investment, and government intervention in research collaboration and technology policies. This special issues will feature some of these topics.

James Laurenceson, Michael Zhou, and Thomas Pantle examine China's use of economic coercion against Australia. The article uses six trade case studies since 2017 to assess whether China's tactics have been effective in shifting Australia's political positions. Jane Golley, Amanda Barry, Paul Harris and Darren Lim focus on the Australian university sector as a case study for understanding the logic and complexities of geoeconomics. The article explores many issues in geoeconomics: dependence and diversification, research and innovation, collaboration and foreign interference. It then looks at trade-offs for mitigation strategies for the Australian government.

Peter Connolly's article examines what happens when a Pacific Island state joins China's Belt and Road Initiative. Through extensive research conducted in Papua New Guinea, Connolly details the complex and multi-faceted perspectives of various groups and untangles the differences between state and individual interests.

This issue also contains two articles on supply chain security. William Norris, Joseph Balmain Rodgers, Chase Blazek, Tarni Hewage, and Braeden Kobza introduce a novel supply chain risk assessing system modelled after a credit scoring system. Focused on the defence acquisitions supply chain, the article describes the US-based risk assessment system and looks at how it can be implemented and harmonised internationally. Andrew Dowse and John Blackburn's article is focused on Australia's defence supply chain resilience. Through examining specific defence supply chains, including ICT and fuel, the authors argue for a Smart Sovereignty model.

Finally, Benjamin Zimmer and Kedar Pandya make the case for a positive sanctions regime on North Korea, through leveraging the interests of China, South Korea, and the US, and rewarding North Korea for taking steps towards denuclearisation.

Apart from these geoeconomics-themed articles, this special issue also contains a comment on Australia's submarine travails from Graeme Dobell, and two book reviews.

Yun Jiang

Special Issue Editor

Interrogating Chinese economic coercion: the Australian experience since 2017

James Laurenceson, Michael Zhou and Thomas Pantle

Abstract

This paper begins by critically reviewing the theoretical basis underpinning use of economic coercion to shift a target country's political positions, drawing attention to the likelihood of success being context-dependent. Six case studies are then documented where a coercive frame is evident in reporting and commentary to interpret Chinese actions taken against Australian exports since 2017. These show that trade impacts of Chinese actions have generally been modest in scale, short-lived and/or significantly mitigated. Canberra's political positions have also not become more aligned with Beijing's. The discussion informs assessment of coercive risks consequent to Australia's trade exposure to China.

1. Introduction

China's switch to being a large net importer of resources and energy products in the mid-2000s saw it rapidly rise up the rankings as an Australian trading partner. While this trade has been a boon for the Australian economy and the budgets of federal and state governments, it has also given rise to anxiety that China might use its position as a major buyer to exert coercive pressure. In 2013, the Lowy Institute commissioned University of Sydney academic, James Reilly, to provide an assessment of the risk "that the Chinese government will manipulate its trade and investment to undermine Australian autonomy or security". Reilly concluded that these suspicions were "overblown".¹ For one, Reilly noted that iron ore featured prominently in Australia's exports to China and in this trade, China was as dependent on Australia as a supplier as Australia was on China as a customer.

Fears did not dissipate, however. In part, this reflected that China was by then also emerging as a major customer for Australian agricultural products such as beef and wine, as well as services—notably education and tourism. Unlike iron ore, China has access to a number of alternative suppliers for these other goods and services, potentially undercutting Australian resilience in the face of coercive pressure. In 2016, Peter Jennings, the executive director of the Australian Strategic Policy Institute (ASPI), warned, "We've never had a greater dependency with any country...The risk that creates for us is if Beijing

¹ James Reilly, *China's economic statecraft: turning wealth into power*, Lowy Institute, Sydney, 27 November 2013, <<https://www.lowyinstitute.org/publications/chinas-economic-statecraft-turning-wealth-power>> [Accessed August 2020].

wants to adopt politically coercive policies, it's in a fairly strong position to do so with us because of that level of trade dependence".² The following year, Rory Medcalf, the director of the National Security College at the Australian National University, wrote that the reason Australia needed to be concerned about China was because its authoritarian political system "tends to link its commercial and political demands on other countries". That said, Medcalf also conceded that in practice, "Even where Canberra has seriously annoyed Beijing, such as by supporting legal rulings on the South China Sea [in July 2016], Beijing hasn't directed economic pressure specifically at Australia".³

Nonetheless, the period up until 2017 was one characterised by relatively few overt bilateral political disputes and a number of overt political celebrations, such as when Chinese President Xi Jinping addressed the Australian parliament in November 2014 and a free trade agreement was enacted in December 2015. Since 2017, the bilateral political relationship has been deteriorating. The last time an Australian Prime Minister visited China was in September 2016. It is in this environment that a prominent frame has emerged that marks a sharp departure from Medcalf's assessment that "Beijing hasn't directed economic pressure specifically at Australia". Instead, what has been emphasised in Australian and international media reporting and commentary in recent years is a Chinese state that is unleashing "punishment", "bans" and "boycotts" on Australian exports due to political disagreements.⁴

This paper begins by critically reviewing the theoretical basis underpinning use of economic coercion to shift a target country's political positions. This draws attention to the likelihood of success being context-dependent. Six case studies are then documented where a coercive frame is evident in reporting and commentary to interpret Chinese actions taken against Australian exports since 2017. Alternative interpretations are also noted but these do not rule out coercive action being undertaken with plausible deniability.⁵ The case studies show that trade impacts of Chinese actions to date have generally been modest in scale, short-lived and/or significantly mitigated. There is also little evidence to suggest that these actions have shifted Canberra's political positions towards closer alignment with Beijing's. Finally, the paper draws on the earlier theoretical exposition to understand why Chinese actions have been less successful than Beijing might have hoped.

2 Jonathan Barrett, and Sue-Lin Wong, 'China warns 'protectionist' Australia on investment after grid deal blocked', *Reuters*, 17 August 2016, <<https://www.reuters.com/article/us-australia-privatisation-ausgrid/china-warns-protectionist-australia-on-investment-after-grid-deal-blocked-idUSKCN10R2M1>> [Accessed August 2020].

3 Rory Medcalf, 'China's economic leverage: perception and reality', *National Security College policy options paper no.2*, Australian National University, Canberra, March 2017, <<https://nsc.crawford.anu.edu.au/publication/9971/chinas-economic-leverage-perception-and-reality>> [Accessed August 2020].

4 James Palmer, 'Why China is punishing Australia', *Foreign Policy*, 13 May 2020, <<https://foreignpolicy.com/2020/05/13/china-punishing-australia-coronavirus-pandemic-meat-imports-trade-diplomacy/>> [Accessed August 2020]; *The Economist*, 'China punishes Australia for promoting an inquiry into covid-19', 21 May 2020, <<https://www.economist.com/asia/2020/05/21/china-punishes-australia-for-promoting-an-inquiry-into-covid-19>> [Accessed August 2020]; Ashley Townshend, 'China's pandemic-fueled standoff with Australia', *War on the Rocks*, 20 May 2020, <<https://warontherocks.com/2020/05/chinas-pandemic-fueled-standoff-with-australia/>> [Accessed August 2020].

5 Darren Lim and Victor Ferguson, 'In beef over barley, Chinese economic coercion cuts against the grain', *The Interpreter*, Lowy Institute, Sydney, 13 May 2020, <<https://www.loyyinstitute.org/the-interpreter/barney-over-beef-chinese-economic-coercion-cuts-against-grain>> [Accessed August 2020].

2. The theoretical basis for economic coercion

The theoretical basis for using economic links as coercive tools was popularised by the political economist Albert Hirschman.⁶ Australia sells more to China than vice-versa, and Australia is the much smaller economy. Hirschman argued that such asymmetry gave rise to coercive leverage for the larger economy because gains derived from a country's exports—in this case, Australia's exports to China—could be turned into losses if trade flows were restricted. In this way restriction of Australian imports by China and the consequent losses inflicted on the Australian economy are a 'stick' that can be employed to punish political positions considered unfavourable by China. While Hirschman's ideas remain influential, particularly to a generalist audience, they have been subject to a vigorous critique in more specialist literature.

First, asymmetry does not remove the reality that the country employing economic coercion still suffers costs. Trade by definition is a mutually beneficial transaction, meaning that disrupting trade creates a lose-lose outcome.

Second, as Hirschman himself later conceded, focusing on an asymmetry of impacts downplays an asymmetry in awareness and incentives to employ mitigating behaviour, which favours the target country:⁷

[An] economic disparity generates a disparity of attention...and this disparity now favours the dependent country: that country is likely to pursue its escape from domination more actively and energetically than the dominant country will work on preventing this escape.

Third, as political economists such as R. Harrison Wagner have noted, bargaining theory posits that rather than the country considering employing coercion starting from a position of strength, the opposite is in fact the case. This is because it wishes to effect a change in a target country that the target country itself regards as being contrary to its interests. Accordingly, the target country would only contemplate such a change if the source country were to offer compensation. If this were the case then because "...both would be made better off by such an agreement, neither could be said to have been coerced".⁸ Alternatively, if the source country is unwilling to offer sufficient compensation, then the target country does not have incentive to yield. This balance of bargaining power reduces the attraction to the source country of employing coercive pressure in the first place.

Fourth, the extensive theoretical literature on sanctions efficacy is relevant. This is because the underlying logic—of a "threat to disrupt economic exchange with the target state, unless the target acquiesces to an articulated demand"—imply that factors influencing the success of sanctions are analogous to those for economic coercion.⁹ Studies in recent decades have aimed to identify the characteristics of successful sanctions by applying

6 Albert Hirschman, *National power and the structure of foreign trade* (Berkeley: University of California Press, 1945).

7 Albert Hirschman, 'Beyond asymmetry: critical notes on myself as a young man and on some other old friends', *International Organization*, vol. 32, no. 1 (1978), pp. 45-50.

8 R. Harrison Wagner, 'Economic interdependence, bargaining power, and political influence', *International Organization*, vol. 42, no. 3 (Summer 1988), pp. 461-483.

9 Daniel Drezner, 'The hidden hand of economic coercion', *International Organization*, vol. 57, no. 3 (2003), pp. 643-659.

statistical techniques to sanctions datasets.¹⁰ A recent review of sanctions literature by political scientist Dursun Peksen found that the likelihood of success is increased when: 1) sanctions are implemented multilaterally, reducing the ability of sanctions targets to evade sanctions by turning to alternative markets; 2) when sanctions targets are allies rather than rivals, meaning they are more invested in returning to strong political/strategic ties; 3) when policy objectives are specific and modest, since expansive demands are more difficult to accommodate; 4) when the political regime of targets are democratic, because it is more difficult to ignore pressure from affected constituents; 5) when the sanctions cause severe economic harm to the target, particularly before the target is able to adapt to sanctions; and 6) when sanctions strengthen the relative influence of interest groups that oppose the prevalent policy position.¹¹ In other words, the theory and associated empirical literature of sanctions efficacy does not point to the inevitability of coercive success but rather to it being context-dependent.

3. Trade actions taken by China since 2017

This section documents six of the most prominent Chinese actions taken against Australian exports since 2017. They derive from a mix of industry sectors including mining and energy, agriculture, value-added food and beverages and services.

3.1 Beef in July 2017

In the March 2017 visit to Australia by Chinese premier Li Keqiang, one of the major ‘announceables’ was a AUD\$400 million Joint Statement to expedite approval of an additional fifteen Australian frozen meat establishments to supply the Chinese market. In addition, chilled meat exports would be approved for “all establishments that meet the chilled meat standard as verified by the Department of Agriculture and Water Resources”.¹² Previously, sales of chilled beef to China had been limited to eleven authorised meat processors.

Shortly before the Chinese premier’s visit, Australia had begun embarking upon what some observers described as a “tilt on China”.¹³ In a 12 March 2017 speech in Singapore, then-foreign minister Julie Bishop had called on the United States (US) to enhance its security presence in Asia in the face of a rising China. In the same speech, Minister Bishop expressed the view that “[h]istory also shows democracy and democratic institutions are essential for nations if they are to reach their economic potential”.¹⁴

10 See e.g., *Ibid.*, p19; T. Clifton Morgan, Navin Bapat and Yoshiharu Kobayoshi, ‘Threat and imposition of economic sanctions 1945-2005: Updating the TIES dataset’, *Conflict Management and Peace Science*, vol. 31, no. 5 (2014), pp. 541-558.

11 Dursun Peksen, ‘When Do Imposed Economic Sanctions Work? A Critical Review of the Sanctions Effectiveness Literature’, *Defence and Peace Economics*, vol. 30, no. 6 (2019), pp. 635-647.

12 Laura Tingle, ‘China trade deal adds \$400 million to beef exports’, *The Australian Financial Review*, 24 March 2017, <<https://www.afr.com/politics/china-trade-deal-adds-400-million-to-beef-exports-20170324-gv5qzl>> [Accessed August 2020].

13 Elena Collinson, ‘Australia’s tilt on China’, Australia-China Relations Institute, University of Technology Sydney, 4 July 2017, <<https://www.australiachinarelations.org/content/australias-tilt-china>> [Accessed August 2020].

14 *Ibid.*, p. 4

It was against this backdrop that on 25 July 2017, then-trade minister Steve Ciobo received notice from China's quarantine agency that the certification to supply the Chinese market would be suspended for six Australian meat processing plants, allegedly due to labelling and non-compliance issues. Together, these processors accounted for approximately thirty percent of total Australian beef exports to China.¹⁵

Multiple explanations for China's actions were present. Some news reports pointed to the disruption being a 'tit-for-tat' retaliation to a recent ban that Australia had imposed on prawn imports, which had hurt Chinese producers.¹⁶ Others pointed to coercion, with *The Weekly Times* on 27 July 2017 referring to unnamed "meat processor sources" who were said to "claim the bans are in retaliation to Foreign Minister Julie Bishop's comments...over freedom of navigation in the South China Sea".¹⁷

A factor that helped to ameliorate the costs to Australian producers was that Chinese authorities allowed shipments in transit when the suspension was announced to enter the Chinese market.¹⁸ Further, the suspension of the six plants was soon lifted on 30 October 2017. One Chief Executive Officer of an affected Australian processor told ABC News that "it's nothing different to what we saw in Korea and Japan in the 80s and early 90s, similar issues".¹⁹

Turning to trade data to assess the scale of the impact, the volume of Australian beef exports to mainland China fell by 25.3 percent in August 2017 compared to a month earlier (Figure 1).²⁰ However, this loss was quickly recovered. In September and October—while the suspension affecting the six meat processors were still in place—the total volume of Australian beef exports to China was actually higher than before the measures had been introduced. When compared to the previous year, a decline is again only observable in the month of August, whilst all other months experienced positive growth. By 2018, any disruption due to the partial suspension of certification in 2017 had been well and truly overcome. The period of July through to October in 2018 saw growth in the value of Australia's beef exports to China of 76 percent over the same period the year before.²¹

15 Australian Associated Press and 9Finance, 'China lifts import ban on Australian beef', 30 October 2017, <<https://finance.nine.com.au/business-news/china-lifts-import-ban-on-australian-beef/0e567007-af44-4d09-935a-5ff473593d47>> [Accessed August 2020].

16 Andy Coyne, 'Australian meat firms banned from China', *just-food*, 31 July 2017, <https://www.just-food.com/news/australian-meat-firms-banned-from-china_id137343.aspx> [Accessed August 2020].

17 Jamie-Lee Oldfield, Peter Hemphill and Natalie Kotsios, 'Beef processors hit by China ban', *The Weekly Times*, 27 July 2017, <<https://www.weeklytimesnow.com.au/news/national/australian-beef-processors-hit-by-temporary-china-export-ban/news-story/acd84a500ff33e4941ca8f3540f526e8>> [Accessed August 2020].

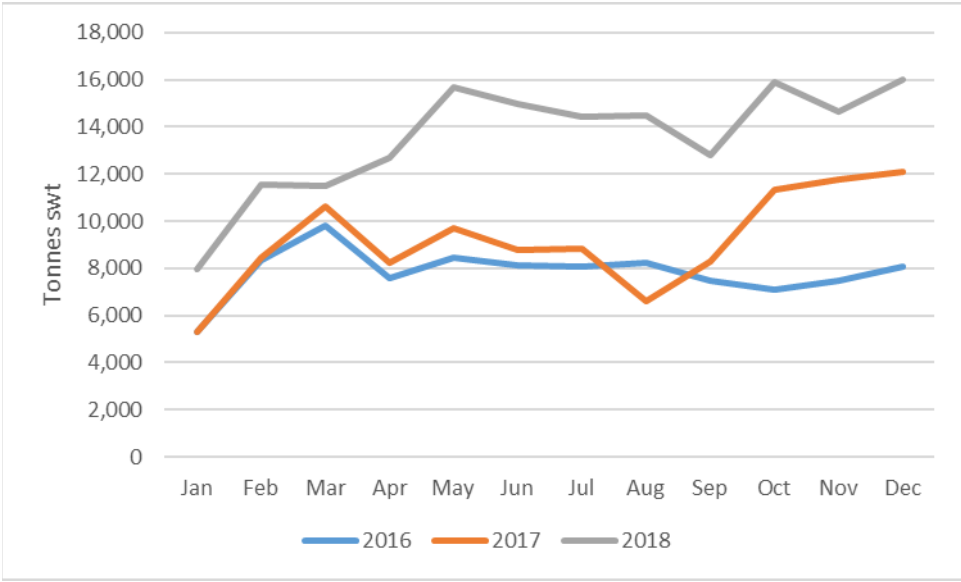
18 Oscar Rousseau, 'Six Australian meat outfits hit by China ban', *FoodNavigator-Asia*, 26 July 2017, <<https://www.foodnavigator-asia.com/Article/2017/07/27/Six-Australian-meat-outfits-hit-by-China-ban>> [Accessed August 2020].

19 ABC News, 'China lifts Australian beef import suspension from six major firms', 31 October 2017, <<https://www.abc.net.au/news/rural/2017-10-31/china-lifts-australian-beef-import-suspension-on-six-firms/9103682?section=business>> [Accessed August 2020].

20 Meat and Livestock Australia, 'Statistics database', 2020, <<http://statistics.mla.com.au/Report/RunReport/3cf814d1-603d-49d6-ae37-7e598b3aac0a>> [Accessed August 2020].

21 Australian Bureau of Statistics, 'Exports by SITC—(\$—thousands)', 2020, <<http://stat.data.abs.gov.au/#>> [Accessed August 2020].

Figure 1: Australian beef exports to China, 2016-2018 (tons, shipping weight (swt))



Source: Meat and Livestock Australia

In terms of Australia’s market share of Chinese beef imports—a useful metric of whether coercive pressure might have been directed specifically at Australia—UN Comtrade data show there was only a marginal decline from 23.6 percent in July to 19.4 percent in August and 19.7 percent in September.²² By October this had bounced back to 22.2 percent, above the monthly average for 2017 of 21.4 percent.

3.2 Students in December 2017

On 18 December 2017, the Chinese Embassy in Australia posted a notice on its website stating that “recently, in different parts of Australia, there have been increased cases of verbal and physical attacks against Chinese students” and reminding Chinese students to “be mindful of safety risks they may encounter during their stay in Australia”.²³ On 20 December 2017, the ABC News outlined earlier incidences of verbal and physical abuse affecting Chinese students, observing that “[s]tudent safety has been a growing concern among...Chinese students”.²⁴ The report also stated that the notice came “amidst a period of worsening ties between Australia and China over public discussion of Chinese Communist Party interference in Australia”.

22 United Nations Statistics Division, ‘UN Comtrade’, 2020, <<https://comtrade.un.org/data>> [Accessed August 2020].

23 Embassy of the People’s Republic of China in the Commonwealth of Australia, ‘提醒赴澳中国留学人员近期加强安全防范 (Reminder to Chinese students in Australia to strengthen safety measures)’, 18 December 2017, <<http://au.china-embassy.org/chn/lsfw/lxdt/f5/t1520390.htm>> [Accessed August 2020].

24 Bill Birtles, ‘China’s embassy in Canberra issues safety warning for Chinese nationals in Australia’, ABC News, 20 December 2017, <<https://www.abc.net.au/news/2017-12-20/chinese-embassy-issues-safety-warning-for-australia/9277202>> [Accessed August 2020].

The juxtaposition of the notice and the broader context of the Australia-China relationship was replicated in subsequent News Ltd media reporting, which on 22 December 2017 described the notice as “extraordinary” and “the latest fault line between China and Australia after Malcolm Turnbull’s pointed declaration he would “stand up” against Chinese interference in Australian politics by announcing tougher espionage laws”.²⁵

On 14 February 2018, the Chinese Ministry of Education posted an almost-identical notice warning that there had been increased cases of “infringement of Chinese students’ personal and property safety”.²⁶ This notice received more media coverage primarily framed around coercion. On 15 February 2018, the *Financial Times* reported that the notice was “heightening fears in Canberra of economic retaliation after a spike in political tensions between the countries”. The report cited La Trobe University academic James Leibold, who claimed that “[t]his is clearly an act of retaliation to the introduction of new foreign interference laws in Australia and the ongoing debate about Chinese Communist party interference”. The report observed that the notice came after “an attack on a Chinese student in October” but also “concerns from the Chinese embassy in Australia about new laws targeting foreign influence, as well as an uptick in anti-Chinese sentiment in the media”.²⁷

On 16 February 2018, the *Australian Financial Review* (AFR) followed with a report headlined, “Unis fear fallout from hard line on China”.²⁸ The report stated that “[i]ntelligence sources have advised...that the broad nature of the alerts and the fact they overstate the safety situation without providing any detail make it likely they are acts of political and financial retaliation”. It also noted that “[a] very similar statement was issued in mid-December last year at the same time there were reports that Beijing was extending its infiltration and repression activities on Australia’s university campuses”, but did not mention the incidents threatening Chinese student safety in 2017. On 20 February 2018, *The Australian* similarly published a report with the headline, “China pressures Australia through higher education sector”.²⁹ The report noted “it remains unclear exactly what has caused the friction — it could be disagreements over the South China Sea, or Australia’s criticism of Chinese efforts to influence Australian universities”, and also made no mention of the incidents involving Chinese students in 2017.

25 James Law, ‘China warns students in Australia of ‘rising insulting incidents’’, *news.com.au*, 21 December 2017, <<https://www.news.com.au/world/asia/china-warns-students-in-australia-of-rising-insulting-incidents/news-story/9aff773e6b8a5689d1de1444266c5886>> [Accessed August 2020].

26 Embassy of the People’s Republic of China in the Commonwealth of Australia, ‘教育部发布2018年第1号留学预警 赴澳大利亚留学应注意安全风险 (The Ministry of Education issued the 2018 overseas students early warning no. 1—students in Australia should be mindful of safety risks)’, 14 February 2018, <<http://au.china-embassy.org/chn/lsw/lxdt/f4/t1535317.htm>> [Accessed August 2020].

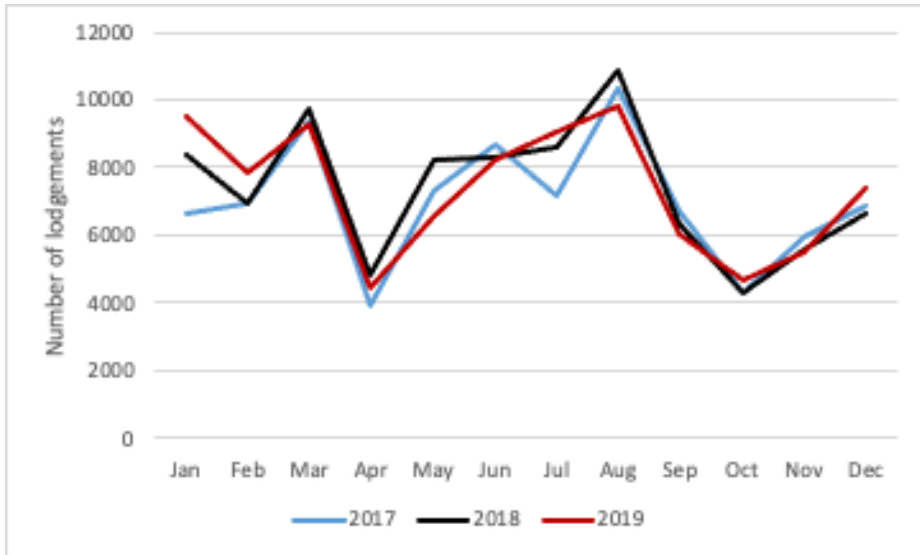
27 Jamie Smyth and Thomas Hancock, ‘Chinese students warned over Australia safety’, *Financial Times*, 15 February 2018 <<https://www.ft.com/content/e1f92b40-11f9-11e8-8cb6-b9ccc4c4dbbb>> [Accessed August 2020].

28 Phillip Coorey, ‘Universities fear payback as anti-China rhetoric escalates’, *The Australian Financial Review*, 15 February 2018, <<https://www.afr.com/politics/universities-fear-payback-as-antichina-rhetoric-escalates-20180215-h0w3yv>> [Accessed August 2020].

29 Sian Powell, ‘China pressures Australia through higher education sector’, *The Australian*, 20 February 2018, <<https://www.theaustralian.com.au/higher-education/china-pressure-australia-through-higher-education-sector/news-story/17344b0df8b59a560ff48431a5fcd2a3>> [Accessed August 2020].

Data from the Australian Government Department of Home Affairs show that there was little year-on-year change in monthly visa lodgements by Chinese students in each of the twelve months of 2018 and 2019 (Figure 2).³⁰ Data for new student enrolments indicates that the number of commencing Chinese students in 2018 reached 129,103—up 3.0 percent from 125,305 in 2017.³¹

Figure 2. Monthly visa lodgements by Chinese students, 2017–2019



Source: Australian Government Department of Home Affairs

3.3 Wine in May 2018

On 17 May 2018, Treasury Wine Estates Ltd (TWE) announced to the Australian Stock Exchange that it was “experiencing delays for some of its Australian Country of Origin shipments being cleared by the General Administration of Customs China (GACC)”. It cited “new and additional verification requirements” that “seemingly appear to only apply to Australian Country of Origin wines, and to Australian exporters operating ‘warehouse models’”.³²

The news prompted an *AFR* report headlined: “Political tension blamed on Treasury’s China Customs headache”.³³ The report noted that “Executives working for Australian

30 Australian Government Department of Home Affairs, ‘Student visa program’, data.gov.au, 31 July 2020, <<https://data.gov.au/dataset/ds-dga-324aa4f7-46bb-4d56-bc2d-772333a2317e/details>> [Accessed August 2020].

31 Australian Government Department of Education, Skills and Employment, ‘International student data’, 2020, <<https://internationaleducation.gov.au/research/international-student-data/pages/default.aspx>> [Accessed August 2020].

32 Treasury Wine Estates, ‘Treasury Wine Estates responds to market commentary’, 17 May 2018, <<https://www.tweglobal.com/-/media/Files/Global/ASX-Announcements/2018/Treasury-Wine-Estates-responds-to-market-commentary-17-May-2018.ashx>> [Accessed August 2020].

33 Michael Smith, ‘Political tension blamed on Treasury’s China Customs headache’, *The Australian Financial Review*, 17 May 2018, <<https://www.afr.com/companies/retail/political-tension-blamed-on-treasurys-china-customs-headache-20180517-h1068g>> [Accessed August 2020].

exporters on the ground in China and local analysts blamed tension in the bilateral relationship for the heightened scrutiny”. That said, it was also acknowledged that “[o]fficially, the Chinese authorities will say they are stepping up paperwork checks to weed out fake products, which are rife in China”. That Australian winemakers have struggled against counterfeit product in China has been widely documented.³⁴ The report referenced then-trade minister Steve Ciobo, who stated that the challenges Australian winemakers were facing were “not inconsistent with the sporadic nature of issues businesses have raised with me over the past three years and I would stress are not purely confined to China either”. It further added that there were “conflicting reports about the extent of Customs’ delays impacting TWE” and cited other China-based sources contending that the company’s distribution model might be “a big part of the problem”.³⁵

In subsequent coverage however, much of this context was absent. On 28 May 2018, a news piece in *The Wall Street Journal* opted for a lede stating “A deepening spat over allegations of Chinese meddling in Australian politics has led to cases of wine piling up at Chinese ports and nationalists calling for tougher trade retaliations. The episode shows how China is willing to use its economic leverage to force foreign governments to reverse positions it views as antagonistic”.³⁶ It also cited the fact that Canberra was considering a “series of bills that would strengthen the country’s espionage laws, outlaw foreign political donations and criminalise efforts to interfere in Australian democracy”. On 13 June 2018, *Reuters* wrote of a French company with operations in Australia that was also experiencing port delays. It began by stating matter-of-factly that it was “the first foreign company to be harmed by a deterioration in relations between Australia and China”.³⁷

Any trade actions taken turned out to be extremely short-lived. On 5 June 2018, just three weeks after TWE had issued its statement to the markets, the *AFR* was reporting that “more than two-thirds” of the Australian wine that had been affected had been released for sale.³⁸

Turning to trade data, the value of Australia’s wine exports to China (including Hong Kong SAR and Macao SAR) reached AUD\$1.14 billion in 2018. This was up eighteen percent on a year earlier. In volume terms, Australian wine exports to China had increased by seven percent.³⁹ As a share of China’s total wine import volume, the Australian product increased its market share against its competitors during 2018.⁴⁰

34 Cara Waters, “The perfect crime’: Aussie business battles counterfeit wine in China’, *The Sydney Morning Herald*, 30 December 2018, <<https://www.smh.com.au/business/small-business/the-perfect-crime-aussie-business-battles-counterfeit-wine-in-china-20181217-p50mok.html>> [Accessed August 2020].

35 Smith, ‘Political tension blamed on Treasury’s China Customs headache’, p. 9.

36 Rob Taylor, ‘Wine trade corked as China retaliates in spat over meddling’, *The Australian*, 28 May 2018, <<https://www.theaustralian.com.au/news/wine-trade-corked-as-china-retaliates-in-spat-over-meddling/news-story/2c1631180dbdfda9e575ccf790b15df3>> [Accessed August 2020].

37 Colin Packham, ‘Exclusive: Pernod Ricard wines delayed at Chinese ports amid strained ties with Australia—sources’, *Reuters*, 13 June 2018, <<https://www.reuters.com/article/us-australia-china-wine-pernod-ricard-ex/exclusive-pernod-ricard-wines-delayed-at-chinese-ports-amid-strained-ties-with-australia-sources-idUSKBN1J915E>> [Accessed August 2020].

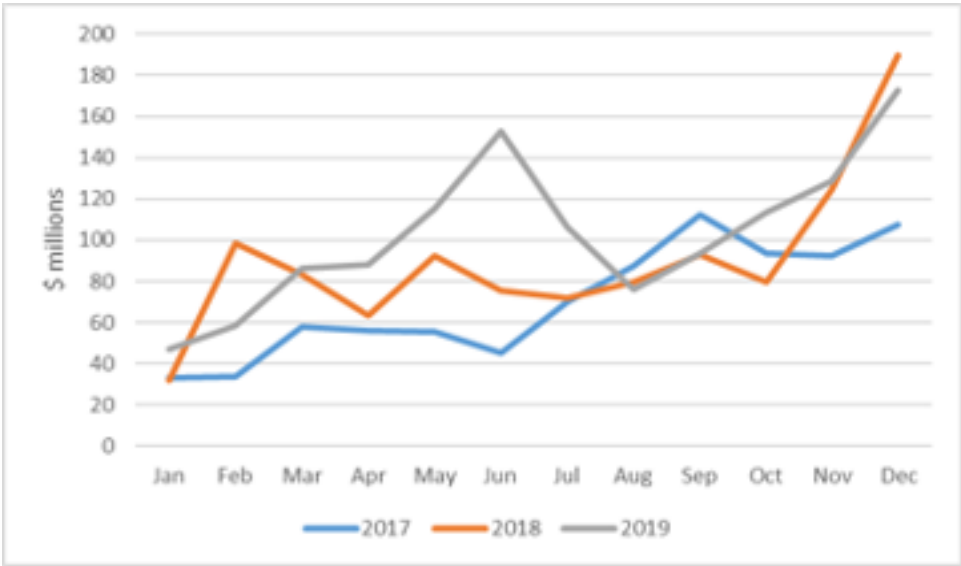
38 Andrew Tillett, ‘Winemakers demand Malcolm Turnbull step in to ease China wine woes’, *The Australian Financial Review*, 5 June 2018, <<https://www.afr.com/politics/winemakers-demand-malcolm-turnbull-step-in-to-ease-china-wine-woes-20180604-h10yi9>> [Accessed August 2020].

39 Wine Australia, ‘2018: an impressive year for Australian wine exports’, *Market Bulletin Issue 140*, 22 January 2019, <<https://www.wineaustralia.com/news/market-bulletin/issue-140>> [Accessed August 2020].

40 Wine Australia, ‘Increasing demand for quality wines in China’, *Market Bulletin Issue 141*, 22 January 2019, <<https://www.wineaustralia.com/news/market-bulletin/issue-140>> [Accessed August 2020].

When trade data from the Australian Bureau of Statistics are examined on a monthly basis, there is little sign of a mid-2018 slump—export values were higher than the corresponding period in 2017 (Figure 3). The monthly value of Australia’s alcoholic beverage exports to China—almost exclusively wine—generally fluctuated between AUD\$70-AUD\$100 million during 2018, before accelerating sharply to AUD\$190 million in December. The values in 2019 were mostly higher again. Unfortunately, monthly Chinese import data for wine from Australia and the rest of the world via the UN Comtrade database are unavailable, preventing market share analysis.

Figure 3: Australia’s monthly alcoholic beverage exports to China, 2017–2019 (\$ millions)



Source: Australian Bureau of Statistics

3.4 Coal in February 2019

On 21 February 2019, *Reuters* reported that “Customs at China’s northern port of Dalian has banned imports of Australian coal” and that “[c]oal imports from Russia and Indonesia will not be affected”, citing an official from Dalian Port Group.⁴¹ The report noted the official had not been given an official reason for the alleged ban but went on to observe “it follows simmering tensions between Beijing and Canberra”. On 21 February 2019, an *ABC News* report with a headline including the statement, “Chinese officials ban Australian coal imports” cited “industry sources” who said “similar delays are now occurring at other Chinese ports”.⁴²

41 Meng Meng, Mui Xu, Dominique Patton, Michael Martina, Tom Westbrook, Melanie Burton, Richard Pullin, Christian Schmollinger and Tom Hogue, ‘Exclusive: China’s Dalian port bans Australian coal imports, sets 2019 quota—source’, *Reuters*, 21 February 2019, <<https://www.reuters.com/article/us-china-australia-coal-exclusive/exclusive-chinas-dalian-port-bans-australian-coal-imports-sets-2019-quota-source-idUSKCN1QAOF1>> [Accessed August 2020].

42 Stephen Letts, ‘Dollar tumbles as Chinese officials ban Australian coal imports; analysts say move ‘crystallises fears’ about possible crackdown’, *ABC News*, 22 February 2019, <<https://www.abc.net.au/news/2019-02-21/china-bans-coal-import-and-send-dollar-tumbling/10835136>> [Accessed August 2020].

On 22 February 2019, a Chinese Ministry of Foreign Affairs (MFA) spokesperson explicitly denied the existence of a ban, saying “the relevant *Reuters* reports are not true” and that “all ports of the Chinese customs allow the declaration of coal imported from Australia and other countries”.⁴³ Some commentators, however, noted that this wording did not necessarily preclude the possibility that while short of an outright ban, Chinese authorities could still apply arbitrary import restrictions on Australian coal. On 22 February 2019, a Credit Suisse analyst told *The Australian* that regardless of whether the restrictions were an outright ban or delayed customs clearance, “the effect is the same: Chinese traders are not buying Aussie thermal coal”.⁴⁴

In quotes given to *The Sydney Morning Herald (SMH)* on 21 February 2019, ASPI’s Peter Jennings contended that the alleged ban was “a deliberate shot across the bows... designed to keep Australia on edge about our decision concerning Chinese investment or its inclusion in our 5G network”.⁴⁵ The *AFR* on 22 February 2019 said a “commodity analyst in China” and a “second analyst” both “linked the move to politics”.⁴⁶ On the same day, *The Australian* referenced another such source, who said “without political interference, Australian coal will be doubtlessly No 1 choice to import”.⁴⁷

Some reporting also pointed to domestic considerations within China as possible factors behind import restrictions. An alternative explanation the 21 February *Reuters* report provided was that “Beijing has been trying to restrict imports of coal more generally to support domestic prices”, having also “slowed customs clearance to curb imports” the year before.⁴⁸ On 24 February 2019, Minister Birmingham commented that “there are commentators and analysts who love to try to jump to conclusions that are based upon conspiracy theories. But...the facts demonstrate that those conclusions are frequently invalid and incorrect”.⁴⁹

The coercion frame remained prominent, however. On 25 February 2019, Ian Verrender, business editor of *ABC News*, remarked that “[I]ast week, Australian coal reportedly was banned by Dalian port authorities in what would appear to be retaliation for statements in Parliament that alluded to cyber attacks emanating from China”. On 25 February 2019, Peter Hartcher, the political and international editor of *SMH*, made the argument that China was “playing mind games” and using “the constant possibility of unannounced sanctions”

43 Embassy of the People’s Republic of China in the Commonwealth of Australia, ‘Foreign Ministry spokesperson Geng Shuang’s regular press conference on February 22, 2019’, 22 February 2019 <<http://au.china-embassy.org/eng/fyrth/t1640284.htm>> [Accessed August 2020].

44 Perry Williams, ‘Oversupply blamed for Beijing’s ban on Australian coal’, *The Australian*, 22 February 2019, <<https://www.theaustralian.com.au/business/mining-energy/oversupply-blamed-for-beijings-ban-on-australian-coal/news-story/33afe6f9a9446f41435c9d4e323345fb>> [Accessed August 2020].

45 Kirsty Needham and Cole Latimer, ‘A big Chinese port bans Australian coal and the dollar falls’, *The Sydney Morning Herald*, 21 February 2019, <<https://www.smh.com.au/world/asia/a-big-chinese-port-bans-australian-coal-and-the-dollar-falls-20190221-p50zfu.html>> [Accessed August 2020].

46 Michael Smith, ‘Australian coal import delays linked to row with Beijing’, *The Australian Financial Review*, 21 February 2019, <<https://www.afr.com/world/asia/australian-coal-import-delays-linked-to-row-with-beijing-20190218-h1bew5>> [Accessed August 2020].

47 Glenda Korporaal and Ben Packham, ‘Beijing denies coal ban, steel source disagrees’, *The Australian*, 22 February 2019, <<https://www.theaustralian.com.au/nation/foreign-affairs/beijing-denies-coal-ban-steel-source-disagrees/news-story/95a697c453f260e01e3a9e36a21c36a0>> [Accessed August 2020].

48 Meng, Xu, Patton, Martina, Westbrook, Burton, Pullin, Schmollinger and Hogue, ‘Exclusive: China’s Dalian port bans Australian coal imports, sets 2019 quota—source’, p. 11

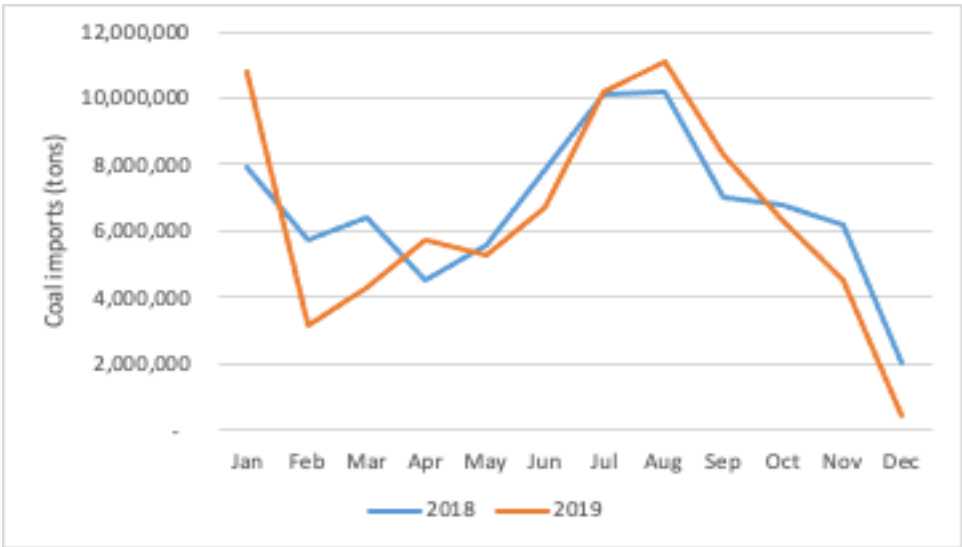
49 Simon Birmingham, ‘Interview on Sky News with David Speers’, transcript, 24 February 2019, <<https://www.trademinister.gov.au/minister/simon-birmingham/transcript/interview-sky-news-david-speers-0>> [Accessed August 2020].

to “keep other countries bowing low in a pre-emptive kowtow”.⁵⁰ A month after the initial *Reuters* report, on 22 March 2019 *The Guardian Australia*, while acknowledging “It remains unclear why Australian imports have been targeted for the hold-ups at customs” and alternative explanations such as “market-centred reasons”, also said “few doubt that there is a considerable political dimension”.⁵¹

Figure 4 shows that China imported 3.2 million tons of Australian coal in February 2019—a forty-five percent decrease from February 2018. Import volumes then quickly recovered in following months, increasing to 4.3 million tons in March 2019 and peaking at 11.1 million tons in August 2019, before declining again in subsequent months. All of these subsequent monthly movements were broadly in line with the outcomes of 2018. The total annual volume of Australian coal imports in 2019 was 77.0 million tons, down just four percent from 2018.

Turning to whether import restrictions affected Australia specifically, market share data exhibits a similar pattern to the quantity data in that Australia’s market share in China decreased markedly to thirty-one percent in February 2019 compared to forty-three percent in February 2018. However, the following month, March 2019, Australia’s market share was on par with that in March 2018, while in April 2019 it exceeded that of the previous year. For 2019 as a whole, Australia’s market share declined modestly to forty percent from forty-three percent in 2018.⁵²

Figure 4: Chinese imports of Australian coal, 2018–2019 (tons)



Source: CEIC Data

50 Peter Hartcher, ‘China’s playing mind games, here’s how we deal with it’, *The Sydney Morning Herald*, 26 February 2019, <<https://www.smh.com.au/national/china-s-playing-mind-games-here-s-how-we-deal-with-it-20190225-p51012.html>> [Accessed August 2020].

51 Martin Farrer and Ben Smees, ‘Australia’s coal bonanza at risk as Chinese import ‘ban’ spreads’, *The Guardian Australia*, 22 March 2019, <<https://www.theguardian.com/environment/2019/mar/22/chinese-ports-restricting-australian-coal-on-the-rise-as-export-bonanza-in-danger>> [Accessed August 2020].

52 CEIC Data, ‘China premium database’, 2020, [Accessed August 2020].

3.5 Barley in May 2020

On 9 October 2018, the Chinese Ministry of Finance and Commerce (MOFCOM) received an application by the China Chamber of International Commerce (CCIC) that alleged Australian barley had been dumped in the Chinese market. After an initial MOFCOM review, on 19 November 2018 an investigation was launched to determine whether the imposition of anti-dumping duties were necessary.⁵³ A further probe was launched on 21 December 2018 into whether Australian barley entering China was subsidised, raising the prospect that countervailing duties could also be applied.⁵⁴

A 19 November 2018 article in the *AFR* referenced Australian grain producers contending that the moves were politically motivated, drawing attention to security and infrastructure deals that Canberra had signed as a perceived counter Beijing's influence in the southwest Pacific. These deals included a US agreement to join Australia in developing a Papua New Guinea naval base. Grain Producers Australia chairman Andrew Weidermann stated that "China is a highly politically driven country and there is no doubt that when you mix business and politics there is a cocktail of disaster".⁵⁵ However, Trade Minister Birmingham played down the possibility, remarking that "[i]t's not unusual for countries to investigate dumping allegations made by industry groups".⁵⁶

Other commentators pointed to retaliation for Australian trade policy rather than political decisions. Writing in *The Conversation* on 23 November 2018, University of New South Wales (UNSW) law academic Weihuan Zhou said, "China's main concern isn't barley, and it isn't the dumping of Australian products. It's Australia's use of anti-dumping against China". Zhou explained that of the thirty anti-dumping measures that Australia had in force at the time, eighteen were directed at China.⁵⁷

On 19 May 2020, MOFCOM ruled that both dumping and subsidisation had occurred, justifying a combined 80.5 percent tariff on Australian barley (a 73.6 percent anti-dumping duty and 6.9 percent countervailing duty).⁵⁸ Both the Australian government and analysts rejected this assessment, describing it using terms such as "ridiculous" and "spurious".⁵⁹

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- 53 Ministry of Commerce People's Republic of China, 'MOFCOM Announcement No.89 of 2018 on Filing of Anti-dumping Investigation against Imports of Barley Originating in Australia', 20 November 2018, <<http://english.mofcom.gov.cn/article/policyrelease/buwei/201811/20181102809633.shtml>> [Accessed August 2020].
- 54 Hallie Gu and Colin Packham, 'China begins anti-subsidy probe on Australian barley', *Reuters*, 21 December 2018, <<https://www.reuters.com/article/us-china-australia-barley/china-begins-anti-subsidy-probe-on-australian-barley-idUSKCN1OK03Q>> [Accessed August 2020].
- 55 Michael Smith, 'China launches anti-dumping probe into Australian barley imports', *The Australian Financial Review*, 19 November 2018, <<https://www.afr.com/world/asia/china-launches-antidumping-probe-into-australian-barley-imports-20181119-h181zp>> [Accessed August 2020].
- 56 *Ibid.*, p. 14
- 57 Weihuan Zhou, 'Barley is not a random choice—here's the real reason China is taking on Australia over dumping', *The Conversation*, 23 November 2018, <<https://theconversation.com/barley-is-not-a-random-choice-heres-the-real-reason-china-is-taking-on-australia-over-dumping-107271>> [Accessed August 2020].
- 58 Liangyue Cao and Jared Greenville, *Understanding how China's tariff on Australian barley exports will affect the agricultural sector*, Australian Bureau of Agricultural and Resource Economics and Sciences, Australian Government Department of Agriculture, Water and the Environment, June 2020, <<https://www.agriculture.gov.au/abares/research-topics/trade/understanding-chinas-tariff-on-australian-barley>> [Accessed August 2020].
- 59 Phillip Coorey and John Kehoe, 'Steel duties no excuse for China's barley tariffs: Birmingham', *The Australian Financial Review*, 14 May 2020, <<https://www.afr.com/politics/federal/steel-duties-no-excuse-for-china-s-barley-tariffs-birmingham-20200510-p54ri0>> [Accessed August 2020]; Scott Waldron, 'The exposure of Australian agriculture to risks from China: the cases of barley and beef', *Asian Cattle and Beef Trade Working Papers No. 4*, University of Queensland, June 2020, <<http://www.asiabeefnetwork.com/wp-content/uploads/2020/06/200610-China-barley-beef.docx.pdf>> [Accessed August 2020].

The suggestion by China's ambassador in Canberra, Jingye Cheng, a month earlier that because of the deteriorating political relationship "[m]aybe also the ordinary people will say why should we drink Australian wine or eat Australian beef", led some news outlets such as ABC News and AFR to report the imposition of tariffs as a coercive step.⁶⁰ Commenting on this, Minister Birmingham stated that he "can understand why people draw those links, particularly given the comments of the Chinese ambassador to Australia".⁶¹

On the other hand, as UNSW's Weihuan Zhou had done eighteen months earlier, others pointed to retaliation for Australian trade policy measures directed at China. Stephen Kirchner of the United States Studies Centre (USSC) stated that, "We slap massive anti-dumping duties on steel and aluminium, it's retaliation for that".⁶² Minister Birmingham conceded that Australia "had representations in the past from China in relation to our anti-dumping system", but went on to argue that, "[a]nti-dumping disputes shouldn't be resolved by scorecard".⁶³

Yet other commentators have attributed the moves to more domestic motivations within China. The University of Queensland's Scott Waldron argued that political irritants in the Australia-China relationship "are really just triggers for a measure that China wanted to take anyway", while "the underlying driver is food security". Waldron cited data pointing to China's domestic barley production averaging just twenty percent of the country's total barley supply during 2014-2018.⁶⁴

In terms of the trade impact, during 2019 the average monthly value of Australia's barley exports to China was AUD\$59.1 million, while in June 2019 specifically it was AUD\$19.0 million. In June 2020, the first month after China imposed the tariffs, the value collapsed to just AUD\$1.1 million.⁶⁵ This indicates the impact of the barley move will be different to previous instances of trade actions that resulted in limited disruption. That said, the value rebounded to AUD\$33.1 million in July 2020, raising the possibility that barley exports might be more resilient to tariffs than first expected.

In any case, the impact on barley growers and agricultural trade in aggregate is less than worst-case trade numbers with China suggest. The Australian Bureau of Agricultural and Resources Economics (ABARES) explained that Australian farmers had mitigation

60 Georgia Hitch and Jordan Hayne, 'Federal Government calls Chinese ambassador about comments on trade boycott over coronavirus inquiry', ABC News, 28 April 2020, <<https://www.abc.net.au/news/2020-04-28/government-calls-chinese-ambassador-boycott-coronavirus-inquiry/12191984>> [Accessed August 2020]; Dan Conifer, 'China imposes 80pc tariff on Australian barley for next five years amid global push for coronavirus investigation', ABC News, 19 May 2020, <<https://www.abc.net.au/news/2020-05-18/china-to-impose-tariffs-on-australian-barley/12261108>> [Accessed August 2020]; Andrew Tillett and Ben Thompson, 'No evidence': China knew barley dumping claims were false', *The Australian Financial Review*, 19 May 2020, <<https://www.afr.com/politics/federal/no-evidence-china-knew-barley-dumping-claims-were-false-20200519-p54uap>> [Accessed August 2020].

61 Simon Birmingham, 'Doorstop, Adelaide', transcript, 19 May 2020 <<https://www.trademinister.gov.au/minister/simon-birmingham/transcript/doorstop-adelaide-1>> [Accessed October 2020].

62 Jessica Irvine, 'Carefully laid trap'? Why is China imposing tariffs on our barley (and what's a tariff)?', *The Sydney Morning Herald*, 20 May 2020, <<https://www.smh.com.au/national/carefully-laid-trap-why-is-china-imposing-tariffs-on-our-barley-and-what-s-a-tariff-20200519-p54uf7.html>> [Accessed August 2020].

63 *Australian Associated Press*, 'Australia 'deeply disappointed' after China imposes 80% tariff on barley imports', *The Guardian Australia*, 19 May 2020, <<https://www.theguardian.com/australia-news/2020/may/19/australia-deeply-disappointed-after-china-imposes-80-tariff-on-barley-imports>> [Accessed August 2020].

64 Waldron, 'The exposure of Australian agriculture to risks from China: the cases of barley and beef', p. 14.

65 Australian Bureau of Statistics, 'Exports by SITC—(\$—thousands)', 2020, <<http://stat.data.abs.gov.au/#>> [Accessed August 2020].

options, noting that “Altered planting decisions by producers and changes in the markets to which Australia exports barley will lessen the negative impact of China’s punitive tariff”. ABARES modelling pointed to an AUD\$330 million cost to total Australian agricultural exports.⁶⁶ Waldron elaborated that, “[t]he many farmers that had not planted when the tariffs were announced have more options. With a fifteen to twenty percent reduction in barley prices relative to wheat prices, these farmers can switch their winter crop into wheat (including for Indonesia) and other crops (including canola, oats, or pulses for India)”. ABARES also concluded that in the short-term “barley production is expected to remain profitable since it is a relatively low input crop and has agronomic value as part of crop rotations”.⁶⁷

3.6 Beef in 2020

On 11 May 2020, MOFCOM notified the Australian government of the suspension of imports from four meat processors in Australia, which jointly accounted for a reported thirty-five percent of Australian beef exports to China. As in 2017, labelling and health certificate requirements were again the reason given by Chinese authorities. On 12 May 2020, an ABC News report on the suspensions featured a lede stating “China has imposed an import ban on four Australian abattoirs in an apparent escalation of Beijing’s trade war tactics”.⁶⁸ However, similar to the 2017 action affecting beef, exports from the affected processors that were in transit were not affected.⁶⁹

On 12 May 2020, a report in the AFR cited “private concerns inside the government linking the sanctions to the Prime Minister’s calls for an international investigation in the COVID-19 virus”.⁷⁰ A report in SMH on the same day similarly observed that the suspension was “fuelling concern of a campaign by Beijing against Australian producers in response to Prime Minister Scott Morrison’s push for an independent coronavirus inquiry”.⁷¹ Jeffrey Wilson of the Perth USAsia Centre (PUSAC), in comments for *The Australian* on 12 May 2020, said “[t]his is unquestionably political retribution...This is not about technical issues and arguments over trade policy. This is about diplomatic signalling and making a point”.⁷² Michael Shoebridge, director of the defence, strategy and national security program at ASPI wrote on 16 May 2020 that the suspensions

66 Cao and Greenville, *Understanding how China’s tariff on Australian barley exports will affect the agricultural sector*, p. 14.

67 Waldron, ‘The exposure of Australian agriculture to risks from China: the cases of barley and beef’, p. 14.

68 Kath Sullivan and Jodie Gunders, ‘Red-meat processors have beef sales to China suspended as trade barriers escalate’, ABC News, 12 May 2020, <<https://www.abc.net.au/news/rural/2020-05-12/china-trade-escalation-as-beef-farmers-are-targeted/12237468>> [Accessed August 2020].

69 Meat and Livestock Australia, ‘Australia’s beef trade with China’, 14 May 2020, <<https://www.mla.com.au/news-and-events/industry-news/australias-beef-trade-with-china/>> [Accessed August 2020].

70 Ben Thompson, Angus Grigg and John Kehoe, ‘China asked to explain beef bans as trade row grows’, *The Australian Financial Review*, 12 May 2020, <<https://www.afr.com/companies/agriculture/china-asked-to-explain-beef-bans-as-trade-row-grows-20200512-p54s5c>> [Accessed August 2020].

71 Mike Foley and Eryk Bagshaw, ‘China suspends Australian beef imports from four abattoirs’, *The Sydney Morning Herald*, 12 May 2020, <<https://www.smh.com.au/politics/federal/china-suspends-australian-beef-imports-from-four-abattoirs-20200512-p54s4k.html>> [Accessed August 2020].

72 Ben Packham, Richard Ferguson and Geoff Chambers, ‘China bans imports from 4 Australian abattoirs as trade tension rises’, *The Australian*, 12 May 2020, <<https://www.theaustralian.com.au/business/economics/china-bans-imports-from-4-australian-abattoirs-as-trade-tension-rises/news-story/fed07d75e89e9af3371636052ebe1cc6>> [Accessed August 2020].

were “coercion disguised as arcane technical difficulties around...beef exports”.⁷³ On 20 May 2020, the USSC’s Ashley Townshend similarly listed the suspensions as among “threats and acts of economic coercion” which he considered “striking” for being “overt”, “credible” and combined with “a targeted disinformation campaign against Australia”.⁷⁴ A 21 June 2020 *AFR* report described the suspensions “as part of a campaign the Morrison government believes is punishment for its call for an international coronavirus inquiry”.⁷⁵

Some media coverage cited possible explanations for the suspensions other than coercion. The 12 May *AFR* report, for instance, alluded to suggestions that the suspensions were retaliation for Australia’s “liberal use of anti-dumping duties on Chinese products”.⁷⁶ There was also speculation that the suspensions “help China seize the opportunity to buy more from the US instead, thereby fulfilling its commitments under the phase one [trade] deal” with the US.⁷⁷

The effect of the suspensions on Australia’s beef exports to China were not immediately obvious. On 2 July 2020, *ABC News* reported that the Chinese government had withdrawn the preferential tariff rate applied to Australian beef imports under the China-Australia Free Trade Agreement (ChAFTA), because the Special Agricultural Safeguard of 179,687 tonnes had been reached. The report quoted an Australian government Department of Agriculture spokesperson as saying that “June [2020] was the earliest that preferential tariffs have been dropped since ChAFTA was established in 2015”.⁷⁸ This was because there had been “unprecedented growth of Australian beef meat exports to China in the year to date...”. Caveating this, *Beef Central* noted that “a large “carryover” quota volume from [2019]” was a significant contributor.⁷⁹

Figure 5 shows that the volume of beef exports to China declined in February 2020—coinciding with the impact of COVID-19 on Chinese demand.⁸⁰ Exports rose in March, April and May 2020, with the volume of exports in April and May 2020 exceeding that in April and May 2019. Volumes then dropped in June and July 2020 compared to both the preceding months and the same period in 2019. The year-to-date total volume of beef exports by July 2020 was a relatively modest 8.6 percent lower than in 2019.

73 Michael Shoebridge, ‘How to deal with the increasing risk of doing business with China’, *The Strategist*, Australian Strategic Policy Institute, 16 May 2020, <<https://www.aspistrategist.org.au/how-to-deal-with-the-increasing-risk-of-doing-business-with-china/>> [Accessed August 2020].

74 Townshend, ‘China’s pandemic-fueled standoff with Australia’, p. 3.

75 Michael Smith, ‘Australian beef exports threatened as Chinese buyers look to US’, *The Australian Financial Review*, 21 June 2020, <<https://www.afr.com/world/asia/australian-beef-exports-threatened-as-chinese-buyers-look-to-us-20200619-p554bn>> [Accessed August 2020].

76 Thompson, Grigg and Kehoe, ‘China asked to explain beef bans as trade row grows’, p. 16.

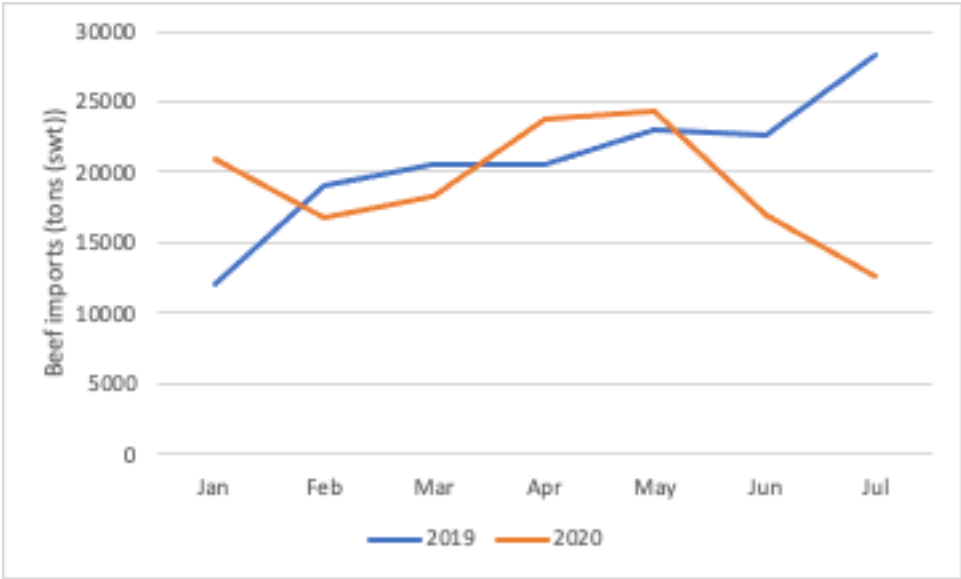
77 Su-Lin Tan, ‘China’s restrictions on Australian beef, barley seen as retaliation for support of coronavirus investigation’, *South China Morning Post*, 12 May 2020, <<https://www.scmp.com/economy/global-economy/article/3084062/chinas-restrictions-australian-beef-barley-seen-retaliation>> [Accessed August 2020].

78 Kath Sullivan, ‘China raises the cost of Australian beef as ChAFTA safeguard is triggered’, *ABC News*, 2 July 2020, <<https://www.abc.net.au/news/2020-07-02/china-increases-tariffs-australian-beef-milk-powder/12412612>> [Accessed August 2020].

79 Jon Condon, ‘Australian beef faces tariff hike in China market, as Safeguard triggers’, *Beef Central*, 2 July 2020, <<https://www.beefcentral.com/trade/australian-beef-faces-tariff-hike-in-china-market-as-safeguard-triggers/>> [Accessed August 2020].

80 Meat and Livestock Australia, ‘Statistics database’, p. 6.

Figure 5: Monthly Australian beef exports to China, January- July 2019–2020 (tons (swt))



Source: Meat and Livestock Australia

The extent to which this decline is owed to the processing facility suspensions is confounded by falling slaughter rates affecting Australian beef exports to all markets, increased tariffs on Australian beef in China as a result of reaching the ChAFTA safeguard in early July 2020, new regulations for COVID-19 testing of imported meat products and competition from beef producers in other markets.⁸¹ Year-on-year trends may also be affected by the 2019 African Swine Fever epidemic in China, which boosted demand for imported meat in 2019.

4. Understanding the impact and success of Chinese trade actions

The six case studies of claimed Chinese economic coercion highlight that, on the whole, actions taken to date have had only limited impact on trade flows and have not resulted in large costs to the Australian economy. This is not, however, to dismiss the greater incidence of costs inflicted on specific sectors or geographical regions. The bilateral political relationship between Canberra and Beijing also continued to deteriorate as these actions were taken, with the Australian government not shying away from criticising China on state-led, cyber-enabled intellectual property theft, human rights abuses in

81 Waldron, 'The exposure of Australian agriculture to risks from China: the cases of barley and beef', p. 14.

Xinjiang, the undermining of Hong Kong's autonomy, amongst other developments.⁸² In other words, the findings point to China being either unable or unwilling to inflict serious economic punishment on Australia, and even in cases where a trade impact has been perceptible, this has not had the effect of successfully shifting foreign policy positions in Canberra into closer alignment with those in Beijing. The theoretical discussion in section two helps to explain these findings.

First, trade actions result in an economic cost to both the exporter and importer. In the case of barley, for example, while China ultimately imposed tariffs on Australian barley in May 2020, the China Alcoholic Drinks Association warned the Chinese government via the formal investigation process that taking this course of action "would hurt the interests of the [Chinese] beer industry and might also push up corn prices and increase trade uncertainty".⁸³ Impact modelling undertaken by ABARES put the costs to China from barley tariffs at many multiples higher than to Australia.⁸⁴ There are also reputational costs to China not only in Australia but around the world as doubt is cast of its reputation as a reliable trade partner that plays by the rules.⁸⁵

Second, there is evidence that businesses and the country as a whole has actively mitigated coercive risk, a likelihood alluded to by Hirschman (1978). In the case of barley, some growers took the opportunity to mitigate the costs of tariffs potentially being applied by planting alternative crops or by focusing on other markets.⁸⁶ In the case of beef in 2020, while the Chinese market is important for earning Australian beef producers the highest possible margins, global demand for Australian meat protein is strong and by the middle of the year the US had quickly emerged as Australia's largest beef customer, with China falling to fourth place, also behind Japan and Korea.⁸⁷ In addition to the agency retained by individual Australian producers and sectors, the country as a whole has pursued strategic risk mitigation. As early as 2012, the University of Sydney's James Reilly observed that, "Australia has responded to deepening economic dependence upon China with classic balancing strategy: strengthening security ties with its Asian neighbours and the United

82 Marise Payne, 'Attribution of Chinese cyber-enabled commercial intellectual property theft', statement, 21 December 2018 <<https://www.foreignminister.gov.au/minister/marise-payne/media-release/attribution-chinese-cyber-enabled-commercial-intellectual-property-theft>> [Accessed October 2020]; Marise Payne, 'Statement on reports on Xinjiang', statement, 17 November 2019 <<https://www.foreignminister.gov.au/minister/marise-payne/media-release/statement-reports-xinjiang>> [Accessed October 2020]; Marise Payne, Francois-Philippe Champagne, Dominic Raab, Mike Pompeo, 'Joint statement on Hong Kong', statement, 28 May 2020 <<https://www.foreignminister.gov.au/minister/marise-payne/media-release/joint-statement-hong-kong>> [Accessed October 2020].

83 Michael Smith, 'China's beer brewers bitter at Australian barley tariff plan', *The Australian Financial Review*, 12 May 2020, <<https://www.afr.com/world/asia/china-s-beer-brewers-bitter-at-australian-barley-tariff-plan-20200512-p54s4i>> [Accessed August 2020].

84 Cao and Greenville, *Understanding how China's tariff on Australian barley exports will affect the agricultural sector*, p. 14.

85 James Laurenceson, Thomas Pantle, Michael Zhou, PRC economic coercion: the recent Australian experience, Australia-China Relations Institute, University of Technology Sydney, 14 September 2020 <<https://www.australiachinarelations.org/content/prc-economic-coercion-recent-australian-experience>> [Accessed October 2020].

86 Gabrielle Chan, 'We poked the bear: Australian farmers take the China trade stoush in their stride', *The Guardian Australia*, 31 May 2020, <https://www.theguardian.com/world/2020/may/31/we-poked-the-bear-australian-farmers-take-the-china-trade-stoush-in-their-stride> [Accessed October 2020].

87 Condon, 'July beef exports continue to sag, in line with slide in slaughter rates', p17.

States while bolstering its military capacity”.⁸⁸ The *2017 Foreign Policy White Paper* and the *2020 Defence Strategic Update* have given further impetus to these endeavours.⁸⁹

Third, bargaining theory carries the implication that the potential target country can reduce the likelihood of coercive pressure being applied by emphasising the value it sees in its current political positions and the costs involved in shifting them. This insight also assists in explaining why the Australian government has drawn attention to the possibility that coercive pressure might be being applied even as China has for the most part retained plausible deniability. On 13 May 2020, Trade Minister Simon Birmingham affirmed “[w]e’ve been very clear, we’re not about to change our policy positions under any threats, suggestion, or otherwise of economic coercion”.⁹⁰ On 11 June 2020, Prime Minister Scott Morrison stated that “[w]e are an open-trade nation but I am never going to trade our values in response to coercion from wherever it comes”.⁹¹

Fourth, it is not apparent that the characteristics underpinning successful sanctions are present in the Australia-China context. Of the six conditions outlined in section two, only the fourth—the target country has a democratic political regime, making it more difficult to ignore pressure from affected constituents—is clearly applicable to Australia. By way of illustration, the manner in which China appears to prosecute coercion undermines the likelihood of success. The plausible deniability built into China’s trade actions entails low specificity in policy objectives, and as the list of diplomatic disputes has grown in successive years, the potential scope of—and consequently the difficulty of accommodating—desired policy changes has also grown, meaning condition three is not met. Condition six—when sanctions strengthen the relative influence of interest groups in the target country that oppose the prevalent policy position—may be of greater significance in light of contention that the threat of sanctions or intensified sanctions, rather than the actual imposition of sanctions, can be effective in inducing policy change. On 23 August 2020, PUSAC’s Jeffrey Wilson made the case that “the Chinese Government doesn’t care about barley, beef, wine, students, or whatever else comes next” and that the aim of trade restrictions was to “create societal splits that pressure the government to change foreign policy toward China” in comments to *ABC News*.⁹² In the Australian experience, however, there is little evidence that Chinese trade restrictions have strengthened the political influence of groups opposed to prevailing policy settings. Wilson additionally noted in his remarks to *ABC News* that Fiona Simson, President of the National Farmers Federation (NFF), said in an 18 August 2020 statement

88 James Reilly, ‘Counting on China? Australia’s strategic response to economic interdependence’, *The Chinese Journal of International Politics*, vol. 5, no. 4 (November 2012), pp. 369–394.

89 See e.g., Department of Foreign Affairs and Trade, *2017 Foreign Policy White Paper*, 22 November 2017, <<https://www.fpwhitepaper.gov.au/>> [Accessed August 2020]; Australian Government Department of Defence, *2020 Defence Strategic update*, 1 July 2020, <<https://www.defence.gov.au/strategicupdate-2020/>> [Accessed August 2020].

90 Simon Birmingham, ‘Interview on ABC Radio, AM with Sabra Lane’, transcript, 13 May 2020, <<https://www.trademinister.gov.au/minister/simon-birmingham/transcript/interview-abc-radio-am-sabra-lane>> [Accessed October 2020].

91 Stephanie Dalzell, ‘Scott Morrison says Australia won’t respond to Chinese ‘coercion’ over warning about universities’, *ABC News*, 11 June 2020, <<https://www.abc.net.au/news/2020-06-11/australia-morrison-china-respond-coercion-on-universities/12342924>> [Accessed August 2020].

92 Kath Sullivan, ‘Australian farmers, Chinese consumers and the political and trade tensions in between’, *ABC News*, 23 August 2020, <<https://www.abc.net.au/news/2020-08-23/australia-china-agriculture-trade-tensions-analysis/12585884>> [Accessed September 2020].

that the NFF would “support the Australian Government” rather than pressure it to change its policy positions.⁹³ Trevor Whittington, chief executive of the Western Australian Farmers’ Federation, told the *AFR* on 2 September 2020 that “the industry is getting better at not responding because that’s what China wants...Instead of giving China the response it wants, now everyone is much more considered in working their way through issues on a science basis rather than a political basis”.⁹⁴ These examples could indicate that repeated exposure to sanctions threats have in fact induced a ‘rally around the flag’ effect among some of those ostensibly most likely to oppose prevailing government policy settings. While there remain calls from some business voices for Canberra to adopt a more conciliatory approach to managing differences with China, overall domestic political pressure to do so has weakened as Australian public opinion towards China has also deteriorated sharply in recent years.⁹⁵

5. Conclusion

As political relations between Australia and China have worsened since 2017, this paper documented six case studies in which a coercive frame has been applied to interpret Chinese actions taken against Australian exports. These case studies pointed to a frequent apparent gap between the prominence afforded in reporting and commentary to the possibility that coercion is being employed on the one hand and the impact on trade flows on the other. This gap is consistent with the mixed record of effectiveness of the use of economic coercion, while also pointing to the likelihood of coercion success being context-dependent.

Despite the broader context mostly having reduced the effectiveness of Chinese coercive actions to date, ongoing Australian resilience is not predestined. By way of illustration, moves by China to develop alternative iron ore sources, such as the Simandou deposits in Guinea, could mean that in the future the fifth condition for successful sanctions—an ability to cause severe economic harm, which the target country is unable to mitigate—will become more supportive of Chinese coercive pressure.⁹⁶ Accordingly, there is a case for ongoing proactive risk mitigation by the Australian government and businesses. In the Australian discussion, much store is placed on trade diversification as a means of reducing vulnerability to coercive pressure. There are many reasons why there is merit in seeking to diversify Australia’s trade relationships. Quite apart from the possibility

93 Fiona Simson, ‘Statement on China’s anti-dumping investigation into Australian wine imports’, National Farmers’ Federation, 18 August 2020, <<https://nff.org.au/media-release/statement-on-chinas-anti-dumping-investigation-into-australian-wine-imports/>> [Accessed September 2020].

94 Andrew Tillett and Brad Thompson, ‘Canberra keeps wary eye on wheat after China’s latest trade strike’, *The Australian Financial Review*, 2 September 2020, <<https://www.afr.com/politics/federal/canberra-keeps-wary-eye-on-wheat-after-china-s-latest-trade-strike-20200902-p55rmk>> [Accessed September 2020].

95 John Power, ‘As China tensions mount, Australia’s dovish voices calling for engagement are fading away’, *South China Morning Post*, 12 June 2020 <<https://www.scmp.com/week-asia/politics/article/3088611/china-tensions-mount-australias-dovish-voices-calling-engagement>> [Accessed October 2020]; Andrew Tillett, ‘Australians’ trust in China slump, new poll finds’, *The Australian Financial Review*, 24 June 2020 <<https://www.afr.com/politics/federal/australians-trust-in-china-slumps-new-poll-finds-20200623-p5557n>> [Accessed October 2020].

96 *Bloomberg News*, ‘China to approve developing Guinea’s giant Simandou iron ore mine’, 5 March 2020 <<https://www.bloomberg.com/news/articles/2020-03-05/china-plans-to-approve-developing-giant-simandou-iron-ore-mine>> [Accessed October 2020].

of coercion, there is the challenge to Australia if China's economy were to experience a major, negative economic shock, perhaps stemming from a debt crisis.⁹⁷ At the same time, greater diversification can result in additional costs if public policy is used to create disincentives, or outright bans, in trading with China. Further, an optimal response necessitates that even as coercive risks increase, the merits of trade diversification need to be balanced against the opportunities afforded by alternative markets, or the lack thereof. Trade patterns are principally determined by production complementarities across countries and the global distribution of purchasing power. Over the past decade, the annual value of Australia's exports has increased by AUD\$180 billion.⁹⁸ However, China has been responsible for 60 percent of this jump. The Australian government's 2017 foreign policy white paper contained a baseline forecast showing China's economy out to 2030 adding more new purchasing power than the US, Japan, India and Indonesia combined.⁹⁹ This suggests that in seeking to mitigate coercive pressure in the future, the Australian government and businesses will need to look beyond trade diversification to bolster resilience.

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97 Rochelle Guttman, Kate Hickie, Peter Rickards, Ivan Roberts, 'Spillovers to Australia from the Chinese economy', *Bulletin—June 2019*, Reserve Bank of Australia, Sydney, 20 June 2019, <<https://www.rba.gov.au/publications/bulletin/2019/jun/spillovers-to-australia-from-the-chinese-economy.html>> [Accessed August 2020].

98 James Laurenceson, Michael Zhou, *COVID-19 and the Australia-China relationship's zombie economic idea*, Australia-China Relations Institute, University of Technology Sydney, 7 May 2020 <<https://www.australiachinarelations.org/content/covid-19-and-australia-china-relationship%E2%80%99s-zombie-economic-idea>> [Accessed October 2020].

99 Australian Government Department of Foreign Affairs and Trade, *2017 Foreign Policy White Paper*, 22 November 2017 <<https://www.dfat.gov.au/publications/minisite/2017-foreign-policy-white-paper/fpwhitepaper/index.html>> [Accessed October 2020].

Geoeconomics and the Australian university sector: A ‘geoeducation’ analysis

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Abstract

The logic of geoeconomics is that economic policy instruments are increasingly wielded as instruments of national power and perceived as vectors of national security vulnerability. This article analyses the shifting geoeconomic dynamics that are shaping interactions between Australia, China and the United States in the university sector. It describes how both Beijing and Washington have come to view higher education and research through a geoeconomic lens, providing context for a subsequent analysis of “geoeducation” dynamics from an Australian perspective. The university sector simultaneously poses growing concerns for national security, while remaining a major contributor to national prosperity. The article concludes by framing the policy challenges facing the Australian government in terms of the trade-offs required for risk mitigation strategies that seek to maximise the potential for reducing vulnerabilities while minimising the economic costs.

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1. Introduction

For over a decade Australia’s political leaders and policymakers have grappled with the trade-offs inherent in having China as the country’s largest trading partner and a national security policy anchored around the alliance with the United States. As Beeson and Wilson wrote in this journal in 2015, China’s rise generates “integrated...economic and geopolitical consequences”.¹ More recently, the breadth and complexity of these consequences is being framed through the lens of geoeconomics, which integrates economic and security frameworks to illuminate the trade-offs faced by policymakers in an increasingly wide array of policy and sectoral domains.

The logic of geoeconomics is based upon two clear empirical trends embedded within an inherent policy trade-off. The first trend is that governments now use economic instruments to promote and defend national interests extending well beyond narrow

1 Mark Beeson and Jeffrey Wilson, ‘Coming to terms with China’, *Security Challenges* 11(2): 21, 2015.

economic goals, to encompass national security, geopolitics and grand strategy.² This means that economic policy, or economic statecraft, is more explicitly and intentionally being wielded as an instrument of national power, through which governments seek strategic advantage.³ As a result, the domains being affected by the logic of geoeconomics are rapidly expanding. Traditionally, the use of economic policies for strategic ends centred mostly around the use of economic sanctions, which were typically formal, legal, and multilateral instruments publicly issued to achieve well-defined geopolitical objectives. Now, China is demonstrating the scope of potential geoeconomic activity in managing its bilateral relations—including with Australia—while the Trump administration significantly expanded the scope and depth of geoeconomic actions specifically targeted at China.

The second trend is that regardless of the intention or objectives of any government's economic policies, these actions are increasingly affecting the capacity of other states to achieve their own economic, national security or geopolitical goals. This trend is the flipside of the first—just as economic policy tools can intentionally be wielded as instruments of national power, they can equally generate vectors of perceived vulnerability and insecurity, regardless of the underlying intent.⁴ Geoeconomic vulnerability was historically focused on the need for states to access stable and secure supplies of a narrow range of commodities, under the rubric of resource and energy security, and controlling the export of dual-use technologies that potentially offered a battlefield advantage. The domains for these vulnerabilities have now expanded in scope, in large part because of the dominance of technology in modern economies.⁵ Emerging vulnerabilities relate to the robustness and resilience of supply chains, the prospect of national governments controlling the behaviour of their own companies and citizens, and the expanding breadth of export categories that are potentially consequential for national security dynamics.

Accompanying these trends is an inherent trade-off for national governments: geoeconomic policy is costly. The strategic impulse either to wield geoeconomic power, or to mitigate geoeconomic vulnerability, will usually require the use of taxpayer dollars or regulatory intervention in markets to constrain or artificially direct economic activity, both of which distort economic incentives in ways that impose economy-wide costs. Formulating optimal policy responses is thus more complex than finding the best ways to spend within a given fiscal envelope. Rather, it requires an understanding of the structure and economic incentives of the sector in question, to map how interventions generate second-order effects that generate additional economic (or security) costs for the nation. Effective geoeconomic policymaking thus requires expertise that draws upon a range of different scholarly and policy disciplines, to illuminate the complex trade-offs inherent in attempts to 'maximise' national interests by both minimising vulnerability and risk (or 'maximising national security') and 'maximising national prosperity'.

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- 2 Darren Lim and Victor Ferguson, 'In beef over barley, Chinese economic coercion cuts against the grain', *The Interpreter*, 13 May 2020, <https://www.lowyinstitute.org/the-interpreter/barney-over-beef-chinese-economic-coercion-cuts-against-grain> [Accessed 14 May 2020].
 - 3 Robert Blackwill and Jennifer Harris, *War by Other Means: Geoeconomics and Statecraft* (Cambridge MA: Belknap Press, 2016), pp. 19-23.
 - 4 Anthea Roberts, Henrique Choer Moraes and Victor Fergus, 'Geoeconomics: the variable relationship between economics and security', *Lawfare*, 27 November 2018, <https://www.lawfareblog.com/geoeconomics-variable-relationship-between-economics-and-security> [Accessed 20 June 2019].
 - 5 Andrew Kennedy and Darren Lim, 'The Innovation Imperative: Technology and US–China Rivalry in the Twenty-First Century', *International Affairs* 94(3) (2018): 553-572.

Goeconomics represents a new and vitally important frontier of both scholarly research and public policy precisely because it traverses mainstream disciplines such as national security and economics that have traditionally been siloed. The purpose of this article is to use a single case study, the university sector, a domain that historically would largely (though not entirely) have been peripheral to security policy—to illustrate the centrality and complexity of the geoeconomic issues facing national governments. In both their teaching and research functions, universities are fast becoming “both terrain and instruments of strategic competition”,⁶ especially in the geopolitical rivalry between the United States and China. This competition is complicated by the rapid internationalisation of both education and research in recent decades, and the synergies that have materialised as a result. Universities are therefore a useful case for illuminating the logic and complexities of geoeconomics.

This article analyses the shifting geoeconomic dynamics that are shaping interactions between Australia, China and the United States in the spheres of higher education and research. It begins with a descriptive overview of how higher education and research have evolved to become geoeconomic issues from the perspectives of Beijing and Washington. This provides the context for a subsequent analysis of “geoeducation” dynamics from an Australian perspective, which identifies four specific risks pertaining to the sector: the university sector’s high dependence on Chinese students as a source of revenue; the end-use of collaborative research; foreign interference; and pressure from Washington to align with US policies, regardless of the costs. We conclude by framing the policy challenges facing the Australian government in terms of the trade-offs required for risk mitigation strategies that seek to maximise the potential for reducing vulnerabilities while minimising the economic costs.

2. The Chinese Context: Expansion, Soft Power and Coercion

Advances in education and research have been cornerstones of China’s economic development strategy since the late 1970s, and remain central to President Xi Jinping’s current ambitions to ‘rejuvenate’ the Chinese nation. This is evident in the ambitious Made in China 2025 strategy, which aimed to make China one of the world’s most innovative countries by 2020, and a leading global science and technology superpower by 2049.⁷ In pursuit of this goal, significant investments in expanding its domestic capacity for R&D have been coupled with strategies to develop a highly-internationalised university sector. More recently, this domestic expansion has been coupled with both “soft power” initiatives to expand China’s global influence, and the use of explicit coercion and more subtle influence to stifle criticism of China abroad.

Emerging from the chaos of the Cultural Revolution, during which schools and universities across the country were closed down, China’s university sector expanded rapidly, with approximately one university opening a week in the four decades since 1978. In recent years, the focus domestically has been on ensuring quality and excellence, evident in the

6 Rory Medcalf, *Contest for the Indo-Pacific: Why China won’t map the Pacific* (Melbourne: LaTrobe University Press, 2020), p. 49.

7 Andrew Kennedy, ‘Technology: Rapid Ascent and Global Backlash’, *China Story Yearbook: Power*, 2019 (Canberra: ANU Press).

earlier “985 and 211 model” and the more recent “Double First Class” policy.⁸ Significant resources are now devoted to elevating a relatively small number of institutions (in the case of Double First Class, around 42) into a ‘Chinese Ivy League’ of elite universities, which excel in both teaching and research and are highly internationalised on both fronts. The Ministry of Education’s Education Modernisation 2035 Plan attests to the long-term vision of a government intent on developing world-class education and research institutions.⁹

Sending China’s top students to study abroad has long been part of the Ministry of Education’s talent cultivation policy. From the handfuls of students sent abroad in the 1970s, the China Scholarship Council now finances the studies of around 65,000 Chinese students abroad each year, mostly for post-graduate degrees. These scholarships are often conditional on the recipient agreeing to return to China for at least two years upon completion of study, although evidence suggests that many students are intent on remaining in the US.¹⁰

Partly in response to this “brain drain”, in the last decade the Chinese government has made a concerted effort to attract talent back to, or into China, to cultivate its R&D capacity in science and technology in particular. In the decade since its inception in 2008, the “Thousand Talents Plan”, under the Ministry of Science and Technology, incentivised over 7,000 high-level and leading foreign and Chinese academics, experts and entrepreneurs working and studying abroad to return to or work in China.¹¹ With a focus on recruits that could “make breakthroughs in key technologies or serve as leaders in newly emerging scientific fields”,¹² expertise has been drawn not only into Chinese universities, but also foreign and private enterprises, high-tech development zones, state-owned research laboratories, and major scientific programs.

The Thousand Talents Plan has been integral to China’s strategy of Civil-Military fusion, which has gained prominence in recent years. Dating back to the 1990s, it was enshrined in China’s 13th Five-year-plan (2016–2020) as a national policy priority, with President Xi himself taking charge of a new Central Commission for Integrated Military and Civilian Development in 2018.¹³ In 2018, China expanded the Ministry of Science and Technology’s powers significantly, incorporating both the State Administration of Foreign Expert Affairs and the National Natural Science Foundation of China into a new “super-Ministry”, with the explicit goal of attracting and retaining foreign experts in China.¹⁴ While the Thousand

8 For more detail on the 985 and 211 models, see China Education Center, University of Nottingham, Project 211 and 985, online at: <https://www.chinaeducenter.com/en/cedu/ceduproject211.php> [Accessed 25 July 2020]

9 Ministry of Education, China, ‘Action Plan on Higher Education AI innovation’, April 2018. http://www.moe.gov.cn/srcsite/A16/s7062/201804/t20180410_332722.html [Mandarin] [Accessed 28 July 2020].

10 Despite this conditionality, up to 90% of Chinese STEM PhDs intend to stay in the US and career outcome research shows that more than 80% do so, even as across the board, return rates of Chinese students from the US continue to rise. See Ryan Fedasiuk, ‘CSET Issue Brief: The China Scholarship Council: An Overview’, Center for Security and Emerging Technology, July 2020: p. 6.

11 Hepeng Jia, ‘China’s plan to recruit talented researchers’, *Nature*, 17 January 2018, <https://www.nature.com/articles/d41586-018-00538-z> [Accessed 29 July 2020].

12 Andrew Kennedy, ‘China’s rise as a science power’, *Asian Survey*, Vol 59, No. 6, December 2019,

13 Brian Lafferty, ‘Civil-Military Integration and PLA Reforms’, in Phillip C. Saunders et al (eds) *Chairman Xi Remakes the PLA: Assessing Chinese Military Reforms*, (Washington: National Defense University Press, 2019).

14 Hepeng Jia, “China’s science ministry gets more power to attract foreign scientists”, *Nature Index*, 23 March 2018, <https://www.natureindex.com/news-blog/chinas-science-ministry-gets-power-to-attract-more-foreign-scientists> [Accessed 15 July 2020].

Talents Plan was abolished that year, the goal of attracting foreign experts through lucrative research contracts and funding continues through the new “High-end Foreign Experts Recruitment Plan”. Inaugurated in 2019, the new Plan lists “strategic technology development’ as its top priority, with the same fundamental objective of “introducing in China a batch of high-level foreign experts in key priority fields, to contribute to the country’s sci-tech innovation development”.¹⁵ In tandem with these developments, China has built up an array of similar programs at national, provincial and local levels, aimed at attracting foreign academics to China.¹⁶

In the last decade, China has also begun to build up its scholarships program to attract foreign students to study in China, awarding an additional 65,000 scholarships annually (worth some US\$469 million in 2018).¹⁷ In 2019, Xi Jinping announced that 50,000 full-ride scholarships would be awarded to African students over the next three years.¹⁸ UNESCO reported in June 2020 that China now offers more scholarships to African students than Western countries combined.¹⁹ Through these state-directed efforts, alongside significant growth in self-funded students in both directions, China is on track to become the only nation apart from the US to be both a major importer and exporter of students and education.

Some of these efforts may be viewed as an attempt by the Chinese government to build up its “soft power”. Soft power is a state’s capability to influence others through the mechanism of attraction rather than coercion or inducements, and arises from the attractiveness of a nation’s culture, political ideals, and foreign and domestic policies.²⁰ Universities are key mechanisms of attraction because they enable visiting international students and researchers to experience a country’s culture and politics personally, cultivating a positive image they take back to their home countries. China’s use of scholarships for foreign students can certainly be viewed as a soft-power initiative in this regard.²¹ Yet these scholarships, alongside the range of talent cultivation policies, may also have broader geopolitical goals that are inconsistent with the objectives of others.²²

15 China Innovation Funding, ‘China’s high end foreign experts recruitment plan (2019 Annual Call)’, 31 December 2019, <http://chinainnovationfunding.eu/project/2019-high-end-foreign-experts-recruitment-plan/> [Accessed 15 July 2020].

16 Some of these programs are listed in the EU China Innovation Funding database, <http://chinainnovationfunding.eu/chinese-funding-database/> [Accessed 29 July 2020].

17 Ryan Fedasiuk, ‘CSET Issue Brief: The China Scholarship Council: An Overview’, Center for Security and Emerging Technology, July 2020, p. 3.

18 Jevans Nyabiage, ‘Scholarship offers driving China’s soft-power play in Africa’, *South China Morning Post*, 28 September 2019, <https://www.scmp.com/news/china/diplomacy/article/3030570/scholarship-offers-driving-chinas-soft-power-play-africa> [Accessed 20 July 2020].

19 UNESCO Global Education Monitoring Report 2020 as referenced in Andrew Jack, ‘China surpasses Western government African university scholarships’, *Financial Times*, 24 June 2020, <https://www.ft.com/content/4b2e6c1c-83cf-448a-9112-477be01d2eee> [Accessed 28 June 2020].

20 Joseph Nye, *Soft Power: The means to success in world politics* (New York: Ingram, 2005), pp. 11-15.

21 David Shambaugh, *China Goes Global: The Partial Power* (Oxford: Oxford University Press, 2013), pp. 241-24 and Chen Jia, ‘Class Act Promotes Global “Soft Power”’, *China Daily*, 11 November 2010.

22 As one example, China’s “soft power” push into the education market in the Pacific is noteworthy. Diplomatic competition between the PRC and the Taiwan in the region—where six of Taiwan’s remaining seventeen allies are located—has intensified since 2016, and the provision of scholarships is a key component of that competition. By 2018, 1,317 students from China’s allies in the region—dominated by Papua New Guinea with 440—had been awarded under the bilateral scholarship scheme, with numbers rising over the past decade. See Denghua Zhang and Jessica Marinaccio, ‘Chinese and Taiwanese Scholarships for Pacific Island Countries’, In Brief 2019/10, *Department of Pacific Affairs* (Canberra: The Australian National University, 2019).

Coupled with the rapid expansion of China's presence in this increasingly globalised domain, the result is that these activities can be viewed through a geoeconomic lens.

The expansion of Confucius Institutes has been another significant development in China's approach to globalised education, which further illustrates this point. Established to promote the teaching of Chinese language and culture internationally, there are now more than 500 Confucius Institutes worldwide, with a US Senate report estimating that China has spent more than US\$2billion on the network since 2008.²³ China's Ministry of Education regularly references "national soft power and influence" as objectives of the Confucius Institutes, following a logic that echoes the objectives of other language and cultural institutes, like Germany's Goethe Institutes and France's Alliance Française.²⁴ But in recent years, the Chinese model has revealed itself to differ from its European counterparts, with some arguing that Confucius Institutes have become an instrument of Chinese "sharp power", through which Beijing has sought to "penetrate and subvert politics, media and academia, surreptitiously promoting a positive image of the country, and misrepresenting and distorting information to suppress dissent and debate".²⁵ Others argue that the institutes provide a channel for Beijing's "sophisticated global censorship regime"²⁶ and "turn universities themselves into agents whose interests lies in enforcing the Chinese government's implicit speech codes".²⁷

Beijing has also shown an explicit willingness to disrupt economic relations directly in the context of bilateral disputes with target governments. For example, Taiwan suffered a drop in Chinese student enrolments in 2017, following a tightening of restrictions on mainland student permits because National Cheung Kung University (in Tainan) was "engaging in pro-Taiwan independence activities".²⁸ In 2020, Australia looked set to become the next target (discussed further below).

In sum, substantial investments in expanding its domestic education and research capacities have long been motivated by China's drive for economic growth and development, and need not be seen as inherently "geoeconomic" in this regard. But the scale of these investments and the resultant growth in China as a major player in the sector, combined with a range of other economic tools and incentives deployed both domestically and abroad, highlight the extent to which the sector is central to China's geopolitical objectives—transforming the country into a global techno-power and delivering President Xi Jinping's goal of rejuvenating the nation. These developments have caused geopolitical consequences for the United States, affecting Washington's

23 United States Senate staff report, 'China's Impact on the U.S. Education System', 2019, <https://www.hsgac.senate.gov/imo/media/doc/PSI%20Report%20China%27s%20Impact%20on%20the%20US%20Education%20System.pdf> [Accessed 4 May 2020].

24 Ministry of Education, China, 'Efforts towards open development of education', December 2017, http://www.moe.gov.cn/s78/A21/A21_ztzt/ztlz_sjdz/sjdz_btft/201712/t20171221_322106.html [Accessed 20 July 2020].

25 See 'How China's sharp power is muting criticism abroad', *The Economist*, 14 December 2017, <https://www.economist.com/briefing/2017/12/14/how-chinas-sharp-power-is-muting-criticism-abroad> [Accessed 20 March 2019].

26 Isaac Stone Fish, 'The other political correctness: why are America's elite universities censoring themselves on China?', 4 September 2018, *New Republic*, <https://newrepublic.com/article/150476/american-elite-universities-selfcensorship-china> [Accessed 4 May 2019].

27 Cited in Fish (2018), *ibid.*

28 Yojana Sharma and Mimi Leong, 'Geopolitics are hitting Chinese student flows in Asia', *University World News*, 31 August 2017, <https://www.universityworldnews.com/post.php?story=20170831151622921> [Accessed 10 March 2019].

capacity to pursue its own national security and geopolitical goals which, in turn, has led to a drastic recalibration of US geoeconomic strategies in its university sector, as the next section attests.

3. The US Context: From “Soft-power” attraction to strategic rivalry and “decoupling”

Following the normalisation of the US-China relationship in 1972, and the commencement of China’s ‘economic reforms and opening up’ in 1978, the US adopted an approach of actively engaging international students and researchers in its university sector, including those from China. The dominant perception in the US for the subsequent three decades was that efforts to attract inbound foreign students would confer a soft power advantage for the US government and substantial revenue benefits for its university sector. This approach explicitly acknowledged that enhancing the knowledge and skills of the next generation of Chinese entrepreneurs, researchers and policy-makers would improve America’s own prospects for sustained economic growth. As John Pomfret describes the situation in 1978, “the idea was to create bonds of friendship between the two countries and exert what later came to be known as America’s ‘soft power’ on the hearts and minds of the Chinese.”²⁹ Then Secretary of State Colin Powell reiterated this point in his statement on International Education Week in 2001: “I can think of no more valuable asset to our country than the friendship of future world leaders who have been educated here.”³⁰

Universities are key mechanisms of attraction because they enable visiting international students to experience a country’s culture and politics personally, cultivating a positive image they take back to their home countries. Advocating in 2005 for higher education policies focused on soft power, Joseph Nye argued for “less restrictive visa policies and for more expeditious handling of visa requests”.³¹ This kind of thinking characterised the US approach to transnational education and research for decades, with the attraction of foreign talent through US universities powering the US research and innovation system, and the economy more broadly. For example, almost 60% of PhD-qualified computer scientists and engineers in the US workforce in 2017 were born overseas, with the large majority coming from India (#1) and China (#2).³²

In the last decade, however, the bilateral relationship has become increasingly vexed, with US policy shifting (gradually, and then abruptly) away from the logic of openness towards viewing education and research as potential sources of vulnerability in the context of strategic rivalry with China.

29 John Pomfret, ‘Chinese cash at American colleges is a massive problem’, 23 August 2018, <https://supchina.com/2017/08/23/john-pomfret-chinese-cash-american-colleges-massive-problem/> [Accessed 10 March 2018]

30 American Association of State Colleges and Universities, ‘Full Statement: National Security and Internationalization’, <http://globaled.us/now/fullstatementaascu.html#15> [Accessed 4 August 2020]

31 Joseph Nye, ‘Soft Power and Higher Education’ 1 January 2005, <https://library.educause.edu/-/media/files/library/2005/1/ffp0502s-pdf.pdf> p.14 [Accessed 10 September 2019]

32 National Science Board, ‘Immigration and the S&E Workforce’, <https://ncses.nsf.gov/pubs/nsb20198/immigration-and-the-s-e-workforce> [Accessed 12 October 2020].

During this period, US universities became increasingly reliant on money brought in by foreign students, and especially those from mainland China. Faced with budget cutbacks as a result of the Global Financial Crisis, many public universities drastically increased their numbers of foreign students.³³ The number of foreign students with F-1 visas newly enrolled in US colleges and universities more than doubled between 2008 and 2016, in contrast with just 3.4% for enrolment growth overall.³⁴

By 2017, roughly 350,000 Chinese students were estimated to be studying in US universities, more than five times the number a decade earlier.³⁵ Yet as financial inflows reached new highs, these deep levels of interdependence began to trigger geoeconomic concerns. To begin, increased financial dependency raised concerns within the sector about its financial vulnerabilities to potential leverage that the PRC government could use against it. This includes fears that Beijing could create pressure for universities or academics to limit their academic freedom in order to maintain funding (alongside growing concern about the presence of Confucius Institutes on US campuses), or that it could discourage Chinese nationals from studying in the US, to an extent that could inflict serious financial damage on targeted states or universities.

These growing concerns within US universities about dependency, leverage and censorship are intertwined with Washington's increasing (and bipartisan) focus on China as a strategic competitor. Viewed through the lens of strategic competition, the university sector is seen as a rising source of security vulnerability, as well as a battleground for technological leadership. Testifying in Congress in February 2018, FBI Director Christopher Wray criticised universities for their "naivete" about risks to US national security from China. While previous administrations took steps to address the theft of intellectual property from universities and companies, the Trump Administration made this a major focus, with Wray saying that countries like China were exploiting the open research and innovation system that America has led for decades and that the threat to the US would require a "whole-of-society" response. These concerns feed into deeper anxieties about a loss of technological leadership, as evidenced by the "Second Place America?" report released in May 2019 by the Task Force on American Innovation.³⁶

Since 2018, a number of significant policy changes reflecting the logic of geoeconomics have been proposed and implemented in the university sector, in three key areas: visas and immigration; foreign funding and conflict of interest in research; and export controls. These have had major impacts on the international education and research activities of US universities.

33 John Pomfret, 'Chinese cash at American colleges is a massive problem', 23 August 2017, <https://supchina.com/2017/08/23/john-pomfret-chinese-cash-american-colleges-massive-problem/> [Accessed 23 August 2018]

34 Neil G. Ruiz and Jynnah Radford, 'New foreign student enrolment at U.S. colleges and universities doubled since Great Recession', Pew Research Center, 20 November 2017, <http://www.pewresearch.org/fact-tank/2017/11/20/new-us-foreign-student-enrollment-doubled-since-great-recession/> [Accessed 6 June 2020]

35 Institute for International Education, 'International Students; All Places of Origin', Open Doors Report, November 2019, <https://opendoorsdata.org/data/international-students/all-places-of-origin/> [Accessed 12 August 2020].

36 Tobin Smith et al, 'Second Place America?: Increasing Challenges to U.S. Scientific Leadership', May 2019, <http://www.innovationtaskforce.org/wp-content/uploads/2019/05/Benchmarks-2019-SPA-Final4.pdf> [Accessed 18 May 2019].

As part of its broader immigration agenda, the Trump Administration used visa policy specifically to limit Chinese students and researchers. In 2018, the administration reduced visas for Chinese graduate students working in select fields of science and technology (robotics, advanced manufacturing and aviation) from 5 years to 1 year. In May 2020, President Trump issued a proclamation banning Chinese post-graduate students and researchers with links to any entity that “implements or supports the PRC’s ‘military-civil fusion strategy’” from entering the United States. The State Department issued conflicting advice on how narrowly the proclamation will be interpreted in practice, on the one hand saying that most Chinese nationals would continue to be welcome, but also saying that “the entire Chinese university system” could be considered to be connected to the military-civil fusion strategy.³⁷

In parallel, US research funding agencies and government departments have issued new guidelines on reporting international collaboration and funding; issued bans on researchers participating in the Thousand Talents Plan; and stipulated new funding rules, including that federally-funded foreign language education cannot be provided alongside a Confucius Institute. By July 2020, around 45 US universities had announced the closure of their Institutes (with 75 still remaining).³⁸ Law enforcement agencies have arrested and charged researchers for lying about dealings with Chinese counterparts.³⁹ In October 2020, the Secretary of State and the Secretary of Education sent a joint letter to all US university presidents about Chinese influence on American campuses.⁴⁰ In particular they highlighted risks to students and to academic freedom from the new Hong Kong National Security Law and Confucius Institutes. The Department of Education also released a report on compliance by US universities with reporting requirements under the *Higher Education Act*, which stated that the Department had found “pervasive noncompliance” with requirements for the reporting of foreign funding.⁴¹

The Trump Administration also explicitly targeted China in its use and expansion of export controls, through both the Department of Defense and Department of Commerce. Discussions have been underway since 2018 about broadening the existing export control regime to cover more areas of critical and emerging technologies, such as artificial intelligence and quantum science. But final agreement has been hard to reach, given the difficulties in drawing a hard line around fast-moving areas of technology, without curtailing American innovation and competitiveness. Through the Commerce

37 Christopher A. Ford, ‘Technology Transfers to the PRC Military and U.S. Countermeasures: Responding to Security Threats with New Presidential Proclamation’, *State Department Arms Control and International Security Papers*, Vol. 2, Number 9, 5 June 2020, p. 4.

38 Rachele Peterson, National Association of Scholars, ‘Confucius Institutes in the US that are closing’, July 2020, <https://www.nas.org/storage/app/media/Reports/Outsourced%20to%20China/confucius-institutes-that-closed-updated-july-1-2020.pdf> [Accessed 1 August 2020].

39 U.S. Department of Justice, ‘Harvard University Professor and Two Chinese Nationals Charged in Three Separate China Related Cases’, 28 January 2020, <https://www.justice.gov/opa/pr/harvard-university-professor-and-two-chinese-nationals-charged-three-separate-china-related> [Accessed 4 November 2020].

40 Michael Pompeo and Betsy DeVos, ‘Joint Letter to Presidents of American Institutions of Higher Education and Affiliates Regarding the People’s Republic of China’, 9 October 2020, <https://www.state.gov/joint-letter-to-presidents-of-american-institutions-of-higher-education-and-affiliates-regarding-the-peoples-republic-of-china/> [Accessed 20 October 2020].

41 U.S. Department of Education Office of the General Counsel, ‘Institutional Compliance with Section 117 of the Higher Education Act of 1965’, October 2020, <https://www2.ed.gov/policy/highered/leg/institutional-compliance-section-117.pdf> [Accessed 20 October 2020].

Department's "entity list", the Trump Administration also sought to limit engagement with Chinese companies in key sectors, for example listing leading Chinese telecommunications companies Huawei and ZTE and their overseas subsidiaries.⁴² The targeting of Chinese organisations has extended to universities, with the listing in May 2020 of Chinese universities including the Harbin Institute of Technology, known as "China's MIT".⁴³

The *Safeguarding American Innovation Act*, bipartisan legislation introduced in Congress in June 2020, is designed to "stop foreign governments, particularly China, from stealing American taxpayer-funded research and intellectual property developed at U.S. colleges and universities".⁴⁴ While not yet law at the time of writing, this proposal provides a clear sign of how far US policy has shifted from its three-decade long approach of active international engagement with students and researchers in the university sector. The legislation is explicitly motivated by geoeconomic concerns, with China front and centre, most prominently the simple idea that the United States has a national security interest in limiting —and even in some cases closing off entirely—the flow of knowledge and technology to its strategic rival. Meanwhile, many in the sector worry that the legislation will "undermine innovation by making US institutions less attractive to foreign scholars and increase paperwork requirements, without making them safer".⁴⁵

In sum, the recent trend in the US has been a shift away from a strategy of welcoming Chinese (and other foreign) students and researchers to enhance US capabilities in education and research, towards a more closed and rivalrous approach that amounts to "decoupling" in the university sector, mirroring the trajectory of US-China tensions more broadly. This shift appears to have bipartisan support in Washington, as seen in a State Department letter to US universities in August 2020, declaring that "standing up to increasingly aggressive behaviour" from the CCP has "become one of the most passionately unifying bipartisan issues of our time".⁴⁶

This new approach is emblematic of the two empirical trends that characterise the logic of geoeconomic competition: the use of an array of economic policies in pursuit of national (technological) power, and an explicit emphasis on the risks and vulnerabilities of engagement with China across the spectrum of university activities. It is sourced in an increased awareness of dependency on Chinese funding, alongside perceptions of CCP attempts to censor academic freedom and engage in intellectual property theft. This latter concern has been exacerbated by an accelerated Chinese civil-military integration and

42 U.S. Department of Commerce, 'Department of Commerce Announces the Addition of Huawei Technologies Co. Ltd. to the Entity List', 15 May 2019, <https://www.commerce.gov/news/press-releases/2019/05/department-commerce-announces-addition-huawei-technologies-co-ltd> [Accessed 4 November 2020].

43 U.S. Department of Commerce, 'Commerce Department to Add Two Dozen Chinese Companies With Ties to WMD and Military Activities to the Entity List', 22 May 2020, <https://www.commerce.gov/news/press-releases/2020/05/commerce-department-add-two-dozen-chinese-companies-ties-wmd-and> [Accessed 4 November 2020].

44 Rob Portman, 'Media Release: Portman, Carper, Rubio, Senate Colleagues introduce bipartisan legislation to stop theft of U.S. research and intellectual property by global competitors', 18 June 2020, <https://www.portman.senate.gov/newsroom/press-releases/portman-carper-rubio-senate-colleagues-introduce-bipartisan-legislation> [Accessed 19 June 2020].

45 Jeffrey Mervis, 'Research security bill advances in U.S. Senate despite opposition from research groups', *Science Magazine*, 23 July 2020, <https://www.sciencemag.org/news/2020/07/research-security-bill-advances-us-senate-despite-opposition-research-groups> [Accessed 12 October 2020].

46 Keith Krach, 'Letter from Under Secretary Keith Krach to the Governing Boards of American Universities', 18 August 2020, https://www.state.gov/letter-from-under-secretary-keith-krach-to-the-governing-boards-of-american-universities/?utm_medium=email&utm_source=FYI&dm_i=1ZJN,70DHP,UMMIMG,S97V3,1 [Accessed 19 August 2020].

two-way transfer of military and civilian technologies, alongside the rapid expansion of China's domestic technological capabilities more broadly.⁴⁷ In this new and evolving strategy, a range of geoeconomic tools are deployed to reduce vulnerabilities, defend America's national security, and prosecute major power rivalry. While there is much uncertainty surrounding the future trajectory of US-China relations, there seems little doubt that geoeconomic—rather than purely economic—considerations will dominate decision making by both major powers, including in the higher education and research spheres.

4. The Australian Context: Navigating the geoeconomics of the university sector

Australia has been a particular success story in the internationalisation of higher education and research over the last two decades. Australia ranks third in the world in terms of the number of international students and, on a per capita basis, has five times as many international students as the United States.⁴⁸ Australia also ranks second in the world in the level of internationalisation in its research output.⁴⁹ This level of internationalisation has brought huge benefits to Australia, as described by Peter Varghese:

“[B]eyond the economic benefits, international students deepen our regional links, reinforce our foreign policy objectives, strengthen Australia's soft power and broaden the horizons of Australian students. They also create a network of alumni in Asia who know Australia first hand, occupy significant positions and for the most part have a very positive attitude towards us.”⁵⁰

China has been a major contributor to this success story. Australia's education and research links with China have grown rapidly in recent decades, with almost 30% of all international student enrolments in Australian universities in 2019 coming from China—close to double the share of India, in second place.⁵¹ That percentage is even higher in some leading Australian universities.

In research and innovation, Australia produces only 2-3% of the world's new knowledge each year, so its rankings and impact in global terms rely strongly on international collaborations.⁵² Research links with Chinese collaborators have increased rapidly,

47 Office of the United States Trade Representative, Executive Office of the President, 'Findings of the Investigation into China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation under Section 301 of the Trade Act of 1974', 22 March 2018, <https://ustr.gov/sites/default/files/Section%20301%20FINAL.PDF> [Accessed 27 July 2020].

48 Salvatore Barbones, 'The China Student Boom and the Risks it Poses to Australian Universities', Centre for Independent Studies: Analysis Paper 5 (August 2019), p. 4.

49 National Science Board, 'International Research Collaboration', <https://ncses.nsf.gov/pubs/nsb20201/global-science-and-technology-capabilities#international-research-collaboration> [Accessed 7 March 2020].

50 See Peter Varghese, 'Australian Universities and China: Speech given to the 2018 National Conference on University Governance', 4 October 2018, <http://www.uq.edu.au/about/australian-universities-and-china> [Accessed 20 November 2018].

51 Department of Education, Skills and Employment, Australian Government 'Student Numbers', July 2020, <https://internationaleducation.gov.au/research/DataVisualisations/Pages/Student-number.aspx> [Accessed 4 July 2020].

52 James Laurenceson and Michael Zhou, 'Partners in knowledge creation: trends in Australia-China collaboration and future challenges', Working Paper, Australia-China Relations Institute, University of Technology Sydney, 19 July 2019, <https://www.australiachinarelations.org/content/working-paper-partners-knowledge-creation-trends-australia-china-research-collaboration-an> [Accessed 15 September 2019].

to the point where co-authors affiliated with a research institute in mainland China overtook those with US affiliations in 2019 as the most common international co-authors by Australian-based researchers, including in key areas of research such as science and engineering.⁵³

The benefits the Australian university sector—and the country more broadly—accrue from engagement with China are patent. In recent years, however, the potential costs and national security risks of Australia’s high levels of global integration in education and research, especially with China, have tracked the United States in terms of their rise in salience in public and policy discourses. The emergence of a geoeconomic dimension in the Australian university sector thus presents policymakers with a complex set of challenges. The nature of the national security risks must be identified along with possible ways of mitigating them, before integrating this knowledge with a sophisticated understanding of the structure of the university sector. The goal is to formulate targeted policies that mitigate the underlying risks while minimising the economic costs that mitigation strategies impose. At least three risks relating to national security are clear.

The first arises from the high dependence of the Australian university sector on Chinese students as a source of revenue. In June 2020, Australia looked set to become a target of Beijing’s coercive tactics, with the Ministry of Education warning Chinese students to reconsider studying in Australia. While the warning was attributed to the rise in “racist incidents” during the COVID-19 pandemic, it was widely perceived in Australia as part of a campaign of economic retaliation for the Federal government’s decision to push ahead with an independent inquiry into the early handling of the virus.⁵⁴

The second risk concerns the end use of Australian research outputs. While intellectual property theft is just as much a concern for Australia as it is for the United States, the smaller scale of the Australian market has meant that policy discourse has focused more on a related concern—that the benefit of some collaborations between researchers based in Australia and those in China could serve purposes that are at odds with Australian national interests, values and security. These concerns are broad in scope, and include the development of technologies that are used by companies to enhance the repressive apparatus of the Chinese Communist Party. They also extend to collaborations—in both the teaching and research domains—with individuals and groups with links to the People’s Liberation Army, with the consequence of providing strategic or battlefield advantage to a foreign military with increasingly divergent interests.⁵⁵ More recently, there has been rising concern in Australia about the transfer of valuable technology and research knowledge via China’s Thousand Talents Plan and other recruitment problems, often amid conflicts of interests or in violation of university policies.⁵⁶

53 Measured by peer-reviewed journal articles. Laurenceson and Zhou, *ibid*.

54 Bill Birtles, ‘China cautions students about “racist incidents” if they return to Australia during the coronavirus’, *ABC News Online*, 9 June 2020, <https://www.abc.net.au/news/2020-06-09/china-warns-students-not-to-return-to-australia-after-coronaviru/12337044> [Accessed 20 June 2020].

55 Alex Jokse, ‘Picking flowers, making honey’, *Australian Strategic Policy Institute Policy Brief* No.10/2018, 30 October 2018, <https://www.aspi.org.au/report/picking-flowers-making-honey> [Accessed 30 January 2019].

56 Alex Jokse, ‘Hunting the Phoenix: the Chinese Communist Party’s global search for technology and talent’, *ASPI Policy Brief* No. 35/2020, <https://www.aspi.org.au/report/hunting-phoenix> [Accessed 10 August 2020].

Third, like the United States, Australia is also grappling with foreign interference issues. These include the PRC government's capacity to impose direct and indirect threats to academic freedom in Australian universities, and the concern that Confucius Institutes may represent channels of interference and otherwise conduct activities contrary to Australia's national interests. As John Fitzgerald has argued, research collaborations between Chinese and Australian universities may "risk compromising academic freedom and the liberal values of Western higher education" because "China's education and research systems are arms of the party-state and the government of China is openly hostile to the idea of academic freedom... These differences are not trivial when university partners from Australia and China come together to transact agreements for mutual benefit".⁵⁷

Australia's situation is further complicated by an additional factor: the possibility Washington will demand Australia follow its pathway in adopting stricter controls on both inbound students and researchers and the sharing of knowledge, beyond what Australian authorities judge is necessary to safeguard Australian interests. This scenario would mean the perennial alliance management issues faced by Australian governments would now have an added geoeconomic dimension. Indeed, the recent US policy changes outlined above have coincided with calls for Australia and other Five Eyes countries to form a "Coalition of Caution" and adopt similarly restrictive policies.⁵⁸ While Canberra is familiar with managing defence policy scenarios where Australian and US interests do not overlap entirely, a divergence of geoeconomic strategic interests would present a new sort of challenge.

Towards a geoeconomic policy framework

The geoeconomics of the university sector presents policymakers with a series of complex and cross-cutting interests and risks. Policymakers will need to assess the likelihood that identified risks materialise and the (direct and indirect, short- and long-term) costs of mitigating those risks using a myriad of possible tools. They will also require extensive knowledge of the university sector and its spill-overs into the national economy, thus requiring expertise beyond traditional defence policymaking hubs.

Mitigating the university sector's vulnerability to economic coercion requires assessments of three factors. The first is whether Beijing has the capability to cause a reduction (or halt) in student flows. This is an open question that requires a much deeper understanding of both the regulatory landscape through which the Chinese government oversees outbound higher education, and the ability of Chinese consumers to exercise their preferences. For example, given international higher education remains highly valued among China's middle class, an outright ban might be politically unpopular with parents and students. If this were true, propaganda campaigns using state-controlled media, even coupled with consistent travel warnings, might not dampen demand greatly.

57 John Fitzgerald, 'Intellectual freedoms challenged by Australian universities uncritical embrace of China', *Australian Financial Review*, 7 September 2017, <https://www.afr.com/news/policy/education/intellectual-freedoms-challenged-by-universities-uncritical-embrace-of-china-20170904-gya1pk> [Accessed 10 June 2020].

58 See Jane Golley, Paul Harris and James Laurenceson, 'Campus Conundrums: Clashes and Collaborations', *China Story Yearbook China Dreams*, (Canberra: ANU Press, 2020), p. 259.

The second factor is measuring the financial, employment and downstream economic costs should a given reduction in student flows occur. Insight into this question will (unfortunately) emerge as the short- and medium-term impacts of COVID-19 on enrolments became clear.

Third, if the risks and costs of disruption are judged to be substantial, how can these be mitigated? Different mitigation strategies involve different trade-offs: diversifying to other markets will be a slow process and involve significant short- and medium-term hits to university budgets, particularly given the vast size of the Chinese student population. Subsidising the university sector during a disruption would be costly, contributing to a growing fiscal deficit in the short term that would ultimately be borne by Australian taxpayers. Doing nothing, and allowing the financial losses to cause permanent damage to the sector, would also bring significant short-term costs in terms of employment, and long-term costs in terms of the nation's capacity for innovation and technological advancement, and hence its prosperity.

Mitigating the second risk—that of either losing Australia's capacity for world-class research or producing collaborative research that ultimately may damage the national interest—is no less complicated. To begin, both universities and the government need a greater shared awareness of the benefits and risks of cooperative research partnerships and relationships between Australia-based and China-based researchers, especially as they apply for taxpayer-funded research. The Australian Research Council commenced work with national security agencies in 2018 to strengthen the application processes and oversight of government funded research. The government has also set up an integrity unit within its Tertiary Education Quality and Standards Agency “with a remit to identify and analyse emerging threats to the quality of higher education and to assist the sector to address them across academic and research integrity, cyber security, foreign interference and admission standards”.⁵⁹ In late August 2020, the federal government announced legislation to empower it to block agreements between universities and foreign governments, which would require universities to take stock of all existing agreements and submit them to federal oversight.⁶⁰

Targeted responses are essential given the Australian sector's heavy reliance on international collaborations and the fact that research cannot easily be split into “sensitive” and “non-sensitive” sectors without causing significant collateral damage. Accordingly, where the government sees the need to restrict certain types of research, a targeted approach could consider building separate labs for defence-related and other sensitive work (with additional controls for physical security) so that the rest of campus could then stay as open as possible, albeit with improved oversight. It may even be that particularly sensitive research needs to be conducted outside the university sector (for example, in institutions like the CSIRO), given that most research done by universities is published in open-access literature, making it difficult to prevent outsiders from accessing the research being conducted within university labs.

59 Peter Dutton and Dan Tehan, ‘Joint Media Release: Strengthening the integrity of research’, 24 August 2020, <https://minister.homeaffairs.gov.au/peterdutton/Pages/strengthening-the-integrity-of-research.aspx> [Accessed 24 August 2020].

60 Scott Morrison and Marise Payne, ‘Media Release: Ensuring a Consistent Australian Foreign Policy’, 27 August 2020, <https://www.liberal.org.au/latest-news/2020/08/27/ensuring-consistent-australian-foreign-policy> [Accessed 29 August 2020].

The Australian government has also taken action to mitigate the third risk: threats to academic freedom and foreign interference. In November 2018 the government instigated a review into the state of freedom of speech on university campuses and in August 2019 it established a taskforce charged with “the development of best practice guidelines to counter foreign interference in the Australian university sector”.⁶¹ The guidelines were released in November 2019 and took a deliberately collaborative and “country-agnostic” approach.⁶² Though even here, the possibility that good-faith efforts to preserve Australian values will be perceived by Beijing as an attack on their interests, thus triggering retaliatory actions, remains real.

The legislation proposed in August 2020 will lead to a review of existing and prospective agreements between universities and foreign governments, and the blocking of those agreements that are deemed contrary to national interests. Increased transparency has the potential to support improved dialogue between universities and government about identifying and mitigating security risks, and preventing future risks from arising. But the legislation has also prompted concerns about the erosion of academic independence and institutional autonomy.⁶³ This legislation has the potential to be effective in mitigating this third set of risks as well, conditional on careful and clear assessments of the short- and long-term costs and benefits being conducted on a case-by-case basis. With the inclusion of “cultural collaborations” in the legislation, Confucius Institutes will come under review. If they are deemed to pose unacceptable security risks, an optimal geoeconomic response will simultaneously consider how to enhance Australia’s knowledge of Chinese language and culture in their absence.

On the alliance management question, there have been clear indications in high-level government-to-government interactions that both the US and Australian governments are keen to support stronger collaboration between universities and science agencies in both countries in key strategic areas of science and technology (such as space, cybersecurity, AI and quantum science) as a response to current geopolitical climate. Many Australian universities are already seeking to strengthen US collaboration—and access to US funding—in key areas of research. However, increased support from the US government would almost certainly be conditional on, at the very least, an expectation that Australian researchers would comply with their stricter funding rules, including ones about protecting against the transfer of certain types of research to Chinese students, researchers and institutions. Given Australia’s smaller population, and greater reliance on Chinese collaborations in research and innovation, the calculus of costs and benefits—for either complying with US demands, or choosing not to—will need to be Australia specific and focused clearly on Australia’s national interests, which may not always align perfectly with those of its major ally.

61 Department of Education, Skills and Employment, Australian Government, ‘News: Establishment of a University Foreign Interference Taskforce’, 29 August 2019, <https://www.education.gov.au/news/establishment-university-foreign-interference-taskforce> [Accessed 15 September 2019].

62 Department of Education, Skills and Employment, Australian Government, ‘Guidelines to Counter Foreign Interference in the Australian University Sector, 13 November 2019, <https://docs.education.gov.au/node/53172> [Accessed 7 October 2020].

63 Daniel Hurst, ‘Australian Researchers condemn “groundless vilification” of their work with China’, *The Guardian (Australia)*, 29 August 2020, <https://www.theguardian.com/science/2020/aug/29/australian-researchers-condemn-groundless-vilification-of-their-work-with-china> [Accessed 31 August 2020].

5. Conclusions

The university sector represents a compelling illustration of geoeconomic dynamics. Until recently, universities were viewed primarily as direct contributors to national economies, and indirect mechanisms to promote broader national interests, both through domestic spillovers created by research, and soft-power appeal internationally. At present, however, China's rise and rivalry with the United States have caused Western countries—and especially Australia—to perceive universities as vectors of national security vulnerability to be mitigated, given the rapid growth in China's own knowledge-generating capabilities and increasingly assertive behaviour abroad. The core tension at the heart of geoeconomic actions is that policies to mitigate security risks and defend power resources will often come at great cost, including undermining the openness and dynamism in research and education that create successful universities in the first place.

The primary purpose of this article has been to use universities to demonstrate this core tension. Actions by both the United States and China in recent years demonstrate how universities have become both intentional instruments of statecraft, and vectors for national security risks and vulnerabilities—suggesting that we are now entering an era of “geoeducation”. The US geoeducation strategy has shifted from “soft power” and “positive influence” to a restrictive and security-focused approach that is sceptical, and increasingly hostile, to the participation of and collaboration with foreigners, especially coming from China. Meanwhile, China's strategy combines elements of overt coercion and inducements with more subtle censorship activities, and is backed by (potential) leverage, significant government investments and a fusion of the sector with the broader political, economic and military apparatus of the state.

As with many other policy domains, Australia's geoeducation strategy will face difficult and costly trade-offs in balancing the economic and innovation benefits of remaining open to engagement with China, against national security and alliance management concerns that will orient the regulation of universities in ways more favourable to the United States and will likely be more restrictive overall. Some calculations are easy—yielding to coercive pressure or being subjected to foreign interference is never going to serve Australia's long-run interests, so pushing back will be essential, regardless of the economic costs that may ensue. But beyond that, optimal policymaking requires a detailed understanding of how universities operate, including how international student fees contribute to revenue and broader output and how new knowledge is created and applied for societal benefit. Some interventions to mitigate security risks will be relatively low cost, such as the emerging frameworks for preserving academic freedom and countering foreign interference. Ongoing efforts to improve transparency within all universities are also low cost, and with potentially high pay-offs.

Two policy areas pose the most complex trade-offs. The first is when vulnerabilities, or alliance management issues, point in the direction of closing off research partnerships, restricting access to foreign researchers or indeed banning certain types of visitors. Risk mitigation in these areas has the potential to do real damage to the vitality of Australia's research culture and the high global rankings of its universities, particularly for a country of its size. The second is where mitigating vulnerabilities requires significant investments, whether to subsidise the sector during a coercive episode, provide assistance in the process of diversification, or support knowledge building if alternative funding sources

are blocked. In all these instances, targeted mitigation strategies will need to carefully consider the least-disruptive and least-costly ways of solving the problem, with a clear focus on Australia's national interests, broadly defined.

Any geoeconomic strategy is likely to be more effective when applied to sectors for which the nation implementing the strategy has market power. In higher education, Australia is a strong performer in this regard, with few competitors for Chinese students seeking high-quality English-language education overseas. Given that its major competitors are also allies (US, UK and Canada), there is scope for working together—for example, in upholding academic freedom for all students and researchers, and building resilience to reduce the impact of coercive measures. But there will also be a need to recognise that Australia's national interests may not always align with its allies, and that flexibility and adaptability will be essential for formulating appropriate policy responses to the rapidly changing global “geoeducation” landscape.

The Belt and Road comes to Papua New Guinea: Chinese geoeconomics with Melanesian characteristics?

Peter Connolly

Abstract

Considered ‘peripheral’ in Chinese foreign policy, Melanesia has nevertheless experienced a steady growth in Chinese interests this century, particularly leading up to APEC 2018. This interest brought with it the Belt and Road Initiative – China’s economic quest for global influence, and the public face of China’s grand strategy. Drawing on research from 2017 and 2019, this article examines what changed after PNG joined the BRI in June 2018. It consults a range of well-informed Chinese and PNG perspectives to discern what the BRI means for Melanesia and how Melanesians are responding to it. Is this economic development, geoeconomic influence or both?

Map 1: States referred to in this article with their Exclusive Economic Zones (EEZs) and the Sub-Regions of the Pacific Islands.¹



¹ The Chinese provinces of Guangdong and Fujian are highlighted as the most significant points of origin for Chinese migrants to Melanesia.

The Belt and Road Initiative (BRI) is China's economically driven quest for global influence, which serves as the visible face of the People's Republic of China's (PRC) grand strategy. The Chinese state has sought global power under the leadership of President Xi Jinping by employing this grand strategy to marshal Chinese economic, diplomatic, military and propaganda resources with an emphasis on geoeconomic influence. This effort has arguably accelerated in the environment generated by the COVID-19 global pandemic.

Melanesia, the most populous and resource-rich sub-region of Oceania, has been placed on the 'greater periphery' of Chinese grand strategy.² Nevertheless, in 2006 Premier Wen Jiabao clarified China's intent for increasing engagement with the Pacific Islands: "...cooperation with the Pacific island countries is not a diplomatic expediency. Rather, it is a strategic decision."³ Xi Jinping reinforced this intent when he invited Pacific leaders to get on board China's "development express train" in 2014.⁴ The sheer asymmetry of such a relationship dictates that even a modest interest from a Chinese perspective can have a significant impact on Pacific Island countries. Melanesia has experienced a steady growth in Chinese interest over the past two decades, and this growth has intensified since the official arrival of the BRI in 2018.

China's approach to influence and interference in the Pacific has become quite brazen, establishing a pattern of behaviour which is contrary to China's stated foreign policy principle of 'non-interference'. This is evidenced by the arrest and extradition of 77 'Chinese nationals' by Chinese police in Fiji in 2017;⁵ the arrest of six Chinese nationals with ni-Vanuatu citizenship by Chinese police in Vanuatu in 2019;⁶ and most recently the sending of workers participating in a COVID-19 vaccine trial into Papua New Guinea (PNG) without the host nation's consent or knowledge.⁷ China publicly admonished the Solomon Islands province of Malaita when it declared its objection to Honiara's 'switch'

2 Jian Yang, *The Pacific Islands in China's Grand Strategy—Small States, Big Games*, (New York: Palgrave Macmillan, 2011), pp. 2 and 136-137. See also: Yu Changsen, "Chinese Economic Diplomacy toward the Oceanian Island countries in the first decade of the 21st Century", *2014 Blue Book of Oceania: Annual Report on Development of Oceania 2013-14* (Beijing: Social Sciences Academic Press, 2015), p.368.

3 Premier Wen Jiabao, address to the China-Pacific Island Countries Economic Development and Cooperation Forum, Nadi, Fiji, 5 April 2006. "Wen's speech at China-Pacific Island Countries forum", *Xinhua*, <http://www.chinadaily.com.cn/china/2006-04/05/content_560573.htm> [accessed 30 September 2014].

4 Graeme Smith, "China in the Pacific: Zombie ideas stalk on" *SSGM In Brief* 2015-2, (Canberra: ANU, 2015).

5 For alleged cyber-crime. *Xinhua* "77 telecom fraud suspects returned to China from Fiji" *China Daily*, 5 August 2017, <http://www.chinadaily.com.cn/china/2017-08/05/content_30349375.htm> accessed 7 October 2017. But they turned out to be teenaged Chinese sex workers. See Hagar Cohen and Tiger Webb "Chinese nationals deported from Fiji were sex workers, not fraudsters" *Background Briefing*, Radio National, 6 October 2017 <<http://www.abc.net.au/news/2017-10-06/chinese-nationals-deported-from-fiji-sex-workers-not-fraudsters/9019666>> [accessed 7 October 2017].

6 Bernard Lagan, "Rendition row after China seizes six people from Vanuatu", *The Times*, 10 July 2019, <<https://www.thetimes.co.uk/article/vanuatu-bows-to-chinese-rendition-of-its-citizens-hp5300gmm>> [accessed 30 August 2019].

7 Ben Packham, "China testing its COVID-19 vaccine in Papua New Guinea", *The Australian*, 20 August 2020, <<https://www.theaustralian.com.au/nation/politics/china-testing-its-covid19-vaccine-in-papua-new-guinea/news-story/3932c90ab23a7ab3a6f327c3290fd29d>> [accessed 20 August 2020].

in recognition from Taiwan to the PRC.⁸ Prime Minister Marape's nationalisation of the Porgera Mine in PNG attracted the public dissatisfaction of the Chairman of Zijin Mining Group.⁹ But more importantly, China achieved a key geopolitical goal when it successfully induced the Solomon Islands and Kiribati to 'switch' recognition from Taiwan to China in September 2019.

This article will focus on what has happened in Melanesia's largest, most populous and resource-rich state, Papua New Guinea, since it signed a Memorandum of Understanding (MoU) with China to join the BRI in June 2018.¹⁰ It draws on research conducted in PNG in 2017 and 2019 to understand what changed when PNG joined the BRI, consulting a range of well-informed Chinese and PNG perspectives to understand what the BRI could mean for Melanesians—economic development, geoeconomic influence, or both. The article will start with definitions and background on the BRI. It will then observe what happens when a state joins the BRI through the case study of PNG. Finally, it will observe the likely impacts of current trends associated with these changes, and Melanesian agency in response to them.

Statecraft, Grand Strategy and the Chinese in Melanesia

Definitions

A discussion of geoeconomics depends on the understanding of what is meant by statecraft and economic statecraft. David Baldwin described statecraft as the employment of instruments of national power by using techniques to exert influence in pursuit of foreign policy goals.¹¹ He refined Harold Lasswell's instruments of power¹² into a taxonomy of

8 China's Ministry of foreign Affairs described Malaita's actions as "illegitimate, inappropriate and entirely wrong" and claimed its association with Taiwan "hurts the national feelings of the Chinese people." Edward Cavanaugh, "The small Pacific islands at the center of a big power play", *Washington Post* 30 July 2020 <https://www.washingtonpost.com/world/asia_pacific/china-taiwan-dispute-and-coronavirus-aid-fuel-hostilities-in-solomon-islands/2020/07/29/500a7fd8-cccb-11ea-99b0-8426e26d203b_story.html> [accessed 30 July 2020]. China's actions have had further repercussions in the Solomon Islands. Evan Wasuka, "Province takes Solomon Islands government to court over COVID-19 donations", *Pacific Beat*, Australian Broadcasting Company, 13 July 2020, <<https://www.abc.net.au/radio-australia/programs/pacificbeat/province-takes-solomons-govt-to-court/12448318#:~:text=Solomon%20Islands%20province%20of%20Malaita,Taiwan%2C%20in%20favour%20of%20China.>> [accessed 15 July 2020].

9 In a letter to PM Marape dated 27 April 2020, Jinghe Chen, Chairman of Zijin Mining Group, whose company had owned a 47% share in the gold mine, made the following threat: "However, if Zijin's investment in Porgera mine is not properly protected by the PNG government, I am afraid there will be significant negative impact on the bilateral relations between China and PNG, which is something we definitely do not want to see." Copy in possession of author.

10 Despite Fiji's apparently close relationship with China and Prime Minister Bainimarama's public involvement as the only Pacific Island leader in the Belt and Road Forum in 2017, it did not sign an MoU for the Belt and Road till after APEC 2018. Yang Yi, "China, Fiji ink MoU on Belt and Road Initiative cooperation", *Xinhua*, 12 November 2018, <http://www.xinhuanet.com/english/2018-11/12/c_137601722.htm> [Accessed 30 August 2020].

11 David A. Baldwin, *Economic Statecraft* (New Jersey: Princeton University Press, 1985), p.8-9.

12 Harold D. Lasswell, *Politics: Who Gets What, When, How. With Postscript*, (New York: Meridian Books, 1958—first edition 1936). Lasswell described them as '...information, diplomacy, economics, force (words, deals, goods, weapons).' These categories appear to be the basis for the modern US acronym of 'DIME', accounting for the employment of Diplomatic, Informational, Military and Economic power. Quoted in Baldwin, *Economic Statecraft*, p.13.

the techniques of statecraft: propaganda; diplomacy; economic statecraft; and military statecraft.¹³

Baldwin defines economic statecraft as “...influence attempts relying primarily on resources which have a reasonable semblance of a market price in terms of money.”¹⁴ This is more easily distinguishable because it focuses on the means rather than the ends.¹⁵ He observes the practice throughout recorded history and its modern utility.¹⁶ The Chinese state has become quite proficient at the employment of this instrument of statecraft, following leading Western powers including the US.¹⁷

Geoeconomics, then, is the use of economic statecraft to achieve geopolitical or strategic objectives in securing the national interest. One of the first to use the term was Edward Luttwak in 1990 as he reflected on the end of the Cold War.¹⁸ Robert Blackwill and Jennifer Harris recently defined geoeconomics as the “use of economic instruments to promote and defend national interests, and to produce beneficial geopolitical results.”¹⁹ This term connotes a subset of the broader spectrum of economic statecraft, giving focus to both ends (national interest) and means (economic activity). The literature on grand strategy suggests it is unwise to employ such instruments unless they are carefully synchronised with other statecraft tools.

Grand strategy is the comprehensive prioritisation, direction and coordination of national resources²⁰ to secure the fundamental interests of a state, in both peace and war.²¹ Such behaviour is based on a purposeful set of ideas, or overarching vision, which generates a logical path to where a nation intends to be in the long term.²² This enables the application of means to achieve objectives in the national interest, and response to the threats and opportunities presented by the international environment.²³

13 Baldwin, *Economic Statecraft*, pp.13-14.

14 Baldwin, p.13.

15 Baldwin pp.39-40.

16 Baldwin p.370.

17 Sarah Chayes points out that “...the nineteenth and twentieth centuries are littered with examples of colonial and postcolonial powers deliberately corrupting the leaders of lands they sought to dominate.” “The Strategies Are Foreign, but the Corruption Is American: A Response to ‘The Rise of Strategic Corruption’”, *Foreign Affairs*, November/ December 2020, <<https://www.foreignaffairs.com/articles/united-states/2020-10-13/strategies-are-foreign-corruption-american>> [Accessed 30 October 2020].

18 Edward N. Luttwak 1990 “From Geopolitics to Geo-Economics: Logic of Conflict, Grammar of Commerce”, *The National Interest*, No. 20 (Summer 1990), Center for the National Interest, pp. 17-23.

19 Robert D. Blackwill and Jennifer M. Harris, *War by Other Means: Geoeconomics and Statecraft*, (New York: Belknap Press, Harvard University, 2017).

20 Also referred to as national ‘levers of power’, these can be classified under Baldwin’s taxonomy of four broad statecraft techniques: Propaganda; Diplomacy; Economic Statecraft; and Military Statecraft.

21 This definition is based on those of: Basil H. Liddell Hart, *Strategy*, (New York: Praeger, 1972), p.31; Avery Goldstein, *Rising to the Challenge: China’s Grand Strategy and International Security* (Stanford: Stanford University Press, 2005), pp.17 and 19; and Hal Brands, *What good is grand strategy?: power and purpose in American statecraft from Harry S. Truman to George W. Bush* (Ithaca: Cornell University Press, 2014) pp.3-6.

22 Goldstein, *Rising to the Challenge*, p.19; and Brands, *What good is grand strategy?*, p.3.

23 Michael J. Green, *By More Than Providence: Grand Strategy and American Power in the Asia Pacific Since 1783* (New York: Columbia University Press, 2019), p.2.

To be effective, a grand strategy needs to be cohesive and consistent, and yet sufficiently responsive to change. Grand strategy is relevant to all states regardless of their size or capacity,²⁴ and is affected by domestic imperatives regardless of the state's political system.²⁵ A grand strategy will rarely be publicly declared in its complete form,²⁶ but becomes evident over time as a result of a state's behaviour.²⁷

There has been a growing recognition in Chinese academia of this 'western' term²⁸ in the past decade.²⁹ However, this is often conceptualised in a China-centric or great power manner. One senior Chinese scholar was quoted as saying "It is the privilege of great countries to have grand strategies—not Papua New Guinea."³⁰ I disagree.

'Grand' in this context refers to a comprehensive approach rather than relative superiority in one form of power.³¹ It has also been claimed that "...all states have a grand strategy, whether they know it or not."³² If a state can identify what is in its long term interest, deduce a way of achieving this and then seek to coordinate employment of its resources accordingly, it can pursue a grand strategy. The BRI represents the declaratory form of China's grand strategy.

24 Edward Luttwak, *The Grand Strategy of the Byzantine Empire* (Cambridge, MA: Harvard University Press, 2009), p. 409; Tom Long, "Small States, Great Power? Gaining Influence Through Intrinsic, Derivative, and Collective Power", *International Studies Review* (2017) No. 19, pp.185-205; and Nina Silove "Beyond the Buzzword: The Three Meanings of 'Grand Strategy'", *Security Studies*, 2018, Vol. 27, No. 1, 27–57, p.51.

25 Richard Rosecrance and Arthur A. Stein, "Beyond Realism: The Study of Grand Strategy," Richard Rosecrance and Arthur Stein (eds), *The Domestic Bases of Grand Strategy* (New York: Cornell University Press, 1993) p.5.

26 Goldstein, *Rising to the Challenge*, p.19, and Brands, *What good is grand strategy?*, pp.5-6.

27 Goldstein, *Rising to the Challenge*, pp.19-20.

28 Originally it was claimed there was no such term in Chinese thinking, though 'National Strategy' was a close approximation, and 'Comprehensive National Power' appears to be the same thing:
 – Author's interviews with Chinese academics and officials, Beijing & Guangzhou, May & October 2014;
 – Alistair Iain Johnston, *Cultural Realism: Strategic Culture and Grand Strategy in Chinese History* (Princeton: Princeton University Press, 1995), p36; and
 – Jian Yang, *The Pacific Islands in China's Grand Strategy—Small States, Big Games*, (New York: Palgrave Macmillan, 2011), p.47.

29 For example:
 – Wang Jisi "China's Search for a grand strategy: a rising Power finds its way" *Foreign Affairs*, March/April 2011;
 – Jian Yang, *The Pacific Islands in China's Grand Strategy—Small States, Big Games*, (New York: Palgrave Macmillan, 2011);
 – Ye Zicheng, *Inside China's Grand Strategy: The Perspective from the People's Republic*, translated and edited by Steven I. Levine and Guoli Liu (Lexington, Kentucky: The University Press of Kentucky, 2011);
 – Chih-yu Shih and Chiu-chiu Huang, "China's Quest for Grand Strategy: Power, National Interest, or Relational Security?" *The Chinese Journal of International Politics*, 2015, 1–26;
 – Yunling Zhang "Belt and Road Initiative as a Grand Strategy" in Jie Zhang (ed) *China's Belt and Road Initiatives and Its Neighboring Diplomacy* (Beijing: Chinese Academy of Social Sciences, 2016), pp 3-12; and
 – Xiaoyu Pu and Chengli Wang, "Rethinking China's rise: Chinese scholars debate strategic overstretch" *International Affairs* 94: 5 (2018) 1019–1035.

30 Senior Chinese scholar quoted by David Lampton in *The Three Faces of Chinese Power: Might, Money and Ideas* (Berkeley: University of California Press, 2008) p.25.

31 This has been the subject of academic debate. Some continue to attach a rather narrow interpretation to the term. For example: Williamson Murray, "Thoughts on Grand Strategy," in Williamson Murray, Richard Hart Sinnreich, and James Lacey (eds) *The Shaping of Grand Strategy: Policy, Diplomacy, and War*, (Cambridge: Cambridge University Press, 2011), p.1. Others argue that grand strategy "...is labelled 'grand' because it refers to the guiding logic or overarching vision..." which combines all forms of influence to secure the state's international goals. Avery Goldstein, *Rising to the Challenge: China's Grand Strategy and International Security* (Stanford: Stanford University Press, 2005), p19.

32 Edward Luttwak, *The Grand Strategy of the Byzantine Empire* (Cambridge, MA: Harvard University Press, 2009), p.409.

The Belt and Road Initiative

The BRI was instigated³³ by Xi Jinping's speech to the Nazarbayev University in Kazakhstan in September 2013,³⁴ followed by another to the Indonesian parliament in Jakarta in October of the same year.³⁵ The Chinese administrative apparatus was mobilised to develop and implement this vision from November 2013,³⁶ and the *Vision and Actions Roadmap* was issued jointly by the National Development and Reform Commission, the Ministry of Foreign Affairs and the Ministry of Commerce in March 2015.³⁷ This direction went to all ministries and agencies of government requiring them to create subordinate plans to meet key objectives by the centenary of the PRC in 2049.³⁸

The BRI was to be financed by China's two policy banks—China Development Bank (CDB) and the China Export-Import Bank (Exim Bank)³⁹—with support from the Asian Infrastructure Investment Bank (AIIB) and the Silk Road Fund (SRF). The concept was named the 'One Belt, One Road' (OBOR), but was changed in other languages to the more inclusive 'Belt and Road Initiative' (BRI) for the Belt and Road Forum in 2017.⁴⁰ The BRI pushed beyond China's initial periphery (the Eurasian continent) to include the 'China–Oceania–South Pacific Blue Economic Passage' as one of three maritime routes, in addition to six economic corridors.⁴¹

The mobilisation and integration of China's instruments of national power under the BRI to serve its national interests indicate China's grand strategy.⁴² I make the distinction that it is the public face of China's grand strategy, as there appear to be classified components of it (as with most grand strategies) which do not necessarily fit within the global strategic

33 Chinese academics credited Professor Wang Jisi (of Peking University) with the initial thinking which lead to the OBOR with his 2012 opinion piece in the Global Times. Wang Jisi, "'March West', China's Geostrategic Rebalance" ['西进', 中国地缘战略的再平衡], Global Times [环球时报], October 17, 2012, <http://opinion.huanqiu.com/opinion_world/2012-10/3193760.html>. See Yun Sun, "March West: China's Response to the U.S. Rebalancing," The Brookings Institution, January 31, 2013, <www.brookings.edu/blog/upfront/2013/01/31/march-west-chinas-response-to-the-u-s-rebalancing/>.

34 In Kazakhstan Xi proposed a 'Silk Road Economic Belt', connecting China to Europe via land. Xi Jinping quoted in "President Xi Jinping delivers important speech and proposes to build a silk road economic belt with Central Asian Countries", Ministry of Foreign Affairs, PRC, 7 September 2013 <www.fmprc.gov.cn/mfa_eng/topics_665678/xjpfwzsisesgjfhshzzfh_665686/t1076334.shtml> [Accessed 2 September 2020].

35 In Jakarta Xi proposed the creation of a '21st Century Maritime Silk Road', connecting China to Europe via sea. David Gosset, "China's Grand Strategy: The New Silk Road", Huffington Post, 8 Jan 2015, <http://www.huffingtonpost.com/david-gosset/chinas-grand-strategy-the_b_6433434.html> [Accessed 2 September 2020].

36 Nadège Rolland "The Belt and Road Initiative: China's Grand Strategy?" in 'Grand Designs: Does China have a 'Grand Strategy'?' *China Analysis*, European Council on Foreign Relations, October 2017, p.5.

37 National Development and Reform Commission, Ministry of Foreign Affairs and Ministry of Commerce of the People's Republic of China, *Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road* (PRC Government, Beijing, 28 March 2015) <http://en.ndrc.gov.cn/newsrelease/201503/t20150330_669367.html> [Accessed 2 September 2020].

38 Nadège Rolland "The Belt and Road Initiative: China's Grand Strategy?" in 'Grand Designs: Does China have a 'Grand Strategy'?' *China Analysis*, European Council on Foreign Relations, October 2017, p.5.

39 By 2017 these two banks were lending more in Asia than the World Bank and Asian Development Bank combined. Tom Miller *China's Asian Dream* (Zed Books, London, 2017) p.12.

40 The 'Initiative' was meant to sound more inclusive and less threatening for the global audience. However, its name in Chinese has never changed.

41 Nadège Rolland, "A Concise Guide to the Belt and Road Initiative", National Bureau of Asian Research, 11 April 2019 <<https://www.nbr.org/publication/a-guide-to-the-belt-and-road-initiative/>> [Accessed 20 August 2020].

42 Nadège Rolland "The Belt and Road Initiative: China's Grand Strategy?" in 'Grand Designs: Does China have a 'Grand Strategy'?' *China Analysis*, European Council on Foreign Relations, October 2017, p.5.

narrative propagated by the BRI. Nadège Rolland argued that beyond the involvement of State-Owned Enterprises (SOEs), private companies, financial organisations, diplomats, intellectuals, media, and propaganda experts, the strategy requires the People's Liberation Army (PLA) to protect overseas interests, and that it will be difficult for them to stick to a policy of 'non-interference' as they do so.⁴³ The ultimate political objective for this grand strategy is the "China Dream of the great rejuvenation of the nation", which Rolland describes as 'China's unimpeded rise'.⁴⁴

After a degree of international 'push-back',⁴⁵ Xi Jinping chaired a high-level symposium to mark the BRI's fifth anniversary in August 2018 to 'recalibrate' his strategy.⁴⁶ He directed that the needs and sensitivities of local governments and populations be fully accounted for, and declared that Chinese companies operating overseas must act as "BRI ambassadors."⁴⁷ Such expectations have clearly influenced the case study in this paper. But it is important to first articulate what is meant by 'Melanesian' and 'Chinese'.

Melanesia

'Melanesia' was first used as a geographical and ethnographic reference by the 19th Century French explorer Jules Dumont d'Urville to refer to the linguistically complex and culturally diverse islands of Southwest Oceania, as a means of distinguishing them from Malaysia, Polynesia and Micronesia in 1832.⁴⁸ Tarcisius Kabutaulaka of Solomon Islands observes that, despite the racist and simplistic origins of the term, Melanesians have appropriated the term to construct a pan-Melanesian identity that celebrates the sub-region's ethno-linguistic and cultural diversity.⁴⁹

43 Loc.cit.

44 Loc.cit.

45 In early 2017, Brama Chellaney described the BRI as 'debt-trap diplomacy'. "China's Debt-Trap Diplomacy", Project Syndicate, 23 January 2017, <<https://www.project-syndicate.org/commentary/china-one-belt-one-road-loans-debt-by-brahma-chellaney-2017-01?barrier=accesspaylog>> [Accessed 29 October 2020]. Further criticism followed, triggering Chinese (and Xi Jinping's) sensitivity:

a. In May 2017, the states of the European Union refused to sign a Chinese 'joint statement' to mark the end of the Belt and Road Forum due to concerns about transparency and then 27 of 28 produced a report critical of the BRI. Dana Heide, et. al., "EU Ambassadors band together against Silk Road," *Handelsblatt*, April 17, 2018. <<https://www.handelsblatt.com/english/politics/china-first-eu-ambassadors-band-together-against-silk-road/23581860.html>> [Accessed 29 October 2020].

b. Later that year US Secretary of State Rex Tillerson described the BRI as 'predatory economics.' "US supports India stand on OBOR, hits out at China's financing", Financial Express, 19 October 2017, <<https://www.financialexpress.com/world-news/us-supports-india-stand-on-obor-hits-out-at-chinas-financing/899200/>> [Accessed 29 October 2020].

c. Secretary of Defense James Mattis then stated "I think in a globalized world, there are many belts and many roads, and no one nation should put itself into a position of dictating One Belt, One Road." Secretary of Defence James Mattis, "Political and Security Situation in Afghanistan", Statement before the United States Senate Committee on Armed Services, 3 October 2017, Washington, D.C., pp.61-62. <https://www.armed-services.senate.gov/imo/media/doc/17-82_10-03-17.pdf> [Accessed 29 October 2020].

46 Nadège Rolland, "A Concise Guide to the Belt and Road Initiative", National Bureau of Asian Research, 11 April 2019 <<https://www.nbr.org/publication/a-guide-to-the-belt-and-road-initiative/>> [Accessed 20 August 2020].

47 Ibid.

48 Serge Tcherkezov, Translated by Isabel Ollivier "A Long and Unfortunate Voyage Towards the 'Invention' of the Melanesia/Polynesia Distinction 1595-1832", *The Journal of Pacific History* (2003) 38:2, 175-196, p.175, DOI: 10.1080/0022334032000120521.

49 Tarcisius Kabutaulaka, "Re-Presenting Melanesia: Ignoble Savages and Melanesian Alter-Natives", *The Contemporary Pacific* 27 (1) (2015): 110-146, p.111.

Melanesia is defined most commonly as the South-western sub-region of the Pacific Islands that includes PNG, Solomon Islands, Fiji, Vanuatu and the French territory of New Caledonia.⁵⁰ Melanesia includes 99% of the land mass of the Pacific Island Countries,⁵¹ across approximately 2000 islands, with 11 million inhabitants (roughly 90% of the Pacific Islands' population).⁵²

In his seminal essay on Oceania, 'Our Sea of Islands', Epeli Hau'ofa recast the Pacific Islands as peoples connected by the sea and strengthened against external influence by their regional interdependence,⁵³ an idea harnessed by the Pacific Island Forum as the 'Blue Pacific' framework for regionalism.⁵⁴ In 2015 George Carter and Stewart Firth observed that external influence had led to a 'new Melanesian assertiveness', supported by the financial contributions of China and Indonesia.⁵⁵ This is part of a broader trend of growing Pacific Island agency which Greg Fry and Sandra Tarte described as the 'New Pacific Diplomacy'.⁵⁶ Carter and Firth also noted a 'new sense of independence', as a result of many partners giving them new diplomatic options.⁵⁷ This article relates to the Chinese component of these developments.

The Chinese in Melanesia

Chinese migrants have had an important role in the Pacific Islands for one and a half centuries. David Wu's research on Chinese migrants in PNG,⁵⁸ Wang Gangwu's study of Chinese patterns of migration,⁵⁹ and the assessments of Bill Willmott,⁶⁰ Jian Yang⁶¹

50 However, in anthropological circles it is still common to include western New Guinea (West Papua and its associated islands in Indonesia) and occasionally Timor-Leste, both of which were granted (for more political reasons) 'associate member status' of the Melanesian Spearhead Group in 2015.

51 Sir Michael Somare, Keynote address on the occasion of the Melanesian Spearhead Group 25th anniversary celebrations in Noumea, New Caledonia, 2011. Published as "Melanesian Spearhead Group: The last 25 years" pp.290-299, in Greg Fry and Sandra Tarte (eds) *The New Pacific Diplomacy* (ANU Press, Canberra, 2015), p.296

52 According to the United Nations estimate as at 30 August 2020. <http://www.worldometers.info/world-population/melanesia-population/>

53 Epeli Hau'ofa, "Our Sea of Islands" in Epeli Hau'ofa, Vijay Naidu & Eric Waddell (eds.), *A New Oceania: Rediscovering our Sea of Islands*, (Suva: University of the South Pacific, 1993), pp.6-9&13.

54 Pacific Islands Forum Secretariat, *Forum Communiqué*, Forty-Eighth Pacific Islands Forum, Apia, Samoa 5–8 September, 2017, <https://www.forumsec.org/wp-content/uploads/2018/02/Final_48-PIF-Communique_2017_14Sep17.pdf> accessed 20 November 2017.

55 George Carter and Stewart Firth, "The Mood in Melanesia after the Regional Assistance Mission to Solomon Islands" *Asia & the Pacific Policy Studies*, vol. 3, no. 1, January 2015, pp. 16–25, P.16.

56 Greg Fry and Sandra Tarte "The 'New Pacific Diplomacy': An introduction", pp.3-19, *The New Pacific Diplomacy* (ANU Press, Canberra, 2015).

57 George Carter and Stewart Firth, "The Mood in Melanesia after the Regional Assistance Mission to Solomon Islands" *Asia & the Pacific Policy Studies*, vol. 3, no. 1, January 2016, pp. 16–25, P.23

58 David Yen-ho Wu, *The Chinese in Papua New Guinea: 1880–1980*, (Hong Kong: Chinese University Press, 1982). David Yen-ho Wu, The Construction of Chinese and Non-Chinese Identities, *Daedalus*, Vol. 120, No. 2, The Living Tree: The Changing Meaning of Being Chinese Today (Spring, 1991), pp. 159-179

59 Wang Gungwu, 1988. "The Study of Chinese Identities in Southeast Asia." In *Changing Identities of the Southeast Asian Chinese since World War II*, ed. Jennifer W. Cushman and Wang Gungwu, 1–21. Hong Kong: Hong Kong University Press. Wang Gungwu, 1989. "Patterns of Chinese Migration in Historical Perspective." In *Observing Change in Asia: Essays in Honour of J.A.C. Mackie*, ed. R. J. May and W. J. O'Malley, 33–48. Bathurst: Crawford House Press.

60 Bill Willmott "Varieties of Chinese Experience in the Pacific" CSCSD (Centre for the Study of the Chinese Southern Diaspora), Occasional Paper Number 1, Australian National University, 2007 (35-42) <http://chlold.anu.edu.au/publications/csds/cscsd_op1_6_chapter_3.pdf> accessed 10 January 2018, pp.36-38.

61 Jian Yang, *The Pacific Islands in China's Grand Strategy: Small States, Big Games* (New York: Palgrave Macmillan, 2011), p.106.

and Graeme Smith⁶² create a picture of three ‘waves’ of migration.

The first wave occurred between the mid-19th and mid-20th centuries, when Chinese migrants from Fujian and Guangdong escaped chaos in search of brighter economic prospects abroad.⁶³ This first wave are now referred to in the Pacific as the ‘old Chinese’, have lived in the Pacific for up to six generations, and are largely assimilated into the local culture and lifestyle through a process of adaptation.⁶⁴ Having been accepted by Pacific Island communities, the old Chinese are now struggling to compete with more recent waves of Chinese migrants.⁶⁵

The second wave arrived between the 1950s and 1970s, when migrants who had originally moved to Southeast Asia during the first wave re-settled in the South Pacific.⁶⁶ Referred to as ‘Malaysian Chinese’ or ‘Singaporean Chinese’, they are less inclined than their predecessors to speak English or the local language.⁶⁷ The third wave began in the 1990s as a consequence of China’s ‘Going Out’ policy.⁶⁸ Referred to by Pacific Islanders as ‘new Chinese’, the third wave are investment migrants that are largely alienated from the local population.⁶⁹ The third wave tends to form business links with the second wave through shared language and experience.⁷⁰

As the numbers of SOEs have grown in recent years, it has become clear that they constitute a discernible fourth grouping focused on the Melanesian construction and extractive sectors. This group has a preference for speaking Mandarin and employing a Chinese workforce, and a reputation for segregation. What sets it apart from the third wave, is that these companies, despite their motivation to succeed commercially, can be required to pursue state interests over individual or commercial ones.⁷¹ This fourth wave of Chinese presence in Melanesia will be considered in this paper.

Jian Yang, himself an overseas Chinese living in New Zealand,⁷² asserted in 2011 that “... the South Pacific is a low priority to Beijing”, ranking behind Africa and South America in the margins of Chinese “greater periphery diplomacy”.⁷³ Nevertheless, the level of Chinese interest in the Pacific Islands, and Melanesia in particular, has increased in the last decade.

62 Graeme Smith, “Beijing’s Orphans? New Chinese Investors in Papua New Guinea”, *Pacific Affairs*: Volume 86, No. 2, June 2013 (327-349), pp. 332-333.

63 David Yen-ho Wu, *The Chinese in Papua New Guinea: 1880–1980*, (Hong Kong: Chinese University Press, 1982), pp.50-51; and Jian Yang, *The Pacific Islands in China’s Grand Strategy*, p.5. This was not a planned or organised process. Graeme Smith, “Beijing’s Orphans?”, p.332.

64 David Yen-ho Wu, *The Chinese in Papua New Guinea*, pp.4-5.

65 Author’s interviews with old Chinese in PNG 2014, 2017 and 2019, Timor-Leste 2017, and Vanuatu 2019.

66 Graeme Smith, “Beijing’s Orphans?”, pp.332-333.

67 Tok Pisin, Pidjin, Bislama or iTaukei

68 Graeme Smith, “Beijing’s Orphans?”, pp.331-332.

69 Graeme Smith, “Beijing’s Orphans?”, pp. 330, 332 & 334. Most new Chinese investors in PNG’s retail sector come from a town called Fuqing in Fujian Province, a province which accounts for 29 percent of Chinese migrants overseas, but only 3 percent of China’s population. Graeme Smith, “Beijing’s Orphans?”, p.331.

70 Graeme Smith, “Beijing’s Orphans?”, pp.333.

71 Author’s interviews with employees of Chinese SOEs in PNG and Vanuatu, 2017 and 2019.

72 Jian Yang was been a New Zealand Member of Parliament from 2011 to 2020. His position became a source of controversy in 2017 when it was revealed he had previously taught at PLA university and been a member of the CCP. Charlotte Graham-McLay “A New Zealand Lawmaker’s Spy-Linked Past Raises Alarms on China’s Reach”, *New York Times*, 4 October 2017, <<https://www.nytimes.com/2017/10/04/world/asia/new-zealand-china-spy.html>> [Accessed 30 October 2020].

73 Jian Yang, *The Pacific Islands in China’s Grand Strategy—Small States, Big Games*, (New York: Palgrave Macmillan, 2011), pp.137-138.

The BRI comes to Melanesia

In 2017 most of the officials and businesspeople that I interviewed in Melanesia and Timor-Leste did not appear to believe that their country would be included by China in its new BRI.⁷⁴ Some believed their country would choose not to be part of the BRI in order to safeguard their sovereignty, while the majority did not expect to be invited to join the program as they had little to offer China economically.⁷⁵ Both of these beliefs were based on the sheer difference in scale between the island states and this rising major power. Table 1 (below) indicates some of the reasons behind this feeling of asymmetry. However, it appeared these island states were already an informal part of the BRI, largely due to China's 'Going Out' policy of the late 1990s.

In 2018 Melanesia's relationship to the BRI changed in a short space of time. Timor-Leste signed an MoU with China for the BRI in May 2018. PNG was close behind as its Prime Minister, during an official visit to Beijing in June, desperately sought additional resources and support for holding the APEC 2018 meeting in Port Moresby later that year.⁷⁶ President Xi told Prime Minister O'Neill that China would support PNG to be ready for APEC, and China Harbour Engineering Company (CHEC) was tasked to build 10 km of four lane road and APEC Haus⁷⁷ in 200 days.⁷⁸

Xi Jinping then invited the leaders of all Pacific Island States that recognised the PRC rather than Taiwan under the One China policy to a meeting in Port Moresby immediately before the APEC summit.⁷⁹ By the end of APEC all eligible Pacific Island countries had signed MoUs with China for the BRI, including Vanuatu on 9 November,⁸⁰ and Fiji on 12 November 2018.⁸¹ Many assumptions were made in each country about the potential benefits that BRI membership would bring.

74 Author's interviews with government officials from PNG, Timor-Leste, and Fiji in 2017 and Solomon Islands in 2019.

75 Ibid.

76 David Wroe, "Looking north: PNG signs on to China's Belt and Road Initiative", *Sydney Morning Herald*, 21 June 2018, <<https://www.smh.com.au/world/asia/looking-north-png-signs-on-to-china-s-belt-and-road-initiative-20180621-p4zmyv.html>> [Accessed 30 June 2018].

77 The primary convention centre for APEC 2018.

78 Author's interview with CHEC staff, Port Moresby, PNG, July 2019.

79 Primrose Riordan, "China to host Pacific Islands meeting ahead of APEC", *The Australian*, 10 July 2018, <<https://www.theaustralian.com.au/nation/foreign-affairs/china-to-host-pacific-islands-meeting-ahead-of-apec/news-story/961c0cb7fe2ab07e5fdf7166eb7fa005>> [Accessed 5 November 2018].

80 "7 MOUs and Cooperation Agreements with China", *Vanuatu Daily Post*, 20 November 2018, <https://dailypost.vu/news/7-mous-and-cooperation-agreements-with-china/article_f2cb8ae5-fe7b-5ede-8683-fb263390917b.html> [Accessed 30 August 2020].

81 Yang Yi, "China, Fiji ink MoU on Belt and Road Initiative cooperation", *Xinhua*, 12 November 2018, <http://www.xinhuanet.com/english/2018-11/12/c_137601722.htm> [Accessed 30 August 2020].



Table 1: Comparative Population, Land area, EEZ and GDP⁸²

Country	Population 2020 (#)—UN	Annual Growth	Migrants (net)	Land (Km ²)	EEZ (Km ²) ⁸³	GDP 2017 (# & % World)—World Bank
China	1,439,323,776 (#1)	5,540,090	-348,399	9,388,211	877,019 ⁸⁴	\$12,237,700,479,375 (#2 & 15.120%)
PNG	8,947,024 (#98)	170,915	-800	452,860	2,409,920	\$20,536,314,601 (#112 & 0.025%)
Timor-Leste	1,318,445 (#156)	25,326	-5,385	14,870	70,326	\$2,954,621,000 (#161 & 0.004%)
Fiji	896,445 (#161)	6,492	-6,202	18,270	1,288,135	\$5,061,202,767 (#148 & 0.006%)
Solomon Islands	686,884 (#166)	17,061	-1,600	27,990	1,611,839	\$1,303,453,622 (#175 & 0.002%)
Vanuatu	307,145 (#181)	7,263	120	12,190	8,313	\$862,879,789 (#179 & 0.001%)

82 Population data from United Nations and Economic data from World Bank, from <https://www.worldometers.info/world-population/population-by-country/> @ 30 Aug 2020)

83 For Pacific Islands—Pacific Data Hub, *Pacific Island Countries and Territories EEZ*, https://pacificdata.org/data/dataset/964dbef-2f42-414e-bf99-dd7125eedb16/resource/dad3f7b2-a8aa-4584-8bca-a77e16a391fe/download/country_boundary_eez.geojson [Accessed 30 Aug 2020]. For China and Timor-Leste: Flanders Marine Institute (2019). *Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM)*, version 11. Available online at <http://www.marineregions.org/> or <https://doi.org/10.14284/386> [Accessed 30 Aug 2020].

84 China's undisputed EEZ. The PRC claims another 3,000,000 km² of EEZ which are disputed by other countries. Flanders Marine Institute, Map "China · MRGID" [Accessed 30 Aug 2020] 8486 <https://www.marineregions.org/eezdetails.php?mrgid=8486&zone=eez>

The ‘arrival’ of the BRI in Papua New Guinea

In 2019, a Papua New Guinean friend who was familiar with my research in 2017, convinced me to return to PNG on the grounds that “...it’s all changed since you were here!” The visit to PNG that followed created a picture of what can change when a country joins China’s BRI.

A Chinese Official’s Perspective

A Chinese official was kind enough to explain his perspective on what the BRI is and what qualifies as a ‘Belt and Road project.’⁸⁵ The Belt and Road is a “broad concept ... an image, a brush stroke (not a very fine paint)”, and that the “detail is generated through mutual consultation” and development of the project with local authorities.⁸⁶ His approach borrows directly from Xi Jinping’s 2018 ‘recalibration’. The Chinese plan will be aligned with the PNG National Strategy, noting that the China-PNG relationship was strengthened from a ‘Strategic Relationship’ to a ‘Comprehensive Strategic Relationship’ during the preparations for APEC 2018. He describes the BRI as “...a platform for cooperation ... anyone who wants to jump on board is welcome.” It is a “tool to promote mutually beneficial trade and investment.”⁸⁷

“There is no detailed definition” of a BRI project but “Chinese companies have a comparative advantage”—they have an experienced labour force which is more affordable than those in western countries. The official proposed that “...any project which is in line with the *Five Connectivities*...” (trade, infrastructure, policy, people to people and capital (finance) connectivities⁸⁸), may be “...broadly regarded as a BRI project.”⁸⁹ These guidelines make sense for China’s economically-driven grand strategy, but appear too broad to discern which activities the BRI includes. He continued to explain that a ‘BRI Project’ does not have to be paid for by Chinese money—the Asia Development Bank, World Bank, or even another country, can provide the finance required. Furthermore, the project may even have commenced before the BRI existed: if it aligns with the Five Connectivities, it is a BRI project.⁹⁰

The official’s explanation suggests that a ‘BRI project’ can be anything that a Chinese company is working on, as long as it suits China’s desired strategic narrative.⁹¹ If this is the case, the achievement of geopolitical objectives in a campaign for global influence by using economic tools that are paid for by others would be the ultimate master class in geoeconomics.

85 Interview with the author, Port Moresby, July 2019.

86 Ibid.

87 Ibid.

88 See: Professor Liao Fan, Institute of International Law, Chinese Academy of Social Sciences, “Understanding the BRI through the ‘five connectivities’”, *CGTN*, 20 April 2019: <<https://news.cgtn.com/news/3d3d674d334d544d34457a6333566d54/index.html>> [Accessed 30 Aug 2020].

89 Interview with the author, Port Moresby, July 2019.

90 Ibid.

91 China’s strategic narrative is the international message required to successfully propagate the BRI, convincing the majority of nations of its value and credibility, thus enabling China’s grand strategy.

A New Chinese perspective

According to a leading member of the Papua New Guinean Chinese business community in Port Moresby, there was an influx of new Chinese construction companies in preparation for the 2015 Pacific Games.⁹² They finished their projects, but stayed in country, driving prices down (offering twenty percent less), and raising competition.⁹³ They have a competitive edge because they bring their own workforce in from China and pay them lower wages. This allows the SOEs to undercut the tenders of local companies by fifty percent.⁹⁴ On the positive side, they deliver rapidly.

The interviewee points to the prominence of the ADB in PNG, and observes “When the Government doesn’t know, the ADB makes the decision.”⁹⁵ Prime Minister O’Neill is credited with a vision that enabled significant development in the country (and treated Chinese companies well). The new Marape Government’s pledge to ‘take back PNG’, will not stop more Chinese companies and workers entering the country.⁹⁶ The interviewee acknowledges that the BRI aims to extend China’s political and economic influence, encouraging more Pacific Island countries to support the One China policy.

Once the MoU was signed, PNG was considered ‘on the BRI map’ and ‘open for business’ from a Chinese perspective. There was a great influx of SOEs—the number of Chinese SOEs in PNG almost doubled within the twelve months following PNG joining the BRI. Between June 2018 and July 2019 the number of Chinese SOEs in PNG increased from 21 to 39.⁹⁷

Papua New Guinean, Old Chinese and Western companies are unable to compete with this remarkable increase. As with earlier increases, most new companies enter the country to do a specific construction task, and then decide to stay on, and get selected for tenders because they fiercely undercut their competitors.⁹⁸ Chinese SOEs tend to offer three tenders (by creating subsidiary companies) to further increase the competition and discourage others.⁹⁹ The current grouping of SOEs includes many big names such as COVEC (China Overseas Engineering Company), CHEC (China Harbour Engineering Company), Huawei, China Railway Construction Group (CRCG), China Railway International (CRI), China Railway Construction Engineering (CRCE), CRCE North Group (CRCENG), China Wu Yi, Jiangsu (China Jiangsu International Economic and Technical Cooperation Group), and Guangdong Construction Engineering Company.¹⁰⁰

In August 2019, the Chinese Ministry of Commerce’s (MOFCOM) Foreign Investment Cooperation Country Guide for PNG listed 24 SOEs in PNG.¹⁰¹ But a cursory examination of the PNG Investment Promotion Authority (IPA) website revealed many more—in fact

92 Interview with the author, Port Moresby, July 2019.

93 Ibid.

94 Ibid.

95 Ibid.

96 Ibid.

97 Ibid.

98 Ibid.

99 Ibid.

100 Ibid.

101 The list had not been updated since 2018. Office of the Ministry of Commerce, *Foreign Investment Cooperation Country Guide—PNG 2018* <<http://fec.mofcom.gov.cn/article/gbdqzn/>>, [Accessed 19 August 2019].

79 Chinese State and Provincial Owned Enterprises registered since 1995 in PNG, along with twelve associations.¹⁰² No doubt many of these are subsidiaries, but my search was not exhaustive and it is likely there are many more of them. These exploratory figures suggest that my interviewee's claim of 39 Chinese SOEs in PNG is credible. Through detailed knowledge of the field the interviewee included only the substantive 'parent' companies, and ignored the duplication caused by registering subsidiaries for tender competition.

A Chinese State-Owned Enterprise perspective

An executive from a Chinese SOE in the construction sector observed that the BRI is merely a "label" for what was already happening, and lamented that this has scared Western governments—which is potentially bad for business.¹⁰³ The BRI is a "loud announcement of China's rise", but it "...has made no difference" in PNG, as it has brought "...no further funding" from China.¹⁰⁴ The fact remains that the Chinese companies continue to provide the lowest bids, and therefore win the infrastructure contracts. "We are here for business, and want to avoid political trouble."¹⁰⁵

He clarifies, "We are businessmen, but we are state-owned businessmen—an SOE can be ordered to support what the state requires."¹⁰⁶ The major SOEs work closely with the Economic and Commercial Counsellor of the PRC Embassy (from MOFCOM) who appears to have a coordinating role for BRI projects in PNG. SOEs accept such direction may serve a strategic or political purpose, even if it lacks economic logic or expediency.¹⁰⁷

In this regard, Chinese SOEs appear to be the definition of the perfect geoeconomic instrument, noting Blackwill and Harris' distinction: "Geoeconomics essentially combines the logic of geopolitics with the tools of economics ... This fact often puts geoeconomic approaches in tension with the assumptions of economics."¹⁰⁸ For example, Metallurgical Corporation of China Limited's (MCC) Nickel and Cobalt mining venture in Madang Province, 'Ramu NiCo', has demonstrated over the past decade that SOEs can run at a loss in order to achieve a longer term strategic objective.¹⁰⁹ But more recently it was the General Manager for the China Civil Engineering and Construction Corporation (CCECC) in the South Pacific (based in Vanuatu) who approached the Prime Minister of Solomon Islands to make the offer of US\$500 Million worth of grants and loans on behalf of the Chinese state, as an inducement to 'switch' away from recognising Taiwan.¹¹⁰

102 Investment Promotion Authority (IPA), PNG, <<https://www.ipa.gov.pg/pngmaster/viewInstance/view>> (use 'Do it online' tab to search by company), [Accessed 24 Sep 2019].

103 Interview with author, Port Moresby, PNG, July 2019.

104 Ibid.

105 Ibid.

106 Ibid.

107 Ibid.

108 Robert D. Blackwill and Jennifer M. Harris, *War by Other Means: Geoeconomics and Statecraft*, (Cambridge, Massachusetts: Harvard University Press, 2016), p.24.

109 Graeme Smith, "Nupela Masta? Local and Expatriate Labour in a Chinese Run Nickel Mine in Papua New Guinea", *Asian Studies Review*, 37:2 (2013), 178-195, pp.182-183; and Graeme Smith and Sinclair Dinen, "And Then There Were Three: A New Chinese Miner in Papua New Guinea", *State, Society and Governance in Melanesia In Brief* 2015/48, Australian National University.

110 Graeme Smith "The wisdom of Solomons: Taiwan and China's Pacific power play", *Lowy Interpreter*, 12 September 2019, <<https://www.lowyinstitute.org/the-interpreter/wisdom-solomons-taiwan-and-china-s-pacific-power-play>> [Accessed 13 Sep 2019].

The executive explained that he would happily use foreign funds for his projects because ‘business is business’, declaring an absolute preference for Asia Development Bank (ADB) money over Chinese policy banks (China Export Import Bank—‘ExIm’—or China Development Bank—‘CDB’) or even the bigger commercial banks such as China Commercial Bank (CCB).¹¹¹ These Chinese sources of finance may be offered in some BRI proposals, but SOEs prefer to then win ADB finance for the project if possible, because they provide better support. From experience, ADB conduct professional investigations and facility studies, while Chinese policy banks such as China ExIm require these processes to be conducted by the host nation, which can result in inconsistency and delay. He adds, there is absolutely no pressure from the Chinese state to use Chinese finance as part of the BRI—they are more than happy to spend others’ money and take the credit for it!¹¹²

Attraction to the ADB has been a consistent feature of my discussions with Chinese SOEs in PNG over the past six years.¹¹³ CHEC¹¹⁴ and CCECC¹¹⁵ appear to be the two leading Chinese SOEs for the advancement of the BRI in the Southwest Pacific. In 2019 senior executives from CCECC in Vanuatu and CHEC in PNG said that 75% of CCECC and 90% of CHEC¹¹⁶ projects in those two countries (at the time) were being funded by non-Chinese finance—largely the ADB, but also the World Bank (WB).¹¹⁷

Funding the BRI

The ADB was the obvious next point of inquiry, where an Infrastructure Specialist explains ADB’s processes and provided data for their three decade-long infrastructure programs operating across PNG. These are evidently of great importance to the development of the PNG economy and the well-being of its people. They are: the *Highland Region Road Investment Improvement Program*;¹¹⁸ the *Sustainable Highland Highway Investment Program*;¹¹⁹ and, the *Civilian Aviation Development Investment Program*.¹²⁰ The specialist explains a rigorous procedure of project studies, stakeholder consultation, fact finding, loan negotiation with the PNG Government, legal review, and tender evaluation.

111 Author’s interview with SOE staff, Port Moresby, PNG, July 2019.

112 Ibid.

113 Author’s interview with CHEC, CRI and CCECC employees, in PNG 2014, 2017 and 2019 and Vanuatu 2019.

114 Famous for building Ports in Sri Lanka, Cameroon, Nigeria, and Qatar, CHEC came to PNG to build the Lae Tidal Basin Extension as an ADB project. Interview with author, Port Moresby, PNG, July 2019.

115 CCECC has had its ‘Headquarters for the South Pacific’ in Vanuatu since 2015, as part of a vast international network that spans 150 countries. Interview with author, Port Vila, Vanuatu, February 2019.

116 CHEC had 20 infrastructure projects under way in PNG at the time.

117 Interviews with author: Port Vila, Vanuatu, February 2019 and Port Moresby, PNG, July 2019.

118 The HRRIP is building 400km of feeder roads around Mount Hagen. The contracts are divided between three Chinese SOEs: CHEC; COVEC; and China Wu Yi Limited). *Asia Development Bank*, PNG Office, “HRRIP Contractors T2 and T3.xlsx” @ 30 July 2019. In possession of author.

119 The SHHIP will improve the 430 km of two-lane rural highway that connects Kagamuga airport in Mount Hagen to Nadzab airport near Lae, using all Chinese companies (details not available due to tender process in progress). Author’s interview with Asia Development Bank, Port Moresby, PNG, July 2019.

120 The CADIP will improve twenty-one airports across all of the provinces of PNG, and these are due to be completed in 2021. Of the twelve requiring significant structural re-build or runway extension, eight are contracted to Chinese SOEs, some of which are involved in more than one airfield: CHEC, Sinohydro Corporation, COVEC, CCECC, China Shenyang International Economic and Technical Cooperation Corporation, and China Railway Civil Engineering Group. *Asia Development Bank*, PNG Office, “CADIP Implementation Unit Contract Data—T2 and T3 Running Projects.xlsx” @ 2 October 2019. In possession of author.

Chinese SOEs currently hold contracts for over 80% of ADB infrastructure projects in PNG.¹²¹ The specialist believes the Chinese companies prefer ADB because they pay the contractor directly. The Chinese SOEs always produce the lowest bids—they tend to offer 30% below the ‘engineer’s estimate’ (of cost price).¹²² ADB believes it is getting value for money from this competition, and can ensure quality through its processes.

The ADB’s largest contributors are the United States, followed by Japan, then China and Australia.¹²³ The three of these not participating in the BRI would be satisfied that they are having a significant input to PNG’s development, but would obviously not classify their contributions as part of the BRI. Other sources of finance in PNG include the World Bank, the Government of PNG and local entrepreneurs.¹²⁴ How much funding for the BRI actually comes from China?

Former China-based Wall Street Journal financial correspondent and author Dinny McMahon has analysed the foreign currency holdings of the larger of the two Chinese ‘Policy Banks’ that should in theory be funding significant soft loans as the BRI’s global reach expands in scope and ambition.¹²⁵ He discovered that China Development Bank (CDB) increased its amount of foreign currency steadily until 2014, but slowed to an incremental rise from 2014 to 2016, just as Xi Jinping began to espouse and then market the ‘OBOR’. In 2017, just as the BRI’s international reputation gained momentum with the first Belt and Road Forum, CDB’s foreign currency holdings start to decline, as depicted in Figure 1 below.

McMahon says “It struck me as genuinely strange because here was CDB, supposed to be the ‘tip of the spear’ when it comes to China’s BRI, and yet it’s foreign currency was declining.”¹²⁶ He attributes this phenomenon to an event that happened in 2016, when China’s foreign exchange reserves were reduced by close to 25 percent in one year from US\$ 4.2 trillion to US\$3.2 trillion. The People’s Bank of China (the central bank) tried to defend the Renminbi, and appears to have used the two policy banks as a front to help prop up the currency.¹²⁷

121 Author’s interview with Asia Development Bank, Port Moresby, PNG, July 2019.

122 Ibid.

123 Asia Development Bank, *ADB Annual Report 2019*, May 2020, <<https://www.adb.org/documents/adb-annual-report-2019>> [Accessed 30 August 2020].

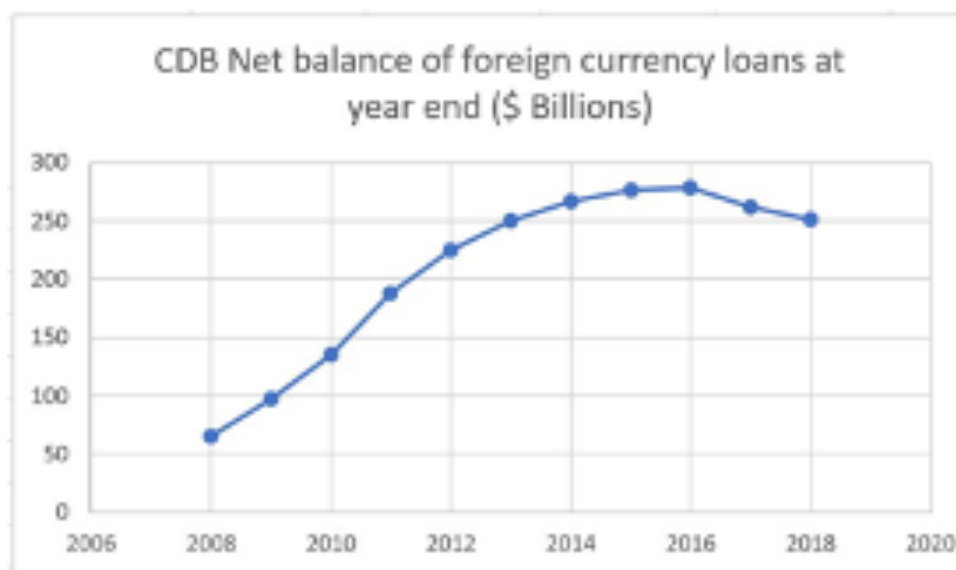
124 For example, the new complex for the supreme and national courts in Port Moresby has been contracted by the Government of PNG to China Railway Construction Engineering Company. “NJSS—Waigani National Court Complex—Papua New Guinea—Project Profile”, Timetric, *Market Reports Online*, <<https://www.marketreportsonline.com/694180.html>> [Accessed 24 October 2020]. Another source of funding is the Chinese business community. Natalie Whiting, “Syndicate spending \$414m on Chinatown in Port Moresby as battle for PNG influence escalates”, ABC News, 16 April 2019, <<https://www.abc.net.au/news/2019-04-16/chinatown-for-port-moresby-as-beijing-influence-grows-in-png/11004362>> [Accessed 17 April 2019].

125 Interview with Dinny McMahon, 4 August 2020.

126 Interview with Dinny McMahon, 4 August 2020.

127 Ibid.

Figure 1: China Development Bank Foreign Exchange Holdings 2008–18¹²⁸



This appears to have affected the application of the BRI to PNG. Xi Jinping promised a US\$300 million loan from CDB to Peter O'Neill at APEC 2018,¹²⁹ but it appears the CDB was reluctant to honour it. After twelve months of fruitless negotiations, Australia provided the loan as direct budget assistance to meet PNG's debt.¹³⁰ Could it be that Chinese Ministries such as MOFCOM and policy banks such as the CDB actually see the BRI as more of a risk than an opportunity, particularly in those locations the Chinese perceive to be more peripheral and less secure?

ExIm Bank has traditionally had a greater presence in Pacific Island lending, but is also far smaller than CDB, and its overseas lending data are not sufficiently comparable to CDB's. It would seem reasonable to assume that there is a similar pressure on ExIm to reduce its overseas lending.

This suggests that the international banking system may have to pay for a greater share of the projects promised by China under the BRI.¹³¹ While this may not be in keeping with China's strategic messaging, it is in keeping with every perspective reviewed in this case study: the PRC does not mind alternate sources of finance, the SOEs have a clear preference for ADB money and have created an environment of intense competition for multinational funds, and most others cannot compete with their low cost. It may well be that the policy banks, central agencies and China Aid have achieved their mission by affecting entry to, and dominance of, the Papua New Guinean market, and that the PRC is satisfied with growing its reputation through a BRI funded by others.

¹²⁸ Provided by Dinny McMahon 4 August 2020

¹²⁹ Ben Packham, "Xi raises the influence stakes with \$300m PNG deal", *The Australian*, 16 November 2018, <<https://www.theaustralian.com.au/nation/world/xi-raises-the-influence-stakes-with-300m-png-deal/news-story/f3b9d326a10af58090453fc11a93892c>> [Accessed 18 November 2018].

¹³⁰ Lidia Kelly, "Australia gives \$300 million loan to Papua New Guinea", 23 November, 2019, *Reuters*, <<https://www.reuters.com/article/us-pacific-loan-australia-idUSKBN1XX03W>> [Accessed on 24 November 2019].

¹³¹ Interview with Dinny McMahon, 4 August 2020.

Papua New Guinean Perspectives

Having observed the arrival of the BRI in PNG from the perspective of its coordinators, its exponents and its finance, the most important question for this case study is: what does it mean to Papua New Guineans? There is no doubt that most people in the country understand the need for infrastructure to develop their economy, both nationally and locally. This led to positive perceptions and high expectations of the BRI when it arrived. But there are also some concerns about the way the BRI is delivered, and its potential consequences, which are balanced and pragmatic. They are the basis for Melanesian agency.

Prior to PNG joining the BRI, a Papua New Guinean entrepreneur had described to me what he and a number of his countrymen had hoped to see from an economic partnership with China.¹³² He noted “China is changing the landscape of this country with roads, ports and optic fibre” through “Fujian grass roots opportunism”, but was concerned that PNG had only been “getting the scraps from China.”¹³³ He believed “...the period of ‘wild west mercantilism’ is at an end”, as the PNG market learned to demand due diligence and higher standards, and the expectations of China’s leadership required SOEs to lift their standards of compliance globally.¹³⁴

“In the next ten years, China will either make or break this region,” he observed. In relation to China’s influence he concluded that the choice of “coexistence over cohabitation depends on the discipline of the state.”¹³⁵ It is evident that this discipline has been tested since 2018.

Two years later, a Papua New Guinean analyst described the way in which Prime Minister Peter O’Neill was perceived to have been unduly influenced by the Chinese, and that his removal was closely related to this perception.¹³⁶ When O’Neill was desperate for finance that he believed could not be obtained in preparation for APEC, which placed his country under a global spotlight, “...China saw opportunity to strengthen its hand with PNG.”¹³⁷ Apparently Deputy Prime Minister Charles Abel was concerned about debt and wanted to use ADB or WB finance. Abel considered many of the ExIm Bank projects to not be priorities, and attempted to have them changed.

But the analyst continues “When the PM goes to China—which is often, and arranged by Lady Ni¹³⁸—it’s very difficult for him to say no.”¹³⁹ At the same time Minister for Housing (and formerly Minister for Sports, APEC and Lands) Justin Tkatchenko, and Minister for Public Enterprises and State Investment (and then Petroleum) Ben Micah were “...looking for deals.”¹⁴⁰ There is a widely held perception of elite capture in China’s relationship with PNG, that appears to have intensified between the signing of the BRI MoU in June 2018, and APEC five months later.¹⁴¹

132 Author’s interview with PNG businessperson, Port Moresby, June and August 2017.

133 Ibid.

134 Ibid.

135 Ibid. Coexistence (integration) being preferable to cohabitation (segregation).

136 Author’s interview with PNG analyst, Port Moresby, July 2019.

137 Ibid.

138 Lady Ni Yumei Cragnolini, OBE, is the President of the PNG Chinese Association, and works closely with China’s Ambassador to PNG, Xue Bing.

139 Author’s interview with PNG analyst, Port Moresby, July 2019.

140 Ibid.

141 Ibid.

A senior Papua New Guinea official observed that the new nature of the China-PNG political relationship was ‘unprecedented’.¹⁴² He notes that “China’s efforts to support APEC started early and appeared to dwarf those of others, receiving much publicity in the media.” The relationship was ‘fleshed out’ at APEC 2018 between Prime Minister Peter O’Neill and President Xi Jinping. Other politicians were left out of these discussions, and were very concerned by how it was done. He believes this contributed to O’Neill’s subsequent downfall. “The political courtship [over two years leading up to APEC] was disturbing because we abandoned our traditional friends. They said this was because Chinese aid was cheaper to get. If you’re looking for cheaper aid, you’re looking for things for yourself as well.”¹⁴³

But then the official notes, “There are two sides to this coin—if you want development, you need security.” He recalled a discussion he had with a western counterpart some time ago where he said to him: “Don’t worry about the Chinese investments in PNG: if they do anything wrong, the landowners will deal with them—they will burn everything down.”¹⁴⁴ The more Chinese interests are advanced, the greater the risk that this could happen, largely because of segregation. He observes “The Chinese are feeding into division through their unwillingness to assimilate into communities.” These sound like serious risks from both a Papua New Guinean and a Chinese perspective, that may not be obvious to those considering the employment of geoeconomic instruments at the state level. Such risk is not without precedent—the anti-Chinese riots in Solomons and Tonga in 2006, and the widespread riots in PNG in 2009 provide a focus for such considerations.¹⁴⁵

Speaking to several different members of the Papua New Guinea Defence Force (PNGDF), there may have been an element of geostrategic interest attached to China’s geoeconomic overtures during APEC and the commencement of the BRI in PNG. But it may have just been a concern about the maintenance of security in Port Moresby during Xi Jinping’s visit for APEC 2018. A large delivery of 30 military vehicles, 50 motorcycles, four water assault craft and riot control equipment from China arrived in October 2018.¹⁴⁶

Among the vehicles were four Chinese ‘Norinco’ six-wheeled Armoured Personnel Carriers,¹⁴⁷ later pictured in the *Post-Courier*.¹⁴⁸ The PNGDF expect to receive another four of these vehicles, and though they were intended by the Chinese to provide support for APEC security, the PNGDF hope to use them for force protection of peacekeeping missions in the future.¹⁴⁹ Regardless of their purpose, this is a step-change in capability for the PNGDF, and could indicate a major change in the nature of security cooperation between the PLA and the Pacific.

142 Author’s interview with senior PNG official, Port Moresby, PNG, July 2019.

143 Ibid.

144 Ibid.

145 Graeme Smith, “Chinese Reactions to Anti-Asian Riots in the Pacific”, *The Journal of Pacific History*, 47(1) (2012): 93-109, pp.97-105; and Peter Connolly, “Engaging China’s new foreign policy in the South Pacific”, *Australian Journal of International Affairs*, 70(5) (October 2016): 485-505, pp.491-494.

146 Discussions with members of PNGDF, Port Moresby, PNG, July 2019.

147 China North Industries Corporation’s (NORINCO) WMZ-551B1 is a 15 tonne, 6-wheeled Armoured Personnel Carrier (APC). Similar in design and capability to the French ‘VAB’, it is armed with a 12.7 mm machine gun, but NORINCO also has an option for a 25mm cannon. Standard equipment includes powered steering, run-flat tyres, heavy-duty air-conditioning system, bulletproof windows and firing ports. It is fully amphibious: two water jets propel the vehicle through water at a maximum speed of 8km/h. <<http://www.army-guide.com/eng/product886.html>> [Accessed 30 Aug 2019].

148 Alexander Nara, “PNGDF Distributes Armory”, *Post-Courier*, 4 October 2019 <<https://postcourier.com.pg/pngdf-distributes-armory/>> [Accessed 7 August 2020].

149 Author’s discussions with members of PNGDF, Port Moresby, PNG, July 2019.

The PNGDF's relationship with the PLA continues much as it has since 2015 with one coordination meeting between the two militaries each year and a prioritised list of equipment which is managed within a set Chinese budget.¹⁵⁰ PNG has had a Defence Attaché (DA) in Beijing since 2016 (as has Fiji since 2007), but has been waiting for the PLA to reciprocate. The arrival of a PLA officer has been delayed, but is still expected within the next year.¹⁵¹ Until now the closest Chinese DA to the Pacific has been the PLA Senior Colonel in Dili, Timor-Leste since 2002.

The arrival of a Chinese DA in a Pacific Island nation such as PNG will have a significant effect on both the bilateral relationship and the PLA's relationship with the region. Such representation will enable persistent Chinese influence via security cooperation with military and police forces of the Pacific Island Countries, and the close coordination of China's geostrategic tools with the geoeconomic ones that already exist under the BRI, in pursuit of geopolitical ends. It will therefore enable China to have a more comprehensive approach to the execution of its grand strategy in the Pacific, which will intensify competition between China and PNG's traditional partners.

Closely aligned with the official's concerns above, there is a common observation by PNG security personnel. They generally believe the Chinese companies are delivering welcome infrastructure (albeit of varying quality), but that their method of delivery, combined with the proliferation of new Chinese small businesses, is generating frustration in the Papua New Guinean population.¹⁵² The lack of local representation in the work force of Chinese projects, the poor workplace conditions for those locals who are employed, and the domination of the Papua New Guinean 'micro-economy' by Chinese retail and wholesale stores is developing unintended consequences.¹⁵³ This generates a risk of unrest, and there is already evidence of this. The question is whether the 'New Chinese' can mitigate such risk as effectively as the 'Old Chinese'—through acceptance and integration. It also depends on the regulatory capacity of the PNG government agencies—they need to demonstrate enforcement of PNG standards, and the Chinese companies need to demonstrate respect for PNG interests and compliance with PNG regulations. If this does not happen, "...people will take things into their own hands."¹⁵⁴

An official from the PNG Department of Foreign Affairs notes that China is an extremely important development partner for PNG, and that this partnership has delivered cheap infrastructure that PNG desperately needs.¹⁵⁵ But he adds, "While we need to develop, we also need to remain mindful of our own regulations ... It's a good thing, but we need to exercise some integrity on both sides."¹⁵⁶ His sense is that "PNG is at a cross-roads", with much change surrounding APEC. His country now needs to develop a "filtering mechanism" that allows them to conduct a "stock take" of the good and the bad, and what PNG may have missed, in order to preserve their national interest in the relationship with China. He believes a fundamental component of this analysis needs to focus on what 'Take back PNG' really means, and how to achieve the goals of Vision 2050 (the PNG National Strategy, written in 2013).¹⁵⁷

150 Ibid.

151 Ibid.

152 Author's interviews with a broad range of civilian and uniformed PNG security officials, Port Moresby, PNG, June 2014, May and September 2017, and July 2019.

153 Ibid.

154 Interviews with security officials, Port Moresby, PNG, July 2019.

155 Author's interview with PNG official, Port Moresby, PNG, July 2019.

156 Ibid.

157 Ibid.

What does the BRI mean for PNG and Melanesia?

This case study has illuminated a variety of different Chinese and Papua New Guinean perspectives in order to better understand what happened when PNG joined China's BRI. Most of these perspectives were obtained at a point just over one year after the MoU was signed between the two countries. We can draw some interesting conclusions from this exercise for PNG, and Melanesia more broadly.

The revelation that the categorisation of a 'BRI project' as one that is executed by a Chinese company, but may pre-date the BRI and be paid for by another country or entity, certainly casts China's strategy in a different light. Further, 'joining the BRI' can attract a much higher density of Chinese SOEs causing increased competition and tension in the construction and resource sectors. While this competition may appear to be beneficial in the short term, it may stifle opportunities for local companies and for technology transfer, which in turn could be detrimental to PNG's future capacity.

The understanding that a Chinese SOE is an economic tool that can be directed by the Chinese state to act in ways that serve political or strategic interests, has further implications when viewed through the lens of Chinese civil-military fusion.¹⁵⁸ Furthermore, Chinese SOE preference for ADB money effectively means that the United States and Japan often pay more for China's BRI than China does. China continues to pay less for global influence as it protects its foreign exchange reserves. At the same time, China has staked its reputation on a complex and ever-expanding program that continues to produce unintended consequences that are potentially outside its control.

From a Papua New Guinean perspective, the BRI has brought mixed results: cheap, rapidly produced critical infrastructure, trade and business opportunities, but with significant risks, frustration and disappointment.

Concerns about corruption appear to have contributed to Peter O'Neill's departure, and equally to James Marape's imperative to 'Take back PNG'. Rather than what has been crudely referred to as a 'debt trap', the BRI is a far more sophisticated and multi-layered campaign for influence, with deeper levels of obligation. There is a strong cohort of PNG government officials who pursue the national interest, who often seem isolated or disempowered by corruption at the political level.¹⁵⁹ A case in point is PNG's remarkable contribution as one of the 53 nations supporting China's National Security Laws for Hong Kong¹⁶⁰ on 1 July this year. By voting to support the suppression of free speech and freedom of assembly, PNG is said to have acted against the spirit of its own constitution.¹⁶¹ This appears to have been the act of an individual in a position of power acting contrary to departmental advice.

158 Thomas Shugart, "A Chinese-built airport next door to a key Australia-US naval base?", *Lowy Interpreter*, 7 August 2020, < <https://www.adb.org/documents/adb-annual-report-2019> > [Accessed 7 Aug 2020].

As of 2015, as part of China's distinct "military-civil fusion" strategy, state-owned enterprises are required by Chinese law to "provide necessary support and assistance to national security bodies, public security bodies, and relevant military bodies", In particular, overseas logistical infrastructure development has been singled out as an area of focus for China's military-civil fusion efforts, with civilian efforts intended to eventually transition to dual-use facilities.

159 Author's interview with PNG analyst, Port Moresby, July 2019.

160 David Lawler, "The 53 countries supporting China's crackdown on Hong Kong", *Axios*, 3 July 2020, <<https://www.axios.com/countries-supporting-china-hong-kong-law-0ec9bc6c-3aeb-4af0-8031-aa0f01a46a7c.html>> [Accessed 4 July 2020].

161 Jeffrey Wall, "Papua New Guinea sides with China on Hong Kong", *ASPI Strategist*, 13 July 2020 <<https://www.aspistrategist.org.au/author/jeremy-wall/>> [Accessed 14 July 2020].

However, PNG's response in August 2020 to China's testing of a vaccine on workers at a mine in PNG indicates a strong level of Papua New Guinean agency.¹⁶² It was discovered that there were 48 personnel employed by MCC's Ramu-NiCo mine in Madang Province who had been vaccinated with a trial COVID-19 vaccine and sent from China to PNG without Papua New Guinean knowledge or permission. In response to this news Papua New Guinea's Pandemic Controller, David Manning, stopped further Chinese charter flights until China explained its actions. He then sent 180 Chinese workers (from SOEs including MCC, CRI and CHEC) back to China after determining they were part of the secret vaccine trial.¹⁶³

Such issues in the time of an epidemic could also play into concerns about the internal stability of the country. Grassroots frustration with perceptions of Chinese ability to ignore Papua New Guinean law, PNG's lack of regulatory capacity, limited local participation in the workforce of Chinese companies, and segregation of some 'New Chinese' communities, are potential causes of unrest. Much of Papua New Guinean frustration is focussed on the economic migrants who compete directly with Melanesians for their own micro-economy, as opposed to the SOEs that are building necessary infrastructure, but there is a tendency see them as one homogenous entity.

Additionally China's interest in enhancing the PLA's relationship with the PNGDF, both in terms of capability and coordination, is likely to impact on the Melanesian security environment. While enhancing the quality of PLA-PNGDF security cooperation, the inclusion of Chinese DAs to enhance the coordination of geostrategic and geoeconomic means will contribute to rising geopolitical competition within the region.

Finally, it seems quite unlikely that the number of Chinese SOEs in a country could double in a year without the knowledge and coordination of its embassy on the ground.¹⁶⁴ Displacing economic competition and directly influencing governments with economic entities are geoeconomic activities, consciously designed to generate geopolitical influence. The BRI is a global program that reflects this approach in multiple locations. So, while it may be viewed as economically advantageous to the host nation, the inducements of the BRI should not be viewed as 'win-win'. The 'non-economic cost' of the BRI must be accounted for in any assessment of its utility. In terms of competition and geopolitical influence it is very much zero-sum, even though its economic characteristics can make this difficult to see at first.

The rise of the 'New Pacific Diplomacy' over the past decade has included promising indications of state level agency in Melanesia and the Pacific. In several cases this presents itself in behaviour that could be described as grand strategy. This will be important if

162 Amelia Hc Ylagan, "Little Papua dares the giant China", *Business World*, August 23, 2020 < <https://www.bworldonline.com/little-papua-dares-the-giant-china/> > [Accessed 24 August 2020].

163 "China Direct Flight Leaves, Raising More Questions: TSI", *Solomons Times*, <<https://www.solomontimes.com/news/china-direct-flight-leaves-raising-more-questions-tsi/10170>> [Accessed 2 September 2020].

164 The BRI is an enterprise of formidable global proportions, in which many SOEs have undoubtedly acted in their own interest on the ground and then reverse-engineered the connection between their actions and Chinese state interests, by using the strategic narrative of the BRI. This is similar to the role of accident in the growth of empires in earlier times. However, there is an element of control from the Chinese state which has visibly grown in Melanesia between 2017 and the present day, including the arrival of higher calibre staff, and the coordinating role of the Counsellor for Economics in a given country. This element representing Chinese state interests at the individual country level would definitely know that the number of SOEs had doubled in PNG over a year. The embassy appears to have had significant involvement in bringing about this rapid change.

countries are to make informed choices when interacting with the grand strategies of larger powers. As indicated by the interviews referred to in this paper, PNG's public service has analytical talent and strategic acumen at its senior levels. This capacity, combined with the vision of its national leadership, could see PNG pursue a grand strategy in the national interest. The issue is maintaining sufficient consistency in this overarching political vision to enable a logical path to achieve long term goals.

In 2016 Secretary General of the Pacific Island Forum, Dame Meg Taylor, proposed a framework for a 'new era for Pacific regionalism',¹⁶⁵ based on the key objectives of sustainable development, equitable economic growth, strengthened governance and security. Her vision was for this regionalism to "strengthen our ability to charter our own destiny," built on Epeli Hau'ofa's reimagining of the Pacific. There is potential for such strength to be found in the resultant *Blue Pacific Strategy*, which is currently being finalised by the Pacific Island Forum.¹⁶⁶ The concept of the Blue Pacific Continent could become a very important component of the grand strategy of each of the Forum's members.

If the Melanesian experience of the BRI turns out to be largely paid for by non-Chinese financial sources such as the ADB, in theory the Pacific Islands will be less beholden to China, and more in charge of their own destiny, while receiving the development they need at a low price. They could assist each other in their shared endeavours for development by providing mutual reinforcement of regional standards to support their combined sovereignty and interests. This might include a unified approach to seabed mining and the licencing to extract specific resources, enhanced protection of fisheries, the standardisation of safety requirements, or a code of practice for tendering construction projects.

Conclusion

The 'new Melanesian assertiveness', supported by a growing Pacific regionalism, continues to gather strength in response to the assertiveness of others. As the Melanesian states negotiate their way with their new powerful friend, they require clarity on the nature of the BRI. It is important to call it for what it is: the BRI is geoeconomic. It is often not 'win-win', even if it is sold as such.

The BRI may well deliver the economic development a particular state needs at the economic price it can afford. But this is a judgement that can only be made by the state in question in reference to their national interest. Such decisions require a clear-eyed view to account for the 'non-economic' costs alongside the economic ones, and an appreciation of second and third order effects. This enables the balanced pursuit of economic growth alongside security, governance and sustainable development.

As the Melanesian states develop, assert their agency and seek what is best for their own national interest, they will find ways of dealing with Chinese economic tools seeking to achieve geopolitical outcomes. They will develop techniques and approaches that

¹⁶⁵ Dame Meg Taylor, "Secretary General Dame Meg Taylor's keynote address at Australian Council for International Development (ACFID) National Conference", 6 November 2016, Pacific Island Forum Secretariat, < <https://www.forumsec.org/2016/10/26/secretary-general-dame-meg-taylors-keynote-address-australian-council-international-development-acfid-national-conference/> > [Accessed 2 September 2019].

¹⁶⁶ Pacific Island Forum Secretariat "The 2050 Strategy for the Blue Pacific Continent", <<https://www.forumsec.org/pacific-regionalism/>> [Accessed 1 February 2020].

maximise their own strengths and mitigate their weaknesses by utilising the instruments of statecraft available to them and using them as part of a grand strategy. Understanding the nature of China's approach to geoeconomics is of fundamental importance to survival in this new environment.

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A Market-Oriented Approach to Supply Chain Security

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Abstract

What is supply chain security and how does it impact national security? Why do certain challenges arise in supply chain security and how can the U.S. Government, its allies, and private industry address these challenges? This article seeks to examine this emerging topic and outline a creative approach to quantifying (and eventually pricing) supply chain security risk. In this piece we argue that firms ought to secure their supply chains and effectively mitigate uncertainties since these risks can disrupt business operations if neglected. Furthermore, these risks also entail national security concerns in the defence acquisitions supply chain. We introduce a novel supply chain risk assessing system that is modelled after the FICO credit scoring system used to measure consumer credit risk.

Introduction

As natural and man-made threats push supply chains to the forefront of global attention, supply chain security seems more relevant than ever. What exactly is supply chain security and how does it impact national security? Supply chain security strives to prevent the introduction of unauthorised contraband and protect assets from theft, damage, or terrorism.¹ Fundamentally, security is a “sense of insurance against a hazard,” so supply chain security would guard against hazards that plague the supply chain.² However, prioritising supply chain security has been challenging in a globalised world since the economics of comparative advantage, digitalisation, and specialisation have led to disaggregation and distribution choices that, over time, have made supply chains inherently international. This has lengthened supply chains and increased the number of potential vulnerabilities. Additionally, the 9/11 terror attacks expanded the scope of supply chain security beyond combating contraband and theft.³ By threatening supply chains vital to the Department of Defense (DoD) supply chain security also began to encompass threats to national and economic security. National security is “the safekeeping of [a]

1 David Closs and Edmund McGarrell, “Enhancing Security Throughout the Supply Chain,” Special Report Series (IBM Center for The Business of Government, April 2004), <http://www.businessofgovernment.org/sites/default/files/Enhancing%20Security.pdf>.

2 Zachary Williams, Jason E. Lueg, and Stephen A. LeMay, “Supply Chain Security: An Overview and Research Agenda,” ed. Matthew Waller, *The International Journal of Logistics Management* 19, no. 2 (August 15, 2008): 254–81, <https://doi.org/10.1108/09574090810895988>.

3 Hau L. Lee and Seungjin Whang, “Higher Supply Chain Security with Lower Cost: Lessons from Total Quality Management,” *International Journal of Production Economics* 96, no. 3 (June 2005): 289–300, <https://doi.org/10.1016/j.ijpe.2003.06.003>.

nation as a whole,” and consists of “national defence and the protection of a series of geopolitical, economic, and other interests.”⁴ Protecting supply chains, especially those of the defence acquisitions industry, has become a national security concern. If these supply chains are compromised, then the defence-industrial base and the efficacy of defence systems would falter, thus jeopardising national security and allowing foreign adversaries to exploit these deficiencies.

Of course, there are a range of ways one might think of mitigating this sort of risk. Stockpiling supply to cushion the impact of shortages or mandating redundancies in a supply chain would both lower risk but at the expense of considerable inefficiencies and idle inventory. One could also diversify the supplier base or build trusted networks of possible suppliers but in many areas of the defence procurement system, there may only be one or two possible suppliers of a highly specialised component.⁵ All of these measures are imperfect, potentially quite costly, and relatively inefficient. In this article, we suggest an alternative, market-based mechanism that seeks to accurately price in security risk and internalise what have typically been externalised costs associated with supply chain security risk. This solution addresses a market failure in the current system: a significant portion of supply chain security risk has historically been borne (*de facto*) by the downstream partners and consumers--not the producing firm. Direct costs are not often co-located with the source of the supply chain risk, namely as part of the cost-benefit calculus of the firm supplying the goods. Traditionally, defence acquisition firms have prioritised cost, scheduling, and performance, and often overlooked security as a result. Neglecting such security risks impacts national security and the long-term vitality of the U.S. defence-industrial base.

Effectively managing supply chain security risk is not limited to the U.S. Other nations such as Vietnam and Japan have experienced supply chain disruptions stemming from concentrated dependence on China. For example, a diplomatic dust-up between Japan and China in 2010 led to a *de facto* ban on rare earth metal exports to Japan.⁶ China is responsible for the mining and processing of 95% of the world’s rare earth minerals, giving it considerable leverage.⁷ The move prompted “...particular alarm in Japan, which

4 Kim Holmes, “What Is National Security?” The Heritage Foundation, October 7, 2014, <https://www.heritage.org/military-strength-topical-essays/2015-essays/what-national-security>.

5 A report from the Senate Armed Services Committee in 2012 acknowledged that weapon systems used by the military may “depend on the performance and reliability of small, incredibly sophisticated electronic components.” “Inquiry Into Counterfeit Electronic Parts In The Department of Defense Supply Chain” (Committee on Armed Services United States Senate, May 21, 2012), <https://www.congress.gov/112/crpt/srpt167/CRPT-112srpt167.pdf>.

6 In this particular example, the majority of the Western media, including *The New York Times*, characterised China’s export ban as a *de jure* embargo since it followed Japan’s detention of a Chinese trawler captain. However, the Chinese government denied this accusation and claimed the backlogging of pre-shipment checks had resulted in a *de facto* ban. Despite this discrepancy, China failed to relieve Japan’s perception that this was retaliation from Beijing thus raising tensions between two of the largest trading partners in East Asia. Nonetheless, Japan experienced the vulnerability of not receiving critical rare earth metals. Such foreign dependency, regardless of its cause, is a supply chain security risk that threatened Japan’s short-term economic vitality.

7 Due to Beijing’s lax environmental regulations and the ample supply for cheap labor, many firms in the mining and mineral processing industries sought refuge in China. In other words, China’s firm hold on the global market for rare earth metals was not created entirely by intentional design, but was instead based on commercial dynamics and individual, firm-level optimisation. See Valentina Ruiz Leotaud, “Rare Earths: Battling China’s Monopoly after Molycorp’s Demise?,” *Mining.Com*, September 10, 2016, <https://www.mining.com/rare-earths-battling-chinas-monopoly-after-molycorps-debacle/>.

has few natural resources and has long worried about its dependence on imports.”⁸ The trade dispute caused Japanese Trade Minister Akihiro Ohata to acknowledge that Japan had not “put enough effort into risk management.”⁹ This case illustrates that Beijing has the capability—and the will—to weaponise foreign dependencies to achieve its goals. Without rare earth minerals, Japan cannot manufacture products integral to its economy and national security such as hybrid cars and guided missiles.

Japan is not alone in its dependence on Chinese sources of supply. Foreign dependencies like this “[constitute] an unusual and extraordinary threat, which has its source in substantial part outside the United States, to the national security, foreign policy, and economy.”¹⁰ Vietnam’s trade deficit with China increased by 40% in 2019. Vietnamese electronics manufacturers are dependent on plastics, metals, and other components from China. Countries in Southeast Asia remain “highly dependent on China for equipment and raw materials to power [their] manufacturing sectors.”¹¹ Australia has faced a structurally similar concentration risk, but from the demand (rather than supply) side. China is an important consumer of Australian raw material exports. Such concentrated demand has been a structurally similar source of concern for Australian producers. If Chinese demand slows, this concentrated reliance on a single market drags down both prices and quantities of Australian exports. Supply chain security is a common challenge facing many nations at the outset of the 21st century. Although primarily focused on the empirical context of the US, the supply chain security issues (and potential solutions) raised by this article have broad applicability well-beyond US borders. The security of international supply chains is likely to carry important ramifications (especially for partners and US allies).

To help improve risk management, this article proposes a solution similar to the FICO credit score system which measures consumer credit risk.¹² Such a system could serve as a market-oriented innovation to help identify vulnerabilities in supply chains.¹³ In this novel risk assessing system, several different ratings agencies would develop algorithms to assign scores to companies based on known risk factors. Over time, these algorithms would improve as more and more cases of supply chain risk are detected. Eventually, such scores would help to proactively predict what parts of a supply chain are most at risk (much like how a lower credit score helps to distinguish riskier mortgage applicants). These scores will also incentivise firms to minimise the vulnerabilities of their supply

8 Keith Bradsher, “Amid Tension, China Blocks Vital Exports to Japan—The New York Times,” *The New York Times*, September 22, 2010, <https://www.nytimes.com/2010/09/23/business/global/23rare.html>.

9 Yuko Inoue, “China Lifts Rare Earth Export Ban to Japan: Trader,” *Reuters*, September 29, 2010, <https://www.reuters.com/article/us-japan-china-export-idUSTRE68S0BT20100929>.

10 Joe Gould and Aaron Mehta, “Trump Executive Order Targets Rare Earths Minerals and China,” *DefenseNews*, October 1, 2020, https://www.defensenews.com/congress/2020/10/01/trump-executive-order-on-rare-earths-puts-material-risk-in-spotlight/?utm_source=clavis.

11 Manisha Mirchandani, “Coronavirus Exposes Dependency of Southeast Asia’s Manufacturers on China,” *BRINK—News and Insights on Global Risk*, March 15, 2020, <https://www.brinknews.com/coronavirus-exposes-dependency-of-southeast-asias-manufacturers-on-china/>.

12 The FICO score was created by the Fair Isaac Corporation for which the score was named. The score was founded in 1958 to empower firms to make better business decisions and expand the availability of credit. A score is assigned by credit scoring agencies to individuals and businesses to be used in lending and other financial decisions. For more information on the FICO credit score, see Shweta Arya, Catherine Eckel, and Colin Wichman, “Anatomy of the Credit Score,” *Journal of Economic Behavior & Organization* 95 (November 2013): 175–85, <https://doi.org/10.1016/j.jebo.2011.05.005>.

13 The origins of this idea stem from conversations Norris had while serving as a fellow with the National Bureau of Asian Research.

chains by making supply chain risk information available to stakeholders in much the same way that personal credit scores are used. Such transparency would empower the DoD, customers, and other stakeholders to hold companies accountable for their potential to introduce risk into a given supply chain. Accountability is crucial in the DoD supply chain since risks, such as that posed by defective counterfeit parts, can threaten national security by compromising critical military operations.¹⁴ In essence, this system would help to “price” supply chain risk and give companies a strong incentive to conduct due diligence when establishing and maintaining their supply chains partners. Under such a system, firms will gravitate toward measures that reduce their supply chain risk exposure, such as diversifying their supplier base to reduce dependency on a single foreign entity. The net result will be more secure supply chains supporting defence needs. Securing vulnerable supply chains is the central goal of this system.

Our framework for exploring this innovative concept will be presented in three sections. First, we explain and identify the unparalleled challenges surrounding supply chains in the twenty-first century. Every industry encounters supply chain challenges, but the defence acquisitions industry is uniquely tied to national security concerns and thus faces an acute need to address supply chain challenges such as counterfeit goods, foreign dependency, and small businesses possessing insufficient security processes. Supply chain security risks like these in the defence acquisitions space directly impact national security. In the second section, we introduce a novel supply chain risk assessing system that is modelled after the FICO credit scoring system used in the U.S. to measure consumer credit risk. The section examines how such a system would work and its unique advantages. Finally, we consider the challenges and limitations of such a supply chain risk assessment system before concluding.

Motivation

The Burgeoning Burden of Supply Chain Security Risks

Understanding the unprecedented difficulties that supply chains face is critical to recognising the consequences of supply chain security and the necessity of a risk assessing system. Defence acquisition firms have a responsibility to perform due diligence when managing their supply chains since their operations are vital to national security. Before describing the various risks that exist in this space, it is appropriate to define some of the terms used throughout the paper. As mentioned earlier, *supply chain security* is “the application of policies, procedures, and technology to protect supply chain assets (product, facilities, equipment, information, and personnel) from theft, damage, or terrorism and to prevent the introduction of unauthorised contraband, people, or weapons of mass destruction into the supply chain.”¹⁵ *Supply chain risk management* is “the identification and management of risks for the supply chain, through a coordinated approach amongst supply chain members, to reduce vulnerability as a whole.” This paper will not use the explicit term supply chain risk management, but will instead

14 Brandon A. Sullivan and Jeremy M. Wilson, “An Empirical Examination of Product Counterfeiting Crime Impacting the U.S. Military,” *Trends in Organized Crime* 20, no. 3–4 (December 2017): 316–37, <https://doi.org/10.1007/s12117-017-9306-7>.

15 Closs and McGarrell, “Enhancing Security Throughout the Supply Chain.”

note that supply chain security aims to manage risk by reducing vulnerabilities in the supply chain. Risk affects two key components of an effective supply chain: reliability and resiliency. *Reliability* is defined as “the probability that a product operates properly for a given period of time.”¹⁶ *Resiliency* is defined as “the ability of a system to quickly react to the undesired events when they happen.”¹⁷ Supply chains ought to be able to substantially recover much of their capacity as part of resiliency. The COVID-19 pandemic and a general proliferation in supply chain security risks have brought all of these terms to the forefront of national and global attention. The concept of *national security* focuses on the “protection of the nation and its people from attack and other external dangers by maintaining armed forces and guarding state secrets.”¹⁸ The defence acquisitions supply chain is constantly under threat from external forces and often involves state secrets, so its protection is a national security priority.

Why do certain challenges arise in supply chain security and how can the U.S. Government, its allies, and private industry address these challenges? The increase in supply chain security risks is due to a variety of factors including: firms primarily focused on supply chain efficiency; supply chain globalisation; concentrated manufacturing and centralised distribution; increased outsourcing; and supply base reduction.¹⁹ This is consistent with the U.S. DoD’s report on supply chain integrity and its discussion of the five macro forces driving risk in the defence supply chain: sequestration and uncertainty of U.S. spending; decline of U.S. manufacturing base capabilities and capacity (due in part to outsourcing and globalisation); deleterious U.S. government business and procurement practices (that have historically prioritised efficiency); industrial policies of competitor nations; and diminishing U.S. Science, Technology, Engineering, and Mathematics (STEM) and trade skills.²⁰ These five macro forces contribute to ten types of risk that the defence industry often encounters. Among these, this paper will address three of the most critical risks: counterfeit and contraband goods, foreign dependency, and insufficient capacity in small and medium-sized manufacturers to ensure product integrity.

Counterfeit goods in the defence supply chain have direct and severe consequences on national security and military effectiveness. Director of the Missile Defense Agency General Patrick O’Reilly described the effect of counterfeits astonishingly well: “we do not want a \$12 million missile defence interceptor’s reliability compromised by a \$2 counterfeit part.” Indeed, a report by the U.S. Government Accountability Office details that counterfeit goods “have the potential to seriously disrupt the DoD supply chain, delay missions, and

16 Chunghun Ha, Hong-Bae Jun, and Changsoo Ok, “A Mathematical Definition and Basic Structures for Supply Chain Reliability: A Procurement Capability Perspective,” *Computers & Industrial Engineering* 120 (June 2018): 334–45, <https://doi.org/10.1016/j.cie.2018.04.036>.

17 Claudia Colicchia, Fabrizio Dallari, and Marco Melacini, “Increasing Supply Chain Resilience in a Global Sourcing Context,” *Production Planning & Control* 21, no. 7 (October 2010): 680–94, <https://doi.org/10.1080/09537280903551969>.

18 Holmes, “What Is National Security?”

19 Uta Jüttner, Helen Peck, and Martin Christopher, “Supply Chain Risk Management: Outlining an Agenda for Future Research,” *International Journal of Logistics Research and Applications* 6, no. 4 (December 2003): 197–210, <https://doi.org/10.1080/13675560310001627016>.

20 Interagency Task Force in Fulfillment of Executive Order 13806, “Assessing and Strengthening the Manufacturing and Defense Industrial Base and Supply Chain Resiliency of the United States” (Department of Defense, September 1, 2018), <https://media.defense.gov/2018/oct/05/2002048904/-1/-1/1/assessing-and-strengthening-the-manufacturing-and-defense-industrial-base-and-supply-chain-resiliency.pdf>.

affect the integrity of weapon systems.”²¹ The Senate Armed Services Committee (SASC) found in its 2012 report that there were 1,800 cases of suspect counterfeit electronic parts in the two year period from 2009 to 2010 involving over a million individual suspect parts. The Committee traced 100 of the 1,800 cases back through the supply chain and found that 70 percent of these suspect parts originated in China. The Chinese government has prosecuted many manufacturers of counterfeit goods, but Beijing remains unreliable in reducing the trade of counterfeits. U.S. government reports consistently point to China as the global epicentre of counterfeit production.²² While it is extreme to assume that all Chinese products incur a national security risk, policymakers must be wary of dealing with Chinese firms and perform the needed due diligence.

Counterfeit parts incur a high economic burden upon firms and government agencies alike. A May 2012 report from the Senate Armed Services Committee details a case in which counterfeit goods forced the Missile Defense Agency and its contractors to invest \$4.5 million in reworking costs.²³ When this multimillion dollar cost is multiplied by 1,800 over a period of just two years, the fiscal consequences are enormous. Counterfeits pose a serious risk to national and supply chain security if defective products continue to leak into the defence supply chain. It is worth noting that counterfeits can be deceptive or non-deceptive in nature, but the majority of security threats are posed by deceptive counterfeits. This risk includes the potential for intentional abuse, by state or non-state actors, in order to gain an edge over adversaries.

Foreign dependency has evolved as another type of risk to supply chain security.²⁴ China exports 74% of the world’s personal laptop computers and two-thirds of all cell phones.²⁵ Beijing’s “Made in China 2025” plan seeks to widen China’s global lead in the manufacturing of ten key sectors, including new advanced information technology and key materials.²⁶ This plan is mentioned in the DoD’s report on supply chain resiliency which notes that China “represents a significant and growing risk to the supply of materials and technologies deemed strategic and critical to U.S. national security.”²⁷ In addition, it acknowledges that this particular challenge is shared by U.S. allies such as Germany and Australia and highlights the trade asymmetry that Indo-Pacific allies have with the People’s Republic of China. The U.S. is completely import-reliant on 19 minerals, and any disruption in one of these minerals halts the production of defence systems such as radar and guided missiles.²⁸ Seventeen of these minerals are sourced from China, and are

21 Belva Martin, “Defense Supplier Base: DOD Should Leverage Ongoing Initiatives in Developing Its Program to Mitigate Risk of Counterfeit Parts—ProQuest” (United States Government Accountability Office, July 12, 2010), <https://www.gao.gov/new.items/d10389.pdf>.

22 “Inquiry Into Counterfeit Electronic Parts In The Department of Defense Supply Chain.”

23 Watson, Jillian, “Essays On Deceptive Counterfeits In Supply Chains: A Behavioral Perspective” (2015). *All Dissertations*. 1589. https://tigerprints.clemson.edu/all_dissertations/1589

24 For more information on the risk of dependency on foreign suppliers, see Theodore H. Moran, “The Globalization of America’s Defense Industries: Managing the Threat of Foreign Dependence,” *International Security* 15, no. 1 (1990): 57, <https://doi.org/10.2307/2538982>.

25 Lund et al., “Risk, Resilience, and Rebalancing in Global Value Chains | McKinsey.”

26 Scott Kennedy, “Made in China 2025,” Center for Strategic and International Studies, June 1, 2015, <https://www.csis.org/analysis/made-china-2025>.

27 “Assessing and Strengthening the Manufacturing and Defense Industrial Base and Supply Chain Resiliency of the United States,” p. 36.

28 Marc Humphries, “China’s Mineral Industry and U.S. Access to Strategic and Critical Minerals: Issues for Congress,” n.d., 26.

used in other sectors of the economy such as high tech and clean energy.²⁹ The supply chain security risks that endanger the rare earths and minerals supply are both short and long term, but both centre around the concentration of the industry within China's borders. In addition to China's business environment appealing to many mining and mineral processing firms, China "strategically flooded the global market with rare earths at subsidised prices, [drove] out competitors, and deterred new market entrants."³⁰ In 2010, Beijing cut export quotas causing prices to quadruple.³¹ Downstream partners were reminded of their disproportionate reliance on China for rare earths and how China could use this production as a major bargaining chip, in ways reminiscent of how the Organization of the Petroleum Exporting Countries (OPEC) manipulates oil prices to drive out competitors. Nations have previously responded with rare earth firms of their own, but many such as Molycorp were insolvent due to a series of financial failures and the sheer technical and environmental complexity associated with the industry. Molycorp was left with \$1.7 billion in debt and an incomplete processing facility.³² Export quotas like the type put in place in 2010 have been declared illegal by the World Trade Organization, but Beijing has sought an appeal.³³ Recently, China used its market leverage by sanctioning Lockheed Martin, Boeing Defense, Raytheon, and other U.S. companies for Washington's decision to sell an additional \$2.4 billion in arms sales to Taiwan.³⁴ Previous weapon sales with Taiwan have not reduced business within China, but this action may be a precursor to future retaliation.

In addition, Beijing has threatened to create a rare earths "blacklist" if foreign companies are seen to harm Chinese interests or have links to parties that harm Chinese interests, specifically in the wake of the U.S. banning multiple Chinese tech giants from Huawei to Tencent.³⁵ Japanese businesses in particular could be affected, placing the Japanese government in a delicate position to walk the line between a robust alliance with the U.S. and its largest trading partner. Beijing has proven that it holds the ability and the will to tamper with this market. China is already the world's largest rare-earth consumer, and "Beijing cares less about exporting these elements for profit than feeding its high-tech industries."³⁶ In particular, China's fervour to dominate the market for industries such as electric vehicles could soak up so much of China's domestic supply that it would force rare

29 Jamie Smyth, "Industry Needs a Rare Earths Supply Chain Outside China," *Financial Times*, July 28, 2020, <https://www.ft.com/content/fc368da6-1c86-454b-91ed-cb2727507661>.

30 "Assessing and Strengthening the Manufacturing and Defense Industrial Base and Supply Chain Resiliency of the United States," p. 29.

31 Jamie Smyth, "US-China: Washington Revives Plans for Its Rare Earths Industry," *Financial Times*, September 14, 2020, <https://www.ft.com/content/5104d84d-a78f-4648-b695-bd7e14c135d6>.

32 June Teufel Dreyer, "China's Monopoly on Rare Earth Elements—and Why We Should Care," *Foreign Policy Research Institute*, October 7, 2020, sec. Analysis, <https://www.fpri.org/article/2020/10/chinas-monopoly-on-rare-earth-elements-and-why-we-should-care/>.

33 Valerie Bailey Grasso, "Rare Earth Elements in National Defense: Background, Oversight Issues, and Options for Congress," n.d., 40.

34 "China Says Will Take Necessary Measures on U.S. Arms Sales to Taiwan | Reuters," *Reuters*, October 27, 2020, <https://www.reuters.com/article/us-china-usa-taiwan/china-says-will-take-necessary-measures-on-u-s-arms-sales-to-taiwan-idUSKBN27COU0>.

35 Chris Gill and Jim Pollard, "China Threatens Rare Earth Blacklist as Trade War Expands," *Asia Times Financial*, October 12, 2020, <https://www.asiatimesfinancial.com/china-threatens-rare-earth-blacklist-as-trade-war-expands>.

36 Lee Simmons, "Rare-Earth Market—Foreign Policy," *Foreign Policy*, July 12, 2016, <https://foreignpolicy.com/2016/07/12/decoder-rare-earth-market-tech-defense-clean-energy-china-trade/>.

earth dependent nations to look elsewhere for sourcing these materials. Global demand is already set to continue to increase based on historical projections, but the worldwide initiative to eliminate carbon emissions may increase demand at an even faster rate due to higher production of wind turbines and electric vehicles.³⁷ Even if Beijing never used its supply dominance for intentional acts of economic statecraft, the global economic dependence on a sole source for rare earth elements poses a supply chain risk. Supply chain security risks ranging from natural disasters to cyberattacks could choke this sort of “single point of failure in China,” crippling downstream industry.³⁸

The Department of Defense also identifies a third risk that threatens supply chains. Under Secretary of Defense for Acquisition and Sustainment Ellen Lord testified to the Senate Armed Services Committee in October 2020 concerning many topics regarding defence acquisition supply chains. She highlighted the role that small and medium-sized businesses play in the defence supply chain, citing that 24.2% of the entire DoD budget, or \$75.4 billion, was directed toward small businesses in 2019.³⁹ Additionally, subcontract funding in the same year was \$62.3 billion meaning that there was “significant flow down from major defence primes to small businesses.”⁴⁰ Incorporating small businesses into the defence supply chain reinforces the notion that small businesses are “the backbone of the American economy,” but they can be a major liability in the supply chain. Many of these small to medium-sized enterprises (SMEs) are at a small scale or are rapidly growing, so cash profits are needed to sustain operations or continued growth. These firms prioritise economic efficiency, and rightfully so. However, if these SMEs neglect security, then they could jeopardise the integrity of the broader supply chain.⁴¹ Manufacturers are of particular concern since 99% of the 347,000 manufacturers in the U.S. are small and medium-sized and 50% of those lack basic cyber controls. Yet manufacturers “received the greatest volume of targeted cyber-attacks of all industries globally” in 2014.⁴² Due to their small scale, “many small and medium-sized manufacturers are unaware of federal requirements and may lack the financial and technical capabilities required to manage cybersecurity risks,” thus introducing considerable risk.⁴³ Financially, these suppliers lack adequate scale to bear substantial fixed security costs. While larger firms can spread those fixed costs for security over a much larger enterprise, smaller firms often lack the resources or expertise to adequately secure their operations. As a result, poorly protected manufacturing suppliers pass their vulnerabilities on to larger corporations, and eventually, the defence acquisitions supply chain.

37 Simmons, “Rare-Earth Market—Foreign Policy.”

38 Smyth, “US-China.”

39 David Vergun, “DOD Supports Small Businesses in Big Ways,” U.S. Department of Defense, October 1, 2020, <https://www.defense.gov/Explore/News/Article/Article/2368903/dod-supports-small-businesses-in-big-ways/>.

40 Ellen Lord, Defense Department Supply Chain Readiness and Integrity | C-SPAN.org, Congressional Hearing (C-SPAN), October 1, 2020, <https://www.c-span.org/video/?476435-1/defense-department-supply-chain-readiness-integrity>.

41 For a more comprehensive analysis on SMEs and risk management, see Chiara Verbano and Karen Venturini, “Managing Risks in SMEs: A Literature Review and Research Agenda,” *Journal of Technology Management & Innovation* 8, no. 3 (2013): 33–34, <https://doi.org/10.4067/S0718-27242013000400017>.

42 “Assessing and Strengthening the Manufacturing and Defense Industrial Base and Supply Chain Resiliency of the United States,” p. 51.

43 Ibid, p. 88.

Contracting and subcontracting are both common in modern manufacturing. To illustrate, Airbus has 1,676 publicly disclosed “tier one” suppliers, but has over 12,000 “tier two and below” suppliers. General Motors has 856 and over 18,000 of each, respectively.⁴⁴ This “multi-tiered” structure makes it difficult to ensure the security of the supply chain since third and fourth-tier suppliers tend to be much smaller and more specialised than first and second-tier suppliers. These third-party suppliers may further outsource certain components or operations, thus creating “fourth-party” suppliers.⁴⁵ This leads to another problem in the supply chain that exacerbates the issue of insecure smaller firms: transparency. Transparency, or visibility as McKinsey refers to it, represents “the extent to which [a] customer can trace spending at [a] subtier level.”⁴⁶ The more complex the supply chain, the more subtiers there are and the more difficult it is to actually track sources of risks and vulnerabilities. A vulnerable SME could possibly never be identified depending on the complexity of the supply chain. For example, if a defence acquisitions supply chain incorporated Chinese firms that were influenced directly by the Chinese Communist Party (CCP), suppliers could deliberately or inadvertently contribute to foreign espionage efforts by fielding vulnerable security systems or sharing sensitive information with other businesses or state-run entities. The pervasive presence of the Chinese Communist Party in China’s domestic political economic landscape provides considerable access and influence within many Chinese companies. Such sway can influence the incentives facing Chinese suppliers. Lawsuits, intellectual property theft, exploited information security vulnerabilities, and any unlawful activities of opaque third- and fourth-party suppliers ultimately place downstream partners at risk. Addressing such violations once they have occurred can lead to operational delays, compromised brand integrity, and considerable losses of time and money. This diminishes the reliability of supply chains, often reducing their performance. If defence supply chains are reduced in performance, then the military may be unable to receive sustainment or reliable equipment thus imperilling national security. A market-based risk system for assessing risk could help identify and monitor threats to supply chain security.

Defective counterfeit goods, dependency on foreign entities, and a lack of security infrastructure in SMEs are all current supply chain security risks that confront the defence industrial base. For each risk, there are many actions the U.S. government can take. Congress can impose tighter restrictions on products from subcontractors, and subsidise the onshoring or nearshoring of supply chains to enhance visibility and control. It can begin a national stockpile of rare earth minerals in the case of an emergency drop in global supply, and diversify suppliers by investing in market-based solutions domestically and within allied nations. It can require the auditing of certain tiered suppliers, and support SMEs in cybersecurity strategies. While all of these measures are valid, they miss the crucial heart of the issue behind supply chain risk management. Governments cannot adequately manage supply chain risk alone. The decade-long failure to establish and maintain a U.S.-based rare earth minerals market is just one example of challenges facing government efforts to address these supply chain security

44 Susan Lund et al., “Risk, Resilience, and Rebalancing in Global Value Chains | McKinsey” (McKinsey Global Institute, August 2020), <https://www.mckinsey.com/business-functions/operations/our-insights/risk-resilience-and-rebalancing-in-global-value-chains#>.

45 Kaushik Sen, “What Is Fourth Party Risk?,” UpGuard, November 14, 2019, <https://www.upguard.com/blog/what-is-fourth-party-risk>.

46 Lund et al., “Risk, Resilience, and Rebalancing in Global Value Chains | McKinsey.”

challenges. New industries, innovations, and new technologies will continually introduce new challenges that perennially outpace the regulatory and monitoring capacity of legislatures and bureaucracies. The U.S. government failed to detect and mitigate the systemic financial risk leading up to the Great Recession of 2008. The Senate Banking and Finance Committee's inability to understand the complexity of the financial industry it was tasked to regulate was a crucial underlying reason for this failure. Too often, regulatory actions fail to keep pace with industry developments. Government responses tend to be reactive, *ex post* adjustments in the wake of revealed vulnerabilities; the equivalent of shutting the door after the horse has left the stable.

The market alone also fails to adequately regulate supply chain risk because it often waits until risks are realised (manifesting as delays and disruptions) before meting out penalties. Risks are often interconnected, and an action can exacerbate another risk if unaddressed. "Many companies develop plans to protect against recurrent, low-impact risks in their supply chains" but most "all but ignore high-impact, low-likelihood risks."⁴⁷ Larger companies often mitigate this risk by holding excess inventory or diversifying their suppliers, but these are topical solutions that create new problems. Holding excess inventory increases costs and hurts the bottom line. Diversifying suppliers creates substitutes and redundancies in the case of a disruption or delay but lengthens the supply chain and multiplies the potential number of breach points or vulnerabilities. Although these actions may improve supply chain security in the short term, they are not a comprehensive solution. There is a growing need for a broader system that utilises public-private partnerships to quantify risks to supply chain security. The public or private sector alone cannot achieve this feat, but a partnership between the two can. Such a robust system of assessment would, ideally, incentivise companies to improve their risk profile by engaging in the best security-enhancing measures available given specific risks and circumstances.

Supply chain risk management is vital to preserving national security for both America and her allies. As discussed in more detail below, such a market-oriented risk assessment system could function in a manner similar to the FICO personal credit score system prominent in the United States. Assigning scores based on a dynamic and evolving set of security criteria would enable companies to proactively uncover supply chain security weaknesses while also incentivising them to improve their scores by taking measures to improve the most vulnerable parts of their supply chains. Although many sectors could eventually benefit from such a risk assessment system, the defence acquisitions industry will likely see the most immediate and direct security benefits from implementing this sort of system.

47 Sunil Chopra and ManMohan Sodhi, "Managing Risk To Avoid Supply-Chain Breakdown," MIT Sloan Management Review (MIT Sloan School of Management, October 1, 2004), http://www.tlog.lth.se/fileadmin/tlog/Managing_Risk_to_Avoid_Supply-Chain_Breakdown.pdf.

The Supply Chain Security Risk Assessing System

How A Risk Assessing System Would Work

The current FICO system is the premier way to assess and quantify consumer credit risk and is used in over ninety percent of lending decisions in the United States, making it indispensable in the banking industry and other subsectors of the financial world.⁴⁸ Scores are based on a variety of factors that have been shown over time to correlate with credit worthiness. The FICO system operates with a combination of five predetermined factors that underpin an overall score that is used as the prime indicator of consumer credit risk.⁴⁹ Each of these components has a corresponding weight in determining the overall score which can change over time depending on an individual's financial position and activities.⁵⁰ Although in any individual case such assessments may not be perfectly accurate, in aggregate such scoring has proven to be a fairly reliable indicator of credit risk. Over time, risk rating agencies have gathered a large body of consumer financial data that has helped sharpen the algorithms they use to measure credit risk.

The business of generating such scores falls to several credit agencies. Consumer credit agencies maintain proprietary systems and standards for evaluating individual credit risk. A notable feature of the FICO score is that it may be slightly different from one rating agency to another. A FICO score may not be the exact same between Equifax and Experian, for instance, due to nuanced differences in those companies' algorithms and length of credit history used.⁵¹ This generates a degree of competition for the provision of accurate risk assessment. By vesting multiple rating agencies with the ability to measure credit risk, there is a cumulative effect of incentivising the continual refinement of assessment tools. The FICO system has led to greater transparency and more financial awareness by Americans and American businesses, thus creating an improved system for the protection of the financial industry and a high level of efficiency in the allocation of consumer credit.

A system inspired by the FICO credit scoring system can be applied to assess individual firms' supply chain risks. Just as individual consumer credit risk can be measured and quantified, we propose a system to quantify and measure firms' supply chain risk. This system would entail multiple supply chain risk assessing agencies. Some of these should be private entities who would sell their assessments on a for-profit basis in the same fashion as consumer credit rating agencies. Such rating agencies could also potentially be non-profit bodies or public entities. Each of these types of adjudicating entities might work in slightly different ways, with differing incentive structures and approaches to the task of measuring supply chain security risk. An industry association sponsored

48 Tatiana Homonoff, Rourke L. OBrien, and Abigail B. Sussman, "Does Knowing Your FICO Score Change Financial Behavior? Evidence from a Field Experiment with Student Loan Borrowers," *SSRN Electronic Journal*, 2018, <https://doi.org/10.2139/ssrn.3129075>.

49 These five factors include the categories of new credit, length of credit history, credit mix, payment history, and amounts owed.

50 "How Are FICO Scores Calculated? | MyFICO | MyFICO," accessed July 25, 2020, <https://www.myfico.com/credit-education/whats-in-your-credit-score>.

51 Elizabeth Spencer, "Why Your Credit Score Is Different Depending On Where You Look," *Money Under 30*, September 22, 2019, <https://www.moneyunder30.com/why-is-my-credit-score-different-depending-where-i-look>.

non-profit might be more attuned to key predictors of risk than a more generalist adjudicating entity. But perhaps the more broadly based profit-oriented entity produces more accurate algorithms based on a larger underlying base of data. Or perhaps a congressionally-mandated entity achieves higher levels of compliance and elicits broader cooperation from firms. At the outset, it is difficult to know which type of entity would be most effective. Given the uncertainty and since this approach to supply chain risk assessment is a novel concept, we might suggest starting with several different types of models (private, public, and non-profit adjudicating bodies) and allowing time and market dynamics to judge which sort of structure generates the best results. Risk assessing agencies can develop scoring algorithms by processing data related to previous and ongoing problems in supply chain security. Such observations could train these algorithms to more accurately assess risks and forecast damages. Over time, these algorithms could harness positive track records of supply chain reliability as well as negative experiences of supply chain failures to improve risk detection.

The system we are proposing would seek to apply insurance firms and actuaries' risk assessment to firm-specific supply chain risk. Supply chain risk scores can be based on objective algorithms that incorporate factors such as number and location of upstream suppliers. These algorithms will produce a supply chain risk score that is within a fixed range (like a credit score) and weighted in relation to other risk factors.⁵² Collaboration between insurance agencies, risk pricing agencies, and the DoD's in-house risk modelling may be necessary for effective quantification of risk. Over time, the algorithms can be sharpened and adjusted as additional data is gathered. Through this system, businesses and consumers (including the DoD) could dramatically improve their understanding of supply chain risk exposure at a relatively low cost.

Multiple risk rating agencies would compete against one another to develop algorithms that employ the optimal combination of factors for measuring risk. The reality is that Congress, specific industry associations, insurance companies, or supply chain risk experts are each likely to have very different approaches to what constitutes the most accurate way to measure supply chain security risk. This heterogeneity is a source of strength under initial conditions of uncertainty about what factors will actually prove most beneficial for indicating risk. Over time as security breaches or other supply chain failures come to light, the relative performance of particular adjudicating entities (and their associated algorithms) should emerge. Eventually, stronger performers should consolidate the space, achieving natural scale advantages. But initially, we suggest allowing multiple types of adjudicating entities fielding a diverse range of risk algorithms to compete. Relying on competition to develop this system is an efficient, market-oriented way to cultivate the most accurate risk assessment metrics in the shortest amount of time. Additionally, these companies can work with various industries to delineate the unique challenges they face and how those challenges should be evaluated when determining risk scores. The main weights and factors of scoring algorithms can be revealed to the public and to firms to encourage efforts to improve supply chain security, but specific details will remain the intellectual property of the risk assessing agencies.

52 For a methodological example of how risk indices can be used to quantitatively measure risk in the defence industry, see A. Trevor Thrall and Jordan Cohen, "2020 Arms Sales Risk Index," (Cato Institute, October 27, 2020), <https://www.cato.org/publications/e-publications/2020-arms-sales-risk-index#mapping-risk>.

This sort of supply chain risk score could be shared with the public and stakeholders. Firms that have worked hard to secure their supply chain will gain a competitive advantage. Savvy consumers could consider risk scores when deciding among potential suppliers. Such public visibility would incentivise firms to correct their supply chain vulnerabilities and insulate themselves from security risks. The impact would be more proactive internalisation of the costs of potential supply chain disruption and security breaches. In addition, information sharing enables capital markets to react negatively to firms that do not improve their supply chain security or have excessive amounts of risk. Competing for certain types of contracts could require that bidders meet minimum scores. Therefore, businesses will be inclined to bolster their supply chain security in order to improve their scores over time. Publicly traded firms would be inclined to reduce supply chain security risk in order to satisfy current stakeholders or potential ones. The supply chain risk score could be disclosed to the public in the annual 10-K financial statement.⁵³ Such disclosure would compel companies to be more conscious of supply chain security and be more transparent with investors. A heightened sense of accountability and apprehension would benefit all parties involved and would expand resiliency in the long run.

It would be a fairly natural extension to move from risk assessment and quantification to pricing such risk. Once supply risk can be reliably quantified, a secondary market could develop for insuring supply chain risk. One could easily imagine supply chain risk insurance being priced as a function of a firm's quantified risk assessment. In addition to taking measures to enhance their supply chain security, firms could also opt to buy supply chain risk insurance. Alternatively, firms with secure supply chains will save on insurance costs. Downstream consumers and partners might demand that poorly scoring suppliers provide third party insurance guarantees to offset their exposure to demonstrable supply chain risks. Eventually, risk aggregators could emerge. Assuming that individual companies' supply chain risks could be productively aggregated in a non-correlated fashion (which, as the 2007/2008 housing crisis showed, may prove harder to do in practice than in theory), brokering entities could provide further benefits of reduced system risk and sectoral resiliency for individual supply chains.

Advantages of a Risk Assessing System

There are four major advantages to this proposed supply chain security risk assessing system. First, the system leverages free market dynamics by harnessing competition to catalyse the development and continual improvement of risk pricing algorithms. Having multiple types of adjudicating bodies structured in different ways (for-profit, governmental, non-profit, sectoral-specific, and generalist) should foster competitive dynamics. Competition will improve accuracy and enhance system-wide security. Under this system, capital markets and informed consumer behaviour can scrutinise firms with excessive or non-transparent supply chain risk. Ratings firms will be incubators of innovation as they fine-tune precise adjustments for the assessment metrics. Today, supply chain vulnerabilities often remain undetected or unappreciated until after a breach

⁵³ The Form 10-K is an annual report that publicly-traded companies are required by law to file in the U.S. with the Securities and Exchanges Commission (SEC). It provides a comprehensive overview of a company's financial condition by including audited financial statements. This form is sent to shareholders annually before they elect the company directors, and is also publicly available so potential investors can determine whether to buy or sell shares of a company or invest in corporate bonds.

or failure is exposed. Complex, global supply chains are difficult to map and proactively evaluate. Under such conditions of uncertainty, we believe a creative, market-oriented approach instilled with competitive innovation offers substantial benefits over a static, often *ex post* regulatory solution for supply chain security. By dividing risk assessment duties across multiple private entities, we provide for both competition and innovation while also minimising the likelihood of capture by powerful sectors or firms. Independent rating agencies with proprietary algorithms and processes for judging supply chain risk also make it difficult for firm executives or employees to interfere with risk assessments.

The second advantage of this sort of market-oriented risk assessment system is the opportunity it provides for firms to address shortcomings in their supply chain vulnerabilities both directly (by eliminating sources of risk) and indirectly (by seeking third party insurance). Although supply chain risk assessment will incentivise firms to take actions that improve their supply chain security, this dynamic could take time to develop. To help cover the gap between the reality of where a particular supply chain finds itself and where partners would like it to be, we suggest that an insurance mechanism also be created. Such insurance could leverage supply chain risk scores to price and design risk mitigating insurance products. If risk is quantified and companies are insured, then supply chains will become more resilient and downstream damages limited. A new market for risk insurance will not only provide coverage for risky firms, but will educate them and incentivise firms to remediate risk. Collaboration among customers, suppliers, risk assessment entities and insurance can provide insight about the nature and location of risk and the necessary steps to reduce or eliminate it.

Third, this solution capitalises on government demand for reliable information on supply chain risk to foster cooperation between the public and private sectors. The public sector's demand for supply chain integrity, particularly in the national security domain, can inspire new entrepreneurship. The defence-oriented solutions we are suggesting may also gain traction in industries outside of defence acquisitions. Other industries like the pharmaceutical industry are also likely to be interested in mitigating their supply chain risks. The eventual expansion of this system to other industries remains another attractive benefit.

A final advantage of this proposal is that ratings agencies should only require light-touch regulation from the federal government in order to maximise the efficacy of the system. Rather than require an intrusive regulatory footprint to ensure supply chain integrity, or burden a wide range of firms with onerous compliance requirements, this system would rely on market mechanisms to ensure reliable supply chains. This sort of system would rest on the microeconomic optimisation behaviours of individual firms responding to internalised costs of risk in their supply chains that today are either largely exogenous or deferred until a catastrophic breach turns risk into realised loss. Incorporating a supply chain risk score into auditing will help shareholders and auditors to better understand supply chain security risk and incentivise companies to actively manage the health of their supply chains. Maintaining excellence in their supply chains will benefit the firm and shareholders alike. Protecting their score would incentivise firms to self-police against opaque or illegal activity performed by suppliers. For the most part, such behaviour is motivated by concern over their brand and public image in an industry where much of firm value resides in such intangible assets. This same dynamic of cost internalisation can be applied to supply chain risks more broadly.

Challenges

In this section, we address five specific challenges for both policymakers and businesses in implementing a FICO-like risk-assessing scheme: the exit of rated firms from defence markets and subsequent suppression of competition; the disproportionate burden borne by small and medium enterprises; the possibility of perverse incentives; the risks of regulatory arbitrage; and the difficulties of implementing the system internationally.

For businesses, one of the primary challenges is the deterrent effect that new regulation or compliance requirements might have on a subset or the entirety of an industry. This risk assessment system might dissuade companies from competing for public contracts. This effect would be particularly undesirable in the defence acquisition realm where competition is already somewhat limited. Any company that buys into this scoring system and is rated poorly may be deterred from participating in future defence contracts, thus decreasing competition among bidders and reducing product availability in the defence acquisitions process. The supply chain risk insurance system, if properly implemented, could help protect the defence acquisitions space from this chilling effect. If a company is rated poorly, supply chain risk insurance could help offset supply chain risk in the short term while the company implements measures to improve its supply chain risk profile. In the long term, however, that same company would be motivated to improve its supply chain security to reduce insurance costs and to compete better for bids.

Another challenge is that improving supply chain security risk scores would be relatively more expensive for small- and medium-sized enterprises (SMEs). Whether it is stronger cybersecurity architecture, legal fees related to conducting due diligence on potential international suppliers, or premiums of supply chain risk insurance, such fixed costs are spread over a much smaller revenue base for SMEs. Although this system would put additional pressure on SME suppliers, it could also become a source of comparative advantage for firms that demonstrate a dedication to supply chain security. For customers that prefer a wider pool of partners (even if that entails some additional supply chain risk), they could elect to be less stringent in the supply chain security ratings requirements of potential suppliers.

Although the supply chain risk assessment system's application will prove beneficial for the supply chains of all companies, regardless of size, it will be especially impactful for these SMEs. It is imperative that small businesses are provided with the opportunity to obtain both a FICO-like supply chain risk rating and supply chain risk insurance to compensate for their lack of capacity. Congress should consider creating a pool of funds for qualified third- and fourth-tier suppliers in the national security arena. Such funds could be used to directly shore up supply chain vulnerabilities or to purchase insurance against such risks. This solution will guarantee vital defence contractors the funds they require to secure their supply chains and, thus, ensure the integrity of the defence acquisition supply chain.

One problem that plagues all regulatory regimes is perverse incentives: incentives that motivate actors to behave contrary to the intent of regulators. Secrecy can help alleviate this problem. One of the reasons that the FICO credit score system is so effective at rating individuals' risk profiles is that the exact algorithms for determining credit scores are proprietary and kept secret from consumers and other credit agencies alike to maintain competitive advantage. Granted, these algorithms are not *completely* secret.

Credit scoring companies still provide consumers with general guidelines for how to improve their credit scores, for example: obtain a longer credit history, pay your bills on time, use a smaller proportion of your available credit, etc. Such moves toward personal fiscal responsibility is not a bad outcome. In fact, if suppliers took measures to lower their risk, that would be a positive consequence of supply chain security risk scoring.

Regulatory arbitrage, or taking advantage of loopholes and weaknesses in regulation to extract optimum outcomes, is another challenge for implementing supply chain risk assessing. The farther removed a firm is in the supply chain, the more difficult it is to inspect and the easier it is for firms to lie about or otherwise circumvent supply chain security measures. This is especially true for international supply chains that cross multiple jurisdictions. Though this problem is far from simple, a partial solution involves progressively pricing supply chain unknowns. More specifically, a company's risk profile will be worse and that company will be less likely to secure a defence tender if that firm is less subject to U.S. regulatory enforcement, more exposed to contradictory foreign regulations, or providing less verifiable information regarding supply chain risks. Put simply, more unknowns in a supply chain yields worse risk ratings for involved firms.

Though the risk in such unknowns should be factored into supply chain risk profiles, prudence dictates that regulators must accept some level of uncertainty in international supply chains, given the heavily distributed nature of modern supply lines. International cooperation on creating and implementing this risk rating system, however, could reduce this inherent uncertainty. If the United States joined with long-term allies like the United Kingdom, Israel, Australia, or South Korea to implement and harmonise the risk profile and risk insurance systems, regulatory blindspots would significantly shrink as monitoring capabilities multiplied. Although the ideas in this article have been presented in a largely U.S. empirical context, the supply chain risk assessment system that we are proposing could also be implemented across many partner and allied states in the Asia Pacific region. Of course, noncompliant states could impede monitoring and enforcement. One such example is China, a country notorious for refusing foreign inspections of domestic facilities, falsifying domestic inspections of those same facilities, and miring businesses in the red tape of unwritten protocols for business-government interactions. There is little the United States or its allies can do to change regulatory deficiencies in such countries, so risk assessing entities would likely have to learn by trial and error, assessing risk for supply chains operating in these locales and deftly adjusting risk algorithms as supply chain security incidents occur. A conservative approach to pricing such risks is advisable.

Conclusion

Defective counterfeit products, foreign dependency in critical industries, and insufficient security infrastructure and opaqueness are just a few of challenges plaguing the supply chains of modern businesses. If supply chain security vulnerabilities are not identified and addressed, industries will suffer. Defence industries, in particular, must take action against external and internal supply chain risks to streamline procurement processes and, more importantly, protect national security and the health of the defence-industrial base. A supply chain risk assessment system akin to the FICO consumer credit scoring system would address these concerns by leveraging free market competition among risk assessment agencies to price supply chain risk in complex, international industries.

Our proposal lays the foundation for continuous improvement and innovation in supply chain risk assessing algorithms, suggests an agile insurance industry for providing coverage to defence procurers, and provides alternatives for smaller suppliers to secure otherwise vulnerable supply chains. Additionally, the system increases accountability and transparency for all stakeholders by quantifying supply chain risk. Though not without its challenges, implementation of such a market-oriented approach should bolster national security and help maintain a robust defence-industrial base. This article is unlikely to be the final word on supply chain security challenges, but we hope to stimulate a useful discussion on the merits and potential mechanisms for addressing some of these challenges.

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Improving supply chain resilience through preparedness

Andrew Dowse and John Blackburn

Abstract

The COVID-19 pandemic has exposed a lack of national resilience as a result of a collective failure to assess and act on risks in a rapidly changing world. Whilst Australia's economy will remain reliant upon a predominantly global trade model, risks associated with supply chains supporting critical infrastructure need to be assessed and mitigated to acceptable levels. Such mitigations may include a shift in some cases to sovereign solutions, complemented by measures to increase trust in global supply chains. There are implications for Defence supply chains but also potential for a Defence approach to preparedness to contribute to national resilience.

Introduction

Global trade and diverse supply chains are essential for Australia's economic and social well-being. However, over the past decade we have seen our trade and investment profile evolve without any apparent system-wide analysis of resulting risks and vulnerabilities. In pursuit of the lowest cost, we are incurring a very high price in terms of our resilience¹ and sovereignty², one which we are yet to fully understand.³

Before the onset of COVID-19, many had begun to question the dynamics of Australia's supply chain networks. On the one hand, the world has experienced half a century of uninterrupted integration in trade, affording a myriad of supply chain networks to develop. On the other hand, the market became overly confident in the trade system, having not experienced something similar to the COVID-19 environment. The Coronavirus pandemic has exposed a lack of national resilience as a result of a collective failure to prepare; that is, to assess and act on risks in the face of a rapidly changing world. Disruptions in supply and surge in demand, especially in areas of medical equipment and pharmaceuticals, have coincided with, and to some extent contributed to, a rise in geopolitical tensions.

1 In this context, resilience is the ability of national systems to withstand and recover from adverse events; whereas sovereignty is a nation state's right and power of regulating its internal affairs without foreign interference.

2 Molan, J. (2020) Op-Ed: The importance of a national sovereignty strategy, <https://www.defenceconnect.com.au/key-enablers/6004-op-ed-the-importance-of-a-national-sovereignty-strategy> addresses the lack of self-sufficiency impacting resilience and thus sovereignty.

3 Blackburn, J. (2020) *Trade without Trust*, submission 42 to the Joint Standing Committee on Trade and Investment Growth Inquiry into Diversifying Australia's Trade and Investment Profile, https://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Joint_Standing_Committee_on_Trade_and_Investment_Growth/DiversifyingTrade/Submissions.

Australia is particularly vulnerable to trade disruptions in the global marketplace. As an island nation at the end of long global trade routes, we are heavily reliant on just-in-time supply chains, with limited resilience in those chains and low tolerance for loss and disruption. In 2018 alone, there were AUD\$317 billion of goods imports and AUD\$345 billion of goods exports.⁴ While not every element of that trade is critical to our economic and individual well-being, should any significant trade interruption occur, the flow-on effects on the economy, our security and our society would be significant.

In the case of imports, we have incrementally defaulted to the cheapest cost with the result that today we import, for example, 90 percent of our liquid fuels and 90 percent of our medicines, and rely upon foreign-owned/flagged ships for 98 percent of our trade.⁵ The import dependency risks are further compounded by the reluctance of successive Governments to mandate any stockholding levels for these critical imports, unlike many other developed countries.⁶

Australia has, in effect, allowed our resilience to be shaped by the largely foreign-owned market. In this environment, an economic overdependence on any one country, in terms of exports or imports, is a significant risk to our security and sovereignty.⁷ If Australia is to maintain an acceptable balance between sovereignty, security, and economic wellbeing, then supply chain risks must be reviewed. The behaviours of a number of countries during the early stages of the pandemic means that our blind faith in the largely foreign-owned market to meet all of our needs in a crisis, without taking precautionary measures such as stockholding or diversification, is foolhardy.

Lack of national resilience is also a concern for our Defence force. Traditional delineations between military and civil affairs are blurred by Defence's reliance on national infrastructure, which utilises foreign supply chains and has significant vulnerabilities. The 2020 Defence Strategic Update acknowledged the risk of vulnerabilities in national infrastructure being exploited by grey zone⁸ activities as a precursor to conventional conflict.⁹ Military and national security implications of Australia's supply chain vulnerability, therefore, necessitate an integrated approach to risk assessment, leading to calls for a broader approach to national security policy.¹⁰

4 Department of Foreign Affairs and Trade (2019) Composition of Trade Australia 2018, <https://www.dfat.gov.au/sites/default/files/cot-2018.pdf>.

5 By volume—from Blackburn, J. (2020) *The Implications of the COVID-19 pandemic for Australia's Foreign Affairs, Defence and Trade*, submission 13 to the Joint Standing Committee Foreign Affairs, Defence and Trade inquiry into the implications of the COVID-19 pandemic for Australia's foreign affairs, defence and trade.

6 See https://www.dropbox.com/s/8vycz1u54a13uj0/Benchmarking_Australias_Transport_Energy_Policies_Report_December_2014.pdf?dl=0 and <https://defense.info/highlight-of-the-week/australias-medical-supply-chain-addressing-strategic-vulnerabilities/>.

7 Smith, S. (2001) *Globalization and the governance of space: a critique of Krasner on sovereignty*, International Relations of the Asia-Pacific Vol. 1, No. 2, pp. 199-226 argues the transformative nature of globalisation detracts from sovereignty, however overdependence on any one country represents additional risk.

8 Grey zone activities are operations that may not clearly cross the threshold of war, see Dowse, A. and Bachmann, S. (2019) Explainer: what is 'hybrid warfare' and what is meant by the 'grey zone'? <https://theconversation.com/explainer-what-is-hybrid-warfare-and-what-is-meant-by-the-grey-zone-118841>.

9 Department of Defence (2020) *2020 Defence Strategic Update*, p12, <https://www.defence.gov.au/StrategicUpdate-2020/>.

10 Dupont, A. (2020) *Coronavirus: Golden opportunity to broaden and strengthen our national security*, The Australian, 13 April 2020, <https://www.theaustralian.com.au/commentary/coronavirus-golden-opportunity-to-broaden-and-strengthen-our-national-security/news-story/ae5e6851ebe0cb1a02680d9709884714> and Molan, J. (2020) *Musings on sovereignty*, <https://jimmolan.com/article/musings-on-sovereignty/>.

Not all supply chains are critical and there are many goods that could be disrupted without significant effect on the nation. This paper will focus on the risks associated with critical supply chains, with two examples to be more closely examined ahead of discussion of national risk mitigations: information technology and fuel. In a future where supply chains may be deliberately disrupted by other nation states as a form of conflict, a discussion of Defence supply chains is central. This paper will start by reviewing the nature of supply chain risks.

Risk Assessment—efficiency versus resilience

There is no doubt that global trade and investment has been advantageous to Australia, with DFAT characterising the benefits of Australia's integration with multiple economies as helping to reduce business transaction costs and providing greater access to global supply chains.¹¹ This has permitted Australian businesses to gain access to better products and technologies, whilst taking advantage of lower labour rates and economies of scale in production, as well as foreign capital. Additionally, reduction of trade barriers facilitates greater access to export markets and reduces potential for retaliation.¹² There are also comparative advantage arguments to maintaining import levels, especially in a small nation such as Australia where attempting to deliver all products or services would come at an opportunity cost.

The problem of market-driven solutions has been characterised as a loss of resilience through adherence to economic rationalism without sufficient regard for defence and supply chain security.¹³ Strengthening resilience is often seen as being at the expense of efficiency, however such a view is based upon the future being 'best case'. Taking a total cost approach would account for the cost of losses associated with disruptive events, potentially justifying more resilient supply solutions that may not appear to be the best value for money. An important lesson is that the cheapest cost comes at a high price in a time of crisis.¹⁴

To maintain a balance between a lean supply chain and one that accounts for more significant risks is a challenge in an uncertain world. Many businesses seek to identify possible impact events and plan mitigation strategies through scenario planning. Scenario planning in business was pioneered by Royal Dutch/Shell in the 1970s¹⁵ and has been adopted widely, although the variation of methodologies and lack of empirical studies means that there is no agreed consensus on the effects of scenario planning on company performance.¹⁶

11 Department of Foreign Affairs and Trade (2019) *DFAT 2018–19 Annual Report*, <https://www.dfat.gov.au/about-us/publications/corporate/annual-reports/Pages/department-of-foreign-affairs-and-trade-annual-report-2018-19.aspx/annual-report-2018-19/home/section-2/pursue-our-economic-trade-and-investment-agenda-for-opportunity/index.html>.

12 Australian Government Productivity Commission (2017) *Rising protectionism: challenges, threats and opportunities for Australia*, <https://www.pc.gov.au/research/completed/rising-protectionism/rising-protectionism.pdf> discusses the link between tariffs and retaliation although, as evidenced by Chinese actions in 2020, retaliation can also be triggered by matters that are not trade related.

13 Jefferies, W. (2020) *Steel: the future*, Menzies Research Centre, <https://www.menziesrc.org/news-feed/steel-the-future>.

14 Blackburn, J. (2020) *The Implications of the COVID-19 pandemic for Australia's Foreign Affairs, Defence and Trade*.

15 Wack, P. (1985) *Scenarios: uncharted waters ahead*, Harvard Business Review 63(5), pp 72–89.

16 Phelps, R., Chan, C. and Kapsalis, S. (2001) *Does scenario planning affect performance? Two exploratory studies*, Journal of Business Research, Volume 51, Issue 3, March 2001, Pages 223–232.

The value of scenario planning is challenged by the very uncertainty that it seeks to address. Mintzberg refers to the difficulty of forecasting an uncertain future as the fallacy of prediction.¹⁷ Even when businesses undertake risk planning, those who adopt a probabilistic approach based upon past events will underestimate the strategic impact of future change.¹⁸

Another pitfall in efforts to develop resilience through identification and mitigation of risks may be the assumption that those risks are independent events. This assumption may lead organisations to prepare for one significant risk, but not multiple significant risks. If the risks are truly independent, this would be a reasonable approach, given the probability of two unlikely events coinciding would be almost negligible.

However, significant events such as a pandemic are likely to generate multiple concurrent risks, such as loss of international transport, increased need for supply, unavailability of workforce, security threats and increased tension with other nation states. In times of state-on-state conflict, such a compounding crisis situation is even more likely as an adversary would pursue multiple concurrent hybrid threats, with emphasis on unpredictability through indirect approaches. Most businesses either do not comprehend the implications of such events or do not believe it is their responsibility to mitigate against them.

Government review of supply chain risks

The Australian Parliament's Joint Standing Committee on Foreign Affairs, Defence and Trade initiated an inquiry in May 2020 to examine the implications of the Coronavirus pandemic. One of the terms of reference was to consider the supply chain integrity of critical enablers of Australian security, including health, economic and transport systems, and defence.¹⁹

Initial concern about health systems during the pandemic was fuelled by the fact that Australia imports over 90 percent of its pharmaceuticals.²⁰ An additional concern was for medical equipment such as personal protective equipment and ventilators, as well as supply arrangements for potential vaccines. Whilst the reactive response²¹ to address these equipment shortfalls was effective in part, the ability to address medical supply chain risks was less effective as growing concurrent global demand for COVID related medicines and the lack of sovereign manufacturing capability means that a robust medicine supply remains beyond reach.

17 Mintzberg, H. (1994) *The Fall and Rise of Strategic Planning*, Harvard Business Review, <https://hbr.org/1994/01/the-fall-and-rise-of-strategic-planning>.

18 Fuller, T. (2017) *Anxious relationships: the unmarked futures for post-normal scenarios in anticipatory systems*, Technology Forecasting and Social Change 124 pp 41-50 discussed such strategic impacts are more a matter of Knightian uncertainty than probability.

19 Parliament of Australia (2020) *Terms of Reference, Inquiry into the implications of the COVID-19 pandemic for Australia's foreign affairs, defence and trade*, https://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Foreign_Affairs_Defence_and_Trade/FADTandglobalpandemic/Terms_of_Reference.

20 Coorey, P. (2020) Australia dangerously dependent on medical imports, Financial Review, <https://www.afr.com/politics/federal/australia-dangerously-dependent-on-medical-imports-20200217-p541ej>.

21 Blackburn, J. (2020) Shortages of personal protective equipment, medical devices, and medicines—what's happening in Australia? <https://www.linkedin.com/pulse/shortages-personal-protective-equipment-medical-whats-blackburn-ao/?trackingId=mYWK2ZEpDx47Smg9OL%2Fp7w%3D%3D>.

The initial concern surrounding the implications of the COVID-19 pandemic was the pressure placed on the healthcare system. The fact that Australia is a net importer of medical and pharmaceutical goods made it particularly vulnerable to shortages in the medical supply chain. The COVID-19 pandemic has brought forth three major problems concerning supply chain risks of medical equipment. Since the beginning of the pandemic, there has been a surge in demand from healthcare systems around the world. Also, the disruption to inputs to supply chains has arisen from public health measures such as lockdowns, thus constraining supply. Finally, the health emergency has prompted over 50 governments, including Australia, to place restrictions on exports of medical supplies and equipment.

Several submissions to the Inquiry drew conclusions about supply chain vulnerabilities in the context of growing geopolitical tension. Dupont²² notes the growing advocacy for national resilience and self-sufficiency, especially with vulnerabilities of imports of critical products from China. He promotes an astute and moderate approach to decoupling from risky relationships while retaining global trade—essentially finding the right balance between risk reduction and cost reduction. Coercion and other grey zone acts by nation states have been evident during the pandemic and will increasingly create supply chain disruption.²³ In the case of critical infrastructure services, supply chain risks should be reviewed, and mitigations implemented accordingly.

A further risk for our national resilience is where the quality or integrity of a supply chain creates an impact, either deliberately or inadvertently. The integrity threat is a growing concern, especially for information technologies.

ICT supply chains

Given the increasing reliance of our economy, security and society on connected information systems, Information and Communications Technology (ICT) supply chains and cyber security are important considerations for national resilience. With the connectivity and cyber-physical integration of the fourth industrial revolution, control and disruption of information systems will increasingly be a means of achieving an advantage in global competition and conflict.

Although ICT is fundamental to our economy and daily lives, the understanding of our supply chain dependencies and risks in this domain is evolving at a slower pace than the growth of the threats.²⁴ The risk of cyber attacks is increasing, as is the number of major attacks.²⁵ The Australian Signals Directorate (ASD) assesses that malicious cyber

22 Dupont, A. (2020) *Submission 6 to JSC FADT inquiry into the implications of COVID-19*, Cognoscenti Group, https://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Foreign_Affairs_Defence_and_Trade/FADTandglobalpandemic/Submissions.

23 Dowse, A. and Bachmann, S. (2020) *Submission 7 to JSC FADT inquiry into the implications of COVID-19*, Cognoscenti Group, https://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Foreign_Affairs_Defence_and_Trade/FADTandglobalpandemic/Submissions.

24 Blackburn, J. and Waters, G. (2011) *Optimising Australia's Response to the Cyber Security Challenge*, Kokoda Foundation Paper #14, <https://www.dropbox.com/s/q1fjmzrf9doxxit/Kokoda%20Cyber%20Report%20.pdf?dl=0>.

25 European Court of Auditors (2019) *Challenges to effective EU cybersecurity policy*, https://www.eca.europa.eu/Lists/ECADocuments/BRP_CYBERSECURITY/BRP_CYBERSECURITY_EN.pdf.

attacks against Australian interests are increasing in frequency, scale, sophistication and severity²⁶, noting that the vast majority is cyber crime with an emphasis on quantity over quality.²⁷

Although spending on cyber security is growing²⁸, the cost of cyber crime in Australia is increasing at a greater rate.²⁹ More concerning, however, is the prospect of a surge in attacks, especially in the context of broader conflict and in the knowledge that nation states may be stockpiling exploits for zero-day vulnerabilities.³⁰ Given this potential, the total cost of cyber risks need to be considered, not just the cost of previous events.

As technologies have evolved, so too must mitigations to deal with more pervasive threats. Strengthening traditional perimeter defences to secure cyber vulnerabilities may seem appealing, but will not suffice. Increased mobility and connectivity of modern ICT necessitate a different approach. Additionally, our nation's critical infrastructure and defence systems utilise technologies that may be untrusted.³¹ The exploitation of ICT through external connectivity is not the only risk; often it is the integrity of the ICT itself.

With an estimated 15% of US military parts being counterfeit³², there is potential for malicious and catastrophic consequences if such equipment is used. The same potential exists for ICT. Quality deficiencies or deliberate exploits may be introduced within a global supply chain. The tendency to solicit for the best value for money for ICT products through an open process especially raises this risk through grey market equipment.³³ Greater controls over the source of ICT is needed to mitigate the risk. Such controls have been evident in Government action regarding the sourcing of 5G technologies.

Encouraging the growth of Australia's IT industry would improve security through sovereign technology control within our supply chains, while also delivering economic value. However, aspirations realistically may need to be limited to niche capabilities and technologies that support critical functions, given the scale of resources needed to develop and maintain quality systems. Australia's IT will need to remain dependent on assured global supply chains.

Australia's future IT supply chains should be assured through a combination of trusted global partners together with a concentration of sovereign IT expertise in capabilities that provide security in an untrusted environment. This approach is supported by the

26 ACSC (2017) *ACSC 2017 Threat Report*, https://www.cyber.gov.au/sites/default/files/2019-03/ACSC_Threat_Report_2017.pdf.

27 ASD (2019) *Annual Report 2018/19*, <https://www.asd.gov.au/publications/annual-report-2018-19>.

28 AustCyber (2019) *Australia's Cyber Security Sector Competitiveness Plan: 2019 Update*, <https://www.austcyber.com/resource/australias-cyber-security-sector-competitiveness-plan-2019>.

29 Tonkin, C. (2019) *Australian cybercrime surge costs millions*, ACS Information Age, <https://ia.acs.org.au/article/2019/australian-cybercrime-surge-costs-millions.html>.

30 Ablon, L. and Bogart, A. (2017) *Zero Days, Thousands of Nights: The Life and Times of Zero-Day Vulnerabilities and Their Exploits*, RAND Corporation, http://www.rand.org/pubs/research_reports/RR1751.html.

31 This is not to say that they are malicious, but that inadequate attention has been invested into ascribing trust.

32 Wagner, P. (2015) *Combating Counterfeit Components in the DoD Supply Chain*, DSIAC Journal, Spring 2015, Vol 2 No 2.

33 Annu-Essuman, K. (2014) *An Analysis on the Regulation of Grey Market Cyber Materials*, Cornell International Affairs Review 8:1, <http://www.inquiriesjournal.com/articles/1193/an-analysis-on-the-regulation-of-grey-market-cyber-materials>.

Government's cyber security strategy³⁴, which highlights the need to engage with like-minded nations on the security of critical technologies; higher expectations of businesses to protect assets, especially in critical infrastructure; and the strengthening of Government defensive cyber capability. This approach needs to consider data and support services, not only supply of products, especially after instances of interruption to services such as call centres caused by shutdowns during the pandemic.³⁵ The impact of loss of these services to customers of telecommunications companies and banks is another example of the price that comes with a low cost.

Fuel supply chain risks

Fuel is often discussed as a key national supply risk, and with good reason. As at May 2020, Australia had 59 days of net oil stockholdings, by far the lowest, and only non-compliant, of the International Energy Agency (IEA) member countries.³⁶ The Government view is that fuel reserves should include stock "on water", despite this being contrary to the IEA guidance, outside of our direct control and still representing less than our IEA membership obligation of 90 days.³⁷

The problem is that the net oil stockholdings figure does not clearly show what our useable fuel stocks are in Australia: the two are often confused by commentators. Australia cannot consume "net oil stockholdings": it is an accounting figure. Australians, including the Australian Defence Force (ADF), can only consume actual stocks of fuels held in Australia by specific fuel type, and only if the fuel can be delivered to facilities when and where they are needed. The actual useable fuel stockholdings as at May 2020 were: 18 days of diesel and 31 days of aviation jet fuel.³⁸ The aviation jet fuel stocks at that time were higher than usual, possibly due to the lower consumption of aviation fuels resulting from COVID-19 travel restrictions. None of these stocks in Australia is Government owned and there were no mandated minimum stockholding levels. In other words, it was left to the largely foreign owned market to decide what stock levels are maintained, until the Government announcement in September 2020 that introduced mandatory stock levels.

Other significant issues with respect to supply of fuels include vulnerabilities of supply routes for liquid fuel transit, as well as their carriage exclusively on foreign flagged ships; foreign ownership of the remaining major refineries in Australia; and the lack of government policy to ensure Australia's refineries remain operational. Additionally, an

34 Commonwealth of Australia (2020) *Australia's Cyber Security Strategy 2020*, <https://www.homeaffairs.gov.au/cyber-security-subsite/files/cyber-security-strategy-2020.pdf>.

35 Fernyhough, J. (2020) *Telcos rush to fill gap as Indian call centres close*, Australian Financial Review, <https://www.afr.com/companies/telecommunications/telcos-rush-to-fill-gap-as-indian-call-centres-close-20200325-p54dqq>.

36 Ton, W., Lane, J. and Trute, P. (2019) *Does Australia have close to 90 days oil reserves?* <https://factcheck.aap.com.au/claims/does-australia-have-close-to-90-days-of-oil-reserves> and IEA (2020) *Oil Stocks of IEA Countries*, <https://www.iea.org/articles/oil-stocks-of-iea-countries>.

37 Tillett, A. (2020) *Australia buys two days of cheap fuel*, AFR 22nd April 2020, <https://www.afr.com/politics/federal/australia-buys-two-days-of-cheap-fuel-20200422-p54m6h>.

38 Department of Industry, Science, Energy and Resources (2020) *Australian Petroleum Statistics Issue 286*, p66 <https://www.energy.gov.au/sites/default/files/Australian%20Petroleum%20Statistics%20-%20Issue%20286%20May%202020.pdf> noting that these are national figures, not reflecting Defence holdings of Defence-specific fuel types.

April 2019 Government report highlighted that “there is no overarching understanding of the whole liquid fuel market in Australia and how different parts interact with each other.”³⁹

Existing fuel distribution chains within and around Australia are designed for just in time, “business as usual” consumption, incapable of dealing with unexpected surges.⁴⁰ Australia cannot therefore have confidence that just-in-time commercial supply chains will provide sufficient fuels to our Defence forces, and our society at large, in a time of escalated operations.

Australia’s acceptance of fuel supply risk is based on a flawed and naïve assumption exemplified by this quote in an article in *The Australian*: “The Energy Department said Australia’s low supplies were not a serious concern as there had never been a serious interruption to Australia’s supply.”⁴¹ Given the chaotic, cascading, effects of the pandemic on our society, it is worth reassessing such logic. Indeed, there is a broader lesson that we should not prepare for strategic surprises in an uncertain future by considering only the prevalence of events in the past.

There is no Government owned strategic oil or fuel reserves in Australia, no Government control over the importation of 90 percent of our oil and fuel requirements, and no contingency plan should a major interruption of supply occur. Cognisant of these deficiencies, the March 2018 the Australian Parliament’s Joint Parliamentary Committee (JPC) on Intelligence and Security recommended that the Government review and develop measures to ensure that Australia has a continuous supply of fuel to meet its national security priorities.⁴² Despite the committee advocating for the review to take place within six months, it is yet to be publicly released. Australia is unprepared and would not be resilient in the event of a major fuel supply chain interruption.

The initiative in April 2020 to utilise the US Strategic Fuel Reserve was claimed by the Australian Government to contribute to IEA stockpiling obligations⁴³, however the real contribution of offshore stock to fuel security is debatable. The September 2020 announcement of measures associated with onshore storage and local refinery capability⁴⁴ represents a far more tangible contribution and is an excellent first step. Unfortunately the

39 Department of the Environment and Energy (2019) Liquid Fuel Security Review, p20, <https://www.environment.gov.au/system/files/consultations/7cf6f8e2-fef0-479e-b2dd-3c1d87efb637/files/liquid-fuel-security-review-interim-report.pdf>.

40 Australia witnessed how domestic supply chains could not cope with the irrational surge in demand for toilet paper during the early phases of the pandemic and disruption to fuel supply could lead to similar irrational surges for fuel. Similar challenges were evident in aviation fuel distribution chains when search operations based in Western Australia for the Malaysian Airlines Flight 370 caused significant stress in the State’s fuel distribution system.

41 Riordan, P. (2019) *Red light flashing over fuel security*, *The Australian*, 6 Jan 2019, <https://www.theaustralian.com.au/nation/politics/red-light-flashing-over-fuel-security/news-story/4d5101e1585ddc95017beb946d184f9f>.

42 Australian Parliament (2018) *Advisory report on the Security of Critical Infrastructure Bill 2017*, Parliamentary Joint Committee on Intelligence and Security, recommendation 3.6, https://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Intelligence_and_Security/CriticalInfrastructure/Report.

43 Taylor, A. (2020) *Australia to boost fuel security and establish national oil reserve*, <https://www.minister.industry.gov.au/ministers/taylor/media-releases/australia-boost-fuel-security-and-establish-national-oil-reserve>.

44 Taylor, A. (2020) *Boosting Australia’s fuel security*, <https://www.minister.industry.gov.au/ministers/taylor/media-releases/boosting-australias-fuel-security>.

announcement by BP on 30 October 2020 that it intends to close their Refinery in Perth⁴⁵, combined with the announced review by both Viva and Ampol regarding the potential to close their refineries, means that the Government's initiative may be too little, too late.

Loss of refining capability in Australia represents a significant risk, and stockholding alone will not address the JPC recommendation that the Government review and develop measures to ensure that Australia has a *continuous supply* of fuel to meet its national security priorities. Increasing domestic stocks of liquid fuels is an important measure but will need to be balanced with demand-side efforts. If we purely mandate stocks without thinking about how to curb demand for imported fuels by increasing local transport energy options, the current strategy won't be resilient enough to withstand a range of global crises in the future.

Improving national resilience

Resilience is defined as the ability of a system that is exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner.⁴⁶ Australia's view of national resilience has a long and extensive connection with our ability to withstand natural disasters, however, this understanding can also be extended to other hazards and threats. The Critical Infrastructure Resilience Strategy⁴⁷, published in 2015, emphasises the need to maintain continuity in the face of acts or events that might otherwise significantly impact the social or economic wellbeing of the nation. It also highlights Australia's ability to conduct defence and ensure national security as a foundational element of resilience.

However, resilience is but a characteristic or attribute of our society, individually and collectively. We cannot be truly resilient unless we are prepared. Australia has reacted very well to the pandemic, but arguably was not adequately prepared for this or a range of other significant risks that could eventuate.⁴⁸

Australia's recent efforts towards building national resilience have been undertaken on two lines of effort. The National Resilience Taskforce, established in 2018, developed a risk framework⁴⁹ as well as an analysis of causes and cascading effects of disasters.⁵⁰ Although its risk framework approach was cogent, the taskforce's work was limited to dealing only with natural disasters. This is a significant limitation. The taskforce came

45 Toscano, N. (2020) *BP to shut Australian oil refinery, leaving just three in the country*, SMH 30 October 2020, <https://www.smh.com.au/business/companies/bp-to-shut-australian-oil-refinery-leaving-just-three-in-the-country-20201030-p56a5f.html>.

46 National resilience taskforce (2018) *Profiling Australia's vulnerability*, <https://www.aidr.org.au/media/6682/national-resilience-taskforce-profiling-australias-vulnerability.pdf>.

47 Commonwealth of Australia (2015) *Critical Infrastructure Resilience Strategy Plan*, <https://cicentre.gov.au/document/P5OS021>.

48 Institute for Integrated Economic Research (2020) *Australia's Medical Supply Chain: Addressing Strategic Vulnerabilities*, <https://defense.info/highlight-of-the-week/australias-medical-supply-chain-addressing-strategic-vulnerabilities/>.

49 Commonwealth of Australia (2018) *National Disaster Risk Reduction Framework*, <https://www.homeaffairs.gov.au/emergency/files/national-disaster-risk-reduction-framework.pdf>.

50 National Resilience Taskforce (2018) op cit.

under extensive criticism following the 2019 bushfires, for failing to proceed with timely implementation.⁵¹

Risks associated with other events such as deliberate acts were addressed by the Critical Infrastructure Centre, also part of the Australian Department of Home Affairs, and its Critical Infrastructure Resilience Strategy released in 2015. This strategy is directed towards four outcomes of partnerships, risk management, strategic management, and organisational resilience.⁵² Perceptions that this strategy is not doing enough for national resilience has led to action from Home Affairs. A 2020 consultation paper has identified the need for stronger regulation, improved articulation of responsibilities and expectations, and greater cyber protection.⁵³ Whereas the consultation paper is primarily concerned with cyber threats, it includes an expectation that broader risks to supply chains will be addressed through a risk-based approach.

Such a regulatory validation of critical infrastructure providers' risk management should provide a greater sense of comfort that our supply chains will be more resilient. Decisions about risks cannot be left to the market alone, as has been the case in the past. Service providers might downplay the likelihood of adverse events to maximise short term profits, but additionally may be more willing to accept risk of adverse events.⁵⁴ Accordingly, risk management needs to include a supply chain illumination process, in which a top down process identifies critical components within subordinate supply chains and considers mitigations. In implementing those mitigations, we should be prepared to accept that avoiding future costs will come with an upfront cost.

With the interdependent nature of our nation's systems and the threats against them, in one way it may be advantageous for an integrated approach that addresses supply chain risks for a wide range of adverse events, including deliberate acts and disasters. After all, the Coronavirus pandemic has demonstrated that the cascading and compounding effect of such events may be challenging for traditional approaches to risk management.

Mitigating national supply chain risks

National supply chain risks are primarily concerned with assured availability. The threat to that availability could be due to an issue at the source of supply, whether domestic or overseas. These issues could be caused by the cascading effects of a natural disaster, pandemic, or conflict. Global supply chains can also be disrupted due to transport disruption, or because the supplier holds back supply (due to competing demands, political motivation, or during conflict).

One solution to such vulnerabilities is the establishment of appropriate sovereign capabilities and related supply chains supporting critical infrastructure services.

51 Fernyhough, J. (2020) *Government buried climate risk action plan*, Financial Review <https://www.afr.com/politics/federal/government-buried-climate-risk-action-plan-20200110-p53qeg>.

52 Commonwealth of Australia (2015) op cit.

53 Department of Home Affairs (2020) *Protecting Critical Infrastructure and Systems of National Significance*, <https://www.homeaffairs.gov.au/reports-and-pubs/files/protecting-critical-infrastructure-systems-consultation-paper.pdf>.

54 In many scenarios, adverse events such as loss of supply may impact the customer far more than the supplier.

A methodical review of the risks associated with critical infrastructure services⁵⁵ could identify those elements of the supply chains for which a sovereign solution is justified, affordable, and viable. Importantly, the value for money consideration of such solutions should take into account potential loss reduction—that is, to price in a crisis.

Australia also needs to consider the redesign of critical components of our industry base and supply chains under a ‘Smart Sovereignty’ model.⁵⁶ Such a model should not be construed as socialism or nationalisation of whole sectors of the economy. Smart Sovereignty infers not only a degree of Australian based manufacturing capability and associated domestic supply chains, but the appropriate research and development facilities and a skilled, experienced workforce.

Determining where and how much sovereign capability that we must have, to be resilient as a nation, will be a complex task. There will be limits to sovereign industry levels, due to Australia’s finite resources, the value of efficiencies gained through global supply chains and the negative consequences of mercantilism. Therefore, the essential complement to Smart Sovereignty will be the establishment of “Trusted Supply Chains”, in cases of dependence on global trade imports for critical systems. For these imports, Australia must have diverse and transparent supply chains and have the ability to verify them.⁵⁷ In addition to supply chain diversification, interdependent supply partnerships with select nations could be an important contributor to national resilience.

Defence supply chain resilience

Given their centrality to national security, Defence’s supply chains deserve specific attention. Defence’s primary concern with supply chain risks has been the availability of warfighting equipment, including parts, as well as consumables such as fuel. With the shift to outsourcing over the past three decades, these risks also include the availability and effectiveness of external support services and infrastructure (including contracted maintenance, power supplies and ICT services). The supply chain risks include fitness-for-purpose, not just the availability of supply items. Additionally, many items have short in-use or shelf life, for which Defence must balance the efficacy of just-in-time supply chains with large-scale stockholdings.

Up until the release of the 2020 Defence Strategic Update⁵⁸, the Defence strategy on supply chain security varied little. The 1987 White Paper noted the centrality of the US alliance for timely supply of military equipment and ammunition, reducing the need for stockpiling.⁵⁹ Having said that, the 1987 White Paper also notes the possibility that this supply could be disrupted, thus highlighting the need for arrangements to reduce temporal disruptions by developing and retaining sovereign maintenance capability in industry, stocks of consumables, and technology capability expertise in certain areas.

55 As advocated by Home Affairs in *Protecting Critical Infrastructure and Systems of National Significance*.

56 Blackburn, J. (2020) op cit.

57 Ibid.

58 Department of Defence (2020) op cit.

59 Department of Defence (1987) *The Defence of Australia 1987*, <https://www.defence.gov.au/Publications/wpaper1987.pdf>.

Similarly, the 2000 White Paper noted the need for in-country support for repair, maintenance, modification, and provisioning, as well as stockpiling of high cost foreign-sourced provisions such as guided weapons.⁶⁰

The 2009 White Paper softened its guidance on critical provisions, accepting risks dependent on global supply chains and noting that a stable Southeast Asia can mitigate threats to fuel supply sea lines of communication.⁶¹ Citing the Mortimer Review, it called out the significant waste present in logistics and directed that greater efficiencies be achieved in inventory management and supply chain arrangements. Priority Industry Capabilities (PICs) were introduced as a mechanism to retain sovereign capability in certain areas.⁶² Subsequently, the 2013 White Paper was largely silent on supply chain resilience, simply accepting risks of dependence on the global supply chain and noting that any threat to such arrangements would invoke support from the US.⁶³

The 2016 White Paper also played down concerns with supply chains, other than highlighting the importance of a national support base to Australia's resilience.⁶⁴ The only obvious initiative identified against this requirement was the classification of defence industry as a fundamental input to capability and the promise of a change to the PIC framework to develop sovereign industry capabilities.⁶⁵

The 2018 Defence Industry Capability Plan provides a fuller articulation of the roadmap to build the national defence industry base.⁶⁶ It focuses efforts on the ten sovereign industry capability priorities derived from the earlier PICs, designed to contribute to the most critical Australian Defence Force requirements. Although primarily concerned with supporting the ADF, there is also a strong emphasis on delivering economic outcomes in delivering capability within global supply chains.

The Defence Industrial Capability Plan is primarily designed to deliver strategic resilience against longer-term shifts in technology availability by building a national industry in key areas. It is not designed to deliver resilience to crises that may impact the ADF's ability to surge and sustain operations in the face of short-term disruptions to supply. The priorities for munitions manufacture and aerospace deeper level maintenance could provide some mitigation to temporal risks. Nevertheless, the main focus is on developing defence industry to build military systems, which is driven more by longer term objectives and economic benefits than the need for resilience.

60 Department of Defence (2000) *Defence 2000—Our Future Defence Force*, <https://www.defence.gov.au/publications/wpaper2000.pdf>.

61 Department of Defence (2009) *Defending Australia in the Asia-Pacific Century: Force 2030*, https://www.defence.gov.au/whitepaper/2009/docs/defence_white_paper_2009.pdf.

62 Purnell, L. and Thomson, M. (2009) *How much information is enough?: The disclosure of defence capability planning information*, https://www.jstor.org/stable/resrep04180.11?seq=5#metadata_info_tab_contents pp 63-64 asserts that the PICs fell short of providing guidance to Australian industry.

63 Department of Defence (2013) *Defence White Paper 2013*, https://www.defence.gov.au/whitepaper/2013/docs/WP_2013_web.pdf.

64 Department of Defence (2016) 2016 Defence White Paper, <https://www.defence.gov.au/Whitepaper/Docs/2016-Defence-White-Paper.pdf>.

65 Introduced in the accompanying 2016 Defence Industry Policy Statement <https://www.defence.gov.au/Whitepaper/Docs/2016-Defence-Industry-Policy-Statement.pdf>.

66 Department of Defence (2018) *Defence Industrial Capability Plan*, <https://www.defence.gov.au/spi/industry/capabilityplan/Docs/DefenceIndustrialCapabilityPlan-web.pdf>.

Another concern with the Defence Industrial Capability Plan is that it does not build upon any national industrial plan, or at least provide the broader national industry context. There are two reasons it should do so. Firstly, Defence is reliant upon not only a robust defence industry sector but also a robust broader industry capability across areas such as manufacturing, engineering, and information technology. Whilst this may seem like the ‘tail wagging the dog’, a capable national industry base is critical to the sustainability of the defence sector, including the maintenance of skills. In many cases, it is also critical to the security/availability of defence capability, given defence’s reliance on national capabilities such as in transport, energy and telecommunications. The second reason it should do so is that, with the increasing threat of hybrid warfare⁶⁷, the resilience of the national industry is something that Defence will need to address in a conflict.

Despite the intent of PICs and sovereign industry priorities, the level of domestic expenditure in defence acquisition and sustainment has not varied since their introduction.⁶⁸ The Defence Industrial Capability Plan specifies criteria behind the sovereign industry capabilities, including independence of action and assurance of supply.⁶⁹ Yet in practice, these have not been evident. Marcus Hellyer of the Australian Strategic Policy Institute (ASPI) highlights the risk that even when capabilities are built in Australia, they can be impacted by disruptions in foreign sourced supplies, as was the case with the Hawkei protected vehicle project.⁷⁰ He also highlights the inadequacy of the stock of guided missiles and fuel, noting that these effectively limit conventional conflict options to days.⁷¹

Defence recognises the risk of such supply chain deficiencies and has even explicitly accepted such risks in past White Papers—in the same way that a homeowner might decide not to insure against certain risks, despite the significance of their impact if they are realised. However, recent deterioration of the strategic environment led to a shift in Defence’s position with the 2020 Defence Strategic Update, which stressed the need for more secure supply chains.⁷² The update includes the need to address vulnerabilities in supply chains associated with Internet access (s1.11), fuel and ammunition stocks (s1.13, s3.30), critical supplies needed to maintain operations (s1.16), the need for assurance of global supply chains (2.26) and the ability to operate at a high intensity (s3.30). Importantly it also discusses the importance of depth and flexibility of supply, with increased trust in global supply arrangements complementing domestic industry initiatives.⁷³

The Defence Strategic Update was already underway before the pandemic, but has been skilfully adjusted to recognise new realities. Its recognition of the deteriorating strategic environment together with realisation of supply chain vulnerabilities has led to a justified call for action. This represents a departure from an ongoing acceptance of

67 Hybrid warfare relates to the application of multiple, diverse tactics simultaneously against an adversary, see Dowse, A. and Bachmann, S. (2019) *op cit*.

68 Hellyer, M. (2020) *Supply chain security: lessons from Australia’s defence industry*, ASPI <https://www.aspistrategist.org.au/supply-chain-security-lessons-from-australias-defence-industry/>.

69 Department of Defence (2018) *Defence Industrial Capability Plan*, s2.7

70 Hellyer, M (2020) *op cit*.

71 *ibid*

72 Department of Defence (2020) *op cit*.

73 *ibid*

those vulnerabilities, consistent with the appreciation that strategic warning times are no longer reliable. However, it remains to be seen whether this will lead to any action to address supply chain vulnerabilities. After all, Defence is limited in its ability to take substantial action without an integrated national effort.

Implications for Defence

The Defence Strategic Update provides a sobering analysis of the recent changes in our strategic environment, including great power competition, challenges to the stability of the rules-based global order, and the emergence of new, complex non-geographic threats.⁷⁴ This follows the Australian Defence Minister's acknowledgement of the emergence of grey zone and hybrid threats.⁷⁵

Such future threats may employ an indirect approach⁷⁶ to target the nation, rather than the military. Together with interdependence on global supply chains and national infrastructure, this indirect threat means that Defence needs to consider a broader view of its supply chain vulnerabilities, as well as the nation's vulnerabilities that Defence may be called upon to defend.

This paper has highlighted two areas of supply chain risk, both of which are highly relevant to Defence. Defence fuel supply chain resilience has been recognised with the initiation of an associated remediation program.⁷⁷ Notwithstanding, Defence's fuel risks will continue to be exacerbated by the lack of national fuel resilience and the challenge of having special fuel needs.

The increasing dominance of the information domain means that ICT is a critical source of risk to Defence. Of notable importance is artificial intelligence (AI) which, given Australia lacks national policy on its development or use, will likely take the well-trodden path of the market taking the most cost-effective approach. A dependence on overseas development of AI will represent significant risk, given the central place that AI will have in cyber-physical systems. AI systems will create a significant challenge in the ability to establish trust through transparency and verification, as such systems by design do not act in a predictable manner. This will place even greater criticality on risk assessment of AI systems, with a greater implication therefore for sovereign and trusted supply chains.

Defence policy is about identifying priorities and, in this regard, the Sovereign Industry Capability Priorities (SICP) are of pivotal importance to the development of Australia's defence sector. A similar approach could also be taken to development of sovereign industries for supply chains supporting nationally significant capabilities.

Defence needs to progress supply chain mitigations associated with operational vulnerabilities, not just long-term acquisition priorities. The SICP do not provide a path to

74 Department of Defence (2020) op cit, p11.

75 Reynolds, L. (2019) *ASPI International Conference: War in 2025*, <https://www.minister.defence.gov.au/minister/lreynolds/speeches/aspi-international-conference-war-2025>.

76 Consistent with the indirect approach concept described by Liddell Hart, B. (1967) *Strategy*, Second Revised Edition. New York, NY: Fredrick A. Praeger Publishers.

77 Levick, E. (2018) *Defence Fuel Transformation Program expanded*, <https://www.australiandefence.com.au/estate/defence-fuel-transformation-program-expanded>.

achieve the security of supply chains that the Government seeks in the Defence Strategic Update 2020. While one option may be to expand the SICP, this may complicate their acquisition focus and long-term deliberate implementation.⁷⁸ Ideally, what is needed is the incorporation of new initiatives to complement the SICPs and secure Defence's supply chains.

Such supply chain mitigations may be reliant upon national resilience and Defence cannot itself lead a program that addresses our national limitations. It can, however, enable and support such a process given the extensive expertise and experience in risk analysis, scenario war gaming, preparedness, exercising, and training. Such expertise may assist both the public and the private sector to understand the risks, perhaps through the conduct of informing workshops. Defence can also set an example for national resilience by reviewing its supply chain risks and implementing associated policies.

Defence should offer to take a supporting and enabling role in reviewing national resilience and supply chain risks, as well as associated mitigations and responses, at the least. This is consistent with the Government's expectation of the ADF to shape, deter, and respond to threats against the nation's interests.⁷⁹ It would also reflect the expertise that ADF personnel has in appreciating and planning to defeat such threats.

In responding to the pandemic, Australians have seen the value of highly trained, professional and disciplined ADF teams in supporting our community. However, Defence is capable of much more than guarding hotels, carrying luggage, supporting police and conducting border checks. It knows how to prepare for and operate effectively in a crisis; it is resilient because it is prepared. Defence, partnered with other "operational" Departments such as Home Affairs, should help Federal and State Governments and Agencies to be better prepared for the crises Australia will inevitably face in the forthcoming decades. Continuing to be surprised and taking a reactive approach to adverse events is not good enough.

If Australia is to improve national resilience, our lack of preparedness must be remedied. In this endeavour, Defence concepts and systems could be of assistance. For example, the initial focus of the RAAF's Plan Jericho to build a 5th Generation Force was to target vastly improved shared awareness and the ability to operate as an integrated team.⁸⁰ Awareness in the sense of shared knowledge of a situation, both current and emerging, is based on a comprehensive risk analysis with recognition of implicit assumptions. The theme of the integrated team is often considered as the willingness to act together for the common good to achieve shared goals, balancing competition and collaboration. This is in effect what successful joint military operations are about.

Utilising the principles of shared awareness and the ability to operate as an integrated team, Defence prepares for operations under a well-established preparedness system. The ADF does not perform as professionally as it does because it is just good at reacting. The preparation of the ADF in all aspects, the analysis of the risks, an understanding of vulnerabilities, the development of operating concepts and plans, and then the

78 For example, the third of ten implementation plans was issued two years after issue of the Defence Industrial Capability Plan.

79 Department of Defence (2020) *op cit*, p4.

80 AIRMSHL G. Brown Speech—<https://australianaviation.com.au/2015/02/caf-launches-plan-jericho/>.

comprehensive training and exercising of the force, is what produces excellent operational results. This approach, adapted for wider use across our nation, is what could enable our nation to be better prepared for the range of risks we face in forthcoming decades. Supply chain resilience is but one component of those risks that must be addressed.

Conclusions

Australia should not try to replicate the previous environment after COVID-19. The recovery phase is an opportunity to establish greater resilience in our supply chain arrangements against disruptive events. To do so means that resilience needs to be considered in the broader context of potentially adverse situations, including conflict and the prospect of cascading and compounding events.

Risk management is a critical part of the shift to more secure supply chains, as has been signalled in the recent Home Affairs Critical Infrastructure consultation paper and Defence Strategic Update. For those initiatives to truly result in more secure supply chains will depend on three key factors. Firstly, there needs to be a balance of cost reduction with risk reduction, in which a total cost approach prices in plausible adverse events. Secondly, risk acceptance should be aligned with who is impacted by the risk, not just the service provider. Thirdly, a broad view of plausible risks needs to be taken, including for critical infrastructure to look beyond cyber threats.

There is no prospect that all critical supply chains will be Australian owned or controlled. Consideration of Australia's strengths, costs and opportunities together with a robust risk management process should enable a systematic approach to redesigning supply chains. A Smart Sovereignty model will ensure the industry and skilling inputs to those supply chains are developed. The essential complement to Smart Sovereignty will be the establishment of trusted supply chains, with a foundation of strong relationships, verification processes, diversification and contingencies. Such arrangements should be supported by a national preparedness strategy and plan, managed by an integrated team.

Although improving national supply chain resilience is necessarily a Whole-of-Government endeavour, Defence is exposed to risks associated with its supply chain vulnerabilities as well as indirectly from supply chains supporting national infrastructure. Regardless of whether the result of disaster events or a deliberate attack by a nation state, Defence has a significant stake in our national supply chain resilience. Additionally, Defence has the skills and a preparedness regime that could be utilised for wider use across the nation to enable us to be far better prepared for the range of risks we face in forthcoming decades.

The Critical Infrastructure Consultation paper and the Defence Strategic Update provide a positive shift towards an appreciation of supply chain risks and the prospect that these may be mitigated within a total cost approach to enhance national resilience. With experience of supply chain management, preparedness and the planning associated with potential conflict, Defence should take a key role in enabling and supporting national efforts.

The pandemic has been a wake-up call for Australia. We must learn lessons in the broader context of an uncertain future and invest effort to secure our supply chains. Although integration with global supply chains has been of economic benefit, we need to be smarter about our dependencies in the future and not leave Australia's national resilience to the market.

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Logical Engagement: Using Positive Sanctions to Coerce North Korea¹

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Abstract

Sanctions have played a vital role in the creation of American and international policy toward North Korea. However, lax enforcement and the nature of North Korea as a hard target have minimised sanctions success. Therefore, it is time for the international community to think of implementing a new strategy. This paper will argue the need for a positive sanctions regime, leveraging the interests of China, South Korea, and the United States, which rewards Pyongyang for taking substantial steps toward denuclearisation and will show how such a regime can be implemented into our current policy on North Korean denuclearisation.

Introduction

North Korea is the quintessential hard target. International actors—both multi- and uni-lateral—have levied a myriad of negative sanctions in an attempt to coerce North Korea to forego its production of nuclear weapons. However, negative sanctions have failed to force Pyongyang to denuclearise due to the lack of material incentives which offset the political and economic damage to the Kim regime for forgoing a strong nuclear weapons program.

A more guided approach using positive sanctions can provide the Kim regime direct incentives to switch course on its nuclear policy and take firm steps toward denuclearisation. Effective positive sanctions will require the coordination of the economic and security interests of regional actors and must be effectively coordinated within the current sanctions regime. After all, “sticks are needed to ensure that carrots do not become rewards for bad behaviour.”² This paper will lay out a positive sanctions regime

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2 Gary Clyde Hufbauer et al., *Economic Sanctions Reconsidered*, 3rd ed., (Washington, DC: Peterson Institute for International Economics, 2007), 169.

leveraging the interest of three regional powers--South Korea, China, and the United States—which can be employed within the current sanctions regime as a way to provide material incentives for the Kim regime to take concrete steps toward denuclearisation.³

Our proposal is not the first one to use positive sanctions to provide material incentives for denuclearisation. Shepard Iverson proposed a framework centred around providing enough individual incentives so “that the vast majority of North Koreans--of every rank--will become compelled to push for reunification.”⁴ Underlying Iverson’s proposal is the assumption that only reunification can create a situation in which denuclearisation is possible. Material incentives, however, will mean little to North Korea’s elite if the major powers push for possible prosecution for crimes against humanity at the International Criminal Court; such a push is likely post-unification from various political leaders.⁵ Therefore, we reject Iverson’s assumption that reunification is the only method to bring about denuclearisation in favour of the assumption that North Korea’s elite are more likely take steps toward denuclearisation if positive sanctions can provide enough capital--political and economic--to offset the incurred costs of North Korean denuclearisation.

Nor will our framework be the first-time positive sanctions have been employed to incentivise North Korea to denuclearise. In 1994, for example, the United States and North Korea signed an Agreed Framework under which Washington agreed to provide North Korea with heavy oil and light water nuclear reactors in exchange for freezing the operation and construction of nuclear reactors capable of producing weapons grade uranium. Domestic political shifts within the United States, however, led to the framework’s eventual breakdown.⁶ Between 1998 and 2008, South Korea’s Sunshine Policy also sought to unilaterally employ positive sanctions to incentivise North Korea to denuclearise. Like the Agreed Framework, domestic political shifts in South Korea led to the end of the Sunshine Policy. Both succumbed to domestic political shifts because they were unilateral endeavours. By working to coordinate the interests of three major stakeholders, our framework will be more robust than previous attempts to use positive sanctions, making it less likely to succumb to the whim of domestic political shifts in one or two of the parties.

Our framework will be introduced in four key sections. First, we analyse the use of sanctions as a foreign policy tool and provide clear definitions for negative and positive sanctions. Then we briefly examine the current sanctions on North Korea and show why they have yet to yield results. In the third section, we present our framework for coordinating the economic interests of China and South Korea with the security interests of the United

3 Though other nations, notably Japan, have an interest in the denuclearisation of North Korea and stability in East Asia, this paper assumes that South Korea, the United States, and China are in a position to take the risks of such a plan failing. Japan, on the other hand, is unlikely to join such a program until there is a proven track record of success.

4 Shepherd Iverson, *Stop North Korea! A Radical New Approach to the North Korea Standoff* (Rutland: Tuttle Publishing, 2017), 37.

5 Following the death of Kim Jong-nam in an alleged assassination attempt coordinated by the highest levels of North Korea’s bureaucracy, South Korea called on the United Nations to refer North Korea to the International Criminal Court for crimes against humanity. This is not the first time a country has asked to refer North Korea to the court for similar crimes. Brian Padden, “South Korea Urges UN to Refer DPRK Leaders to ICC,” *Voice of America*, 28 February 2017, <https://www.voanews.com/east-asia-pacific/south-korea-urges-un-refer-dprk-leaders-icc>.

6 Ramon Pacheco Pardo, *North Korea-US Relations Under Kim Jong Il: The Quest for Normalization?*, (New York: Routledge, 2014), 44.

States to create a robust positive sanctions regime. Our framework assumes other regional actors, such as Japan, are unwilling to commit resources without guarantees of success. This framework also assumes North Korea has shown real intent to negotiate an agreement placing it on the path toward verifiable denuclearisation. The final section will show how our proposal can be implemented within the framework of current sanctions on North Korea and provide levers of punishment in case North Korea fails to take steps toward denuclearisation.

Sanctions and Strategy: Positive and Negative Coercion

Sanctions are either punishments or inducements implemented by a sender state with the goal of indirectly changing the domestic political decision making process within the target state.⁷ After all, sanctions are typically employed as a less expensive alternative to military action to coerce or induce the target state into changing its actions to align more closely with the desires of the sender. For example, global economic sanctions levied on Iran between 2011 and 2015 sought to shrink the Iranian economy and freeze Tehran's access to foreign assets in order to pressure the regime into signing the Joint Comprehensive Plan of Action (JCPOA).⁸ After Tehran signed the JCPOA, the Obama administration lifted oil sanctions on Iran as a reward for shifting its policy to favour the preference of the United States.

As the Iran case shows, sanctions can be either negative or positive in nature. Negative sanctions, in short, apply economic pressure to punish a target state for taking action counter to the political preference of the sender. By using positive sanctions, however, the sender state seeks to alter the behaviour of the target state by offering rewards for compliance or alteration of policy in favour of the sender's policy preferences. The global community implemented negative sanctions on Iran for non-compliance with global non-proliferation norms, then rewarded the regime with positive sanctions for altering its policy preferences under the JCPOA.⁹ While the difference between the two types of sanctions appears fairly straightforward, the logics they use differ in more nuanced ways.

Negative Sanctions

Negative sanctions "impose economic penalties, or carry a credible threat of penalties, in order to coerce the target country to alter its policies."¹⁰ They aim to disincentivise the leadership from pursuing their current political, military, or economic course of action.¹¹ Typically, negative sanctions manifest as embargoes, boycotts, expropriation, suspension of aid, and asset freezes to coerce states into compliance with global norms. Negative sanctions have a low record of success due to a variety of factors.

7 Hufbauer et al., *Economic Sanctions Reconsidered*, 5.

8 Kenneth Katzman, "Iran Sanctions" (Washington D.C.: Congressional Research Service, July 23, 2020).

9 In our analysis, the lifting of current negative sanctions is, itself, a positive sanction.

10 Hufbauer et al., *Economic Sanctions Reconsidered*, 101.

11 Richard Nephew, *The Art of Sanctions: A View from the Field* (New York: Columbia University Press, 2018), 9–12.

Negative economic sanctions can be successful only if the threat associated with them is credible and the punishment potent enough.¹² The question then is how to impose sanctions which carry a credible threat and a potent punishment. First, negative sanctions are impactful when the goals are modest; they are more likely to secure the release of a political prisoner than coerce a target to alter policy. Second, sanctions are more effective against allies than against adversaries. Third, sanctions tend to be ineffective against regimes that are stable, large, or autocratic. Fourth, sanctions are most effective when the economic costs are relative to the political goals of the sanctions. These costs must be applied all at once, not over time. Fifth, sanctions which require the buy in of multiple states tend to be less effective than unilateral sanctions. Finally, sanctions must be applied in conjunction with appropriate outside measures.¹³ Negative sanctions, in short, require the narrowest of circumstances to be minimally impactful in coercing states to alter their policy.

Though negative economic sanctions can be useful in very narrow circumstances, they offer “little independent usefulness for [the] pursuit of noneconomic goals.”¹⁴ States are more likely to resort to nationalism in defence of their policy, making them more willing to endure the cost of defiance.¹⁵ A third-party state with a salient political motive in busting the sanctions is also likely to endure a high cost to assist in protecting the target’s national interests and offset the costs of defiance.¹⁶ Therefore, negative sanctions face an uphill battle compounded by the domestic and international reaction to their imposition.

Finally, the sender must also incur a heavy moral cost when pursuing a non-economic goal as negative sanctions tend to impact the domestic population of the target. Though sanctions may be morally justified to pursue changes in the humanitarian policy of the target state, the sender cannot be morally justified when the sanctions impose undue or major harm to the domestic population of a state.¹⁷ Therefore, negative sanctions are a justifiable action only if states take steps to ensure they protect the general population from the effect of imposed sanctions. In short, negative sanctions are only justifiable and effective in the narrowest of circumstances.

Positive Sanctions

Negative sanctions stand in stark contrast to the possibilities presented by positive sanctions. Sociologist Johan Galtung proffered the first distinction between negative and positive sanctions as “punishment for deviance...[and] reward for compliance,” respectively.¹⁸ On a functional level, the difference between positive and negative sanctions

12 Jon Hovi, Robert Huseby, and Detlef F. Sprinz, “When Do (Imposed) Economic Sanctions Work?,” *World Politics* 57, no. 4 (July 2005): 485.

13 These six criteria are outlined in Hufbauer et al., *Economic Sanctions Reconsidered*, 162–76.

14 Robert A Pape, “Why Economic Sanctions Do Not Work,” *International Security* 22, no. 2 (Fall 1997): 93.

15 Ibid, 106.

16 Bryan R. Early, *Busted Sanctions: Explaining Why Economic Sanctions Fail* (Stanford: Stanford University Press, 2015), 159–60.

17 For a good examination of this debate, see Cécile Fabre, *Economic Statecraft: Human Rights, Sanctions, and Conditionality* (Cambridge: Harvard University Press, 2018); and Hazel Smith, “The Ethics of United Nations Sanctions on North Korea: Effectiveness, Necessity and Proportionality,” *Critical Asian Studies* 52, no. 2 (2 April 2020): 182–203.

18 Johan Galtung, “On the Effects of International Economic Sanctions: With Examples from the Case of Rhodesia,” *World Politics* 19, no. 3 (1967): 381.

is tool centric. Positive sanctions use rewards to induce policy change while negative sanctions employ coercive punitive measures. Positive sanctions, however, can also be coercive in nature as they can manifest as the denial of rewards in response to a failure to cement lasting political change.¹⁹ Other classifications focus on the impact of sanctions within the target state. Positive sanctions, then, are promised or actual rewards which offer a relative increase to the target's baseline expectations.²⁰

Positive sanctions rely on the use of economic carrots—trading or catalytic—as incentives for change in the target state's policy. Trading carrots require balanced concessions which are beneficial to both sides. Such carrots involve the use economic favours in a finite exchange to secure a small, similarly finite change within the target state's security policy.²¹ The target state must ensure that the benefit of the exchange outweighs the costs of the reciprocal action and come with a credible commitment to carrying out the exchange until complete.²² On the other hand, catalytic carrots rely on a dynamic domestic situation in which reform minded elites are in a position of power within the system.²³ Where trading carrots use finite economic exchange, catalytic carrots involve the use of extended engagement in various sectors—economic, military, and beyond—to take advantage of the dynamic situation to change the domestic political incentives underlying the target state's foreign policy. Catalytic carrots are employed when the sender seeks to change the nature of a target state's incentives, reducing the amount that must be “offset either by rewards or punishments.”²⁴ Since these carrots seek to alter the political calculus within a state and alter the relationship between sender and target, they can reduce the symbolic strength of rally effects and can be used as punishment if states fail to accommodate further liberalisation.²⁵ In short, while trading carrots are derived from a need to “offset baneful incentives,” catalytic carrots attempt to “modify the political reality behind the original incentives.”²⁶

The efficacy of positive sanctions relies on the nature of the carrot employed by the sender state. Trading carrots must present a valuable enough incentive to offset the behavioural concessions demanded. Catalytic carrots, however, are dependent on the ability of the target regime to retain its power. Both sets of carrots are influenced by the relationship between the target and the sender; trading carrots rely on the presence of a *quid pro quo* while catalytic carrots seek to alter the nature of the relationship between target and sender. Positive sanctions, therefore, are the employment of either trading or catalytic

19 Klaus Knorr, *Power and Wealth: The Political Economy of International Power*, (New York: Basic Books, 1973), 9-13; Klaus Knorr, *The Power of Nations: The Political Economy of International Relations*, (New York: Basic Books, 1975), 7-8.

20 David A. Baldwin, *Economic Statecraft* (Princeton, N.J: Princeton University Press, 1985), 20; David A. Baldwin, “The Power of Positive Sanctions,” *World Politics* 24, no. 1 (October 1971): 23.

21 For example, the United States offered Egypt economic assistance for signing the Camp David Accords. Such an exchange used a finite amount of American resources in order to offset the costs of an equally valuable finite change in Egyptian behaviour on the international stage. See Marvin G. Weinbaum, “Politics and Development in Foreign Aid: US Economic Assistance in Egypt, 1975-82,” *Middle East Journal* 37, no. 4 (Autumn 1983), 636-655; and Soheir A. Morsy, “U.S. Aid to Egypt: An Illustration and Account of U.S. Foreign Assistance Policy,” *Arab Studies Quarterly* 8, no. 4, (Fall 1986), 358-389.

22 Miroslav Nincic, *The Logic of Positive Engagement* (Cornell University Press, 2011), 59, 67-68.

23 Nincic, “The Logic of Positive Engagement.” 326

24 Ibid, 321.

25 Ibid, 327

26 Ibid, 325.

carrots to seek certain political goals or alter the nature of an international relationship.²⁷ These sanctions can be more impactful than negative sanctions since they can offer the target state with material incentives to offset the cost of major political shifts.

Coercing North Korea: An Overview of Current Sanctions

International actors have levied a variety of negative sanctions against North Korea for its continued pursuit of nuclear weapons. Though these sanctions have had some measurable impact, their ability to alter North Korea's political calculus is hindered by mis-implementation, lax enforcement mechanisms, the nature of the North Korean regime, and the effectiveness of China as a sanctions buster.

Multilateral institutions—most prominently the United Nations Security Council (UNSC)—lead the push to sanction North Korea. Following North Korea's written intent to withdrawal from the Nuclear Non-Proliferation Treaty in 1993, the Security Council became seized of the North Korean nuclear issue by compelling North Korea to reconsider its withdrawal.²⁸ Following North Korea's first nuclear test in October 2006, the UNSC levied sanctions which limited Pyongyang's ability to import military equipment and called on member states to freeze accounts related to Pyongyang's nuclear program.²⁹ After each subsequent nuclear test by North Korea, the UNSC passed further resolutions to tighten sanctions on North Korea. Most recently, Security Council Resolution 2375 limits North Korea's access to fossil fuels by placing a limit on the amount of oil and coal North Korea could import and export.³⁰

Despite being the leading institution, the UNSC is not the only one that has levied sanctions on North Korea. The European Union (EU) "not only transposes the sanctions imposed by the UN, but also has its own autonomous sanctions regime" which complements sanctions levied by the UN.³¹ Current EU sanctions ban the admission and residency of person's involved with North Korea's nuclear program; deny North Koreans access to specialist training in the EU; ban the export of luxury items to Pyongyang; ban EU investment in North Korea; and cap remittances to North Korea.³² By levying sanctions against the regime, multilateral institutions signal their displeasure with Pyongyang's pursuit of nuclear weapons and attempt to coerce the regime by isolating it from the global economy.

27 Ibid, 325–26; Nincic, *The Logic of Positive Engagement*, 2011, 87–89.

28 Security Council Resolution 825, "On the Withdrawal of North Korea from the NPT," S/RES/825, (11 May 1993).

29 Security Council Resolution 1718, "Non-Proliferation/Democratic People's Republic of Korea," S/RES/1718, (14 October 2006).

30 Security Council Resolution 2375, "Non-Proliferation/Democratic People's Republic of Korea," S/RES/2375, (11 September 2017).

31 European Council, "North Korea: EU Renews Its Autonomous Sanctions on Individuals and Entities," Council of the European Union, 15 July 2019, <http://www.consilium.europa.eu/en/press/press-releases/2019/07/15/north-korea-eu-renews-its-autonomous-sanctions-on-individuals-and-entities/>.

32 European Council, "EU Restrictive Measures against North Korea," Council of the European Union, [Accessed 30 August 2020], <http://www.consilium.europa.eu/en/policies/sanctions/history-north-korea/>.

States have also unilaterally applied negative sanctions on the North Korean regime. Most notably, the United States passed the North Korean Sanctions and Policy Enhancement Act of 2016 to “protect the international financial system from ongoing and substantial money laundering and terrorist financing risks emanating from” and counterfeiting efforts by the North Korean regime.³³ South Korea cut off trade with North Korea, blocked North Korean ships from vessels from entering South Korean ports, and cut off new investments to North Korea under the “May 24th Measures” passed by the Lee Myung-bak administration in 2010.³⁴ Japanese sanctions include a freeze on North Korean assets, restrictions on North Korean travel—citizens and ships—to Japan, and prohibit remittances valued more than USD\$880.³⁵ Though unilateral, these sanctions serve the same role as multilateral sanctions on North Korea: signalling displeasure with continued development of nuclear weapons and attempting to coerce the Kim regime by isolating it from global institutions and financial services.

Despite the appearance of a unified push to punish the Kim regime for continued development of nuclear weapons, negative sanctions have yet to change the behaviour of the Kim regime. Several factors contribute to this failure. First, the implementation and goal of sanctions on North Korea hinders their effectiveness. With the UNSC and EU as leading voices, sanctions require buy in from multiple nations with different interests, diluting the sanctions’ scope and impact. The Kim regime has also effectively marshalled a nationalistic defiance of the gradually increasing pressure imposed by sanctions within its domestic political discourse. Finally, the stated goal of sanctions requires the Kim regime to cement a major political shift on its nuclear policy.³⁶

Second, lax enforcement and disunity within sanctioning parties mitigates the impact of sanctions on Pyongyang. When levying sanctions on luxury imports in 2007, the UNSC delegated the designation of luxury items to individual states with a mandate to enact export controls in a harmonised manner. However, only 13 export control regulation regimes have been made public and the definition of luxury item varies between regulations.³⁷ Since 2013, the UNSC has taken a more active role in defining luxury items within levied sanctions. Those definitions, however, are limited in nature and provide states the ability to interpret them as they see fit.³⁸ After all, many of these regulations do not follow an internationally recognised classification regime, such as the Harmonized Coding System, making regulations and export controls easy to circumvent. Varied and limited definitions of luxury goods limit the ability of international enforcement authorities to feasibly implement and enforce export control regimes of luxury items to North Korea.³⁹

33 *North Korea Sanctions and Policy Enhancement Act of 2016*, Public Law 114-122, enacted February 18, 2016, <https://www.congress.gov/114/plaws/publ122/PLAW-114publ122.pdf>.

34 Myung-bak Lee, “Announcement of Measures against North Korea,” South Korean Ministry of Unification, May 24, 2010, https://unikorea.go.kr/eng_unikorea/news/releases/%3Bjsessionid=nb5Xzi0DHVUR0YOb7tG15iv.unikorea21?boardId=bbs_000000000000034&mode=view&cntId=31606&category=&pageldx=19.

35 Eleanor Albert, “What to Know About Sanctions on North Korea,” Council on Foreign Relations, July 16, 2019, <https://www.cfr.org/backgrounder/what-know-about-sanctions-north-korea>.

36 These policy actions are counter to effective implementation methods outlined in Hufbauer et al., *Economic Sanctions Reconsidered*, 162–72.

37 “Lux and Loaded: Exposing North Korea’s Strategic Procurement Networks” (Washington D.C.: C4ADS, 16 July 2019), 16, <https://static1.squarespace.com/static/566ef8b4d8af107232d5358a/t/5d307a43bf42140001877def/1563458128965/Lux+%26+Loaded.pdf>.

38 Security Council Resolution 2094, “Non-Proliferation/Democratic People’s Republic of Korea,” S/RES/2094, (7 March 2013); Security Council Resolution 2270, “Non-Proliferation/Democratic People’s Republic of Korea,” S/RES/2270, (2 March 2016); Security Council Resolution 2321, “Non-Proliferation/Democratic People’s Republic of Korea,” S/RES/2321, (30 November 2016).

39 “Lux and Loaded,” 16.

Third, the nature of North Korea as a hard target state hinders the effectiveness of negative economic sanctions. A hard target is an authoritarian regime that “can repress and impose costs on their populations—and may even be incentivised to do so by sanctions.”⁴⁰ North Korea’s system of political repression and surveillance has proven essential in imposing costs of sanctions on the population, resulting in increased levels of food insecurity among the most vulnerable populations.⁴¹ Entrenched repression mechanisms will ensure that North Korea is vulnerable only in the narrowest of circumstances.⁴² Current sanctions, as elucidated above, are currently too wide in scope and lack sufficiently strong, unified enforcement mechanisms to be so narrowly targeted.

Finally, China has acted as a political and economic lifeline for the North Korean regime on the global stage. At the United Nations, China hesitated in applying strict sanctions on the Kim regime, only capitulating under the appeal of the international community after Beijing’s efforts to handle the issue failed.⁴³ Though Beijing has approved increasingly stringent sanctions, it “is the umbilical cord that keeps North Korea alive” and works to illicitly provide North Korea with sanctioned goods to stave off the collapse of the North Korean regime.⁴⁴ Beijing is willing to take on major political and economic costs to ensure that North Korea is minimally impacted by international sanctions, providing a critical lifeline the Kim regime can use as it defies the pressure of international sanctions.

A Better Strategy: Positive Sanctions and North Korea

Where negative sanctions have failed to coerce North Korea, the use of positive sanctions in the form of catalytic carrots presents an opportunity to push Pyongyang to take concrete steps toward denuclearisation. China and South Korea can use their unique position and interests to leverage projects such as the institutionalisation of cross-border trade, the Kaesong Industrial Complex, and lowering barriers to tourism to and from North Korea. Meanwhile, the United States can leverage its position to push for a regional peace regime, such as the creation of a regional peace institution and rebalancing of troop presence on the Korean Peninsula. Effectively coordinating these projects as inducements for positive steps toward denuclearisation provide the Kim regime with the economic and political resources to offset the costs of denuclearisation.

But if the effect of catalytic carrots relies on the pre-eminence of reformers in power—a trend unseen in North Korea—then why would the use of catalytic carrots be effective

40 Stephan Haggard and Marcus Noland, *Hard Target: Sanctions, Inducements, and the Case of North Korea*, Studies in Asian Security (Stanford: Stanford University Press, 2017), 6.

41 Anna Fifield, “Sanctions Are Hurting Aid Efforts — and Ordinary People — in North Korea,” *Washington Post*, 16 December 2017, https://www.washingtonpost.com/world/asia_pacific/sanctions-are-hurting-aid-efforts--and-ordinary-people--in-north-korea/2017/12/15/df57fe6e-e109-11e7-b2e9-8c636f076c76_story.html.

42 Haggard and Noland, *Hard Target*, 6–7.

43 For a good examination of the impact of China’s hesitance to approve international sanctions, see Mu Ren, “China’s Non-Intervention Policy in UNSC Sanctions in the 21st Century: The Cases of Libya, North Korea, and Zimbabwe,” *Ritsumeikan International Affairs* 12 (2014): 120–26.

44 Scott Snyder made this observation in a podcast episode and is quoted in Uri Friedman, “Why China Isn’t Doing More to Stop North Korea,” *The Atlantic*, 9 August 2017, <https://www.theatlantic.com/international/archive/2017/08/north-korea-the-china-options/535440/>; James M. Lindsey, Scott A. Snyder, and Robert McMahon, *The President’s Inbox: North Korea*, The President’s Inbox (Washington D.C.: The Council on Foreign Relations, 2017), <https://www.cfr.org/podcasts/presidents-inbox-north-korea>.

in North Korea? First, Kim Jung-un's inner circle still features some powerful reform minded individuals who may be influenced by showing how this proposal can provide North Korea the ability to generate domestic growth.⁴⁵ Kim Jung-un also has incentives to ensure catalytic carrots are successful. A major portion of Kim's guiding policy—the byongjin line—is the growth of the economy. Since a critical part of this plan is providing North Korea the ability to grow on its own, Kim Jung-un himself may be influenced by the promises of economic growth emanating from this proposal.

In order to receive the benefits outlined in our proposal, North Korea must take concrete steps toward denuclearisation. While complete denuclearisation may be unachievable, this proposal can provide the political room for North Korea to make three major concessions. First, the regime must agree to cease all nuclear production at the Yongbyon Nuclear Scientific Research Centre, a critical reactor within North Korea's weapons program, in a verifiable manner. Second, North Korea must cease all missile and nuclear testing in accordance with its commitments to reduce hostilities on the Korean Peninsula laid out in the 2018 Panmunjom Declaration.⁴⁶ Finally, North Korea must enter into an agreement with the interested parties to facilitate the sharing of data and verification inspections of suspected nuclear sites within North Korea.⁴⁷ Key to this proposal's success is pushing for concrete reductions in North Korea's nuclear weapons production abilities over seeking the complete surrender of Pyongyang's entire nuclear arsenal.

Critical to implementing this proposal is ensuring the active participation of the North Korean regime. Such a task may be difficult for two reasons. First, the North Korean regime may see such a project as the start of a policy centred on regime change. North Korea has strongly opposed perceived attempts at regime change by the United States.⁴⁸ Second, the Kim regime is likely to be ideologically opposed to such a proposal. As Han Park has noted, North Korea's guiding ideology, Juche, places militant nationalism as a central component and, under such a nationalistic drive, calls the North Korean state the chosen land.⁴⁹ North Korea's elite may see such a proposal as putting North Korea in a situation where economic interaction with the outside world is the only path to survival.

45 A key reformer within the North Korean system is Park Pong-ju.

46 For an analysis and text of the sections North Korean missile testing violates, see Benjamin Zimmer, "Did North Korea Violate International Agreements?," *Charged Affairs*, 17 June 2019, <https://chargedaffairs.org/did-north-korea-violate-international-agreements/>; "Panmunjom Declaration for Peace, Prosperity and Unification of the Korean Peninsula," Ministry of Foreign Affairs, Republic of Korea, 27 April 2018, http://www.mofa.go.kr/eng/brd/m_5478/view.do?seq=319130&srchFr=&%3BsrchTo=&%3BsrchWord=&%3BsrchTp=&%3Bmulti_itm_seq=0&%3Bitm_seq_1=0&%3Bitm_seq_2=0&%3Bcompany_cd=&%3Bcompany_nm=&page=1&titleNm=.

47 A good verification framework to adapt to the Korean situation is the Strategic Arms and Limitation Treaty between the United States and the Soviet Union. This treaty offered detailed data sharing and verification from both parties and it is reasonable that all four parties—South Korea, the United States, North Korea, and China—play some role in such a data sharing and verification regime. "Treaty between the United States of America and the Union of Soviet Socialist Republics on Strategic Offensive Reductions (START I)," Nuclear Threat Initiative, 26 October 2011, <https://www.nti.org/learn/treaties-and-regimes/treaties-between-united-states-america-and-union-soviet-socialist-republics-strategic-offensive-reductions-start-i-start-ii/>. However, such an agreement will require all sides to build trust in one another's reporting. Therefore, the agreement should work to build trust as a critical first step then expand the nature of the information included in each report. Wyn Q. Bowen, Hassan Elbahtiny, Christopher Hobbs, and Matthew Moran, *Trust in Nuclear Disarmament* (New York: Palgrave MacMillan), 75–98.

48 See for example "KCNA Blasts U.S. Attempt at 'Regime Change' in DPRK," KCNA Watch, 8 June 2005, <https://kcnawatch.org/newstream/>.

49 Han S Park, *North Korea: The Politics of Unconventional Wisdom* (Boulder: Lynne Rienner, 2005), 31.

Our proposal can address these concerns head on. First, since the proposal relies on the use of catalytic carrots, the nations involved will have a stake in ensuring the longevity of the Kim regime. After all, the implementation of catalytic carrots will seek to “alter the more objectionable policies of a regime whose demise does not seem imminent” and relies on the target regime’s ability to maintain its position and power.⁵⁰ Therefore, our proposal must come with verbal and concrete security assurances to the Kim regime.⁵¹ Second, the Kim regime can pass off a variety of policies based on their national interests under the Juche ideology. For example, Kim Il-sung passed off North Korea’s reliance on the Soviet Union by arguing that it was in the best interests of the regime and the state.⁵² Our proposal provides North Korea with a different opportunity; by investing in infrastructure and trade, North Korea’s interactions with the outside world will provide the material structure needed for North Korea to generate domestic growth, minimising the political and economic impact of North Korea’s interaction with the capitalist enemy.

China

China has consistently demurred the expansion of nuclear weapons production in North Korea. However, Beijing also works to maintain the political and economic stability of North Korea while dissuading the Kim regime from expanding its nuclear weapons program.⁵³ On the global stage, China has signalled its opposition to North Korea’s continued production of nuclear weapons by voting in favour of stronger multi-lateral sanctions while also going around those sanctions to ensure North Korea does not collapse.⁵⁴ China, however, can better leverage its interests by working to promote and institutionalise the Sino-North Korean economy as a positive sanction for concrete steps toward denuclearisation by the Kim regime.

With the North Korean state unable to provide food to the neediest of citizens, a robust, decentralised cross-border barter economy developed as a coping mechanism for small-scale social units in North Korea. This informal trade between China and North Korea continues to grow despite stronger sanctions being imposed by the UNSC.⁵⁵ The Chinese government encourages the growth of these economic ties by providing diplomatic support, contributing to infrastructure projects, and providing foreign capital

50 Miroslav Nincic, “Carrots, Sticks and Domestic Politics,” *Global Asia* 8, no. 2 (Summer 2013): 16.

51 This is the foundation of the American role in this framework. By restructuring its position on the Korean peninsula, the United States removes some of insecurity of the Kim regime by changing the nature of the conflict to a purely Korean conflict and pushing for a formal end to the Korean War.

52 Victor D Cha, *The Impossible State: North Korea, Past and Future*, Updated Edition (New York: Ecco, 2018), 41; Don Oberdorfer and Robert Carlin, *The Two Koreas: A Contemporary History*, 3rd ed. (New York: Basic Books, 2014), 122.

53 Jian Cai, “The Korea Nuclear Crisis and the Changing Sino-DPRK Relationship,” *Asian Perspective* 34, no. 1 (2010): 153.

54 Over the past few years, China has used illicit ship-to-ship transfers as a method to get sanctioned products such as oil to North Korea to assuage some pressure from strengthening UNSC sanctions. Michael R. Gordon and Chun Han Wong, “Six Chinese Ships Covertly Aided North Korea. The U.S. Was Watching,” *Wall Street Journal*, 19 January 2018, <https://www.wsj.com/articles/six-chinese-ships-covertly-aided-north-korea-the-u-s-was-watching-1516296799>; Colin Zwirko, “U.S. Releases New Imagery of North Korea-Linked Illicit STS Oil Transfers,” *NK News*, 27 October 2018, <https://www.nknews.org/2018/10/u-s-releases-new-imagery-of-north-korea-linked-illicit-sts-oil-transfers/>.

55 Stephan Haggard and Marcus Noland, “Networks, Trust and Trade: The Microeconomics of China-North Korea Integration,” *Asian Economic Journal* 32, no. 3 (September 2018): 278–79.

and aid to North Korea.⁵⁶ Continuing to expand this cross border trade can put China in a unique position to ensure the economic stability of North Korea by leveraging its ability to work within North Korea in ways that other states are unable to and provide stronger opportunities for businesses to expand into a largely uncompetitive market.

Chinese investors operating within the cross-border economy, however, must work in a fundamentally unstable environment. They, therefore, must incur large risks when working in North Korea. For example, investors must deal with North Korean partners who underdeliver, terrible infrastructure within North Korea, low worker quality and operational structure, as well as operating where the government can arbitrarily make personnel and policy changes that can greatly impact the efficiency of Chinese investment.⁵⁷ At home, the Chinese government may also crackdown on cross border trade to enforce sanctions, causing delays of even legal goods at the border.⁵⁸ Because of these risks, Chinese investors and businesses operating within this informal economy tend to minimise their presence—both physical and social—within North Korea.⁵⁹ Such an operational environment hinders the effectiveness of cross-border trade in promoting new avenues for economic engagement within North Korea.

China, by leveraging its political and economic resources, can work to address these concerns in exchange for positive steps toward denuclearisation by North Korea. This strategy can be undertaken in three critical steps. First, the Chinese government can work to establish a uniform enforcement strategy, including a list of goods, such as food stuffs and textiles, which can cross the border with ease. This will alleviate delays of legal exports and streamline the process for Chinese businessmen looking to sell within North Korea. Second, provincial governments, backed by the political support of the central government, can work to establish dispute resolution institutions and mechanisms. These mechanisms must be co-administered by Chinese and North Korean officials and provide fair and transparent dispute resolution processes. This will make these institutions effective at addressing investment concerns and provide Chinese businesses with expanded, less risky investment opportunities within North Korea. Finally, the Chinese government can invest more in infrastructure projects which make transportation of goods across the border easier. To ensure the quality of the infrastructure, the Chinese government can work with the North Korean government to update infrastructure on both sides of the border.

Outside of cross border trade, the Chinese government can work to make tourism between North Korea and China easier and more affordable. In 2019, a conservative estimate shows that Chinese tourism to North Korea generated around \$175 million for the Kim regime.⁶⁰ North Korean tourism to China can also promote growth. In 2012, for example, North Korean tourism to Dandong Province alone generated 56 million RMB for the Chinese

56 James Reilly, "China's Economic Engagement in North Korea," *The China Quarterly* 220 (December 2014): 917.

57 Justin V. Hastings and Yaohui Wang, "Informal Trade Along the China–North Korea Border," *Journal of East Asian Studies* 18, no. 2 (July 2018): 183.

58 Ibid, 185.

59 Ibid, 189–90.

60 Chad O'Carroll, "As Chinese Tourism to North Korea Soars, Local Operators Feel the Strain," *NK News*, 31 October 2019, <https://www.nknews.org/2019/10/as-chinese-tourism-to-north-korea-soars-local-operators-feel-the-strain/>.

economy.⁶¹ Not only does expanding cross-border tourism provide avenues for economic growth, it also helps to promote cultural exchange between two allies. Tourism can act as another lever to generate and expand the cross-border economy as a positive sanction.

Promoting the cross-border economy as a positive sanction provides China the ability to effectively leverage its interest in a stable North Korea to push for denuclearisation. By leveraging its political and economic resources to expand cross-border trade, China provides North Korea with much needed investment opportunities and infrastructure upgrades in exchange for positive steps toward denuclearisation. Expanding cross border tourism also provides strong economic connections between the two countries, as well as an avenue for cultural exchange, increasing the stakes both Beijing and Pyongyang have in promoting stability in East Asia. Implementing this strategy provides China the opportunity to work toward an economically more stable North Korea while also continuing to pressure North Korea to cease the expansion of its nuclear program.

South Korea

South Korea “maintains a strong interest in ensuring that diplomacy on the Korean peninsula continues and is effective” since North Korea’s belligerence impacts South Korea.⁶² For example, Pyongyang maintains a strong conventional military which can wreak havoc early in a conflict scenario.⁶³ South Korean financial institutions have been the victim of at least ten highly sophisticated cyber-attacks meant to generate income for the Kim regime.⁶⁴ Just like China, South Korea has an acute interest in the economic stability of North Korea as it assuages fears of an expensive hard-landing unification.⁶⁵ Seoul can effectively leverage its economic interests in North Korea by pursuing three main economic and infrastructure projects.

First, South Korea can work with North Korea to reopen the Kaesong Industrial complex to provide material and cultural incentives for continued steps toward denuclearisation. The complex provided a variety of economic and cultural benefits for both South and North Korea. At its height, the Kaesong Industrial Complex played host to over 100 South Korean Companies with combined revenues of over \$500 million. The complex also employed 55,000 North Koreans.⁶⁶ North Korea also gained access to much needed hard

61 Jie Yang, Liyan Han, and Guangyu Ren, “China-to-North Korea Tourism: A Leisure Business on a Tense Peninsula,” *North Korean Review* 10, no. 2 (1 September 2014): 61.

62 Benjamin Zimmer, John Ashley, and Johnathan Sutte, “In Kim’s Neighborhood: Regional Actors and US-DPRK Diplomacy,” *Charged Affairs*, 27 June 2020, <https://chargedaffairs.org/in-kims-neighborhood-regional-actors-and-us-dprk-relations/>.

63 See Elanor Albert, “North Korea’s Military Capabilities,” *CFR Backgrounder*, last updated 19 December 2019, <https://www.cfr.org/backgrounder/north-koreas-military-capabilities> and Prakash Menon and PR Shankar, “North Korea’s Artillery: Could Kim’s ‘Big Guns’ Destroy Seoul?” *The National Interest*, 5 December 2019, <https://nationalinterest.org/blog/buzz/north-koreas-artillery-could-kims-big-guns-destroy-seoul-101837>.

64 J Park, N Rowe, and M. Cisneros, “South Korea’s Options in Responding to North Korea’s Cyber Attacks,” *Journal of Information Warfare* vol. 15 no. 4 (Fall 2016), 88-90.

65 Under a hard-landing unification scenario, North and South Korea reunify after an unexpected collapse of the Kim regime. This scenario is typically this scenario is prohibitively expensive and, therefore, is avoided at all costs. Jacques L. Fuqua, *Korean Unification: Inevitable Challenges*, (Washington, D.C: Potomac Books, 2011), 6. For a good examination of the fears surrounding this scenario, see Rüdiger Frank, “Challenging the Korean Fear of High Costs: German Unification as an Economic Win-Win Situation,” in Cornelia Storz and Markus Taube ed., *Firms, Institutions, and the State in East Asia: A Festschrift in Honour of Werner Pascha*, (Maburg: Metropolis-Verlag, 2020), 358-360.

66 “The Case for Kaesong: Fostering Korean Peace through Economic Ties,” Asia Report (Brussels: International Crisis Group, 24 June 2019), 8.

currency. By locating production at the complex, South Korean companies were able to lower production costs without sacrificing productivity. Kaesong also provided a point of regular contact and engagement between South and North Koreans.⁶⁷ By leveraging the reopening of the Kaesong Industrial Complex, South Korea can use the possibility of long-term economic growth to push for concrete steps toward denuclearisation.

Though the complex is beneficial, it does come with operational and political baggage. Draconian social control laws in North Korea “strictly limited interactions between North Korean labour and South Korean managers” creating various operational inefficiencies.⁶⁸ Labour at the complex is also prevented from unionising and, therefore, can fall victim to unfair practices. Politically, the complex has alleged ties to North Korea’s nuclear and missile programs; in 2016, the Park Geun-hye administration unilaterally closed the complex under unverified assertions that salaries were diverted to the nuclear program.⁶⁹ Despite these weaknesses, the long-term growth promised by the complex makes the benefits outweigh the costs.

Second, South Korea can work to promote inter-Korean tourism as a way to “promote peace, advance efforts at denuclearisation, and increase US and South Korean leverage at the negotiating table.”⁷⁰ Increasing inter-Korean travel as a reward can provide North Korea with much needed currency, jobs, and promote cultural exchange.⁷¹ A central project for promoting inter-Korean tourism is the reopening of the Mount Kumgang Tourist Region to South Korean tourists. After all, between 1998 and 2008, the resort played host to close to 2 million South Koreans and reportedly provided North Korea with a guaranteed minimum of \$150 million per year.⁷² Central to this project is ensuring that operations at the tourist site are jointly managed by both Koreas as a way to promote cultural exchange across the 38th parallel. If executed properly, resuming tourism to Mount Kumgang can provide both Koreas with an incentive to maintain stability in the region and push closer to a completely denuclearised peninsula.

Like the Kaesong Industrial Complex, however, reopening the Mount Kumgang Resort will face three key political hurdles: 1) North Korea must work to ensure that tourists to the Mount Kumgang region will be safe; 2) South Korea must convince Kim Jung-un that tourism to the region is beneficial for North Korea and; 3) both Koreas need to show how foreign investment in tourism to Mount Kumgang can be beneficial for maintaining

67 Ibid, 9–14.

68 Ibid, 15.

69 Catherine Putz, “Closing Kaesong: South Korea Withdraws from Joint Industrial Park,” *The Diplomat*, 11 February 2016, <https://thediplomat.com/2016/02/closing-kaesong-south-korea-withdraws-from-joint-industrial-park/>.

70 Choi Moon-soon, “The Key to Unlocking Peace with North Korea for the United States Is Cross-Border Tourism,” *CNN*, 23 August 2020, <https://www.cnn.com/2020/08/23/opinions/north-korea-united-states-peace-intl-hnk/index.html>.

71 According to a report prepared by South Korea’s National Assembly Budget Office, close to 90% of those awarded visas to travel to North Korea were either students or professors, enhancing the educational impact of resort and providing more nuanced educational opportunities to learn about North Korea. “Evaluation of the Mount Kumgang Tourist Complex,” Important National Policy and Business Evaluation Report, (National Assembly Budget Office, September 2005), 15.

72 “Kumgang Mountain and Kaesong Tourist Statistics, 1998-2008,” (Seoul: Korean Statistical Information Service), accessed 24 August 2020, http://kosis.kr/statHtml/statHtml.do?orgId=103&tblId=TX_10301_A002&conn_path=I2; Marcus Noland, “Between Collapse and Revival: A Reinterpretation of the North Korean Economy,” Peterson Institute for International Economics, 15 March 2001, <https://www.piie.com/commentary/speeches-papers/between-collapse-and-revival-reinterpretation-north-korean-economy>.

stability in the region.⁷³ Though difficult, these hurdles are not insurmountable and the positive impacts of the Kumgang Tourist Complex for both Koreas and the region make the resort optimal for use as a positive inducement for continued advancements toward denuclearisation.

Finally, the most complex project South Korea can leverage as a positive sanction is the construction of an inter-Korean railroad connecting the Korean peninsula to the rest of Asia. The creation of the railroad will involve a massive update to the current railroad system in North Korea. According to reporting, the construction of the inter-Korean railroad will involve modernising at least six railways in North Korea and adding a high-speed rail line from Seoul to Sinuiju through Pyongyang. Such modernisation will ensure railways can carry heavy loads at higher speeds through North Korea and connect the Koreas to both the Trans-Siberian Railway and China's One Belt One Road, expanding trading options while lowering transportation costs.⁷⁴ Connecting the Korean peninsula to the rest of the continent will, therefore, incentive both Russia and China to ensure that trains run smoothly through North Korea.

Though a complicated and expensive project—some reports estimate the cost at USD\$33.7 billion—the project can build on previous political groundwork laid over the past two decades.⁷⁵ In June 2000, the two Koreas agreed to repair two major severed railways as part of a major engagement strategy.⁷⁶ Between 2000 and 2005, the two Koreas held 14 working level meetings in which the connection of inter-Korean railways was discussed.⁷⁷ By late 2007, regular freight rail services connecting the South Korean town of Musan to the Kaesong Industrial Complex in North Korea started.⁷⁸ Though the project showed promise, it stalled for close to a decade. Since 2018, the Moon Jae-in administration in South Korea has fought to restart the project despite political objections and sanctions violation concerns.⁷⁹ To use the project as a positive sanction, South Korea can attach

73 Scott A. Snyder, "The Real Obstacles to the Return of Tourists to North Korea's Mount Kumgang," Council on Foreign Relations, 28 February 2020, <https://www.cfr.org/blog/real-obstacles-return-tourists-north-koreas-mount-kumgang>.

74 S. Nathan Park, "Why a Joint Inter-Korean Railway Survey Matters," *NK News*, 5 December 2018, <https://www.nknews.org/2018/12/why-a-joint-inter-korean-railway-survey-matters/>.

75 Yosuke Onchi, "Inter-Korean Railway Diplomacy Sidetracked by Sanctions," *Nikkei Asian Review*, 27 December 2018, <https://asia.nikkei.com/Spotlight/N-Korea-at-crossroads/Inter-Korean-railway-diplomacy-sidetracked-by-sanctions>.

76 The two railways were the Gyeonggi and Donghae Lines. Don Oberdorfer and Robert Carlin, *The Two Koreas: A Contemporary History*, 3rd ed. (New York: Basic Books, 2014), 339. Dae-Kyu Yoon and Moon-Soo Yang, "Inter-Korean Economic Cooperation for North Korean Development: Future Challenges and Prospects," *Asian Perspective* 29, no. 3 (2005): 13.

77 Yoon and Yang, "Inter-Korean Economic Cooperation for North Korean Development," 12.

78 Choe Sang-Hun, "Regular Freight Rail Service Starts Between 2 Koreas," *The New York Times*, 12 December 2007, <https://www.nytimes.com/2007/12/12/world/asia/12korea.html>.

79 Political questions in South Korea have centred on the cost of the project and who is paying. Previous surveys for the railroad have required sanctions exemptions, raising the possibility at least one will be needed for the full project. Chung Min Lee and Kathryn Botto, "President Moon Jae-in and the Politics of Inter-Korean Détente," *Korean Strategic Review* 2018 (Washington D.C.: Carnegie Endowment for International Peace, 2018), 5; Sung-mi Ahn, "Seoul Moves Forward with Inter-Korean Railway Project," *The Korea Herald*, 23 April 2020, <http://www.koreaherald.com/view.php?ud=20200423000743>; Christy Lee, "Proposed Inter-Korean Projects Could Violate UN, US Sanctions," *Voice of America*, 19 September 2018, <https://www.voanews.com/east-asia/proposed-inter-korean-projects-could-violate-un-us-sanctions>; Victor Cha and Joseph S. Bermudez, "Making Solid Tracks: North and South Korean Railway Cooperation," *Beyond Parallel*, 10 December 2018, <https://beyondparallel.csis.org/making-solid-tracks-north-and-south-korean-railway-cooperation/>.

stipulations before raising the possibility of an exemption for the project to ensure North Korea must take verifiable steps toward denuclearisation before construction starts.

All three of these project present North Korea with the possibility for long-term growth by providing the North Korean regimes with jobs for the population, increased tourism, and expanding trade options for North Korea. By leveraging these projects as positive sanctions, South Korea can provide material inducements to North Korea for continued steps toward denuclearisation. In short, these projects can provide North Korea with a solid set of economic incentives to offset the shift toward denuclearisation.

The United States

The Korean peninsula offers the United States “dramatically contrasting opportunities for dangers to U.S. interests in Northeast Asia.”⁸⁰ The failure of Washington’s current policy of “maximum pressure,” the use of harsh sanctions to coerce the Kim regime, alongside verbal security assurances highlights the greatest opportunity: using positive sanctions to compel North Korea to denuclearise and promote stability and peace within the region. After all, the threat of a nuclear armed North Korea has lingered for over a decade and stability on the Korean peninsula is beneficial for American trade relations in East Asia and can result in a less aggressive force structure in the region.⁸¹ But how, if the current strategy of maximum pressure and security guarantees has been ineffective in coercing North Korea, can the United States use positive sanctions to push North Korea down the path of denuclearisation?⁸² In short, the United States can leverage its security interests to implement a strategy built around shifting the operational environment on the Korean peninsula to minimise tensions and, ultimately, put an end to the Korean War.

A positive sanctions strategy leveraging American security interests must be built around three main pillars. First, the United States can work to transfer Wartime Operational Command (OPCON) of United Nations Forces in South Korea. The United States has retained OPCON of United Nations Forces since 1950 and the transition of command has been hindered by political and security issues, such as the growing threat of North Korea and South Korea’s military capabilities.⁸³ The Moon administration seeks to complete the transfer of OPCON by 2022 and outlined a possible path to address such issues.⁸⁴

80 Scott A. Snyder, “U.S. Policy Toward the Korean Peninsula,” Independent Task Force Report (New York: Council on Foreign Relations, 2010), 3.

81 See, for example, William C. Triplett, *Rogue State: How a Nuclear North Korea Threatens America* (Washington, D.C: Regnery Pub, 2004); Joel S. Wit, Daniel Poneman, and Robert L. Gallucci, *Going Critical: The First North Korean Nuclear Crisis* (Washington, D.C: Brookings Institution Press, 2004); Charles L. Pritchard, *Failed Diplomacy: The Tragic Story of How North Korea Got the Bomb* (Washington, D.C: Brookings Institution Press, 2007); Leon V. Sigal, *Disarming Strangers: Nuclear Diplomacy with North Korea*, (Princeton: Princeton University Press, 1999). Mike Chinoy, *Meltdown: The Inside Story of the North Korean Nuclear Crisis*, (New York: St. Martin’s Press, 2008).

82 For a good summary on the effectiveness of the maximum pressure campaign, see Van Jackson, *On the Brink: Trump, Kim and the Threat of Nuclear War* (New York: Cambridge University Press, 2019), 200–202. Generally, American security guarantees have been verbal in nature with minimal policy shifts alongside these guarantees. For a good table of previous American guarantees to North Korea, see Victor D Cha, *The Impossible State: North Korea, Past and Future*, Updated Edition (New York: Ecco, 2018), 307–14.

83 Victor D Cha, *Powerplay: The Origins of the American Alliance System in Asia* (Princeton: Princeton University Press, 2018), 117–20; Oberdorfer and Carlin, *The Two Koreas*, 391–92.

84 Johannes Nordin, “Taking Back Control: South Korea and the Politics of OPCON Transfer,” Institute for Security and Development Policy, January 2020, <https://isdp.se/publication/taking-back-control-south-korea-and-the-politics-of-opcon-transfer/>.

If North Korea is willing to take steps to reduce the conventional and nuclear threat on the Korean peninsula, then the United States should push to maintain the OPCON transfer deadline outlined by the Moon administration.

Second, Washington can implement a phased troop reduction and restructure of American forces in Korea and East Asia more broadly. This reduction can be completed by in three critical phases. First, the United States can work to bolster the military-industrial complex in South Korea to better equip the South Korea military to defend itself. Second, the United States can work to restructure its troop presence—including restationing of troops within South Korea and the region—to minimise America’s physical troop presence at the demilitarised zone. Finally, the United States can start working on a phased troop withdrawal from South Korea. Such a withdrawal can, as political scientist Van Jackson argues, “scale back the overall size and composition” of American troops “without necessarily compromising the security of South Korea.”⁸⁵ In fact, implementing a troop withdrawal in this way will ensure South Korea can more effectively defend itself before American troops start leaving the peninsula.

The third pillar of this strategy is working to install a peace regime within the East Asia region that includes North Korea. The United States can start this process by finalising a peace treaty and formally bringing the Korean War to an end. Then, Washington can work with other regional partners to determine the role of the United Nations Command in Korea and seek to construct a stronger, more robust multilateral institution to promote peace.⁸⁶ A critical aspect of any new institution is the inclusion of North Korea. Such a construct will ensure the Kim regime is granted a stake in maintaining long-term stability and peace in East Asia for continued steps toward denuclearisation.

This strategy provides long lasting security benefits for the United States and the region. First, it ensures that South Korea is able to domestically defend itself from threats emanating from anywhere in the world with stronger military production capabilities. Second, a restructure of American involvement in the region ensures that United States engagement goes deeper than the threat from North Korea. Finally, North Korea will have a greater stake in maintaining regional stability and peace, greatly increasing the costs of Pyongyang’s belligerence and defiance of regional norms. These benefits will come at low to moderate cost to the United States.⁸⁷

Conclusion: Implementing Our Proposal

The proposal outlined above is politically and economically ambitious in nature. Politically, it will require the buy in of three major stakeholders whose interests, though somewhat aligned on denuclearisation, are not entirely similar. It also requires the active participation of the North Korean regime. Therefore, a neutral party or institution will have to act as the coordinator and implementer of the agreed upon proposal. The Neutral Nations Supervisory Commission, established by the Korean War Armistice Agreement in

85 Van Jackson, “Risk Realism: The Arms Control Endgame for North Korea Policy” (Washington D.C.: Centre for a New American Security, September 2019), 13.

86 Ibid, 13.

87 Our cost analysis is based on the one put forward by Van Jackson. Ibid, 13.

June 1953, remains the most likely party to play such a role. After all, the Commission remains the only legal instrument to avoid conflict on the Korean peninsula and has experience investigating and mediating inter-Korean disputes with a focus on building transparency and trust on all sides.⁸⁸

Economically, this proposal will require the mobilisation of massive amounts of resources. The construction of the inter-Korean railroad alone will cost over \$30 billion dollars.⁸⁹ The cost of other infrastructure projects—the Kaesong Industrial Complex and projects across the China-North Korea border—can run even higher and require major shifts in economic policies.⁹⁰ To better offset the economic costs of this proposal, each party should work to incentive private sector investment. These incentives can take the form of reduced taxes for private sector investors and partial loans by public entities to offset some of the risk incurred by private investors. Governments can also award contracts in a competitive process through which they can provide even greater incentives to invest in North Korea. Not only will this work to reduce the economic burden on public sector institutions, it also will spur competition and increase the incentives for investors to work in North Korea.

Though ambitious in nature, this proposal is not entirely new. After all, the United States has attempted to remove or rebalance American troops on the Korean peninsula multiple times. Since 2000, China also inconsistently put resources—both political and economic—behind expanding cross-border trade and economic ties with North Korea.⁹¹ The Kaesong Industrial Complex and the Mount Kumgang Resort played a critical role in South Korea’s Sunshine Policy which attempted to compel North Korea to denuclearise. Our proposal can use this groundwork as a basis for starting negotiations. All the stakeholders, however, must insist that North Korea continues to make measured and verifiable steps toward denuclearisation to ensure this strategy rewards the regime for positive behaviour.

Despite having a political history, this proposal will face strong political opposition at the outset. Conservative political leaders in the United States and South Korea likely will object on the grounds that this proposal “merely subsidize(s) the North’s dictatorship” as they argued when opposing other, less ambitious deals.⁹² Broader opposition will argue that such a proposal fuels “the Neronian lifestyle of the Kim court” and express fears that the Kim regime could launder the money generated by the new investment to expand its nuclear arsenal.⁹³ Such opposition will most likely be strong in the initial stages of the proposal and, therefore, must be addressed if the proposal is to succeed.

88 “2019 Joint Statement by Neutral Nations Supervisory Commission Member States,” Regeringskansliet, 27 March 2019, <https://www.regeringen.se/uttalanden/2019/03/2019-joint-statement-by-neutral-nations-supervisory-commission-member-states/>.

89 Onchi, “Inter-Korean Railway Diplomacy Sidetracked by Sanctions.”

90 To promote businesses to produce products at the Kaesong Industrial Complex, South Korea had to provide loans to private companies and lower the tax rate for companies who operate at the complex. Mark E Manyin and Dick K Nanto, “The Kaesong North-South Korean Industrial Complex” (Washington D.C.: Congressional Research Service, 18 April 2011), 5–6, <https://fas.org/sgp/crs/row/RL34093.pdf>.

91 Reilly, “China’s Economic Engagement in North Korea,” 917–19.

92 John R Bolton, *The Room Where It Happened: A White House Memoir* (New York: Simon and Schuster, 2020), 30.

93 Robert E. Kelly, “Money: The One Thing America Could Give to North Korea to Denuclearize?,” *The National Interest*, 5 June 2019, <https://nationalinterest.org/blog/korea-watch/money-one-thing-america-could-give-north-korea-denuclearize-61162>.

In addressing this opposition, it is essential that this proposal is grounded in the current sanctions regime and has the requisite punishment mechanisms to ensure violations can be addressed. This can be accomplished with two measures. First, all projects must acquire the requisite sanctions waivers from the United Nations. These waivers must come with clauses which require the revaluation of the waiver to ensure North Korea is maintaining the progress outlined in the original waiver. If any party is found to be in noncompliance, the original exemption will be suspended until the requisite changes are made to ensure compliance. If the changes are not made in a timely manner, the waiver will be revoked, forcing the parties to hammer out a new agreement before work on the project can continue.

Second, the Neutral Nations Supervisory Commission, as the executor of this agreement, must be granted powers to mediate and address concerns, including levying punishment for failure to comply with the agreement.⁹⁴ This will require the Commission to establish a transparent dispute settlement process which every dispute must go through. North Korea must also be able to bring concerns before the Commission and be ensured that its concerns will be addressed in as fair a manner as possible. Placing this power within the purview of the Neutral Nations Supervisory Commission ensures each dispute is settled within an institution which is not aligned or hostile with any party, increasing the effectiveness of the dispute settlement mechanisms.

The benefits of this proposal outweigh the costs, both political and economic, that will be incurred to pass it. By expanding investment in North Korea, South Korea and China actively work to expand the possibilities for North Korea and work to reintegrate it into the world economy. Rebalancing troops on the peninsula will ensure that the United States is working toward a lasting stability in East Asia. These two benefits will also provide the economic and political capital required for North Korea to make such a drastic political shift. Employing positive sanctions, though ambitious, can provide more material incentives to compel the North Korean regime to denuclearise while the continued use of negative sanctions will only push the Kim regime to continue expanding its nuclear arsenal.

94 This power only applies to the implementation of the deal overall. If there are disputes at an individual level between Chinese investors and North Korean businesses, these would be delegated to the dispute mechanisms set up by China and North Korea as a part of revitalizing the cross-border economy.

The strange submarine saga: vital yet vexed

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“Our submarine capability underpins Australia’s credibility and influence as a modern military power. This is not about politics. This is not about partisanship. This is about the security and the future of our nation.”

Defence Minister Linda Reynolds, 2 July, 2020¹

“The consequences of the failure to manage the Future Submarine Program properly are profound. Australia is now faced with the most wicked problem. We have seen continuing delays in the build from [France’s] Naval Group...But any thought of ending the contract with Naval Group and pursuing another alternative would obviously be very expensive and involve enormous delay of itself. The Morrison Government has put Australia’s national security between a rock and a hard place.”

Deputy Labor leader and Shadow Defence Minister Richard Marles, August, 2020²

“The Japanese sub lacked range. The German sub lacked size. And the French sub lacked conventional power. But instead of changing what we wanted, we’ve decided—again—to bring an orphan submarine into being. Instead of taking a small Swedish submarine designed for the Baltic and seeking to double its size and range to make it suitable for the Pacific—as with the Collins—this time we’re proposing to take a French nuclear submarine and completely redesign it to work with conventional propulsion.”

Former Prime Minister Tony Abbott, June, 2017³

Both sides of Australian politics love what submarines offer Australia. Submarines are a fundamental element of the bipartisan consensus on defence. The love quickly becomes agony and angst when we turn to building the boats.

The strategic importance of the submarines is matched by their degree of difficulty. Vital yet vexed.

1 Linda Reynolds, “Speech—Australian Strategic Policy Institute”, Defence Minister, July 2, 2020. <https://www.minister.defence.gov.au/minister/lreynolds/speeches/speech-australian-strategic-policy-institute>

2 Richard Marles, “Address to the National Press Club”, Deputy Leader of the Australian Labor Party and Shadow Defence Minister, August 4, 2020. <https://www.richardmarles.com.au/wp-content/uploads/2020/08/20.08.04-address-to-the-national-press-club.pdf>

3 Tony Abbott, “Submarines: why settle for second best?”, Centre for Independent Studies. June 29, 2017. <https://www.cis.org.au/commentary/articles/transcript-the-hon-tony-abbot-mp-submarines-why-settle-for-second-best/>

For a couple of decades, the problems of the Collins class drove government to despair. In office, Labor and the Coalition hated the complexity and cost of Collins; the dud subs have slowly transformed into six beaut boats but the journey left deep scars on the political and defence classes.⁴ Collins was a wicked problem (complex interdependent problems with no “stopping rule”; solving one aspect leads to other problems).

Procuring the 12 Attack class boats is equally wicked. The cost of the largest defence procurement in Australia’s history has blown out to \$90 billion. The timelines stretch and the effort to get Australian industry to do the build is also a stretch.

Surveying this megaproject, one of Canberra’s sharpest umpires, the Australian National Audit Office, didn’t offer any recommendations, only “key messages”, in its January, 2020, performance audit.⁵ The dollar meter tells the story, as the ANAO recounts:

“In 2016 Defence reported the acquisition cost of the new submarines as more than \$50 billion (out-turned). In November 2019, Defence advised the Senate that the acquisition cost of the Future Submarine was ‘in the order of \$80 billion out-turned’, with an estimated sustainment cost of \$145 billion out-turned to 2080.”

“Out-turned” is Defence-speak for “accounting for inflation”. As it’s turning out, the dollars are blowing out. The \$80 billion figure quickly turned upwards.

The strategic force structure plan, released in July, 2020, upped the acquisition cost of the Attack boats to \$89.7 billion, in a forecast extending beyond 2040.⁶ The precision of that last \$700 million in the \$89.7 billion forecast, 20 years from now, is a nice touch—nearly \$90 billion, but not quite.

In the order of \$80 billion in November, 2019, becomes in the order of \$90 billion by July, 2020. A billion here, a billion there, and that’s another 10 billion. Truly, this is a very hungry future submarine.⁷

Defence deserves sympathy on timelines because of politics as well as complexity. In this telling, the figure of Tony Abbott, prime minister from 2013 to 2015, looms large. After overthrowing Abbott as PM, one of Malcolm Turnbull’s first meetings was with Defence Secretary Dennis Richardson to discuss what became the 2016 defence white paper. Turnbull writes:

“Dennis came straight to the point. ‘PM, you will by now have a copy of the draft Defence white paper. It’s a good piece of work. But part of it is complete and utter bullshit.’ Well, that got my attention. ‘It says,’ he continued, ‘that the future submarines can start to be delivered in the mid-2020s—so about ten years from now. That’s simply not possible. I told your predecessor this and he insisted that the 2020s date should go in and leave the problem for another government.’ I didn’t

4 Andrew Tillett, ‘Dud subs’ no more: Collins class removed from Defence Department list of concerns’, *Australian Financial Review*, October 3, 2017. <https://www.afr.com/politics/dud-subs-no-more-collins-class-removed-from-defence-dept-list-of-concerns-20171003-gyt5qc>

5 Australian National Audit Office, “Future submarine program—transition to design”, January 14, 2020. <https://www.anao.gov.au/work/performance-audit/future-submarine-program-transition-to-design>

6 Department of Defence, *2020 Force Structure Plan*, July 1, 2020. See Naval shipbuilding chart: https://www.defence.gov.au/StrategicUpdate-2020/docs/Factsheet_Naval_Shipbuilding.pdf

7 Andrew Davies and Marcus Hellyer, “The very hungry future submarine”, *The Strategist*, November 5, 2019. <https://www.aspistrategist.org.au/the-very-hungry-future-submarine/>

have to think too long about that—so I told Dennis we should include a completion date that matched reality, which was the early 2030s.”⁸

And so it was that the delivery date of the Attack boats shifted from the mid-2020s to the 2030s. A wicked problem, indeed.

The strange submarine saga of the past decade has significant sliding-door moments, when decisions were made (or surfaced) to become today’s reality, while other different futures didn’t get through the door (the possibilities that sank).

The Collins agony and the political choices of the past decade have shaped where we are now. Give this a personality: call it Industry Oz, expressing the determination to build our own boats, the road we have been trudging for 40 years. Industry Oz could have several versions, and some choices we have shunned or bungled look like valuable, missed opportunities.

Contrast Industry Oz with another personality that nearly walked through a different door to a different place: Customer Oz—buying the new submarines off-the-shelf overseas.

A future sliding-door possibility is a nuclear-propulsion sub: Nuke-Powered Oz.⁹

The might-have-beens of Customer Oz and the what-ifs of Nuke-Powered Oz offer contrasts that illuminate the choices taken. The way Australia has pursued its partnership with France and Naval Group has hints of Customer Oz, thinking more like a buyer than a builder. The customer has discarded options in dealing with Naval Group that you would have expected a hard-headed Industry Oz to have kept available.

The flippant version of Customer Oz is that it would be cheap and cheerful. Australia would not be the builder, merely the buyer: sign the cheques, police the schedule and sail them home. We would have much less control over what we got, but the customer would off-load lots of angst and responsibility.

The serious version of Customer Oz is that it would be totally defence-driven, stripped of the ambitions and compromises of industry policy. The focus of Customer Oz would be the defence need in a darkening strategic era, operating within the parameters of quality and price. The spend would be defined by defence, not twinned with domestic economic imperatives.

Back in 2014, Customer Oz was our submarine future, and that future was Japanese.

A Japanese submarine

If Tony Abbott had lasted as PM, he would have aimed for that mid-2020s target for new boats by torpedoing the bipartisan consensus on building submarines in Australia. We know now that Abbott lasted two years as prime minister (2013–2015). In 2014, though, that would have been a bizarre prediction. Slip through the sliding door to see a different reality unfold.

⁸ Malcolm Turnbull, *A bigger picture*, Hardie Grant Books, Melbourne, 2020, p.338.

⁹ Peter Briggs, “Can Australia afford nuclear propelled submarines? Can we afford not to?”, ASPI Special Report, October, 2018. <https://www.aspi.org.au/report/can-australia-afford-nuclear-propelled-submarines-can-we-afford-not>

Over two elections (2010 and 2013), Abbott as opposition leader had clawed 25 seats from the Labor government. As the Liberal minister Christopher Pyne observes, the comeback Abbott engineered “was a remarkable achievement”.¹⁰ Stress that: *remarkable*. Abbott was only the fourth Liberal leader to take the party from opposition to government. The others were Robert Menzies, who stayed as PM for 17 years; Malcolm Fraser, PM for over seven years; and John Howard, who was PM for nearly a dozen years.

Political arithmetic and history suggested Abbott would be a two-to-three-term PM, delivering a Customer Oz future. Recall that in 2014, Abbott’s defence minister, David Johnston, declared he would not trust the government’s Australian Submarine Corporation “to build a canoe”.¹¹

That explosive “rhetorical flourish” was quickly disowned, but the Abbott government was paddling towards a Customer Oz outcome.¹²

Australia’s navy disliked the Japanese submarine, distrusting its technology and damning the boat’s range. In a different future where Abbott had lasted six to nine years as PM, Customer Oz would be today’s reality. We’d be working on our Japanese, not our French.

Abbott wanted submarines based on the Japanese Soryu class, designed and built in Japan.¹³ He embraced Japan’s Abe Shinzo as a kindred conservative spirit.¹⁴ Getting a Japanese-made sub would cement a quasi-alliance with Japan within the trilateral relationship with the US.¹⁵

Powerful arguments could have been mounted by Abbott: defence policy is too important to masquerade as industry policy. Every defence dollar must get the maximum bang for the buck. The Japanese sub would cost less and enter service quicker than an Australian build. Australia must move swiftly to deal with a deteriorating strategic outlook.

A couple of years after being deposed as PM, Abbott put the Customer Oz perspective this way: “Although surface ships can be cost-effectively produced here on a continuous build basis, the primary object of defence procurement has to be the most effective armed forces—not domestic job creation. We don’t build our jet fighters here, for instance, (although we do build parts for them) so why insist on a local build especially if there’s a big cost penalty?”¹⁶

10 Christopher Pyne, *The insider*, Hachette Australia, Sydney, 2020, p. 116.

11 Jonathan Gul, “Defence Minister says he ‘wouldn’t trust’ Australian Submarine Corporation to build a canoe”, *ABC News*, November 25, 2014. <https://www.abc.net.au/news/2014-11-25/johnston-wouldnt-trust-submarine-corporation-to-build-a-canoe/5917502>

12 David Wroe, Peter Hannan and Latika Bourke, “Defence Minister David Johnston ‘regrets’ his shipbuilder ‘canoe’ comments”, *The Sydney Morning Herald*, November 26, 2014. <https://www.smh.com.au/politics/federal/defence-minister-david-johnston-regrets-his-shipbuilder-canoe-comments-20141126-11u27i.html>

13 Graeme Dobell, “Tony Abbott and a Japanese sub”, *The Strategist*, May 25, 2015. <https://www.aspistrategist.org.au/tony-abbott-and-a-japanese-sub/>

14 Graeme Dobell, “What Australia will do with Japan”, *The Strategist*, December 6, 2013. <https://www.aspistrategist.org.au/what-will-australia-do-with-japan/>

15 Graeme Dobell, “The new relationship of Japan with Australia”, *The Strategist*, July 14, 2014. <https://www.aspistrategist.org.au/the-new-relationship-of-japan-and-australia/>

16 Tony Abbott, “Submarines: why settle for second best”, Centre for Independent Studies, June 29, 2017. <https://www.cis.org.au/commentary/articles/transcript-the-hon-tony-abbot-mp-submarines-why-settle-for-second-best/>

In office, Abbott was reaching towards this argument slowly and softly. It would have been a fiendishly difficult debate—even within the Liberal Party—but this big policy argument sank before being launched.

After presiding over the final death of the Australian car industry, Abbott inched towards sinking the Australian submarine industry, running an “internal process” to choose the builder of the new submarine. Japan was entitled to think the deal was done. That changed when Abbott suffered an extraordinary caucus revolt in February 2015. A motion to “spill” the leader got 39 “yes” votes versus 61 to keep Abbott: about 40% of the caucus voted for an empty chair rather than the prime minister.

Scrambling for votes to avert the spill, Abbott agreed to the demand of South Australian Liberals for an open tender for the submarine contract.¹⁷ The concession fed into the fundamental fight to have future subs built at Adelaide’s Osborne shipyard, birthplace of the six Collins-class subs.

The open tender became a contest between Japan, France and Germany. By September 2015, the caucus completed the job of dethroning Abbott. Building boats in Japan went with him.

In the cabinet reshuffle after Abbott’s fall, Adelaide MP Christopher Pyne became minister for industry, innovation and science. He writes of a Canberra meeting with Mitsubishi executives and the Japanese ambassador:

*“We had a wide-ranging and candid discussion about the submarine project, defence and the historical relationship between Australia and the three nations who were bidding—France, Germany and Japan. My suspicion that the Japanese believed they were likely to win was confirmed when I was told informally that only after this meeting did the Japanese bidders believe they might not win.”*¹⁸

As the tender process concluded, Turnbull worried that Abbott had encouraged Abe to believe the decision would be “political” and Japan would get the nod. Adelaide politics trumped Tokyo.

Calling Abe in April 2016 to tell him that France had won, Turnbull said the Japanese leader “felt, with some justification, that they’d been let down ... The political way in which the tender arose always had the potential to create awkward misunderstandings in Japan.”¹⁹

The sub saga became a minor strand in the dramas that saw the Liberal caucus depose the PM who’d led them to office. In turning away from Abbott, the Liberal government gave a passionate new push to Industry Oz.

In the struggle over building the new class of submarines in Australia or overseas, the industry side triumphed. Customer Oz bested Industry Oz. It was, though, an extreme test of the consensus that joins subs to industry policy—linking defence capacity and Australian content.

17 Pyne, *The insider*, p.140-143.

18 Pyne, *The insider*, p.141.

19 Turnbull, *A bigger picture*, p.340-1.

The industry policy puzzles

Australia has spent 40 years building its own submarines.

For subs (and ships) we do defence as industry policy. Build our own naval muscle and build our economy. Protect sovereignty and protect jobs. The capability must have Australian content. Submarines are the ultimate test of that content-capacity linkage: Defence must have the best kit, but as much as possible must be built in here.

Today's vogue phrase is the need for "Sovereign Industrial Capability", a concept hammered with more than 30 references in the 2020 defence strategic update and force structure plan.²⁰

The Covid-19 pandemic has given new meaning to the defence discussion of the need for a robust and resilient industrial base.

We do not necessarily have sovereign industrial capability in priority areas, but we are planning to get it—or regain what we've lost. Australia now proclaims the need to "have access to, or control over the skills, technology, intellectual property, financial resources or infrastructure that underpins the [Sovereign Industrial Capability] Priorities".²¹

After 40 years on the submarine journey—and much longer on the ships—we still struggle for the sweet spot where defence need and industry policy unite. The struggle makes for passionate politics, proving that in the phrase "political consensus" keep your eye on the politics. The submarine consensus is a hull undergoing repeated pressure tests.

Malcolm Turnbull took industry policy to a rich new place with the largest ever peacetime defence industry investment program.²² Turnbull's memoir argues the case for an Australian-built submarine:

*"Certainly, a foreign yard with current experience in building submarines will build faster and at less cost than an Australian yard would build the first one—but stress 'the first one'. We'll never have a sustainable continuous shipbuilding industry unless we start building ships and do so continuously. And if we want, over the decades to come, to develop an Australian advanced manufacturing sector, there is no industry more likely to provide the 'pull-through' stimulus' than defence, and no project more at the cutting edge than submarines—the most complex, sophisticated and lethal vessels in the fleet."*²³

Turnbull's minister for defence industry and then defence minister, Christopher Pyne, says the vision is to remake our strategic industrial base through the Australian defence industry.

20 Department of Defence, *2020 Defence Strategic Update and 2020 Force Structure Plan*, Canberra, July 1, 2020. <https://www.defence.gov.au/strategicupdate-2020/>

21 Department of Defence, *2020 Defence Strategic Update*, Canberra, July 1, 2020, p. 47.

22 Malcolm Turnbull, "Address at the 2017 Pacific International Maritime Exposition", Prime Minister, October 3, 2017. <https://www.malcolmturnbull.com.au/media/address-at-the-2017-pacific-international-maritime-exposition>

23 Turnbull, *A bigger picture*, p.341-2.

Because it's about *defence* industry—not just industry—a Liberal government adopted what Pyne calls “an uncharacteristically European *dirigiste* demonstration of government intervention in the market”.²⁴

Pyne says the continuous shipbuilding program of the naval shipbuilding plan is the most detailed long-term guide for defence industry in Australia's history: “A drumbeat of new vessels at least every two years for decades is something Australia has never enjoyed before.”²⁵

The program calls for the acquisition or upgrade of up to 23 classes of Navy and Army maritime vessels.²⁶

The Turnbull government dived into the defence industry task with what Pyne describes as a combination of Turnbull's “enthusiasm and my overconfidence”.²⁷ Pyne's jest is more revealing than he intends on the shambles of making up industry policy as you go along and on the run.²⁸

The submarine saga is strewn with missed options and strange turns: Labor's lost six years, the death of the car industry, the Abbott dash for a Japanese-made boat.

The Rudd-Gillard governments proclaimed the need for 12 new submarines but did not get going. These were the new-sub-stasis years.

Labor's focus was on fixing the Collins class and fixing the budget. Labor, ultimately, left the submarine choice to the Abbot government. Governments can't bind future governments; but governments can make big decisions that define the landscape and set the tide. Because of its new-subs-stasis, Labor made no such decision.

Abbott's government was willing to do some *defence* industry policy (yes to ships, no to submarines) but balked at industry policy: keeping the Australian car industry was dismissed as dire, dismal demi-dirigisme.

The Abbott government centralised ship-building in two cities, Adelaide and Perth. (sorry, Melbourne) but would do nothing more for our last two car manufacturers. A few mad moments of macho mocking from Canberra did much to hasten the departure of Holden and Toyota. In today's sovereign capability era, Canberra would be hugging the final two car makers, not hissing 'em out the door.

In the hierarchy-of-needs chart for defence industry, submarines and planes sit atop the triangle, supported by a broad array of complex manufacturing abilities (science and skills, investment and research). Losing cars from the hierarchy kicked out much that an advanced industrial economy needs to make its own ships and subs.

Australia will pump hundreds of billions into building and sustaining sovereign industrial capacity for defence, but in 2014 we wouldn't stump-up \$150-\$250 million to keep car

24 Pyne, *The insider*, p. 243.

25 Pyne, *The insider*, p. 249.

26 Department of Defence, *Naval Shipbuilding Plan*, May, 2017. <https://www.defence.gov.au/navalshipbuilding/Docs/NavalShipbuildingPlan.pdf>

27 Pyne, *The insider*, p. 259.

28 Andrew Davies, “Shipbuilding—making it up as we go along”, *The Strategist*, May 18, 2018. <https://www.aspistrategist.org.au/shipbuilding-making-it-up-as-we-go-along/>

manufacturers till 2022. Instead, an industrial extinction event.²⁹ A lot of jobs gone. A lot of capability lost.

The “Yes” of today’s defence industry policy contrasts with the derisive “No” to industry policy just a few years back. The experience of the Collins class feeds into these twists.

The Collins-class conundrum

“The Collins class submarines are a great Australian engineering accomplishment. To go from no background in submarine production to building one of the best conventional submarines ever produced was a genuine national achievement. Its recognition elsewhere isn’t replicated here because a successful political campaign demonised it.”

Kim Beazley, 2016³⁰

A significant conundrum of the submarine saga—a sliding door Australia did not go through—is the decision not to build another generation of the Collins submarines.

The Defence Department abandoned the option of building a second generation of Collins long ago. And our partner in building the Collins, Sweden, was not even considered in the contest (between France, Germany and Japan) to create the new submarine.

Yet today we are building a new version of Collins through a life-of-type extension of the existing submarines. To extend life, we are going a long way down the road to a second-generation build. After casting off the option of building a new Son of Collins, we now have to create a small “s” son of Collins. Much of the technology we would have put into new submarines will now go into the existing boats.

The 2020 force structure plan says the cost of remaking Collins—extension plus sustainment—will be between \$3.5 and \$6 billion.³¹ In the way of submarines, expect that \$6 billion figure to grow. Insight Economics notes that estimates of the life-of-type extension for Collins go as high as \$15 billion.³²

Many factors fathered the decision in the last decade not to create a new-generation submarine, based on Collins.

First, politics, with its dimensions of dollars and debate, dithering and delay.

Second, the agonising process of turning the Collins from dud sub to beaut boat. The Collins sustainment was on Defence’s list of projects of concern for a record nine years.

29 Jason Dowling, “Who killed the car industry?”, *The Sydney Morning Herald*, November 13, 2015. <https://www.smh.com.au/business/the-economy/who-killed-the-car-industry-20151112-gkx1c8.html>

30 Kim Beazley, “Australia’s future submarine—problems of politics”, *The Strategist*, May 5, 2016. <https://www.aspistrategist.org.au/australias-future-submarine-problems-of-politics/>

31 Department of Defence, *2020 Force Structure Plan: Naval shipbuilding factsheet*, July, 2020. https://www.defence.gov.au/StrategicUpdate-2020/docs/Factsheet_Naval_Shipbuilding.pdf

32 Insight Economics, *Australia’s future submarine: Do we need a plan B?*, March, 2020. p.21. <https://submarinesforaustralia.com.au/sea/wp-content/uploads/Australias-Future-Submarine-Insight-Economics-report-11-March-2020.pdf>

Third, the quarrelsome marriage with Sweden; the legal battle over submarine intellectual property had divorce-court elements—a rerun of the relationship problems conducted as an argument about property and progeny.³³

Fourth, Defence’s fears about getting the expertise for the evolution to a next-generation boat. Submarines need the right minds as well as lots of money.

On the politics of dollars and dithering, Labor’s defence policy platform when it won office in 2007 proclaimed that it would accelerate work on Australia’s next generation of subs “ahead of the current timetable which schedules first pass approval for 2011”.³⁴ Instead, we missed that target by five years. The Turnbull government did first pass in 2016.

Labor defence policy in 2007 thought “a developmental project involving the migration of evolved Collins class combat and ship control systems might be necessary”. By the 2009 defence white paper, Labor proclaimed the need for 12 new submarines.³⁵

A decade ago, the stage was set for a second generation of Collins. Yet nothing happened. The first-pass window kept passing. The global financial crisis hit. Struggling to fix the Collins and balance the federal budget, Labor did not have the energy for a new submarine, and adopted a stop-gap remedy that kicked the problem into the future.

If Labor didn’t act on Collins, the Liberals couldn’t or wouldn’t. In opposition, the Liberals made much noise about the Collins’ problems and Labor failures. When Tony Abbott won government in 2013, Collins was more political pariah than the potential parent of the next-generation. History weighed heavy on Collins as Australia pondered its next submarine.³⁶

Beyond the politics, the conundrum centres on the thinking in Defence and the Royal Australian Navy. Why didn’t the navy want a new version of Collins? Why didn’t Defence put Sweden in the mix? On those two questions, Marcus Hellyer (a sage on the workings of the Defence mind) judges that excluding the Swedes “is one of Defence’s most bizarre capability decisions”.³⁷

The defence minister who was present at the creation of Collins, Kim Beazley commented in 2016 that it was “a shame the Swedes weren’t included in the bid”. While Beazley lauds Collins as a boat, he concedes it had become politically toxic: “Frankly, so politically poisonous had the atmosphere in Canberra around the Collins become, that I can understand departmental and governmental fears.”³⁸

33 Andrew Davies, “Collins IP: Australia and Sweden bury the hatchet”, *The Strategist*, May 16, 2013. <https://www.aspistrategist.org.au/australia-and-sweden-burying-the-hatchet/>

34 Kevin Rudd, Joel Fitzgibbon & Alan Griffin, *Election 07 Policy Document Labor’s Plan for Defence*. Australian Labor Party, November, 2007. <https://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id:%22library/partypol/HMW06%22>

35 Department of Defence, *Defending Australia in the Asia Pacific century: Force 2030*, Australian Government Defence White Paper 2009. <https://www.defence.gov.au/whitepaper/2009/>

36 For a detailed chronology of the new-sub saga, see papers published in and 2012 and 2020 by the Federal Parliamentary Library: Nicole Brangwin, *Australia’s future submarine*, Parliamentary Library background note, 2012. https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/BN/2011-2012/Submarines. Nicole Brangwin, *Managing SEA 1000: Australia’s Attack class submarine*, Parliamentary research paper Series, 2020. https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/rp/rp1920/AttackClassSubmarines

37 Marcus Hellyer, “The compounding risk in Australia’s transition to new submarines”, *The Strategist*, February 6, 2020. <https://www.aspistrategist.org.au/the-compounding-risk-in-australias-transition-to-new-submarines/>

38 Kim Beazley, “Australia’s future submarine—problems of politics”, *The Strategist*, May 5, 2016. <https://www.aspistrategist.org.au/australias-future-submarine-problems-of-politics/>

Defence waved away claims of bizarreness by arguing there had been a hiatus in Sweden's submarine building and this gap posed an unacceptable risk. The claim that the game had moved far and fast was also deployed to attack a new generation of the Collins class — developing what we had would not deliver what Defence said we needed: a brand new design.

As Hellyer writes: “Defence testified that a study into the possibility of evolving the Collins ‘demonstrated that the design effort involved would be similar to a new design’. Ultimately Defence concluded that an evolved Collins ‘would not provide a beneficial, nor a low cost and low risk solution for the Future Submarine’.”³⁹

Australia had the intellectual property for Collins, but doubted its intellectual and technical ability to create a new generation. Defence feared we did not have the critical mass of expertise to design and build a new boat.

Another with sage status, retired Australian rear admiral James Goldrick emphasises an old line offering a difficult truth: “The greatest restriction on naval expansion is draughtsmen not money.”⁴⁰ Canberra worried that it had the money but not the minds. That informs the whispered response to the criticism that Australia should be running a competition between a new version of Collins and the French-designed Attack class. Defence fears it will be fiendishly difficult to get the skills and smarts to achieve just one boat design.

As Goldrick told me:

*“The French may have realised the potential benefit to themselves of this process earlier than anybody else—apart from the fact that their boat was the best, according to the final Australian evaluation. What is happening all over the world is an increasing problem of continuity for the evolution of design because that requires there to be continued work. Almost nobody is building enough submarines, frequently enough, to be self-sustaining as a centre of design and enterprise. Even if you are building continuously, if you have a big break in your design effort, it’s very difficult to recover, as the British and even the Americans and Russians have experienced. Association with the Australian continuous build/batch upgrade scheme would help the French maintain critical mass and sustain their design skills.”*⁴¹

In 2017, Tony Abbott offered this critique of the process:

“The Collins Class was designed in the 1980s, built in the 1990s, and then extensively modified and rebuilt in the noughties so that what was a very-good-sub-on-its-day could much more reliably take to sea. As things stand, the Collins will need to be upgraded and modernised again while we plan for its replacement. The whole point of the next submarine acquisition was to avoid the problems of the Collins—to find the submarine that could be brought swiftly into service with the least possible modifications—but what we have done so far risks an exact repetition. We’ve based our proposed sub on an existing

39 Marcus Hellyer, “The compounding risk in Australia’s transition to new submarines”, *The Strategist*, February 6, 2020. <https://www.aspistrategist.org.au/the-compounding-risk-in-australias-transition-to-new-submarines/>

40 Interview with the author, August, 2020.

41 Ibid.

design but one that will need to be so extensively reworked that it's effectively a brand new submarine and our intention is to build it entirely in Australia."⁴²

The stretching Attack-class timeline means Australia is committed to doing much of the work for a new generation of Collins to extend the life of the existing boats. The saga has many twists, and another big twist is a future option.

The nuclear-powered option

Australia's two previous prime ministers have publicly pointed to the nuclear-powered option for submarines.

The Collins class and the planned Attack class have "conventional" power: diesel-electric propulsion. Switching to nuclear-powered would take the saga to a whole new depth.

The nuclear-powered musings of Tony Abbott and Malcolm Turnbull are a rare meeting of minds between two men united in little but their hatred for each other. Yet these two most dissimilar Liberal leaders do agree on the need to consider nuclear-powered subs.

Turnbull wrote in his 2020 memoir that shortly before his time as PM was "rudely interrupted" in 2018, he had taken the nuclear subs out of the too-hard basket and started to investigate again: "My judgement then, and today, is that this is a debate that will continue, so the government should make sure it's well informed."⁴³

Abbott declared in 2017 that the taboo must be tackled: "Australia has not made a formal decision against acquiring nuclear-powered submarines, so much as studiously avoided even asking the question."⁴⁴

Recalling that Abbott's prime ministership crashed a few days short of the two-year mark, it is remarkable he proclaims his biggest regret from that time as PM was not challenging the nuclear-no-go mindset:

*"In the Abbott government's discussions about getting the best possible submarine for Australia as quickly as possible, we more or less assumed that our (currently limited) nuclear engineering capacity precluded that option. Creating a nuclear industry to service subs here would take a decade, perhaps more, yet might turn out to be a lesser challenge than designing and building a new class of submarine almost from scratch. Within the 15-plus years that it's currently planned to take to get even the first of our new conventional subs into service, we could develop a nuclear servicing capability—and if we were to buy or lease a US submarine it could initially be supported at the American bases in Guam and Hawaii. In the 1960s, we relatively swiftly developed a civilian nuclear capacity, mainly for medicine, centred on the Lucas Heights facility in Sydney. So it can be done if the will is there."*⁴⁵

42 Tony Abbott, "Submarines: why settle for second best", Centre for Independent Studies, June 29, 2017. <https://www.cis.org.au/commentary/articles/transcript-the-hon-tony-abbot-mp-submarines-why-settle-for-second-best/>

43 Malcolm Turnbull, *A bigger picture*, p. 344.

44 Tony Abbott, "Submarines: why settle for second best", Centre for Independent Studies, June 29, 2017. <https://www.cis.org.au/commentary/articles/transcript-the-hon-tony-abbot-mp-submarines-why-settle-for-second-best/>

45 Ibid.

Turnbull says any country with a nuclear navy has to have a civil nuclear industry. Australia would have to justify that shift to create a nuclear industry “by its support for the navy rather than its offer of cheap electricity. It would need long-term, bipartisan support and well over a decade would be needed to establish the pool of skilled personnel in every field to support it.”⁴⁶

The two former prime ministers confront the question of whether the US would sell or lease nuclear-powered subs to Australia. Abbott says we won’t know if we don’t ask:

“The US already provides Australia with its most advanced aircraft and tanks and its most sophisticated submarine torpedo weapons system. The US has previously provided Britain with its most sensitive nuclear submarine technology ...We have nothing to lose from starting a discussion on this issue with our allies and friends—Britain and France—as well as primarily with the US.”⁴⁷

Turnbull, though, accepts that leasing US nuclear submarines would give Washington an effective veto over an Australian capability—especially if the boats had to go to Guam or Hawaii for maintenance:

“There’d be no point in us having a nuclear navy if it wasn’t completely sovereign and able to be operated by, and at the direction of, the Australian government. That means the submarines and their nuclear power plants would have to be maintained in Australia.”⁴⁸

In looking at whether Australia could afford nuclear-propelled subs, retired rear admiral Peter Briggs posed an opposing question: “Can we afford not to?”⁴⁹ Briggs’ study found “compelling strategic and submarine capability arguments” for switching to nuclear propulsion. Among the “formidable challenges” are the lead time, estimated by Briggs at 15-20 years.

With France, Australia is building Attack-class submarines that are cousin to the French Barracuda nuclear-powered boats.⁵⁰ And that nuclear capability is one element in Australia’s decision to partner with France rather than Germany or Japan, as Turnbull states: “It wasn’t the reason for the choice, but accepting the French submarine bid, as opposed to the Japanese or German bids, at least gives us a potential option to move to a nuclear design in the years ahead.”⁵¹

So, the reason for going with the French bid was not the nuclear-powered heritage of the French design. But going with the French offers the nuclear-powered *option*.

46 Turnbull, *A bigger picture*, p. 344.

47 Tony Abbott, “Submarines: why settle for second best”, Centre for Independent Studies, June 29, 2017. <https://www.cis.org.au/commentary/articles/transcript-the-hon-tony-abbot-mp-submarines-why-settle-for-second-best/>

48 Turnbull, *A bigger picture*, p.343.

49 Peter Briggs, “Can Australia afford nuclear propelled submarines? Can we afford not to?”, ASPI Special Report, October, 2018. <https://www.aspi.org.au/report/can-australia-afford-nuclear-propelled-submarines-can-we-afford-not>

50 Brendan Nicholson, “France launches first nuclear-powered cousin of RAN’s new submarines”, *The Strategist*, July 30, 2019. <https://www.aspistrategist.org.au/france-launches-first-nuclear-powered-cousin-of-rans-new-submarines/>

51 Turnbull, *A bigger picture*, p.344.

Reaching for that nuclear option would confront what has been anathema to Australia. The Labor and Liberal parties would have to agree. The people would have to be persuaded. There's the small matter of building the nuclear industry. And Australia would have to do a lot of talking and explaining to our neighbours in Southeast Asia and beyond.

All that could only happen in a darkening strategic environment—which is what we confront. As Prime Minister Scott Morrison notes, Australia is entering “a post-Covid world that is poorer, that is more dangerous, and that is more disorderly”.⁵² Tough times will put more twists into the saga by stressing what submarines offer to Australian strategy.

Strategy and nightmares

Submarines are a top-of-the-budget answer to a top-of-the-pile nightmare.

The argument for submarines lies within the fundamental call on any nation: defend the realm and protect the currency (proving the oldest-profession status of strategists and economists in the state-building game). Submarines touch both bits of the realm—currency injunction: new boats to defend the borders cost a cornucopia of cash. While economists reside in gloom, strategists dwell in horrors: dream up the worst possible scenario and then defend against it. Strategy wonks speak of low-probability, high-impact events.

To argue from first principles, submarines are what you have for the ultimate military nightmare—hostile forces coming to harm your territory. It has only happened once in the history of this Commonwealth, a high-impact moment that consumed all else. The 1942 experience is the existential fright that haunts Australian strategy.

Submarines have other uses, yet Australian voters are happy to simplify by embracing the first-principles thought: submarines stop a foe from stepping foot on the nation that has its own continent. Date that view from the first decade of federation.

The saga began life with Prime Minister Alfred Deakin's parliamentary statement on defence in December, 1907. Acting on advice from the Admiralty in London—but contrary to Australian naval experts—Deakin announced that his government had decided “the submarine is probably the best weapon” for defence of Australia's harbours. The idea was to have one or two submarines for each Australian state, so a fleet of up to 12 subs.⁵³

In what became a familiar problem, the future submarine fleet had not been ordered when Deakin ended his second term as PM, in November 1908. Submarines can torpedo the most decisive of cabinets, leaving them divided and far from port.

The saga is well into its second century, and a fundamental point still surfaces: What's the point of submarines? When writing this piece, I had an exchange of thoughts with one of the smartest men I know in Canberra, an economist with a long history in the policy jungle. He is a master at posing the simple Delphic question that forces lots of devilish detail through its paces. And my master posed this question:

52 Scott Morrison, “Address—launch of the 2020 Defence Strategic Update”, Prime Minister, July 1, 2020. <https://www.pm.gov.au/media/address-launch-2020-defence-strategic-update>

53 J.A.LaNauze, *Alfred Deakin, a biography*, Vol. 2, Melbourne University Press, 1965, p.526.

Although I try to take an interest in these things, I really don't know why Australia needs submarines. What—exactly—do we want them for? I really don't know. We're spending at least \$100 billion (probably more) on something which somebody like me has no idea what it's for. I've been keeping an eye on the literature. This matter—i.e., what we actually get from the submarines—doesn't seem to be explained. I guess I'm slow, right? But my bet is that I'm not the only one.

Here is a fine reminder of an enduring truth: the Canberra defence consensus is not always what the rest of Australia understands or believes. Whenever military types berate me for the ignorance of journalists about defence, I respond they should be grateful to us: we are merely demonstrating how the rest of the population live in a different place with a sky of a different colour.

On why subs are vital, turn to two politicians responsible for explaining defence to the voters.

First, Defence Minister Linda Reynolds:

"Submarines are fundamentally important to our defence strategy. They are a unique—and powerful—deterrent to any adversary, and they are critical to protecting our national security interests. Submarines secure Australia's strategic advantage—through leading-edge surveillance and the protection of our maritime approaches.

"Our sophisticated level of interoperability with the United States is a critical aspect of our submarine operations in our region. As are our air warfare destroyers and also anti-submarine warfare frigates. Submarines are also the vanguard of strategic lethality and deterrence. With substantial firepower, with stealth, with endurance and also with sustained presence.

*"Our regionally superior Collins-class submarines are already very capably demonstrating all of these effects. We will see further refinements to our future Attack-class submarines—ones that will strengthen our capability to maintain peace and security in our region."*⁵⁴

Singing from the same page, Labor's deputy leader and shadow defence minister, Richard Marles, says Australia's national security "desperately requires" the evolution of its long-range submarine capability:

*"Australia having the power to deploy this capability, with its lethality, a long way from our shores is the single biggest question mark that we can place in any adversary's mind. So, when we buy a submarine, we buy that question mark. They are a powerful deterrent. And more than any other military platform that Australia has today, submarines can shape our strategic circumstances in a way which empowers our nation and gives Australia sovereignty."*⁵⁵

54 Linda Reynolds, "Speech—Australian Strategic Policy Institute", Defence Minister, July 2, 2020. <https://www.minister.defence.gov.au/minister/lreynolds/speeches/speech-australian-strategic-policy-institute>

55 Richard Marles, "Address to the National Press Club", Deputy Leader of the Australian Labor Party and Shadow Defence Minister, August 4, 2020. <https://www.richardmarles.com.au/wp-content/uploads/2020/08/20.08.04-ADDRESS-TO-THE-NATIONAL-PRESS-CLUB.pdf>

Submarines always ask Australians how much we want to spend on insurance. You can make the argument that nearly \$100 billion is a lot for one form of indemnity. Or that there are cheaper ways to get what we need.

The cheaper/other ways line comes up against lots of institutional resistance. Not least the military replacement syndrome. The military likes to replace what it is used to with more of the same, just a better version. The navy loves what it knows and knows what it loves, and always wants to go to sea in ships and boats.

At the publication where I write a weekly column, *The Strategist*, submarines are the gift that keeps on giving: we have covered the arguments for big submarines, little submarines, conventional submarines, nuclear submarines and no submarines, and the claim that we have now chosen a preposterous submarine.⁵⁶

While Australia's geography does not change, the way strategists think about what we might face in the sea–air gap has certainly evolved.

Once, the nightmare was Indonesia. In the same way we had F-111 fighter bombers so we could bomb Jakarta, we got submarines to stop Jakarta coming to us. Australia signed up the F-111s in 1963, the same year the navy ordered the Oberon-class boats. The Cold War was the context, but Indonesia was the danger.

Indonesia, as always, looms with the inevitability of geography. It is still the case, as Paul Dibb observed, that “the archipelago to our north is the area from or through which a military threat to Australia could most easily be posed”.⁵⁷ That is an argument for embracing and knowing the archipelago, not just building submarines. Indonesia's President Joko Widodo was stating aspiration as well as noting geography with his Canberra speech in February, 2020: “Australia is Indonesia's closest friend.”⁵⁸

When we got the Oberon class boats and then built Collins last century, China was a wisp of smoke on our strategic horizon, and the insurance was against Indonesia. Slowly we have shifted to the possibility of Indonesia as friend and shield, not threat. Indonesian intentions can change, but this century Australia has warmed to the idea that the nightmare will come through, not from, the archipelago.

By 2009, when Prime Minister Kevin Rudd embraced a dozen new submarknes, it was all about China. And China keeps looming larger. In the 2020 strategic update (as in the 2009, 2013 and 2016 white papers), China supplants Indonesia to take second spot in the hierarchy of countries most mentioned.⁵⁹ The 2020 strategic update is relatively blunt, as a policy statement, in talking about what Australia fears. Goodness knows what the secret version is like, given the darkness of the public document.

56 Andrew Davies, “Click go the readers: The Strategist top 10 in 2017”, *The Strategist*, December 22, 2017. <https://www.aspistrategist.org.au/click-go-readers-strategist-top-10-2017/>

57 Paul Dibb, *Review of Australia's defence capabilities*, Report to the Minister for Defence, Australian Government Publish Service, Canberra, 1986, p. 4. https://www.defence.gov.au/SPI/publications/defreview/1986/Review-of-Australias-Defence-Capabilities-1986_Part1.pdf

58 Graeme Dobell, “The four compass points of Australia-Indonesia relations”, *The Strategist*, February 17, 2020. <https://www.aspistrategist.org.au/the-four-compass-points-of-australia-indonesia-relations/>

59 Graeme Dobell, “Australia's Defence White Papers by the Numbers”, *Security Challenges*, The Institute for Regional Security, September, 2016. https://regionalsecurity.org.au/security_challenge/australias-defence-white-papers-by-the-numbers/

In the canons of Defence, it is a huge moment that the 2020 update scrapped the 50-year-old doctrine that we would have 10 years' warning of a state preparing to invade/harm/attack Australia. No longer do we have the comfort that it would take a potential adversary 10 years to prepare and mobilise for a war that would reach us. A fundamental change of Defence theology speaks of a mighty disturbance in heaven.

Scott Morrison shares elements of the submarine saga with Alfred Deakin: time available tangles with threat possibilities, seeking answers about the technology and the terrain. Complexity battles with cost.

Canberra is seized by the worry that it has not got enough insurance. Our policy payments mount, but the coverage we want from the Attack class will arrive closer to 2040 than 2030. The new submarine is vital yet vexed, a wicked problem for Australia in what loom as wicked days.

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The Deer and the Dragon: Southeast Asia and China in the 21st Century

edited by Donald K. Emmerson, Walter H. Shorenstein

Asia-Pacific Research Centre: Freeman Spogli Institute Stanford. 2020.

Soft 394 pages RRP 60.99 USD

Reviewer: Anna Buckley

Albeit from a predominately male perspective, 'The Deer and the Dragon: Southeast Asia in the 21st century' offers timely insight and analysis into Southeast Asia's changing dynamics with China. From the injudicious title, 'The Deer and the Dragon' we are immediately tendered with the impression of unequal power relations—China the fiery dragon set against the petite, submissive deer, the ten Southeast Asian nations. This conjures up images of Southeast Asian nations possessing little choice but to submit to the dominant force. Encouragingly though, the editor Donald Emmerson swiftly persuades readers to not think of China- Southeast Asian relations in this way, rather he appeals to readers to explore alternative understandings of power dynamics that go beyond the Melian and Thucydidean thesis. Similarly, Emmerson reminds analysts not to make the blunder of attributing impotence and subservience to Southeast Asian nations, advocating that alternative brain over brawn and power resistance stories have prevailed throughout Southeast Asian history.

Equally as commanding, Emmerson also emphasizes the varied and asymmetrical nature of agency within mainland and maritime Southeast Asia's population of 657 million, spanning 13,000 sq. kilometres. The geography, population density, ethnic, and religious makeup, economies, proximity to China, historical and current hostilities and governance structures all play a role in the creation, scale and nature of power and agency employed. While China is confident in deciding what vegetables and flowers are grown in its backyard, the impoverished nations of Lao, Myanmar and Cambodia also possess their own motivations, intentions and agency. China after all is not the only player in the region and Southeast Asian nations have fostered resilience and strategies along the way.

Aptly then, 'The Deer and the Dragon explores the differing levels of agency that go beyond traditional narratives that wedge Southeast Asia nations between the US and China. With nuanced reflection authors delve into topics such as: 'who wins in the China-Cambodia relationship? Does China's high modernisation in Laos empower the economically exploited, socially subordinated and politically marginalized? Does Indonesia have a strategy towards China? Do all Southeast Asian nations perceive China in the same way?

The compilation is confusingly divided into seven themes: conceptions, perceptions, extensions, strategies, disparities, distances, and retrospection. The first conceptual chapter by Thomas Finger focuses on China's foreign policy stressing China's desire

to maintain more influence than other foreign powers in Southeast Asia. Anne Booth discusses China and ASEAN's economic relations, pointing to the stark disparities between China, Myanmar, Laos, Cambodia and Vietnam's import and export relationships, accentuating that one third of Cambodia's imports came from China, while China only received three percent of Cambodia's exports. Contrastingly, John Ciorciari proposes pathways for the US administration to harness longer term partnerships, stronger governance and enhanced engagement with Southeast Asia to balance China. Jörn Dorsh and Shannon Cui discuss China's belt and road initiatives offering their judgement on an uncontested pax Sinica along China's maritime silk road.

Naturally, the way China and Southeast Asia view each other will vary according to their own drivers and objectives. Yun-Han Chu et al assert that America's influence has not dried up despite America's passiveness and China's heightened activity. Mingjiang Li stresses that China does not see Southeast Asia as a strategic backwater, nonetheless, recognises distrust exists on South China Sea issues and calls for exaggeration of tensions to be limited. Donald Emmerson and Yohanes Sulaiman discuss China's strategy in the South China Sea. Sulaiman focuses on the un-strategic nature of Indonesian foreign policy towards China. Seng Tan uses Australian strategist Hugh White's "China choice" hypothesis to enlighten readers on Singaporean choices, while Australian author Geoff Wade examines China's official relations with the overseas Chinese, examining how China uses persuasive powers in shaping overseas Chinese identification with the motherland.

Undoubtedly for me the highlight of the 'Deer and Dragon; were the, disparities and retrospections sections. These afforded intriguing and astute contributions on Cambodia, Laos and Myanmar. Daniel O Neil provided a detailed analysis of Cambodian leader Hun Sen's history of wrestling with multiple powerful nations finally placing all Cambodia's eggs in the 'Made in China' basket. Kearnin Sims refreshingly oozes compassion while delving into how and why vulnerable peoples are disadvantaged by China's high modernisation initiatives. Lastly, David Steinberg engages in constructive criticism of outsiders' misconceptions of Myanmar, using the concept of leveraging.

On final reflection, given the intricacy of China's rapid consolidation of human, commercial and infrastructural interconnectivity that ultimately touch on sovereign tensions, this rich compilation unearths multiple dimensions of China's geo-economic and geo-strategic intentions in Southeast Asia, while speaking to the dynamics of power and agency. For some nations, ambling with China is an attractive choice, for others brain over brawn will prevail. Thus, this book will be invaluable for scholars of Southeast Asia looking to understand China's past, future and present interactions with the region. I would like to leave with Kearnin Sims' simple but powerful words 'development is one thing, empowerment is another'. This reminds us that while examining China Southeast Asian engagement we should always keep in mind that we are outside observers and persist in being compassionate of those disproportionately affected on the inside.

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Do Morals Matter? Presidents and Foreign Policy from FDR to Trump

Joseph S. Nye, Jr.

(New York: Oxford University Press, 2020)

ISBN: 9780190935962

Reviewer: Samuel Matthews Bashfield

Morals and foreign policy share a tenuous relationship. Whether engineered by realist or liberal leaders, foreign policy is almost always accompanied by a veneer of moral reasoning. Even for the most rational realist leaders in democracies, a morally bankrupt foreign policy is a hard sell to the electorate and parliament. While historians and academics routinely pick apart the foreign policies of leaders, with an eye for ethics and morals, rarely is a comparison made across decades of administrations.

In Joseph S. Nye Jr's new book, *Do Morals Matter? Presidents and Foreign Policy from FDR to Trump*, the author illuminates the morality of US foreign policies throughout the post-World War Two 'liberal international order' period. Nye, an influential proponent of liberal international relations theory and former senior US official, is well placed to provide this view. Acknowledging that presidents are "trustees" (p. 17) and have an obligation to protect their citizens, sometimes moral double standards are appropriate, and presidents should not always be held to the same standard as ordinary citizens. From Franklin D. Roosevelt to Donald Trump, Nye judges foreign policy (and provides a scorecard for each administration) by its intentions and motives (moral vision and prudence), means (force and liberal) and consequences (fiduciary, cosmopolitan and educational).

Nye's analysis of the liberal rules-based order is a feature of this publication. He acknowledges that the order has become "obsolete as descriptions of the US place in the world" (p. 216). Rather than advancing wide-ranging foreign policies, as was popular during the rare moment of post-Cold War unipolarity, Nye warns future presidents that their foreign policies will be judged ethically on "where and how to be involved", as "American leadership is not the same as hegemony or domination or military intervention" (p. 217). This point raises questions for policymakers in Canberra. How should Australia's foreign and defence policy—which is dependent on the US-led rules-based order as a guiding principle—respond, when even this prominent liberal theorist is warning of its end?

While this publication only analyses US leadership, the same principles can be extended to all nation-state leaders. While some policy choices are unique to hegemons (global power projection capabilities, wide diplomatic networks, recognition as a security provider), the moral framework can be translated to the narrower foreign policies of weaker nations. Notions of American 'exceptionalism' aside, an analysis of Australia's foreign policy through a moral lens—from Lyons to Morrison—would make for compelling reading.

An objective analysis of how Australia's prime ministers have conceptualised, and applied ethics to, foreign policy choices, through the Cold War and the fleeting period of US unipolarity, may undercut Australia's self-proclaimed 'global citizen' status.

Unfortunately, Nye's methodology, particularly his selection of case studies, in addition to his indifference to potential bias and cognitive fallacies, is the book's Achilles' heel. Foreign policies cited in the book focus on Cold War politics and proxy conflicts, but do not include the less consequential foreign policy decisions made by presidents. While perhaps these consequential decisions and policy domains were the sole responsibility of presidents, I would suspect a more encompassing analysis of decision-making would have provided a richer analysis. By not providing a dataset, one wonders how cognitive bias played a role in this work. Nye does acknowledge (p. 186) that due to his public service and involvement in various presidential decisions (Carter and Clinton administrations), his analysis may be biased. But Nye does not detail a framework to counter these biases, which detracts from the publication as a political science reference. Rather, Nye notes that scorecards are intended as more "illustrative" than "definitive", and that "my personal rankings are less important than the scorecards which readers can alter for themselves" (p. 186). However, by following and recommending a more objective and transparent methodology, perhaps Nye's and his readers' scorecards could be sharpened, and less subjected to biases and fallacies. At a mere 254 pages, in which only 138 pages are dedicated to analysis of the thirteen complete and one partial (Trump) presidential administrations, this book is more of a glance rather than a deep dive into each president. Its accessible style is at the expense of a more thorough analysis grounded in a sound methodology.

As Nye notes, "interests bake the cake; morals are just some icing presidents dribble on to make it look pretty" (p. 182). Despite some relatively minor shortcomings, this book provides a fascinating and up-to-the-minute window into presidential decision-making through a moral lens. While this book does not break theoretical ground, it reminds even the most strident realists that morals and interests in foreign policy can and should mix.

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Notes for Contributors

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