

Do Joint Military Exercises Tell Us Anything About East Asian Security? : China's Rise and The Evidence of Hedging

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Abstract

Conventional wisdom in the field is that secondary states in the vicinity of a rising power tend to balance against its rise out of high-threat perceptions. If so, how should we make sense of security cooperation between rising China and East Asian secondary states? This paper argues that secondary states are hedging – pursuing cooperative security relations with their powerful neighbor, China, as well as their great power patron, the US. Hedging behavior is motivated by two conditions: a preference for trust-building as a medium for managing uncertainty; and a desire for strategic autonomy. To investigate this set of expectations, this paper introduces a unique dataset of joint military exercises (JMEs) in the Asia-Pacific from 1970 to 2019 (1,447 exercises) and presents original mixed-methods evidence using descriptive statistics, social network analysis (SNA) and case studies. The key finding is that the regional countries that would be ‘most likely’ to balance against China – junior allies and strategic partners of the US and countries with major territorial conflicts with China – have expanded JMEs with Beijing over the last twenty years. The finding suggests that hedging is much more pervasive in East Asia than we think.¹²

Keywords: Balancing, Hedging, Joint Military Exercises, Asian Security, China

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Introduction

In October 2018, the Chinese and Southeast Asian navies conducted a joint maritime exercise at the height of the South China Sea disputes. Eight navy ships, three helicopters, and more than 1,200 military personnel from China and all ten member states of the Association of Southeast Asian Nations participated in the exercise. This exercise was especially noteworthy because the Philippines, Vietnam, and Brunei, the countries with ongoing territorial disputes with China, sent their naval vessels to exercise together with Beijing. In November 2015, South Korea, one of the US allies in Asia, held a bilateral military exercise with China in the Gulf of Aden to deepen the friendship and mutual trust and facilitate joint efforts on anti-piracy missions. South Korean Navy deployed the Chungmugong Yi Sun-sin class destroyer, and China sent the missile frigate Liuzhou to the joint drill. In August 2019, Thailand, another US ally in Asia, conducted a bilateral air force exercise with China at Udorn Royal Thai Air Force (RTAF). Do joint military exercises tell us anything about East Asian security?

This paper explores one of the frequently asked but insufficiently answered questions in international relations (IR) and security studies. How are secondary states in East Asia responding to the rise of China? Why are they responding the way they are? Conventional wisdom in the field is that secondary states in close geographic proximity to a rising power tend to balance against its rise out of high-threat perceptions. Scholars of the realist school argue that balancing theories account for secondary states' behavior across time and space. For example, John J. Mearsheimer (2014, 389) argues that "Given the survival imperative, most of China's neighbors will opt to balance against it, much the way most of the countries in Northeast Asia and Europe that were free to choose in the Cold War opted to join with the United States against the Soviet Union." Adam P. Liff (2016, 422) contends that "balancing against a perceived China threat – concrete and

potential – is not absent but significant and accelerating” in East Asia. Robert S. Ross (2006, 358) asserts that “balance-of-power realism explains the alignment behavior of East Asian states as much as it does that of European states.” If so, how should we make sense of security cooperation between China and the US allies and strategic partners in East Asia?

In this paper, I challenge the widely held belief that East Asian secondary states are militarily balancing with the US against China out of fear for survival. I argue that secondary states are hedging – pursuing cooperative security ties with their powerful neighbor, China, and their great power patron, the US. Then, why do secondary states cooperate with a rising power in the vicinity despite looming uncertainties over its intentions, future actions, and trustworthiness? Why don’t they side with a great power patron and protect themselves from potential opportunism of rising power, as balancing theories predict? Why do they take the costly pathway of pursuing cooperative security ties with both rising China and the great power patron, the US? I propose that secondary states’ hedging behavior is primarily motivated by two conditions. First, when a state prefers trust-building as a medium for managing uncertainty. Second, when a state wishes to minimize the trade-off between increased security and decreased autonomy.

To investigate this set of expectations, this paper sheds light on joint military exercises (JME) as an important indicator of security cooperation that provides sufficient information on secondary states’ strategic thinking and behaviors and probes secondary states’ choice using mixed-methods evidence – quantitative and qualitative. First, I construct a unique dataset of JMEs in the Asia-Pacific from 1970 to 2019 (1,447 exercises) and use descriptive statistics and social network analysis (SNA) to analyze the regional pattern of security cooperation over time. A systematic examination of the JMEs data reveals that East Asian secondary states that would be ‘most likely’ to balance against China's rise – junior allies and strategic partners of the US and

countries with major territorial and maritime disputes with China – have expanded security cooperation with Beijing over the last twenty years. Second, I conduct case studies on ASEAN countries’ security cooperation with China using account evidence from speeches, press releases, and interviews. The remarks made by Southeast Asian high government and military officials on joint military exercises with China confirm the argument that secondary states are seeking cooperative security ties with China to build trust and reduce the risk of conflict. The findings suggest that there may be considerable costs to IR scholarship and the US foreign policy for being unwilling to delve into local knowledge.

Debate: Rising Power in Vicinity and Secondary States’ Behavior

Traditional security theories suggest that only two options are available to secondary states in the face of a rising power – either they align against the rising power with other states (balance),³ or they take a side with the rising power (bandwagon) (Walt 1987, 21; Schweller 1994, 72-107). The underlying premise of the traditional theories is that secondary states owe their security to the balance of power or the preponderance of one protecting power (Morgenthau 1967, 133), so they are preordained to choose a side. Balance of power theory assumes that a perceived threat is primarily a function of power asymmetry and posits that states in a weaker position of material capabilities will “assess a rising trajectory of power as inherently threatening” (Stein 2013, 366). For instance, in his canonical discussion of the balance of power theory, Kenneth N. Waltz (1979, 127) writes that “Secondary states, if they are free to choose, flock to the weaker side [or less threatening side], for it is the stronger side [rising power] that threatens them. On the weaker side,

³ In this paper, I focus on external balancing behavior, which involves forming alliances or security partnerships with other powers to deter rising powers.

they are both more appreciated and safer, provided, of course, that the coalition they form achieves enough defensive or deterrent strength to dissuade adversaries from attacking.”

Conventional Wisdom: East Asia is Ripe for Balancing

Specifically, some scholars predict that the balancing behavior of East Asian secondary states against China’s rise is inevitable due to several additional factors that facilitate the behavior. First, the perils of proximity. Many East Asian secondary states are in close vicinity of China. Balance of threat theory postulates that all else being equal, secondary states have a greater tendency to balance against neighboring rising power because geographic proximity induces higher threat perception and produces more significant conflicts of interest (Walt 1987, 23-24; Bush 2013). Second, you are scarier because you are unlike me. Social identity theory suggests that ideological and regime-type differences between China and East Asian democracies impel balancing behavior. David L. Rousseau and Rocio Garcia-Retamero (2007, 749-750) write that “If the other is completely unlike the self (i.e., no shared identity exists), the material balance of power between the self and the other will be a good predictor of threat perception.” Jarrod Hayes (Hayes and Schwartzberg 2013, i) asserts that “democratic identity enables political actors to construct external non-democracies as threats.” Mark Hass (2005, 18) writes that the greater the ideological differences between decision makers of different states, “the greater the emphasis they will place on issues of relative power” and “thus the more likely they are to adopt various hard-line policies...” Third, path dependency limits secondary states’ strategic options. Darren J. Lim and Zack Cooper (2015, 696) claim that “[m]any Asian states have existing treaty alliances with the United States or major territorial conflicts with China, creating path dependencies that reinforce balancing behavior rather than hedging.”

Is Balancing the Ironclad Law of International Relations?

On the other hand, a group of IR scholars questions whether the “balance of power equilibria represents the “normal condition” or “natural tendency” of international relations” (Nexon 2009, 330-359; Schweller 2016) that travels across time and space (Wolforth et al. 2007, 155-185; Schweller and Wohlforth 2000, 60-107). Paul Schroeder (1994, 148) laments that realist theories’ “insistence on the sameness effect and on the unchanging, structurally determined nature of international politics make it unhistorical, perhaps anti-historical...prevents scholars from seeing and explaining the various strategies alternative to balancing...obstructs new insights and hypotheses, leads scholars to overlook or explain away large bodies of inconvenient facts, flattens out vital historical distinctions.” Amitav Acharya and Barry Buzan (2010, 7) assert that it is problematic to assume the “Europe-derived story of international anarchy and balance of power politics as a permanent, universal structural condition” and uncritically project them “onto the rest of world history.” David Kang (2003, 58) writes that “scholars have often simply deployed concepts, theories, and experiences derived from the European experience to project onto and explain Asia. This approach is problematic at best. Eurocentric ideas have yielded several mistaken conclusions and predictions about conflict and alignment behavior in Asia.”

Hedging as New Analytical Framework for Secondary State’s Behavior

From the background, there is a growing discussion on hedging as a more nuanced explanation of secondary state behavior beyond the balancing-bandwagoning dichotomy (i.e., depicting state behavior as either resisting or taking a side with a rising power) (Murphy 2010; Johnston 2012; Haacke 2019). Yet, despite the increasing usage of the term in academia and policy circles, it remains unclear how we can ascertain hedging behavior when we see it and what

conditions motivate it. Deducing general propositions from the existing discussion on hedging, alliance politics, trust and cooperation, and security dilemmas in IR, I present a refined hedging theory and examine how East Asian secondary states are responding to China's rise. Are they hedgers or balancers? Why are they responding the way they are?

Refined Theory of Hedging: How and Why Do States Hedge

In the face of rising power in the vicinity, if they are free to choose, I argue that secondary states will opt for hedging – pursuing cooperative security ties with the rising power as well as their great power patron. Generally, hedging is used to describe secondary states' behavior that demonstrates a mixed policy approach featuring a mix of countervailing elements. Defining hedging as a concept that encompasses the overall foreign policy behavior of secondary states, scholars like Cheng-Chwee Kuik (2021, 302) Evelyn Goh (2005, viii), and Kei Koga (2018, 640-643) claim that secondary states tend to hedge by adopting a two-track approach of pursuing cooperative ties with a rising power in the economic and political realm but militarily aligning against it in the security realm.

On the other hand, Lim and Cooper (2015, 703) argue that hedging should be viewed exclusively as secondary states' behavior related to security relationships. They argue that non-military engagement with rising power, such as the development of trade and investment ties, is “commercially profitable and strategically costless” behavior, so it does not offer useful analytical insights into whether states are truly hedging or balancing. In a similar vein, Liff (2016, 425-426) claims that the concepts such as balancing and its comparable (i.e., bandwagoning and hedging) only pertain to the military domain, and it will be too much of a conceptual stretch to include economic and diplomatic factors into the discussion.

Adopting the latter's approach, I squarely focus on secondary states' development of military ties with other states, because it is a costly behavior that credibly reveals their strategic preference. Then, what behaviors in the security realm should we or should not observe if a secondary state is hedging? Conceptualizing hedging as "a risk management strategy," Haacke (2019, 377 & 396) writes that "a government that is actively working really hard on making a great power or a wider political-military coalition its singular or primary insurance...should not be taken to be hedging." Similarly, Brock F. Tessman (2012, 211) argues that any secondary state that are forming an explicit military alliance to counter a predominant power would not be considered as a hedging state, but a balancer. Likewise, John D. Ciorciari (2010, 6-7) notes that the term hedging describes "efforts by states to provide for their security while avoiding overly antagonistic alliance relationships."

I propose that hedging behavior is primarily motivated by two conditions. First, when a secondary state prefers cooperation and trust-building as a medium for managing uncertainties. Classical balancing theories often conflate uncertainty with threat and assume that the former works against cooperation as much as the latter. However, uncertainty and threat are not interchangeable concepts. If rising power is a clear existential threat, then militarily balancing with other states against it may be a natural course of action for a state. On the other hand, uncertainties could induce secondary states to cooperate with rising power to reduce uncertainties over its rise and build trust to avoid militarized conflict with the power. To say, uncertainty "creates powerful reasons for states to cooperate" (Glaser 1994, 59). Yet, traditional balancing theories presume that states avoid cooperation due to fear of getting cheated, and they cooperate only when they must (Mearsheimer 1994, 11) – "that is, when they face common enemies and/or threats" (as cited in Maoz, Kuperman, Terris 2006, 667).

In this paper, I harbor a more optimistic view of interstate cooperation than balancing theories predict. In the post-Cold War era, states also engage in security cooperation to build intramural confidence (Acharya 2007, 23; Emmers 2004, 3-18; Dewitt 1994) and to develop an “understanding of the mutuality of security based on mutual reassurance rather than deterrence” (Snyder 1997, 117). As Zeev Maoz (2011, 180-181) notes, “cooperation has meaningful value beyond the need to pool resources against common security threats. Cooperation in and of itself is a security booster. In other words, states seek to cooperate in order to promote trust, reduce suspicion...thereby increasing their security. Successful and mutually beneficial cooperative experiences help reduce future threats by converting would-be enemies to friends...Security cooperation conceived as a way of deterring or engaging current enemies tells only part of the story.”

I posit that rational states have high incentives to cooperate with adjacent states to reduce the risk of militarized conflict and foster trust with them. In his canonical discussion on the evolution of cooperation, Robert Axelrod (1984, 73-77 and 158) identifies states as an example of players whose “success depends in large part on how well they do in their interactions with their neighbors” and writes that the same units that face each other in immobile sectors for extended periods of time tend to have stronger belief are more likely to engage in cooperation with each other based on the belief in the live-and-let-live system and exercise restraint. Especially, secondary states would take a chance on cooperation at the level of trust that established great power does not feel justifies cooperation. For example, Andrew Kydd (2005, 39-40) notes that such strategic thinking explains the “historical divergence between United States and European attitudes towards confronting various security threats, from the Soviet Union, during the Cold War to more recent cases such as Iraq. The United States, being more powerful, prefers to act in a

noncooperative way and initiate conflicts at the levels of trust that the Europeans feel justifies cooperation.” In a similar vein, Brian Rathbun (2009, 345 & 356) writes that players, including states, vary dispositionally in their level of trust. Rathbun adds that different types of trusters “act very differently in similar structural settings on the basis of beliefs about the trustworthiness of others” “and consequently show markedly different propensities towards cooperation.”

Second, when a secondary state wishes to minimize the tradeoff between increased security and decreased strategic autonomy. Here, I define autonomy as the ability to behave based on one’s security and foreign policy priorities and to preserve discretion in uncertainty management. As Robert J. Art (2005, 185) writes, “[t]he default position of states, especially when it comes to military matters, is not dependence, but autonomy and independence, if they can achieve it.” According to Steven Chan (2013, 73; Morrow 1991), tightly aligning with a great power patron under a balancing strategy may undermine secondary states’ autonomy because it “enable[s] bloc leaders to influence their junior partners’ security policy” and “restrain the latter from developing their military autonomy...” Victor D. Cha (2009, 158) notes that historically asymmetrical bilateral alliance design in East Asia has allowed the US “to exert maximum control over the smaller ally’s actions.”

From a networked perspective in IR, cooperative security ties are important social capitals that increase a state’s capabilities (Hafner-Burton, Kahler, and Montgomery 2009; Kim 2011). In complex networked structures, like the contemporary international system, a state’s capabilities “rely on connections to other members of the network,” not only “individual attributes of states” (Kahler 2009, 12). Thus, for secondary states who wish to preserve strategic autonomy, balancing is the second-best strategy at best. The optimal strategy for secondary states is to diversify

cooperative security ties rather than opting for a rigid single-sided alignment with a single power or bloc.

I'd like to emphasize that hedging is far from passive behaviors, such as fence-sitting and “deferring its alignment choice until uncertainties surrounding intentions, potential threats, and the balance of power become clearer” (Lim and Cooper 2015, 710) or demonstrating ambiguity over its policy preferences (Chang 2022). I argue that hedging behavior is more proactive because it entails a costly behavior that reveals a secondary state’s willingness to cooperate with rising power and its great power patron. Hence, a more accurate way of conceptualizing hedging is it is a deliberate signaling behavior that demonstrates “one chooses to cooperate with both sides” rather than antagonizing a particular state. It is a crucial distinction worth noting because it is related to the motivations of hedging, and it has implications for how long the hedging trend will endure. Suppose hedging results from mere indecisiveness, as often described (Mearsheimer 2014, 693; Lim and Cooper 2015, 710). In that case, then hedging will be a transient behavior that appears when secondary states “buy...time to determine whether the state should balance or bandwagon until the strategic landscape’s future direction is clarified” (Koga 2018, 637). On the other hand, if hedging is motivated by reasons more than just buying time and the belief that taking sides is a suboptimal strategy, then it may not be a passing phenomenon.

Theoretical Expectations Compared: Hedging vs. Balancing

If the balancing theory is correct, we will not observe the development of cooperative security ties between a rising power and secondary states on a dyadic level. At the same time, we will see secondary states’ expansion of military ties with great power patron out of high-threat perceptions. On a structural level, we are likely to observe the emergence of a balancing coalition

against the rising power. On the other hand, if my hedging theory is correct, we will see secondary states' pursuit of cooperative security ties not only with a great power patron but also with rising power to manage uncertainty and build trust. Also, on a structural level, we would observe the emergence of an inclusive security cooperation network that embraces the rising power rather than isolating it.

Qualitatively, in secondary states that believe in trust-building as a medium for managing uncertainties about a rising power, we are likely to observe trust entrepreneurs (e.g., leaders, practitioners, pundits) who avoid imposing an enemy image to the riser and make an effort to escape security dilemma. It is because if states "frame their situation in terms of "what should I do" then it is rational to defect. However, if they can come to...frame their situation as "what should we do," they can reap the benefits of cooperation" (Miall and Shibata 2020, 372-374; Wheeler 2018). On the other hand, secondary states that lack such belief would feel "the need for this transfer of control" to great power patron and the "need for hierarchy to protect against opportunism" because other states are generally untrustworthy (Rathbun 2011, 251).

Assessing Secondary States' Behavior: Through the Lens of Joint Military Exercises

Traditionally favored metric and its limitations: Alliance ties

Then, what are the indicators of security ties that provide sufficient information on how secondary states – not least East Asia – respond to a rising power in the vicinity? Traditionally favored metric has been military alliances (Ikenberry 2015). Yet, the static nature of alliance ties in East Asia could lead us to misleading conclusions that there are no changes in the security cooperation dynamics in the region over time. Seen through the lens of alliances, there are no variations in cooperative security ties in East Asia since the end of World War II, and the hub-and-

spoke system of alliances led by the US seems to be the archetype of cooperation in the region. After signing the bilateral alliance treaty with the US at the end of WWII, neither the existing US allies in Asia terminated the treaties with the US – Japan (1951-), the Philippines (1951-), Australia (1951-), South Korea (1953-), Thailand (1954-) – nor signed new alliance pacts with other countries (Figure 1).

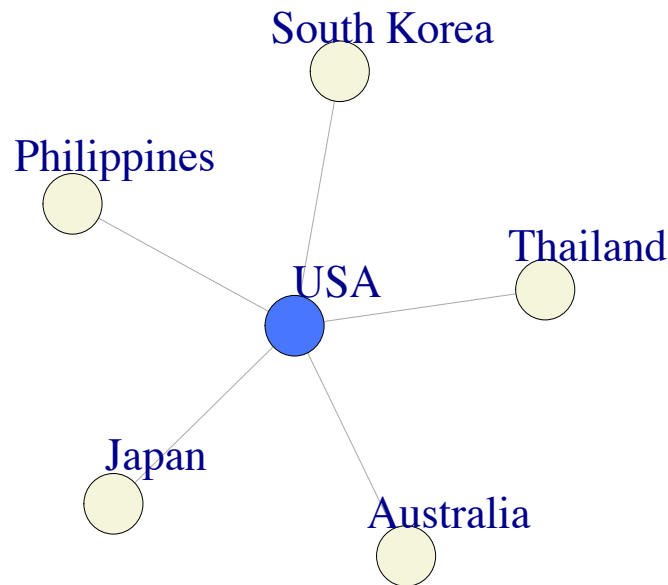


Figure 1 Hub-and-spokes system of bilateral alliances in East Asia

It starkly contrasts the expansion of alliance ties in Europe over time. Since its creation in 1949 with twelve founding member states, the North Atlantic Treaty Organization (NATO) – a military alliance in Europe led by the US – continuously added new members. It is a multilateral alliance with thirty member states today. In this sense, alliance ties may provide insights on security dynamics in Europe (e.g., how European countries respond to its powerful neighbor Russia), but less so for the case of East Asia due to its invariance (Figure 2).

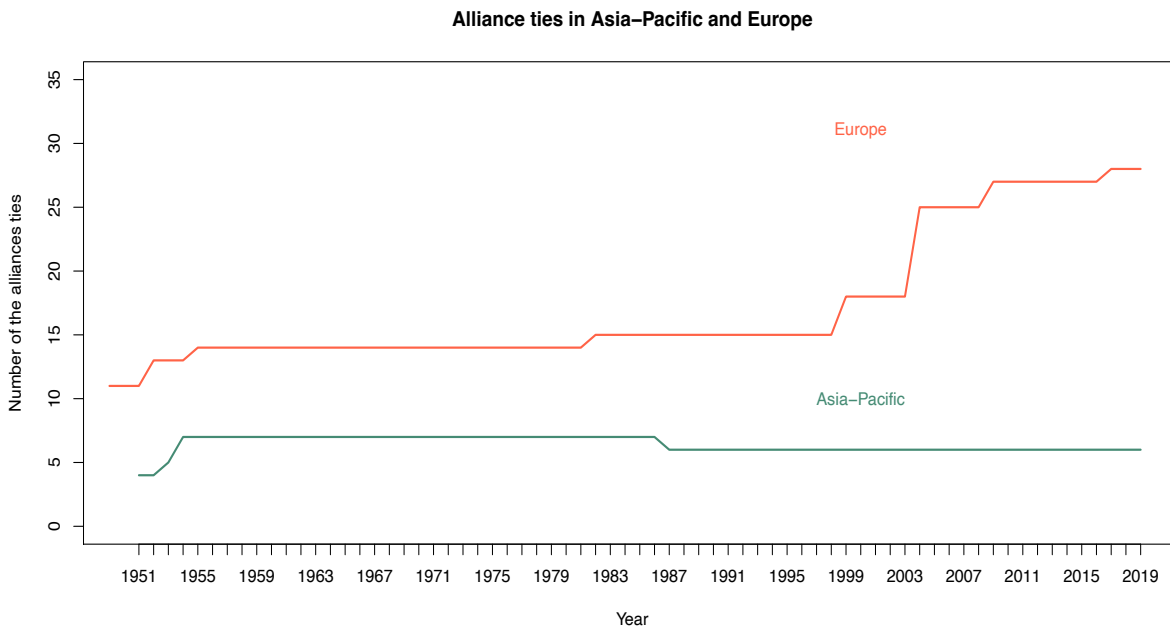


Figure 2 Alliance Ties in Asia-Pacific and Europe⁴⁵

Some scholars argue that the absence of the formation of new alliances in East Asia despite the rise of China is the ipso facto evidence that the regional countries do not wish to balance against its rise. For example, Jackson (2014, 337) writes that in East Asia, “While Cold War era alliances have endured, no new alliances have appeared, and none are on the horizon. This is precisely what we would expect in a region where states seek to avoid the appearance of balancing or bandwagoning. Alliances represent the strongest form of commitment that one state can make to another, and are almost always initiated as an external balancing coalition against a commonly shared threat.” In contrast, Liff (2016, 434) argues that concluding that East Asian secondary states are not externally balancing against China solely because no new alliances are formed in the region is insufficient.

⁴ It is based on COW Formal Alliance Dataset by Douglas Gibler, *Formal Alliances (v4.1) Dataset*, 2009.

⁵ The slight decline in 1986 is due to ANZUS treaty. In 1951, Australia, New Zealand, and United States – three countries signed a collective security agreement. However, the treaty turned into a bilateral treaty between the US and Australia in 1986, after the US suspended its treaty obligations toward New Zealand.

Indicators of Security Cooperation in the 21st Century

Contemporary security environment is characterized by multiple forms of security ties, not just alliances (Wilkins 2012; Chidley 2014; Snyder 1997). Alliance ties are “a key indicator of shared strategic interests. But alliance ties between states tell only part of the story of strategic affinity” (Maoz, Kuperman and Terris 2006, 667). Hence, for a better understanding of interstate relations in the security dimension today, there is a dire need for broadening our conceptions of security cooperation rather than confining our attention to formal alliance pacts (Table 1) (Kinne 2018; Harold et al. 2019; Envall and Hall 2016; Feng and Jing 2014; Struwer 2017; Bang 2017; Doh 2016; Nadkarni 2010; Yeo 2019).

Table 1 Indicators of Cooperative Security Ties

Indicator of Security Cooperation in the 21st Century
Alliances
Joint Military Exercises
Strategic Partnerships
Military Education Exchanges
Naval Port Calls
Intelligence Sharing (General Security of Military Information Agreements)
Establishment of Military Communication Hotlines
High-Level Official Exchanges
Arms Sales
Military Aid

Yet, these cooperative security ties short of alliances are relatively understudied because it has been considered “symbolic rather than substantive in nature” (Struwer 2017, 36). This paper highlights joint military exercises (JMEs) as an important indicator that provides sufficient information to draw inferences on secondary states’ behavior vis-à-vis rising power. Among the list of potential indicators, I focus on JME for three reasons.

Why Joint Military Exercises?

First, JME is a Goldilocks' signal – just costly enough – to credibly reveal a state's preference for security cooperation with the other participant state. To elaborate, this is a costly signal in a reassurance context, where states communicate their willingness to cooperate through military policies (Kydd 2000; Thyne 2006; Gartzke et al. 2017; Glaser 1994). The reassurance signal aims to build strategic trust, “demonstrate that one is moderate, not out to get the other side, willing to live and let live, preferring to reciprocate cooperation” (Kydd 2005, 187). Unlike cheap talk and bluffing, a costly signal is rendered credible in international relations because it creates costs and risks that the actors who are not committed to the action are unwilling to suffer (Fearon 1997; Morrow 1999, McManus and Nieman 2019).

While the formation of new alliances may be too costly for that purpose, and mere public statements of support are costless, joint military exercises are just costly enough to be credible. The cost of participating in a joint military exercise is quite high for countries in terms of actual financial and diplomatic costs. For instance, if state A conducts a joint maritime exercise with state B, state A is committing to bear not only the financial cost of fueling the ship and mobilizing its navy but also the diplomatic cost of risking the relations with state C, who is in strategic rivalry with state B.⁶

Here, I share my view with several recent studies that identify joint military exercise as a form of ‘limited,’ ‘moderate,’ or ‘soft’ security alignment between secondary states and great power. For instance, John Ciorciari (2010) postulates that secondary states’ alignment options with great power vary from tight alliances and limited alignments to no significant security ties at all (i.e., genuine nonalignment), and classify JME as a form of limited alignment between states. To

⁶ For example, see Bernhardt Sukin 2021; Bumiller and Wong, 2010, Taylor, 2019.

quote Ciorciari (*ibid.*, 8), “Limited alignments entail lower commitment and a less binding security relationship [comparing to formal alliances]. They typically include...joint training exercises...” He adds that while genuinely nonaligned secondary states “may exchange defense delegations from time to time, and it may share some information with a great power, but it does not engage in serious joint exercises or training, and it usually does not grant great powers access to defense facilities, even on a commercial basis.” Similarly, Lim and Cooper (2015, 704-705) posit that “routine joint training, exercises, or combat operations” fall under the category of “moderate alignment.” Zachery Selden (2013, 342-343) claims that “participating in joint exercises and cooperative training programs” is one of the “significant indicators of the potential costs the second-tier state is willing to bear as part of building a security relationship with [a great power]. Participation in joint exercises and training programs may appear to be a minimal commitment, but...it is an important first step that a secondary state can take to demonstrate its potential utility as a security partner to [a great power.]”

Second, JMEs often entail face-to-face interaction and foster trust between foreign militaries. Kyle Wolfley (2018, 225) writes that non-traditional exercises focusing on humanitarian assistance, disaster relief, and peacekeeping can lead to trust-building between countries with hostility or conflicting interests. Through these exercises, states “are able to overcome the assumption that all military behavior from a rival is hostile; by not assuming the worst, officers and soldiers may be able to manage small crises and prevent escalation into open war.” Borrowing the words of a retired Indian Army Major General, interpersonal bonding during joint military exercises removes “a sense of enmity and remoteness” even between adversarial states by providing a “human face,” and prevent soldiers from “demonizing” one another (*Ibid.*, 240-241; See also Wheeler 2018). Especially, repeated interactions between militaries along contested land

and maritime borders have the effect of de-escalating any potential crises “by not assuming the worst of intentions in one another” but cooperating “to find a mutual solution” (Ibid., 27). According to Geoffrey Till (2012, 206), “the habit of cooperation which develop when they perform [joint naval operations], increase transparency between [navies] and so act in effect as confidence building measures.”

In addition, joint military exercises facilitate trust-building, not only during the exercise but also before and after the event. Planning processes of these exercises usually begin months or years in advance, and networking among the exercise participants continues afterward. Borrowing the words of former US Chief of Naval Operations Admiral Gary Roughead (2015), “[a]ll too often we focus on the exercise proper, when the ships get together at sea and you do various evolutions. But these exercise are really months in the planning and the activities that take place between the planners from the United States and the other country of other countries really begin to develop relationships that are lasting that they are there to be used or to be reenergized...So, the value of these exercises that we run are significant and they’re very, very valuable and again not just the exercise itself but the planning process, the discussions that take place, the relationships that build, really important for our role in the region and they contribute greatly to the security of the region.”

Finally, joint military exercises are long-standing and iterated practices of security cooperation that allow us to trace the changes in security ties between states over time. One of the reasons why alliances are widely studied in IR is because alliance data are available for a long period for many countries. The joint military exercise is a long-standing phenomenon compared to other security cooperation activities. While naval port calls and the signing of information-sharing agreements between states are a relatively recent phenomenon, joint military exercise often

dates to when the alliances were first created. Especially since the 1990s, the number of countries participating in joint military exercises has proliferated worldwide, and about 180 countries participate today (Bernhardt 2020; Wolfley 2021).

Furthermore, regularized practices of joint military exercises between states are evidence of a strong preference for cooperation. Joint military exercises may take place as a one-time event, but also it can be conducted regularly – annually, biannually, or triennially. Thus, repeated joint training is possible only if there is a strong will for continued cooperation between the participant states.

Empirical Strategy: JMEs and East Asian Secondary State's Behavior

To better understand East Asian secondary states' behavior in the face of rising China, this paper probes secondary states' choices using mixed methods –quantitative and qualitative. First, I construct a unique dataset of JMEs in the Asia-Pacific from 1970 to 2019 (1,447 exercises) and use descriptive statistics and social network analysis (SNA) to analyze the regional pattern of security cooperation over time. Second, I conduct case studies on ASEAN countries' security cooperation with China using account evidence from speeches, press releases, and interviews. While quantitative analysis is apt for identifying behavioral patterns, qualitative research is suitable for exploring the motivations and logic of state behaviors.

Introducing Dataset of Joint Military Exercises in the Asia-Pacific (1970-2019)

Despite the prevalence of joint military exercises and their importance for understanding security cooperation dynamics in East Asia over time, surprisingly, there is a dearth of systematic data and analyses. Filling in the gap in the literature, this paper introduces a new dataset of joint

military exercises. The dataset records bilateral and multilateral JMEs between 11 countries in the Asia-Pacific – United States (USA), China (CHN), South Korea (KOR), Japan (JPN), Philippines (PHL), Thailand (THA), Vietnam (VNM), Indonesia (IDN), Malaysia (MYS), Singapore (SGP), and Australia (AUS). The countries in the dataset are marked in green on the map (Figure 3).

I set the timeframe to start from the 1970s because this was when many regional countries began to normalize their diplomatic relations under global détente. Diplomatic normalization is the prerequisite condition for any type of interstate cooperation to take place.



Figure 3 Coverage of JME Dataset of Asia-Pacific 1970-2019

Sample and Case Selections: East Asian Secondary States

I test my hedging theory against expectations of balancing theories with the nine secondary states listed above. These cases are appropriate for the purpose of this study for several reasons. Many of these countries are not only in close geographical proximity to China, but also, they are formal allies or strategic partners of the US, states with territorial or maritime border disputes with

China, and democracies (Table 2), which make them the most likely cases for balancing. In other words, these are the least-likely cases for my hedging theory. If we observe the hedging behaviors of these secondary states, despite the presence of factors that favor balancing, it will be strong evidence that hedging is a much more pervasive and preferred strategy in the region.

Table 2 Most Likely Cases for Balancing (i.e., Least Likely Cases for Hedging)

Country	Relationship with the US	Territorial/Maritime Disputes with China	Ideological Distance with China ⁷ (max. 20, min. 0)
South Korea (Northeast Asia)	Formal Alliance (1953-present)	Exclusive Economic Zone (EEZ) in Yellow Sea, Socotra Rock	15
Japan (Northeast Asia)	Formal Alliance (1951-present)	EEZ in East China Sea, Senkaku/Diaoyu Islands	17
Philippines (Southeast Asia)	Formal Alliance (1951-present)	South China Sea, Scarborough Shoal, Spratly Islands	15
Thailand (Southeast Asia)	Formal Alliance (1954-present)		8
Vietnam (Southeast Asia)	Comprehensive Partnership (2013-present)	South China Sea, Spratly Islands, and Paracel Islands	0
Indonesia (Southeast Asia)	Strategic Partnership (2015-present)		16
Malaysia (Southeast Asia)	Comprehensive Partnership (2014-present)	South China Sea, Spratly Islands	13
Singapore (Southeast Asia)	Strategic Partnership (2005-present)		5
Australia (Oceania)	Formal Alliance (1951-present)		17

⁷ The ideological distance was computed using Marshall and Gurr's "polity2" variable in "Polity 5" data. It represents the average distance (2010-2018).

Empirical Analysis 1: Descriptive Statistics

#1 East Asia's Increasing JME with China after the 2000s

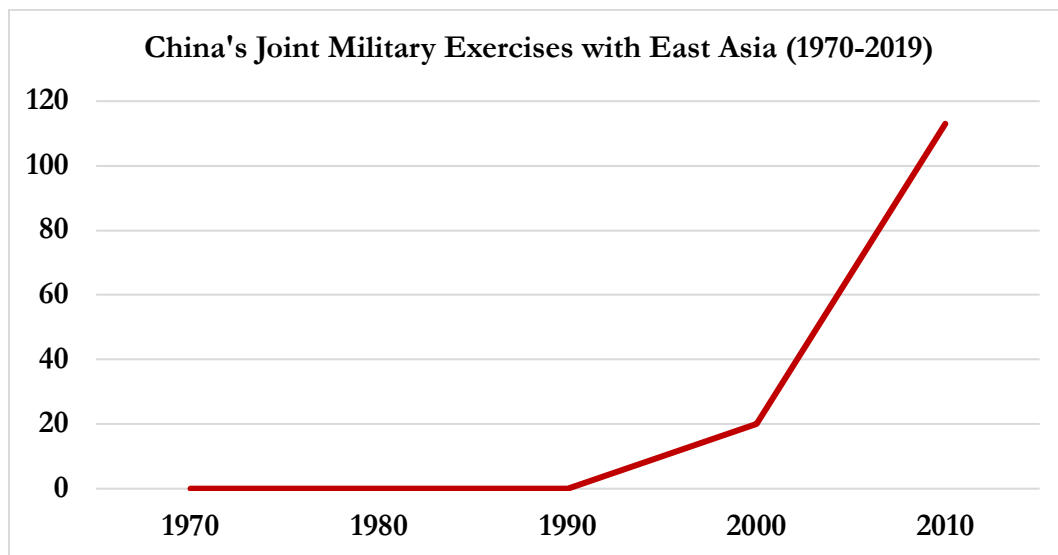


Figure 4 China's JMEs with the East Asian countries over time (by decade)

Starting with basic descriptive statistics, in Figure 4, the red line refers to the number of joint military exercises between China and nine East Asian countries (South Korea, Japan, Philippines, Thailand, Vietnam, Indonesia, Malaysia, Singapore, and Australia) in the past five decades. Until the 1990s, China had no exercises with any countries in the region. However, after the 2000s, we observe an upward trend. In the 2000s, China conducted 20 exercises with the region. From 2010 to 2019, recording approximately a 460% increase from the previous decade, the number of exercises between China and the regional countries jumped to 113. This is an enduring and overlooked pattern of security cooperation in East Asia.

#2 The US Allies and Strategic Partners' JMEs with China (2000-2019)

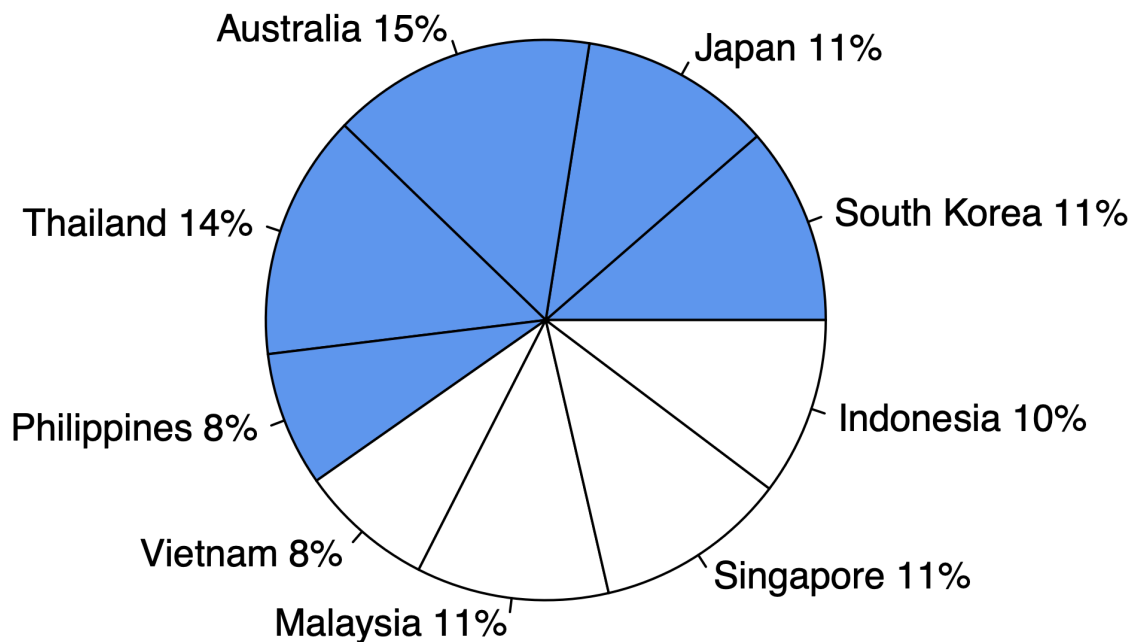


Figure 5 China's JME partners in East Asia (2000-2019)

It is worth highlighting that 59% of the exercises between China and regional countries involved the US allies in the region, such as Australia, Japan, the Philippines, South Korea, and Thailand (in blue in the pie chart). Considering that the countries in the non-US ally group, such as Singapore, Indonesia, Malaysia, Singapore, and Vietnam (in white color), are also important strategic partners of the US, China's expanding cooperation with the region is quite significant (Figure 5). The result does not include the exercises where these countries only participated as observers. It is based on the bilateral and multilateral joint military exercises in which these countries have participated by dispatching military personnel and/or military assets. Table 3 below shows selected examples of JMEs recorded in the dataset.

Table 3 Military Personnel and/or Military Assets Featured in East Asia's JME with China

Exercise	Participants	Military Personnel and/or Assets
2011 South Korea-China SAREX	South Korea and China	S. Korean Navy: 4,500-ton Wang Geon destroyer Chinese Navy: PLA frigate
2012 Blue Strike	Thailand and China	Royal Thai Navy: 126 military personnel Chinese Navy: 372 military personnel
2018 ASEAN-China Joint Maritime Exercise	China and 10 member states of ASEAN	8 ships, 3 helicopters, and more than 1,200 military personnel The participating ships: <ul style="list-style-type: none"> - China (3): guided missile destroyer Guangzhou, the guided missile frigate Huangshan, and the replenishment ship Junshanhu - Singapore (1): frigates Stalwart, - Thailand (1): Taksin - Vietnam (1): Tran Hung Dao - Brunei (1): patrol ship Daruttagwa - Philippines (1): logistics support ship BRP Dagupan City
2018 Kakadu	Australia, China, and 25 other countries	23 ships and submarines, 21 aircraft, and over 3,000 military personnel Chinese Navy: PLA frigate Huangshan
2018 Vietnam-China Border Defense Friendship Exercise	Vietnam and China	Vietnamese Army + Chinese Army: 145 personnel
2019 Japan-China Friendship Exercise	Japan and China	Japan Maritime Self-Defense Force: JMSDF destroyer JS Samidare Chinese navy: Chinese destroyer Taiyuan
2019 Exercise Cooperation	Singapore and China	Singapore Armed Forces + Chinese Army: 240 personnel

#3 JMEs between East Asian countries and China by Military Branches and Exercise Types

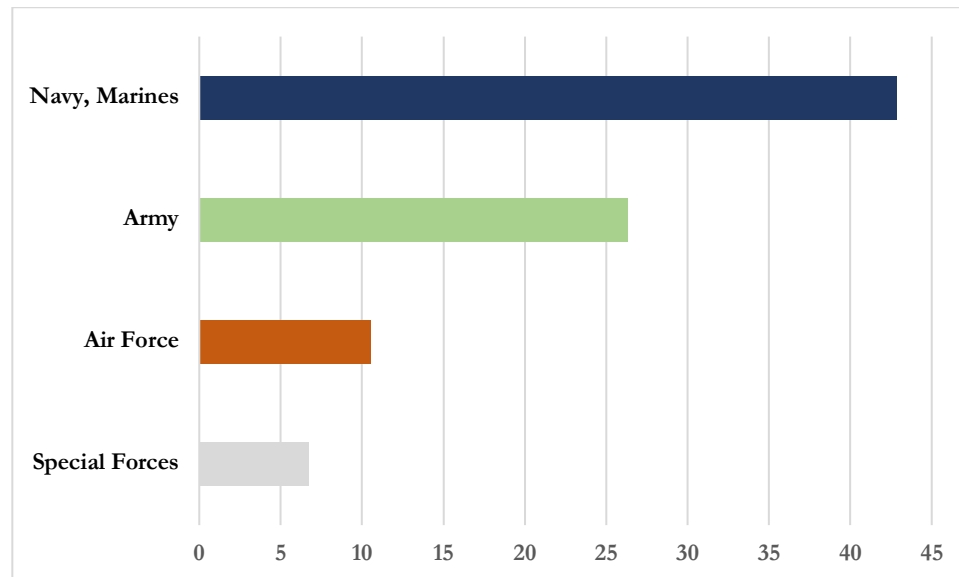


Figure 6 China's JMEs with East Asia by Military Branches (2010-2019)

Regarding the military branches featured in the exercises, 42% of the exercises between China and regional countries involved joint training of navies and marines (Figure 6). This development is noteworthy because it came against the backdrop of East Asian countries' ongoing tension with China over territories and borders in maritime Asia.

Table 4 Types of Military Operations Featured in China's Exercise with East Asia

	Combat/ Combat support	Counter terrorism	Anti-Piracy	Survival	Disaster Relief	Amphibious Landing
Percentage	20	15.2	5.6	12	42.4	5.6

With respect to the type of exercise, exercises related to Military Operations Other Than War (MOOTW) – “operations undertaken by military forces to safeguard their country’s national security and developmental interests, that do not constitute a war. These include counterterrorism and stability maintenance, HADR operations, safeguarding sovereignty and national interests, safety and security operations, international peacekeeping, and rescue and relief” (Gaoyue and

Char 2019, 3) – were dominant. The result suggests that despite the diplomatic skirmishes, the regional countries have managed to build trust and reduce uncertainty and risk of conflict due to miscalculations by working together with Beijing (Table 4).

Empirical Analysis 2: Network Analysis

To better understand the changes in security dynamics, I visualize the joint military exercise network of the Asia-Pacific by each decade (the 1970s, 1980s, 1990s, 2000s, and 2010s) and compare the networks⁸ over time using network analysis. In the following JME networks, each node is ‘a country in the Asia-Pacific’, and links between nodes indicate ‘security ties between them.’ The red node refers to China, the blue node is the US, and nine East Asian secondary states are marked in beige. The security ties indicate the presence (unweighted network) and frequency (weighted network) of bilateral or multilateral exercise between states.

The Gist: The Evolution of Joint Military Exercise Ties (1970-2019)

Then, how has the JME network changed over time in the Asia-Pacific? The bottom line is that the JME network has evolved to a more inclusive, densely connected, and less centralized structure that embraces China rather than forming an isolated bloc against it.

1970s JME Network: High Resemblance to Hub-and-Spokes Structure of Alliances

To elaborate, the joint military exercise network of the 1970s was highly centralized (centralization: 0.849)⁹ and sparsely connected (density: 0.072). The network structure had a high resemblance to the hub-and-spokes system of bilateral alliances in East Asia. The US allies in East

⁸ I define network as “any set of interconnected nodes” (Kahler 2009, 5).

⁹ A completely centralized network has centralization score of one and the more the network is decentralized, it will be closer to zero.

Asia, South Korea, Japan, and Australia, had no joint military exercise partner other than the US. They were only connected indirectly through the hub. Yet, despite the alliance ties with the US, the Philippines did not have exercises with the US in this period, but only with Indonesia.

In highly centralized networks, like the hub-and-spokes structure, the hub has strong power and control because it “possesses exclusive ties to otherwise marginalized or weakly connected node or groups of nodes” (Hafner-Burton, Kahler, and Montgomery 2009, 571). In Figure 7, the node's size reflects each node's eigenvector centrality—the higher the centrality, the bigger the node's size.¹⁰ Eigenvector centrality measures the amount of social capital a node possesses in a network. For example, in the 1970s network, the US had the highest centrality (US's eigenvector centrality: 1).

Also, the network had low density and inclusiveness because many countries in the region, including China, Vietnam, Thailand, Malaysia, and Singapore, did not have any JME with other countries in the region and remained as isolates (inclusiveness: 0.454). However, it should be noted that many countries did not even have official diplomatic recognition of each other in the 1970s. Under the first wave of global détente, China barely normalized diplomatic relations with Japan and Australia (1972), Malaysia (1974), Philippines, and Thailand (1975) in this period.

¹⁰ Eigenvector centrality is calculated by weighing not only the tie values but also the centrality of the attached node (Hafner-Burton, Kahler, and Montgomery 2009, 565).

1970-1979 JME Network of the Asia-Pacific

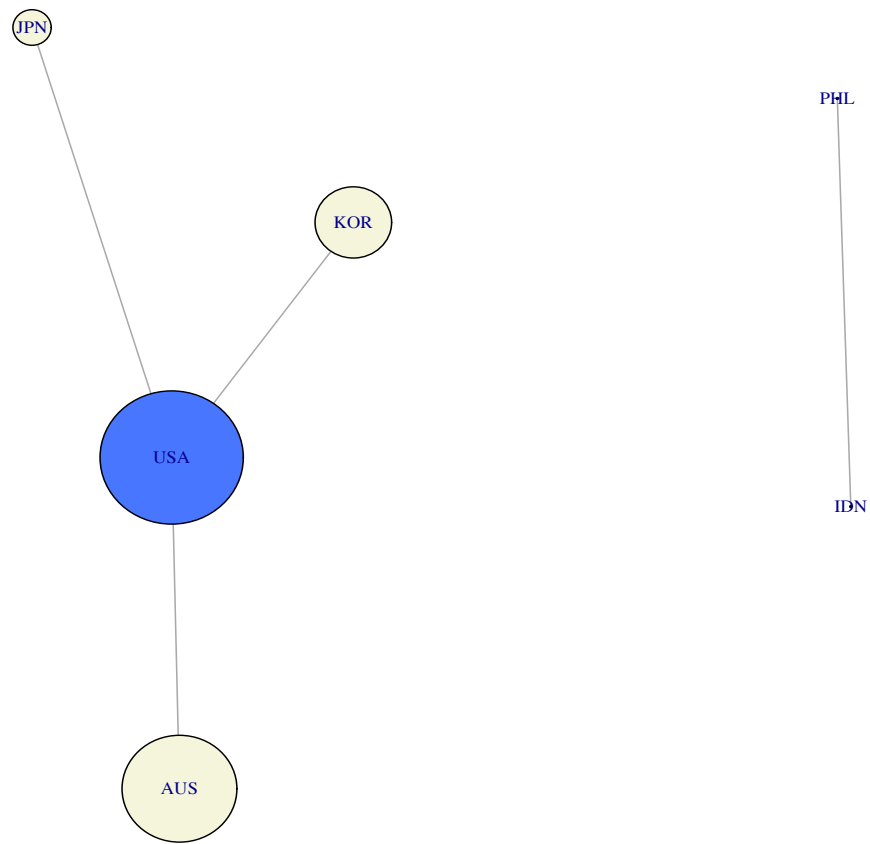


Figure 7 JME Network of the Asia-Pacific: 1970-1979 (weighted)

1980s & 1990s JME Networks: Increasing Connectedness, But the Cold War Divide Lingers

In the 1980s and the 1990s, the JME network started to move away from a strict hub-and-spokes structure as the US allies and regional strategic partners conducted joint military exercises with each other (Figure 8 and 9). For example, upon the invitation of the US, Australia and Japan participated in the biennial RIMPAC (Rim of the Pacific Exercise) in the 1980s, and South Korea joined the RIMPAC in 1990. Also, Thailand, Singapore, and Malaysia joined the network and left the isolated status (inclusiveness: 0.818). Overall, the JME network became denser in these two decades as many regional countries diversified cooperative security ties. The network density was recorded 0.291 and 0.455 in the 1980s and the 1990s, respectively.

However, the development of new security ties in this period reflected the Cold War ideological divide because China and Vietnam, the communist countries, remained outside the security cooperation network and did not have any joint military exercise with regional countries (eigenvector centrality of both China and Vietnam: 0). Using homophily test,¹¹ I examined whether the US allies are more likely to cooperate with the US allies than with the non-US allies in the security realm. The result suggests that the US allies had a higher tendency to conduct joint military exercises with each other in the 1980s than with non-US allies (homophily score: 0.227), but such a tendency got weaker in the 1990s (homophily score: -0.041).

¹¹ The outcome value ranges from -1 to 1. Positive value means that there is a high tendency of clustering among actors with same attribute and negative value means that similarity between the actors don't necessarily affect their decision to develop ties in a network.

1980-1989 JME Network of the Asia-Pacific

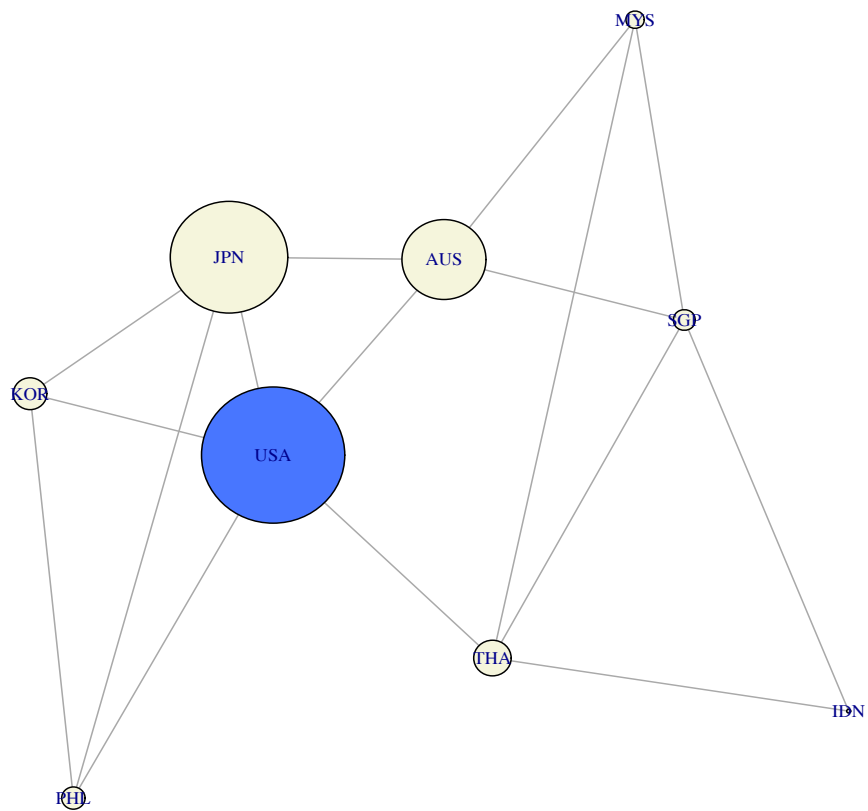


Figure 8 JME Network of the Asia-Pacific: 1980-1989 (weighted)

1990-1999 JME Network of the Asia-Pacific

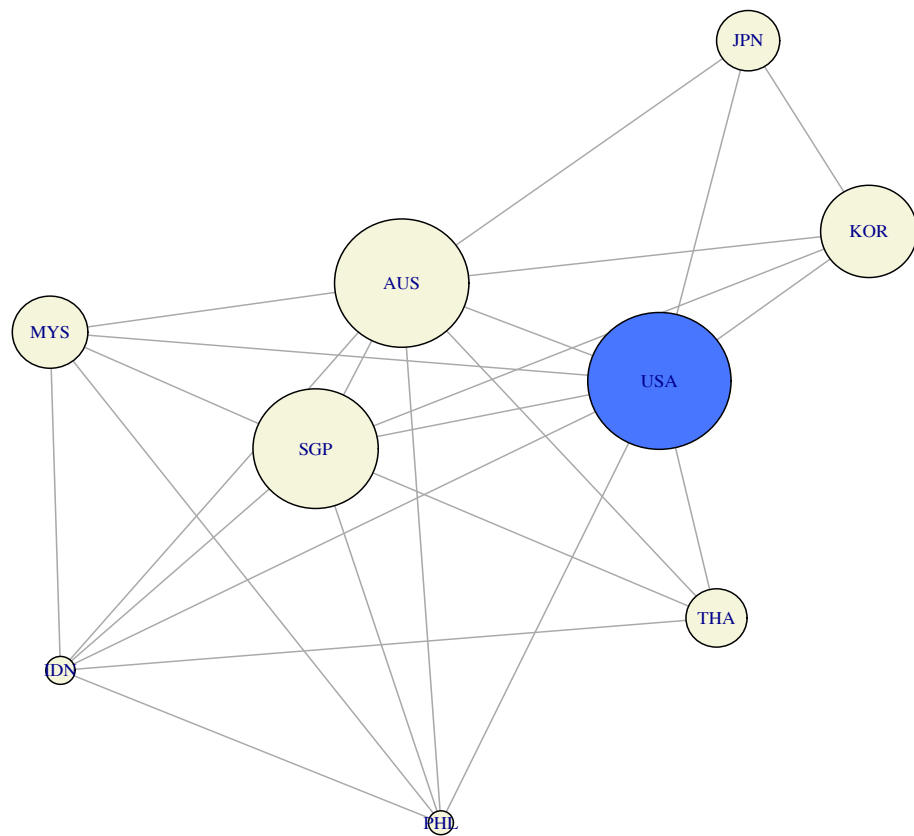


Figure 9 JME Network of the Asia-Pacific: 1990-1999 (weighted)

2000s JME Network: Security Cooperation Pattern Beyond the Cold War Dynamics

After the 2000s, security ties in the region are no longer demarcated by the Cold War dynamics. A noticeable development in this period was the inclusion of China and Vietnam into the joint military exercise network. China established direct security ties with all ten Asia-Pacific countries in the network (Figure 10). Compared to other countries, China is not as central in the network, but it is noteworthy that its eigenvector centrality jumped up to 0.163 from 0 (Table 5).

In this period, the JME network evolved to a new structure, which is a highly inclusive and fully meshed network. Indicating that all the countries are directly connected to each other through joint military exercises, the 2000s network recorded density and inclusiveness of 1. As the regional countries diversified cooperative security ties, the centralization of the networks decreased to 0 (Table 5). The result suggests that the security ties in the region are no longer concentrated on a single country. The US and the East Asian countries have security partners other than the US. The results of two homophily tests suggest that neither the regime type (homophily score: -0.1) nor shared ally (homophily score: -0.1) strongly binds the regional security cooperation pattern.

2000-2009 JME Network of the Asia-Pacific

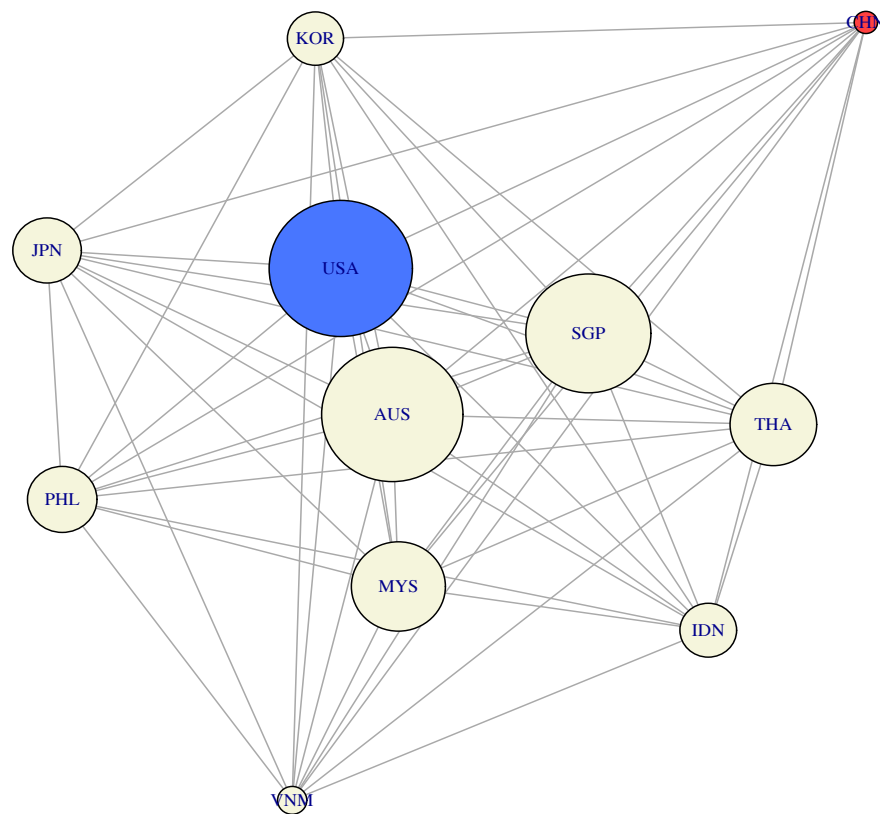


Figure 2 JME Network of the Asia-Pacific: 2000-2009 (weighted)

2010s JME Network: The Emergence of Network that Embraces Rising China

In the 2010-2019 timeframe, China moved closer to the center of the network from the periphery. China's eigenvector centrality increased to 0.379 in this period (Table 5). The increase in China's centrality can also be visibly noted from the change in the size of China node from the 2000s to the 2010s (Figure 10 and Figure 11). In this period, according to the Composite Index of National Capability (CINC) and the Global Power Index (GPI),¹² two key measures of national power, Chinese power increased significantly (Heim & Miller 2020). Also, China's military expenditure stayed at around 1.7 percent of its gross domestic product (GDP), but due to its economic growth, in absolute term, China's defense spending increased from 105.52 billion (2010) to 240.33 billion (2019) (Maizland 2020; Bommakanti and Shivamurthy 2021). In this light, East Asian countries' expansion of security cooperation with China is noteworthy, because if balancing theory is right, this is the period that we should observe the coalition that isolates rising China out of fear of staggering economic and military capabilities of Beijing.

Moreover, the fully meshed network structure that emerged in the previous decade solidified in the 2010s. Indicating that every country engages in JME with every other country in the network, the density and inclusiveness score recorded 1. The US remained as the most central actor in the 2010s (US's eigenvector centrality: 1), but the rise of the rest should be noted. For instance, South Korea's eigenvector centrality recorded 0.709 and Singapore recorded 0.754

¹² The CINC is a global power metric developed in 1963. It includes six-factor: (1) total population, (2) urban population, (3) military personnel, (4) military expenditures, (5) primary energy consumption, and (6) iron and steel production. The GPI was developed under the auspices of the National Intelligence Council (NIC) to accurately assess power in the postindustrial or information age and go beyond industrial-age indices like the CINC. The GPI includes five factors: (1) nuclear weapons (military capacity); (2) trade (economic capacity); (3) research and development (R&D) expenditures (technological capacity); (4) government revenues (political capacity); and (5) working-age population (labor capacity) (See Heim & Miller 2020).

2010-2019 JME Network of the Asia-Pacific

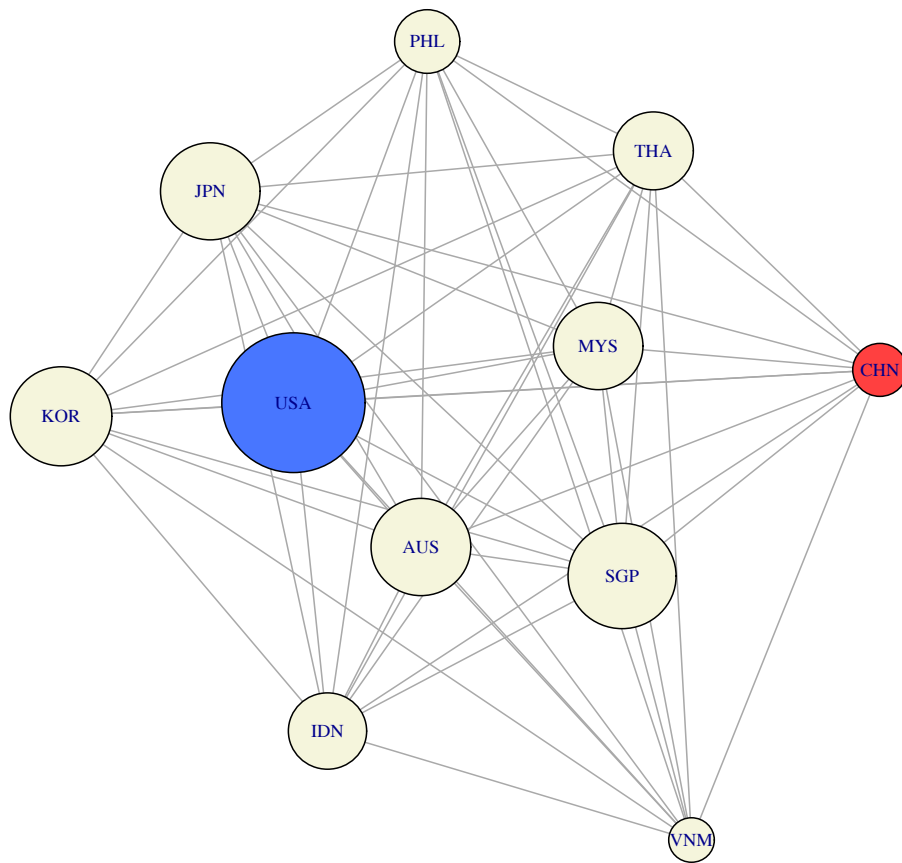


Figure 11 JME Network of the Asia-Pacific: 2010-2019 (weighted)

	1970-1979	1980-1989	1990-1999	2000-2009	2010-2019	Trend over time
Network Density (between 0 and 1)	0.072	0.291	0.455	1	1	Low Density -> High Density
Network Centralization (between 0 and 1)	0.849	0.378	0.292	0	0	High Centralization -> Low Centralization
Network Inclusiveness (between 0 and 1)	0.454	0.818	0.818	1	1	Low Inclusiveness -> High Inclusiveness
Homophily (Assortativity) (between -1 and 1) : Do US allies flock together?	-0.076	0.227	-0.041	-0.1	-0.1	JME pattern is NOT strongly driven by the presence of formal alliance treaty with the US.
Homophily (Assortativity) (between -1 and 1) : Do democracies flock together?	-0.076	- 0.066	-0.143	-0.1	-0.1	Democracies do NOT necessarily conduct more JMEs with each other.
Eigenvector Centrality : weight reflected (between 0 and 1)	China	0	0	0.163	0.379	From isolate to a new member of JME network.
	South Korea	0.534	0.234	0.674	0.709	Increase in centrality over time.
	Japan	0.267	0.820	0.441	0.695	Ups & downs, but consistent actor.
	United States	1	1	1	1	The most central actor.
	Australia	0.801	0.586	0.938	0.696	Consistently active member.
	Philippines	0.001	0.163	0.174	0.455	Increase in centrality over time.
	Indonesia	0.001	0.027	0.204	0.546	Increase in centrality over time.
	Singapore	0	0.151	0.874	0.754	Active since the end of Cold War.
	Malaysia	0	0.127	0.527	0.625	Active since the end of Cold War.
Thailand	0	0.333	0.426	0.605	0.558	Active since the end of Cold War.
Vietnam	0	0	0	0.204	0.318	Late-comer to JME network.

Table 5 Network Properties of the Asia-Pacific 1970-2019: Node and Network Level

Empirical Analysis 3: Case Studies on China-Southeast Asia Security Cooperation

The systematic examination of JME data suggests that East Asian secondary states are hedging. Today, many regional countries conduct JMEs with not only the US, but also China. Then, what is driving security cooperation between Beijing and secondary states after the 2000s?

One of the explanations is the change in ‘China’s grand strategy.’ Historically, China has eschewed building security ties with other countries. China still abstains from signing formal alliance treaties with other countries (Hong 2014, 49-54; Swaine and Tellis 2000, 84; Cho 2009). However, from the early 2000s Beijing has relaxed its long-held position on ‘non-alignment’ in the security realm (Goldstein 2005; Sachar, 2003; People’s Daily 2012). “A particularly important departure is China’s new willingness to engage in bilateral [and multilateral] military exercises, breaking its a half-century, self-imposed prohibition on such efforts,” according to David Shambaugh (2004, 87).

However, it takes two to tango to make a “joint” military exercise. If the regional countries don’t value cooperation with China, we would not observe increasing cooperation between them. Then, what motivates East Asian secondary states to conduct JMEs with China despite territorial and historical grievances and potentially at some risk to their relations with the US? With this question in mind, I conduct case studies on ASEAN-China relations. The remarks made by Southeast Asian high government and military officials on joint military exercises with China confirm the argument that secondary states are seeking cooperative security ties with China to build trust and reduce the risk of conflict.

Case Study: ASEAN-China Security Cooperation

In 2019, the Association of Southeast Asian Nations (ASEAN) conducted the inaugural ASEAN-US Maritime Exercise (AUMX) with the US navy from September 2 to 6. As many as 1,260 military personnel, 8 warships, and 4 aircraft from the US and all ASEAN member states took part in the first AUMX that began in the Gulf of Thailand, continued off the coast of Vietnam, and ended in Singapore (Marston 2019; Ives 2019). Vice Admiral Philip G. Sawyer, commander U.S. 7th Fleet, noted that by sailing together during the exercise, the forces promote shared commitments to maritime partnerships, security, and stability in Southeast Asia (CTF 73 Public Affairs 2019).

However, this was not the first exercise of its kind that ASEAN as a whole held with a single country. A year earlier, from October 22 to 28, 2018, China held a similar maritime exercise with ASEAN off the coast of the southern Chinese city of Zhanjiang, Guangdong province. The first China-ASEAN Maritime Field Training Exercise was participated by 8 warships, 3 helicopters, and more than 1,200 military personnel from China and all ten member states of ASEAN (Li 2018; Parameswaran 2018). Six countries sent their vessels to take part in the drill. It included three ships from China, and one each from Singapore, Brunei, Thailand, Vietnam, and the Philippines – the guided missile destroyer Guangzhou, the guided missile frigate Huangshan and the replenishment ship Junshanhu (China); frigates Stalwart (Singapore), Taksin (Thailand), Tran Hung Dao (Vietnam); patrol ship Daruttagwa (Brunei); and logistics support ship BRP Dagupan City (Philippines) (Lo 2018).

The joint naval exercise was co-organized by Singapore and China, and it involved the application of The Code for Unplanned Encounters at Sea (CUES) and search and rescue operations and communications exercises. At the opening ceremony, Singapore's Chief of Navy,

Rear-Admiral (RADM) Lew Chuen Hong (Zhang 2018a) noted that the practice of the CUES carried out as part of the drill enhances operational-level communication and reduces risk of miscalculations” in the region. Singapore Defense Minister Ng Eng Hen also noted that the first ASEAN-China Maritime Exercise is significant, because “it’s not a given” that militaries will always cooperate, or they would agree on everything (Zhang 2018b). In an interview following his visit to Ma Xie Naval Base, where the exercise was held, Zhanjiang, Defense Minister of Singapore, said, “I think multilateral exercises are very useful...During peacetime, you should be spending a lot of your time building linkages, understanding each other... the more you cooperate, the more you understand each other, the more you build up mutual confidence...if there’s any mishap, hopefully you can call up the other person and through your personal ties and relationships that you’ve built up before, reduce miscalculations” (MINDEF Singapore 2018). “It’s always better that you have exercise and you have troops meeting each other, having the same mission, looking at each other eye-to-eye and planning together, rather than across the table at cross purposes and contending on issues on the opposite side” (Zhang 2018a). The minister also urged that “the way forward for the ASEAN-China Maritime Exercise is to have more of them, and larger ones, so that confidence can be built” (Zhang 2018b).

The first joint maritime exercise between China and ASEAN is a prime example that shows JMEs facilitate cooperation between militaries not only at the time of the event but also before and after the exercises. To prepare for the six-days field exercise in October 2018, more than 40 naval officers from ASEAN countries and China came together for a two-day table-top exercise between August 2 and 3 (Zhang 2018c). Less than a year after the first drill, in April 2019, China and Southeast Asian countries conducted *Joint Maritime Drill 2019*. 13 warships and 4 helicopters from Thailand, Philippines, Singapore, Vietnam, and China took part in the drill held in Qingdao,

eastern China's Shangdong Province. It is noteworthy that the Philippines and Vietnam, which have ongoing contesting claims over the Spratly Islands and Paracel Islands with China, participated in joint maritime drills with China for two consecutive years. The exercise focused on the fleet formation, temporary inspection, visit, board, search and seizure (VBSS) operations, joint search and rescue, and medical treatment of wounded personnel. Indonesia and Laos also sent observers to watch the drill (China Military 2019).

ASEAN countries' decision to conduct multilateral joint military exercises with China is not an abrupt event. Since the early 2010s, the region's high government and military officials have steadily articulated the need for joint military exercises with China for regional stability and to keep tensions in the South China Sea in check. For instance, in March 2013, at the Jakarta International Defense Dialogue, participated by over 300 defense officials and observers from 38 countries, Indonesia Navy Chief Admiral Marsetio said, "we are concerned by the spillover effect of the situation in the South China Sea" and added, "hence, we would like to invite China's navy to a joint exercise with ASEAN" (Straits Times 2013). In October 2015, China officially and publicly proposed holding the first ASEAN-China maritime exercise (People's Daily, 2015). However, the drill did not take off in 2016 due to the ASEAN countries' internal disagreements on a coordinated response to China's offer (BBC 2015).

The idea picked up steam under Singapore's push as the ASEAN-China dialogue relations coordinator (2015-2018). In June 2017, at the Shangri-La Dialogue, Singapore's Defense Minister Ng Eng Hen confirmed that the first ASEAN-China maritime exercise would take place in 2018 under Singapore's chairmanship of ASEAN. In October 2017, when asked about Southeast Asia's position on joint maritime exercise with China, Defense Minister Ng Eng Hen said, "Singapore supports it." "We will push it ... for the very reason that all ASEAN and China want that. If you

exercise, you at least build understanding and trust” (Zheng 2017). In August 2018, the Philippines, which has overlapping claims with China over the Spratly Islands, also expressed its support for the first China-ASEAN maritime exercise. At a press conference, Philippine Foreign Secretary Alan Peter Cayetano said that “the exercise is important.” “It’s very important that there are joint military exercises if only to prevent accidents and for military-to-military relations to grow so that we can talk to each other better” (Xinhua 2018). Carlyle Thayer asserts that the joint military exercise is a marker that Southeast Asian countries are “signaling that China is not the enemy” (Today 2017). Chin-Hao Huang notes that the exercise reflects ASEAN’s proactive approach toward Beijing (Ibid.).

Conclusion: Implications for IR theory, East Asian Security, and U.S. Foreign Policy

On a theoretical note, this paper demonstrates that the widely held belief that secondary states in close geographic proximity to a powerful state tend to counter its rise by joining a balancing coalition out of high-threat perceptions is not an ironclad law of international relations. On an empirical note, this paper shows that hedging is the dominant response of East Asian secondary states to China’s rise.

Throughout the post-Cold War period, a group of scholars projected grim assessments of prospects for stability in Asia along with the rise of China (Segal 1992; Friedberg 1993; Berger 2000; Liff and Ikenberry 2014). Pointing to the lack of “linkages among states” and “recent memory of cooperation” in the region as a source of instability, Aaron L. Friedberg (1993, 7) even said, “for better and for worse, Europe’s [conflictual] past could be Asia’s future.” Does this prediction hold true for the region in the twenty-first century? My research suggests not. The evidence of JMEs shows that China’s neighbors who would be ‘most likely’ to balance against

rising China have developed cooperative military ties with China after the 2000s when China's rise took off. Then, does this matter at all? Yes – East Asian countries' joint training with China is consequential because not everybody does it. For example, in Europe, the last exercise between Russia and multiple North Atlantic Treaty Organization (NATO) countries was in 2011, and NATO has no exercises planned with Russia for the future (Aljazeera 2020; Jonassen 2022).

The trend of expanding military cooperation between China and the regional countries is being continued despite COVID-19, as epitomized by Singapore-China Naval Exercise in February 2021 and September 2021, Indonesia-China Naval Exercise in May 2021, and Thailand, Mongolia, Pakistan, and China's Peacekeeping Exercise in September 2021 (White 2021; Feng 2021; Zhou 2021; Bangkok Post 2021). Similar patterns are also observed in other security indicators. As an illustrative example, in March 2021, South Korea and China agreed to install two additional military hotlines to prevent incidents and enhance trust, thereby easing tensions on the Korean Peninsula (Korea Herald 2021). This is noteworthy because Seoul does not establish military communication hotlines with every other country. South Korea has a military communication line with only three countries: the US, Japan, and China.

The findings suggest that there may be considerable costs to both IR scholarship and the US foreign policy for being unwilling to delve into local knowledge. As the US competes for primacy against China, Washington increasingly asks this question to its old friends in East Asia. Are you with us or against us? However, as the evidence of JMEs shows, the US allies and regional strategic partners are sending a signal that they choose to cooperate with both the US and China. Borrowing the words of Singaporean Prime Minister Lee Hsien Loong, "not many countries would like to join a coalition against those who have been excluded, chief of whom will be China...To try and make a line-up, Cold War-style...don't think that's on the cards" for them (Feng 2020).

Jae Ho Chung (2009, 675) writes that “whichever power that first preaches the “us or them” exclusivity is likely to lose more than it will gain since it will *ipso facto* constitute a greater threat to the region of East Asia. Sino-American relations are **evolving** over time and so are the responses of East Asia to the rise of China.”

In light of the situation, shaping US foreign policy based on hawkish ideas, such as creating a balancing (or containment) coalition aimed at China, is not advised (Kang 2017; Fravel et al. 2019; Dahiya 2021). If the goal of the US is to maintain its leadership position in East Asia, the constructive direction for the future of American foreign policy is to take the initiative in creating platforms for cooperation with China.

References

- Acharya, Amitav. "Chapter 1. Regional Institutions and Security in the Asia-Pacific: Evolution, Adaptation, and Prospects for Transformation." In *Reassessing Security Cooperation in the Asia-Pacific: Competition, Congruence, and Transformation*, edited by Amitav Acharya and Evelyn Goh, 19-40. Cambridge: MIT Press, 2007.
- Acharya, Amitav and Barry Buzan. "Why is there no non-Western international relations theory? An introduction." in *Non-Western International Relations Theory: Perspectives on and Beyond Asia*, edited by Amitav Acharya and Barry Buzan, 1-25. London: Routledge, 2010.
- Aljazeera, "Russian navy to join first drill with NATO members in 10 years," December 10, 2020, <https://www.aljazeera.com/news/2020/12/10/russian-navy-to-join-first-drill-with-nato-members-in-a-decade>
- Allen, Kenneth, Philip C. Saunders, and John Chen. *Chinese Military Diplomacy, 2003-2016 Dataset*, 2017. Distributed by National Defense University Press Website. <https://ndupress.ndu.edu/Media/News/Article/1249864/chinese-military-diplomacy-20032016-trends-and-implications/>.
- Allen, Kenneth, Philip C. Saunders, and John Chen. "Chinese Military Diplomacy, 2003–2016: Trends and Implications." *China Strategic Perspectives*, no. 11 (2017): 1-81.
- Altfeld, Michael F. and Bruce Bueno de Mesquita. "Choosing Sides in Wars." *International Studies Quarterly* 23, no. 1 (March 1979): 87-112.
- Art, Robert J., Stephen G. Brooks, William C. Wohlforth, Keir A. Lieber, and Gerard Alexander. "Correspondence: Striking the Balance." *International Security* 30, no. 3 (Winter 2005/2006), 177-185.
- "ASEAN, China joint maritime drill "important": Philippine FM." *Xinhua*, August 7, 2018. http://www.xinhuanet.com/english/2018-08/07/c_137374092.htm.
- "Asean, China agree to another maritime exercise, says Mohamad Sabu." *Malay Mail*, November 17, 2019. <https://www.malaymail.com/news/malaysia/2019/11/17/asean-china-agree-to-another-maritime-exercise-says-mohamad-sabu/1810682>.
- Axelrod, Robert. *The Evolution of Cooperation*. Cambridge, MA: Basic Books, 1984.
- Bang, Jiun. "Why So Many Layers? China's "State-Speak" and Its Classification of Partnerships." *Foreign Policy Analysis* 13, no. 2 (April 2017): 380-397.
- Bangkok Post. "Thailand joins China's first multinational peacekeeping exercise." September 15, 2021. <https://www.bangkokpost.com/thailand/general/2182379/thailand-joins-chinas-first-multinational-peacekeeping-exercise>.

- Berger, Thomas. "Set for Stability? Prospect for Conflict and Cooperation in East Asia." *Review of International Studies* 26, no. 3 (July 2000): 405-428.
- Bernhardt, Jordan. "The Causes and Consequences of Joint Military Exercises." PhD diss., Stanford University, 2020.
- Bernhardt, Jordan and Lauren Sukin. "Joint Military Exercises and Crisis Dynamics on the Korean Peninsula." *Journal of Conflict Resolution* 65, no. 1 (November 2021): 855-888.
- Bommakanti, Kartik and Aditya Gowdara Shivamurthy. *China's Military Modernisation: Recent Trends*. ORF Occasional Paper, no. 314, Observer Research Foundation, 2021.
- Bumiller, Elisabeth and Edward Wong. "China Warily Eyes U.S.-Korea Drills." *New York Times*, July 20, 2010. <https://www.nytimes.com/2010/07/21/world/asia/21military.html>.
- Bush, Richard C. *The Perils of Proximity: China-Japan Security Relations*. Washington, DC: Brookings Institution Press, 2013.
- "Call for Asean-China joint exercises: Naval drills can build trust and rein in tensions: Indonesian navy chief." *Straits Times*, March 22, 2013. <https://www.straitstimes.com/asia/south-asia/call-for-asean-china-joint-exercises>.
- Cha, Victor D. "Powerplay: Origins of the U.S. Alliance System in Asia." *International Security* 34, no. 3 (Winter 2009/2010): 158-196.
- Chan, Minnie. "China begins joint naval drills with six Southeast Asian nations." *South China Morning Post*, April 26, 2019. <https://www.scmp.com/news/china/military/article/3007804/china-begins-joint-naval-drills-six-southeast-asian-nations>.
- Chan, Steven. "An Odd Thing Happened on the Way to Balancing: East Asian States' Reaction to China's Rise." *International Studies Review* 12, no. 3 (September 2010): 387-412.
- Chan, Steve. *Looking for Balance: China, the United States, and Power Balancing in East Asia*. United States: Stanford University Press, 2013.
- Chang, Jun Yan. "Not between the Devil and the Deep Blue Sea: Singapore's Hedging." *International Studies Quarterly* 66, no. 3 (September 2022): sqac034.
- Chidley, Colleen. "Towards a Framework of Alignment in International Relations." *Politikon* 41, no. 1 (February 2014): 141-157.
- "China, ASEAN hold joint maritime rescue drill." *China Military*, October 31, 2017. http://eng.chinamil.com.cn/view/2017-10/31/content_7806871.htm.

- “China Proposes Joint Exercise in South China Sea with ASEAN Countries.” *People’s Daily*, October 17, 2015. <http://en.people.cn/n/2015/1017/c90000-8963262.html>.
- “China suggests joint South China Sea drills with Asean.” *BBC*, October 16, 2015. <https://www.bbc.com/news/world-asia-34546820>.
- “China, Thailand host joint air force exercise “Falcon Strike 2019”.” *China Military*, August 21, 2019. http://eng.chinamil.com.cn/view/2019-08/21/content_9597046.htm.
- Cranmer, Skyler J. and Bruce A. Desmarais. “A Critique of Dyadic Design.” *International Studies Quarterly* 60, no. 2 (June 2016): 355-362.
- Cho, Young Nam. *21segi junggugui dongmaengjeongchaek: byeonhwawa jisok* [China’s alignment policy in the 21st century: changes and continuities]. EAI National Security Panel (NSP) Report, no. 32. South Korea, Seoul: East Asia Institute, 2009: 1-40.
- Chung, Jae Ho. “East Asia Responds to the Rise of China: Patterns and Variations.” *Pacific Affairs* 82, no. 2 (Winter 2009/2010): 657-675.
- Ciorciari, John D. *The Limits of Alignment: Southeast Asia and the Great Powers since 1975*. Washington, D.C.: Georgetown University Press, 2010.
- Ciorciari, John D. and Juergen Haacke. “Hedging in international relations: an introduction.” *International Relations of the Asia-Pacific* 19, no. 3 (September 2019): 367-374.
- Congressional Research Service. *US-Singapore Relations*. April 7, 2022. <https://sgp.fas.org/crs/row/IF10228.pdf>.
- CTF 73 Public Affairs. “ASEAN-U.S. Maritime Exercise Begins in Thailand.” *Commander, U.S. 7th Fleet*, September 1, 2019. [https://www.c7f.navy.mil/Media/News/Display/Article/1949503/asean-us-maritime-exercise-begins-in-thailand/#:~:text=SATTAHIP%2C%20Thailand%20\(NNS\)%20%2D,2](https://www.c7f.navy.mil/Media/News/Display/Article/1949503/asean-us-maritime-exercise-begins-in-thailand/#:~:text=SATTAHIP%2C%20Thailand%20(NNS)%20%2D,2).
- Dahiya, Nishant. “What Trump's Declassified Asia Strategy May Mean For U.S.-China Relations Under Biden.” *NPR*, January 23, 2021. <https://www.npr.org/2021/01/23/959683134/what-trumps-declassified-asia-strategy-may-mean-for-u-s-china-relations-under-bi>.
- Dancel, Raul. “Singapore, China eye inaugural Asean-China maritime exercise.” *Straits Times*, October 23, 2017. <https://www.straitstimes.com/asia/se-asia/spore-beijing-eye-inaugural-asean-china-maritime-exercise>.
- Dewitt, David. “Common, comprehensive, and cooperative security.” *Pacific Review* 7, no. 1 (1994): 1-15.

- Doh, Jong Yoon. *Dongbanjagwangye(Partnership) oegyoyeongu: hanguk-EU, hanguk-reosia, hanguk-jungguk munseoreul jungsimeuro* [A Study of Partnerships in International Relations: Interpretation on Diplomatic Documents between S. Korea and EU, Russia, and China]. Jejupyeonghwayeonguwon yeongusaeopbogoseo [Jeju Peace Institute Research Project Report], no. 3. South Korea: Jeju Peace Institute, 2016.
- D’Orazio, Vito. *Joint Military Exercises: 1970-2010 Dataset (jme_v3-6)*, 2013. Distributed by Vito D’Orazio’s Personal Website, <https://www.vitodorazio.com/data.html>.
- Dorussen, Han, Erik A. Gartzke, and Oliver Westerwinter. “Networked international politics: Complex interdependence and the diffusion of conflict and peace.” *Journal of Peace Research* 53, no. 3 (May 2016): 283-291.
- Emmers, Ralf. “Security Cooperation in the Asia-Pacific: Evolution of Concepts and Practices.” In *Asia-Pacific Security Cooperation: National Interests and Regional Order*, edited by See Seng Tan and Amitav Acharya, 3-18. New York: M.E. Sharpe, 2004.
- Envall, H. D. P. and Ian Hall. “Asian Strategic Partnerships: New Practices and Regional Security Governance.” *Asian Politics & Policy* 8, no. 1 (January 2016): 87-105.
- Fearon, James D. “Signaling Foreign Policy Interests: Tying Hands versus Sinking Costs.” *Journal of Conflict Resolution* 41, no. 1, New Games: Modeling Domestic-International Linkages (February 1997): 68-90.
- Feng, John. “Singapore Will Not Join Biden’s ‘Cold War–style’ Coalition Against China, Says PM.” *Newsweek*, November 19, 2020. <https://www.newsweek.com/singapore-will-not-join-bidens-cold-warstyle-coalition-against-china-says-pm-1548692>.
- Feng, John. “Singapore Holds Naval Drill With China, but U.S. Remains Top Security Partner.” *Newsweek*, February 25, 2021. <https://www.newsweek.com/singapore-holds-naval-drill-china-us-remains-top-security-partner-1571940>.
- Feng, Zhongping and Huang Jing. “China’s Strategic Partnership Diplomacy: Engaging with a Changing World.” *ESPO Working Paper*, no. 8 (European Strategic Partnerships Observatory, June 2014): 1-20.
- Fravel, M. Taylor, J. Stapleton Roy, Michael D. Swaine, Susan A. Thornton, and Ezra Vogel. “China is not an enemy.” *Washington Post*, July 3, 2019. https://www.washingtonpost.com/opinions/making-china-a-us-enemy-is-counterproductive/2019/07/02/647d49d0-9bfa-11e9-b27f-ed2942f73d70_story.html.
- Friedberg, Aaron L. “Ripe for Rivalry: Prospect for Peace in a Multipolar Asia.” *International Security* 18, no. 3 (Winter 1993/4): 5-33.
- Gaoyue, Fan and James Char. *Introduction to China’s Military Operations Other Than War*. Policy Report, Singapore: S. Rajaratnam School of International Studies (RSIS), 2019.

- Gartzke, Erik A., Shannon Carcelli, J Andres Gannon, and Jiakun Jack Zhang. "Signaling in Foreign Policy." In *Oxford Encyclopedia of Foreign Policy Analysis*, edited by Cameron G. Thies. Oxford University Press, 2017.
- Gibler, Douglas. *Formal Alliances (v4.1) Dataset, 2009*. Distributed by The Correlates of War Project Website. <https://correlatesofwar.org/data-sets/formal-alliances>.
- Glaser, Charles L. "Realists as Optimists: Cooperation as Self-Help." *International Security* 19, no. 3 (Winter 1994/1995): 50-90. <https://www.jstor.org/stable/2539079>.
- Goh, Evelyn. *Meeting the China Challenge: The U.S. in Southeast Asian Regional Security Strategies*. Policy Studies 16. Washington D.C.: East-West Center, 2005.
- Goldstein, Avery. *Rising to the Challenge: China's Grand Strategy and International Security*. Stanford, CA: Stanford University Press, 2005.
- Haacke, Ju'rgen. "The concept of hedging and its application to Southeast Asia: a critique and a proposal for a modified conceptual and methodological framework." *International Relations of the Asia-Pacific* 19, no. 3 (September 2019): 375-417.
- Haas, Mark L. *The Ideological Origins of Great Power Politics, 1789-1989*. New York: Cornell University Press, 2005.
- Hafner-Burton, Emilie M., Miles Kahler, and Alexander H. Montgomery. "Network Analysis for International Relations." *International Organization* 63, no. 3 (Summer 2009): 559-592.
- Harold, Scott W., Derek Grossman, Brian Harding, Jeffrey W. Hornung, Gregory Poling, Jeffrey Smith, and Meagan L. Smith. *The Thickening Web of Asian Security Cooperation: Deepening Defense Ties Among U.S. Allies and Partners in the Indo-Pacific*. Research Report Series. Santa Monica, California: RAND Corporation, 2019.
- Hayes, Jarrod and Schwartzberg, Melissa. *Constructing National Security: U.S. Relations with India and China*. United Kingdom: Cambridge University Press, 2013.
- Heim, Jacob L. and Benjamin M. Miller. *Measuring Power, Power Cycles, and the Risk of Great Power War In the 21st Century*. Research Report Series. Santa Monica, California: RAND Corporation, 2020.
- Hong, Eun-Jung. "Dongmaengjeongchaege daehan jungguk hakgyeui insikdamron gochal [A Consideration on Chinese Intellectuals' Discussions on Alliance]." *Ataeyeongu [Journal of Asia-Pacific Studies]* 21, no. 2 (2014): 39-68. <https://doi.org/10.18107/japs.2014.21.2.002>.
- Ikenberry, G. John. "Between the Eagle and the Dragon: America, China, and Middle State strategies in East Asia." *Political Science Quarterly* 131, no. 1 (2015): 9-43.

- Ives, Mike. "U.S. Will Drill with Southeast Asian Navies, Echoing Move by China." *New York Times*, September 1, 2019. <https://www.nytimes.com/2019/09/01/world/asia/asean-us-navy-south-china-sea.html>.
- Jackson, Van. "Power, trust, and network complexity: three logics of hedging in Asian security." *International Relations of the Asia-Pacific* 14, no. 3 (September 2014): 331-356.
- Johnston, Alastair Iain. "What (If Anything) Does East Asia Tell US About International Relations Theory?" *Annual Review of Political Science* 15 (June 2012): 53-78.
- "Joint China-Asean naval exercise "a way to build trust"." *Today*, October 24, 2017. <https://www.todayonline.com/china/india/china-joint-china-asean-naval-exercise-to-build-trust>.
- Jonassen, Trine. "Cold Response: Russia Says No to Observing NATO Exercise." *High North News*, March 4, 2022. <https://www.highnorthnews.com/en/russia-says-no-observing-nato-exercise>.
- Kahler, Miles. "Networked Politics: AGENCY, POWER, AND GOVERNANCE." In *Network Politics: Agency, Power, and Governance*, edited by Miles Kahler, 1-20. New York: Cornell University Press, 2009.
- Kang, David C. "Getting Asia Wrong: The Need for New Analytical Frameworks." *International Security* 27, no. 4 (Spring 2003): 57-85.
- Kang, David C. *American Grand Strategy and East Asian Security in the Twenty-First Century*. Cambridge: Cambridge University Press, 2017.
- Kinne, Brandon. "Defense Cooperation Agreements and the Emergence of a Global Security Network." *International Organization* 72, no. 4 (Fall 2018): 799-837.
- Koga, Kei. "The Concept of "Hedging" Revisited: The Case of Japan's Foreign Policy Strategy in East Asia's Power Shift." *International Studies Review* 20, no. 4 (December 2018): 633-660.
- Korea Herald, "S. Korea, China agree to establish two more military hotlines," March 2, 2021, <http://www.koreaherald.com/view.php?ud=20210302001053>.
- Kuik, Cheng-Chwee. "Getting hedging right: a small-state perspective." *China International Strategy Review* 3 (November 2021): 300-315.
- Kim, Sangbae. "Neteuwokeuro boneun junggyeonguk oegyojeonryak: gujojeok gongbaekgwa wighigwonryeok ironui wonyong [Middle Power's Diplomatic Strategies in the Perspective of Networks: Applying Theories of Structural Holes and Positional Power]." *Gukjejeongchinonchong [Korean Journal of International Relations]* 51, no. 3 (2011), 51-77.

- Kydd, Andrew. "Trust, Reassurance, and Cooperation." *International Organization* 54, no. 2 (Spring 2000): 325-357.
- Kydd, Andrew. *Trust and Mistrust in International Relations*. New Jersey: Princeton University Press, 2005.
- Lake, David A. "Escape from the State of Nature: Authority and Hierarchy in World Politics." *International Security* 32, no. 1 (Summer 2007): 47-79.
- Li, Wenfang. "China, ASEAN begin joint naval drill." *China Daily*, October 23, 2018. <http://www.chinadaily.com.cn/a/201810/23/WS5bce80d7a310eff303283f68.html>.
- Liff, Adam P. and G. John Ikenberry. "Racing toward Tragedy?: China's Rise, Military Competition in the Asia-Pacific, and the Security Dilemma." *International Security* 39, no. 2 (Fall 2014): 52-91. https://doi.org/10.1162/ISEC_a_00176.
- Liff, Adam P. "Whither the Balancers? The Case for a Methodological Reset." *Security Studies* 25, no. 3 (July 2016): 420-459. <https://doi.org/10.1080/09636412.2016.1195624>.
- Lim, Darren J. and Zack Cooper. "Reassessing Hedging: The Logic of Alignment in East Asia." *Security Studies* 24, no. 4 (November 2015): 697-727. <https://doi.org/10.1080/09636412.2015.1103130>.
- Lim, Vanessa. "First ASEAN-China maritime field training exercises to be held in October: MINDEF." *CNA*, August 3, 2018. <https://www.channelnewsasia.com/singapore/first-asean-china-maritime-exercise-training-navy-mindef-801546>.
- Lo, Kinling. "A look at some ships involved in the joint China-Asean naval exercises." *South China Morning Post*, October 27, 2018. <https://www.scmp.com/news/china/military/article/2170460/china-asean-maritime-exercise-assembles-multinational-fleet>.
- Maizland, Lindsay. "China's Modernizing Military." *Council of Foreign Affairs*, February 5, 2020. <https://www.cfr.org/backgrounder/chinas-modernizing-military#chapter-title-0-4>.
- Mao, Zeev. *Networks of Nations: The Evolution, Structure, and Impact of International Networks, 1816-2001*. New York: Cambridge University Press, 2011.
- Maoz, Zeev, Ranan D. Kuperman, Lesley Terris. "Structural Equivalence and International Conflict: A Social Network Analysis." *Journal of Conflict Resolution* 50, no. 5 (October 2006): 664-689.
- Marshall, Monty G. and Teb Robert Gurr. *Polity 5 Project, Political Regime Characteristics and Transitions, 1800-2018 Dataset, 2018*. Distributed by Center for Systemic Peace Website. <https://www.systemicpeace.org/inscrdata.html>.

- Marston, Hunter. "The U.S. Navy and Southeast Asian nations held joint maneuvers for the first time." *Washington Post*, September 13, 2019.
<https://www.washingtonpost.com/politics/2019/09/13/us-navy-southeast-asian-nations-held-joint-maneuvers-first-time-what-are-key-takeaways/>.
- McManus, Roseanne W. and Mark David Nieman. "Identifying the level of major power support signaled for proteges: A latent measure approach." *Journal of Peace Research* 56, no. 3 (2019): 364-378.
- Mearsheimer, John J. "The False Promise of International Institutions." *International Security* 19, no. 3 (Winter 1994/1995): 5-49.
- Mearsheimer, John J. *The Tragedy of Great Power Politics: Updated Edition*. New York: Norton, 2014.
- Miall, Hugh and Ria Shibata. "Open Hearts, Open Minds: Trust, Confidence and Security Building in Northeast Asia." *Journal of Peace and Nuclear Disarmament* 3, no. 2 (2020): 366-384.
- Ministry of Defence and the Singapore Armed Forces (MINDEF Singapore). *Dr Ng: ASEAN-China Maritime Exercise an Important Milestone in Efforts towards Regional Stability*. October 23, 2018. https://www.mindef.gov.sg/web/portal/mindef/news-and-events/latest-releases/article-detail/2018/october/23oct18_nr.
- Morgenthau, Hans J. *Politics among Nations: The Struggle for Power and Peace*. New York: Alfred A. Knopf, 1967.
- Morrow, James D. "Alliances and Asymmetry: An Alternative to the Capability Aggregation Model of Alliances." *American Journal of Political Science* 35, no. 4 (November 1991): 904-933.
- Morrow, James D. "Arms Versus Allies: Trade-Offs in the Search for Security." *International Organization* 47, no. 2 (Spring 1993): 207-233.
- Morrow, James D. "CHAPTER THREE. The Strategic Setting of Choices: Signaling, Commitment, and Negotiation in International Politics" in *Strategic Choice and International Relations*, edited by David A. Lake and Robert Powell, 77-114. Princeton, N.J.: Princeton University Press, 1999.
- Murphy, Ann Marie. "Beyond Balancing and Bandwagoning: Thailand's Response to China's Rise." *Asian Security* 6, no. 1 (2010): 1-27.
- Nadkarni, Vidya. *Strategic Partnerships in Asia: Balancing without Alliances*. New York: Routledge, 2010.

- Nexon, Daniel H. "Review Article: The Balance of Power in the Balance." *World Politics* 61, no. 2 (April 2009): 330-359.
- "Opening Ceremony of "Joint Maritime Drill 2019" Held in Qingdao." *China Military*, April 26, 2019. http://eng.chinamil.com.cn/view/2019-04/26/content_9490179.htm.
- Parameswaran, Prashanth. "Why the First China-ASEAN Maritime Exercise Matters." *Diplomat*, October 22, 2018. <https://thediplomat.com/2018/10/why-the-first-china-asean-maritime-exercise-matters/>.
- Poast, Paul. "(Mis)Using Dyadic Data to Analyze Multilateral Events." *Political Analysis* 18, no.4 (Autumn 2010): 403-425.
- Poling, Gregory B. and Simon Tran Hudes. "The U.S.-Vietnam Partnership in a Complex World." *Center for Strategic & International Studies (CSIS)*, May 5, 2022. <https://www.csis.org/analysis/us-vietnam-partnership-complex-world>.
- Rathbun, Brian C. "It takes all types: social psychology, trust, and the international relations paradigm in our minds." *International Theory* 1, no. 3 (2009): 345-380.
- Rathbun, Brian C. "Before Hegemony: Generalized Trust and the Creation and Design of International Security Organizations." *International Organization* 65 (2011): 243-273.
- Ross, Robert S. "Balance of Power Politics and the Rise of China: Accommodation and Balancing in East Asia." *Security Studies* 15, no. 3 (2006): 355-395.
- Roughead, Gary. "The Evolving Role of Military Exercises in Asia." By Mira Rapp Hooper. *Asia Maritime Transparency Initiative (AMTI), Center for Strategic and International Studies (CSIS)*, March 4, 2015. <https://amti.csis.org/the-evolving-role-of-military-exercises-in-asia/>.
- Rousseau, David L. and Rocio Garcia-Retamero. "Identity Power, Power, and Threat Perception: A Cross-National Experimental Study." *Journal of Conflict Resolution* 51, no. 5 (October 2007): 744-771.
- Rousseau, David L. and Rocio Garcia-Retamero. "Estimating threats: The impact and interaction of identity and power." In *American Foreign Policy and the Politics of Fear: Threat inflation since 9/11: 1st Edition*, edited by A. Trevor Thrall and Jane K. Cramer, 54-78. United Kingdom: Routledge, 2009.
- Sachar, B.S. "Cooperation in Military Training as a Tool of Peacetime Military Diplomacy." *Strategic Analysis* 27, no. 3 (July/September 2003): 404-421.
- Schroeder, Paul. "Historical Reality vs. Neo-Realist Theory." *International Security* 19, no. 1 (Summer 1994): 108-148.

- Schweller, Randall L. "Bandwagoning for Profit: Bringing the Revisionist State Back In." *International Security* 19, no. 1 (Summer 1994): 72-107.
- Schweller, Randall L. and William C. Wohlforth. "Power Test: Evaluating Realism in Response to the End of the Cold War." *Security Studies* 9, no. 3 (2000): 60-107.
- Schweller, Randall L. "The Balance of Power in World Politics." *Oxford Research Encyclopedias, Politics*, May 9, 2016.
- Scott, John. *Social Network Analysis: A Handbook 2nd Edition*. London: SAGE Publications, 1991.
- Scott, John. *Social Network Analysis: 4th Edition*. London: SAGE Publications, 2017.
- Segal, Gerald. "Managing new arms race in the Asia/pacific." *Washington Quarterly* 15, no.3 (Summer 1992): 83-101.
- Selden, Zachary. "Balancing Against or Balancing With? The Spectrum of Alignment and the Endurance of American Hegemony." *Security Studies* 22, no. 2 (2013): 330-364.
- Shambaugh, David. "China Engages Asia: Reshaping the Regional Order." *International Security* 29, no.3 (Winter 2004/2005): 64-99.
- "Should China abandon non-alignment." *People's Daily*, November 4, 2012. <http://en.people.cn/90883/8003975.html>.
- "Sino-South Korean joint military drill held in the Gulf of Aden." *People's Daily*, November 18, 2015. <http://en.people.cn/n/2015/1118/c90000-8978532.html>.
- "S. Korea, China to hold joint anti-piracy drill in Gulf of Aden." *Korea Herald*, September 30, 2015. <http://www.koreaherald.com/view.php?ud=20150930000348>.
- Snyder, Craig A. "Chapter 5: Regional Security Structures." In *Contemporary Security and Strategy*, edited by Craig. A Snyder, 102-119. United States of America: Routledge, 1999.
- Snyder, Glenn H. *Alliance Politics*. New York: Cornell University Press, 1997.
- Stein, Janice Gross. "Chapter 12: Threat Perception in International Relations." In *The Oxford Handbook of Political Psychology: Second Edition*, edited by Leonie Huddy, David O. Sears, and Jack S. Levy. United States of America: Oxford University Press, 2013.
- Storey, Ian. *Thailand's Military Relations with China: Moving from Strength to Strength*. Perspective, no. 43, 1-11. Singapore: ISEAS Yusof Ishak Institute, 2019.

- Struiver, Georg. "China's Partnership Diplomacy: International Alignment Based on Interests of Ideology." *Chinese Journal of International Politics* 10, no.1 (Spring 2017): 31-65.
- Swaine, Michael D. and Ashley J. Tellis. *Interpreting China's Grand Strategy: Past, Present, and Future*. Monography Reports. Santa Monica, California: RAND Corporation, 2000.
- Taylor, Guy. "North Korea slams U.S.-South Korea military drills." *Washington Times*, August 12, 2019. <https://www.washingtontimes.com/news/2019/aug/12/north-korea-again-slams-us-south-korea-military-dr/>.
- Tessman, Brock F. "System Structure and State Strategy: Adding Hedging to the Menu." *Security Studies* 21, no. 2 (2012): 192-231.
- Thyne, Clayton L. "Cheap Signals with Costly Consequences: The Effect of Interstate Relations on Civil War." *Journal of Conflict Resolution* 50, no. 6 (December 2006): 937-961.
- Till, Geoffrey. *Asia's Naval Expansion: An Arms Race in the Making?* London: International Institute for Strategic Studies: Routledge, 2012.
- "Top ten firsts of Chinese military diplomacy from 2002 to 2012." *People's Daily*, September 26, 2012. <http://en.people.cn/90786/7960693.html>.
- U.S. Forces Korea. "Key Resolve' begins in Korea." *U.S. Army*, March 10, 2009. https://www.army.mil/article/18017/key_resolve_begins_in_korea.
- Valente, Thomas W. *Social Networks and Health: Models, Methods, and Applications (1st Edition)*. New York: Oxford University Press, 2010.
- Waltz, Kenneth N. *Theory of International Politics*. Long Grove, Illinois: Waveland Press Inc., 1979.
- Walt, Stephen M. *The Origins of Alliances*. New York: Cornell University Press, 1987.
- Wheeler, Nicholas J. *Trusting Enemies: Interpersonal Relationships in International Conflict*. Oxford: Oxford University Press, 2018.
- White, Ryan. "Chinese and Singaporean Navies Conduct Joint Exercise in the South China Sea." *Naval Post*, September 23, 2021. <https://navalpost.com/chinese-and-singaporean-navies-conduct-joint-exercise-in-the-south-china-sea/>.
- Wilkins, Thomas S. "'Alignment', not 'alliance' – the shifting paradigm of international security cooperation: toward a conceptual taxonomy of alignment." *Review of International Studies* 38, no. 1 (2012): 53-76.
- Wolfley, Kyle. "Training Not to Fight: How Major Powers Use Multinational Military Exercises to Manage Strategic Uncertainty." PhD diss., Cornell University, 2018.

Wolfley, Kyle J. "Military Statecraft and the Use of Multinational Exercises in World Politics." *Foreign Policy Analysis* 17, no. 2 (April 2021): 1-24.

Wolforth, William C., Richard Little, Stuart J. Kaufman, David Kang, Charles A. Jones, Victoria Tin-Bor Hui, Arthur Eckstein, Daniel Deudney, and William L. Brenner. "Testing Balance-of-Power Theory in World History." *European Journal of International Relations* 13, no. 2 (2007): 155-185.

Yeo, Andrew. *Asia's Regional Architecture: Alliances and Institutions in the Pacific Century*. California: Stanford University Press, 2019.

Zhang, Lim Min. "China, Asean kick off inaugural maritime field training exercise in Zhanjiang, Guangdong." *Straits Times*, October 22, 2018. <https://www.straitstimes.com/asia/east-asia/china-asean-kick-off-inaugural-maritime-field-training-exercise-in-zhanjiang>.

Zhang, Lim Min. "China, Asean should hold more exercises: Ng Eng Hen." *Straits Times*, October 24, 2018. <https://www.straitstimes.com/asia/east-asia/china-asean-should-hold-more-exercises-ng-eng-hen>.

Zhang, Lim Min. "Inaugural Asean-China Maritime Exercise held at RSS Singapura-Changi Naval Base." *Straits Times*, August 3, 2018. <https://www.straitstimes.com/singapore/inaugural-asean-china-maritime-exercise-held-at-changi-naval-base>.

Zheng, Sarah. "China and ASEAN to go ahead with first joint naval exercise in sign of greater engagement." *South China Morning Post*, October 24, 2017. <https://www.scmp.com/news/china/diplomacy-defence/article/2116766/china-and-asean-go-ahead-first-joint-naval-exercise>.

Zhou, Laura. "China, Indonesia hold joint naval exercises near Jakarta." *South China Morning Post*, May 9, 2021. <https://www.scmp.com/news/china/diplomacy/article/3132821/china-indonesia-hold-joint-naval-exercises-near-jakarta>

Appendices

Appendix I: Background of Building New JMEs Dataset of the Asia-Pacific

Despite the prevalence of joint military exercises and its importance for understanding security cooperation dynamics in the Asia-Pacific over time, surprisingly, there is a dearth of systematic data and analyses on it. Here, I'd like to elaborate the limitations of existing studies that motivated me to build a new dataset and revisit existing analyses on East Asian states behavior regarding JMEs.

Data: Limitations in 'timeframe', 'exercise type coverage', and 'country coverage'

Review of three existing datasets of JME has revealed that it has limitations in terms of 'timeframe', 'country,' and 'exercise type.' Thereby, it does not provide sufficient information to answer the question how East Asian secondary states are coping with the rise of China.

Vito D'Orazio's Dataset

Vito D'Orazio's dataset purports to record JMEs that occurred around the world from 1970 to 2010 (1,790 exercises).¹³ D'Orazio's dataset is valuable due to its wide country coverage, but it does not have data on recent ten years (2011-2019) when JMEs increased substantially in East Asia. Also, the dataset misses some key exercises that did occur, have duplicate entries for some exercise, and contains exercises that did not take place.

¹³ Vito D'Orazio, *Joint Military Exercises: 1970-2010 Dataset (jme_v3-6)*, 2013, distributed by Vito D'Orazio's personal website, <https://www.vitodorazio.com/data.html>.

Kyle Wolfley's Dataset

Kyle Wolfley's dataset, which borrows most of the observations from D'Orazio's dataset, includes only "ground-based exercises between at least one major power and another state" from 1980 to 2016 and excludes air defense and naval exercises from the dataset citing two methodological reasons.¹⁴

However, I believe that excluding these types of exercises would bias the result and lead to misleading conclusions on security cooperation patterns in East Asia due to three major reasons. First, the capabilities of navies and air forces in East Asia have increased in an unprecedented fashion in the twenty-first century through military modernization. Today, air defense and maritime security are key arenas where the countries in the region are coordinating doctrines and carrying out cooperative missions. Secondly, maritime security cooperation has huge implications for security relations in East Asia, not only because these countries share sea lanes of commerce (SLOC), but also because many of the maritime boundaries in the region remain unsettled and some countries have overlapping claims over exclusive economic zones (EEZ) and islands in the waters. Thirdly, Wolfley's dataset excludes computer-simulated exercises based on the ground that these exercises are "far cheaper and easier to administer." In terms of financial cost, indeed, these exercises might be cheaper than field training exercises, but these exercises shouldn't be discounted given its significance. With the development of technology, increasingly militaries in the region are employing computer-simulated exercises, even for wargaming. For example, *Key Resolve exercise* is an annual computer-simulated war game between South Korea and the US that focuses on "the allies' contingency plans against North Korean aggression."¹⁵ Recently, in 2018,

¹⁴ Wolfley, "Military Statecraft and the Use of Multinational Exercises in World Politics," 12.

¹⁵ U.S. Forces Korea, "Key Resolve' begins in Korea," *U.S. Army*, March 10, 2009, https://www.army.mil/article/18017/key_resolve_begins_in_korea.

Chinese and Southeast Asian navies have staged computer-simulated maritime drill and worked on search-and-rescue scenarios following a mock ship collision in the South China Sea.

Kenneth Allen, Philip C. Saunders, and John Chen's Dataset

Kenneth Allen, Philip C. Saunders, and John Chen's dataset on Chinese Military Diplomacy records joint military exercises that China participated worldwide from 2003 to 2016 (around 357 exercises),¹⁶ but misses several exercises between China and the Asia-Pacific countries. To name a few, People's Liberation Army Navy's Search-and-Rescue exercise with South Korean navy in 2005, 2007, 2008, and 2011 and two joint counter-terrorism exercises with Vietnam in 2016. Also, the dataset has limitations when addressing the question of how the overall structure of the security cooperation network changed over time, because it neither contains data points on 'the JMEs between the United States and Asian countries' nor 'the JMEs between smaller Asian countries.'

Analyses: Covering Only the Half side of the Story and Snapshot of the Relationship

Limitations in existing empirical works that examine joint military exercises in East Asia is that often these studies review only secondary states' joint military exercises with the US. This raises the problem of the selective use of evidence (i.e., cherry picking fallacy) in these studies and reasonable doubts on their conclusions. For example, Adam P. Liff identifies East Asian secondary states "joint exercises and training" as a "Waltzian categories of...external balancing" behavior. In his empirics, Liff examines East Asian secondary states' defense cooperation with the US primarily and comes down to the conclusion that "China's rise is eliciting from key neighbors

¹⁶ Allen, Saunders, and Chen, "Chinese Military Diplomacy, 2003–2016," 1-81.

significant and accelerating balancing behavior.”¹⁷ However, without providing equivalent analysis on East Asian secondary states’ joint military exercise with China – without accounting for the other half side of the story – it may be premature to conclude that regional countries are balancing against China.

Moreover, often existing studies make assessment on East Asian secondary states’ response to rising China based on a snapshot of the relationship, rather than the trend over time. For instance, in their analysis of security alignment behavior of East Asian secondary states from 2011 to 2014, Lim and Cooper find that Singapore is the only state that conducts joint training and exercises with both the US and China. Based on the observation, they write “fewer states are truly hedging” in the region and “balancing has actually been the dominant response to China’s rise.”¹⁸ Yet, assessing secondary states’ behavior in a snapshot has the peril of running into a hasty generalization that states are balancing or hedging against rising China based on only the fraction of their interstate dynamic. As Steven Chan points out, what matters is the overall trajectory: “If East Asian states have been reacting to China’s rise according to realist expectations, one would expect their overtime behavior to move increasingly toward the balancing end of this continuum. It is important to emphasize that while isolated observations such as annual readings of defense spending or trade statistics can be faulty, the overtime trend offers a more reliable indicator – especially if it points consistently in the same direction and for many countries.”¹⁹

¹⁷ Liff, “Whither the Balancers?,” 438.

¹⁸ Lim and Cooper, “Reassessing Hedging,” 696-727.

¹⁹ Steven Chan, “An Odd Thing Happened on the Way to Balancing: East Asian States’ Reaction to China’s Rise,” *International Studies Review* 12, no. 3 (September 2010): 387-412, <https://www.jstor.org/stable/40931114>.

Appendix II: My Dataset of JMEs in the Asia-Pacific (1970-2019)

With the aim of systematically examining the evolution of security ties over time, in my research, I constructed a unique dataset of joint military exercises in the Asia-Pacific from 1970 to 2019 (1,447 exercises). There is no clear-cut definition of “Asia-Pacific” or “East Asia,” but often the former has greater regional scope condition than the latter. Here, I define Asia-Pacific as a region that includes East Asia (i.e., Northeast Asia and Southeast Asia), the US, and Oceania.

Data Collection

For data collection, I primarily employed web-scraping of news articles in the last twenty years (2000-2019). Using the search engine ProQuest, I ran keyword searches (keyword: joint military exercise; joint training; joint exercises) on worldwide and major newspapers in the Asia-Pacific in English, such as Washington Post, New York Times, Japan News, Korea Times, China Daily, People’s Daily, Strait Times, South China Morning Post, and Diplomat. All newspaper articles containing the keywords were scrapped from the web and human coded. For earlier timeframes (1970-1999), I compiled and addressed the limitations of existing three datasets by Vito D’Orazio, Kyle Wolfley, and Kenneth Allen et al.

About the Dataset

My joint military exercises dataset records bilateral and multilateral JMEs between 11 countries in the Asia-Pacific – United States (USA), China (CHN), South Korea (KOR), Japan (JPN), Philippines (PHL), Thailand (THA), Vietnam (VNM), Indonesia (IDN), Malaysia (MYS), Singapore (SGP), and Australia (AUS) – from 1970 to 2019. To elaborate, the dataset contains information on the JMEs that the US or/and China conducted with the Asia-Pacific countries (e.g.,

US-South Korea joint military exercises or China-Thailand joint military exercises), but also all the JMEs among small countries in the region (e.g., Philippines-Indonesia joint military exercises or Philippines-Indonesia-Thailand joint military exercises). The geographic coverage ranges from Northeast Asia, Southeast Asia, to Oceania. In terms of the relationship with the US, it goes from formal US allies to strategic partners. The degree of territorial or maritime disputes with China ranges from none, minor to major disputes. The ideological distance from China, computed based on the polity score, ranges from 0 to 17 (max. 20).

The dataset also records Taiwan's joint military exercises, but it was not included in the analysis. First, out of concern about coming down to a hasty conclusion on Taipei's relations with other East Asian countries based on insufficient information. Based on the author's data collection, Taiwan has only one data point. In March 2005, Singapore and Taiwan conducted *Exercise Starlight* with Singapore for the first time in three decades. This partnership is part of the 1975 agreement signed between then-premier Chiang Ching-Kuo of Taiwan and then-Prime Minister Lee Kuan Yew of Singapore.²⁰ To address this problem, the author discussed this matter with Taiwanese experts in the field. They shared the view that even if there were exercises between Taipei and other East Asian countries, the information might not be publicly available due to sensitivity. Second, diplomatic normalization is the prerequisite condition for any interstate cooperation to take place. Under the global wave of détente, many regional countries normalized their diplomatic relations with each other, but Taipei's relations with other regional countries took a reverse course. After the US switched its diplomatic recognition from Taipei to Beijing as China in 1979, many regional countries' relations with China followed suit between 1970 and 1992. The last one to normalize relations with China was South Korea in 1992. Since then, these countries don't have

²⁰ See: <https://www.spacewar.com/2005/050321111958.bqkphg60.html>

official diplomatic ties with Taiwan and recognize mainland China as China, which makes military cooperation highly unlikely. In 2020, the Taiwanese government publicly requested an invitation to the Rim of the Pacific (RIMPAC) exercise to the US, but it was not accepted.²¹

The dataset does not include the exercises in which these countries only participated as observers. It only consists of the exercises these countries participated in by dispatching military personnel and/or military assets. The dataset contains both binary and valued information of JME ties between states. The dataset records the presence or absence of ties and how frequently they conduct an exercise with one another.

²¹ Minnie Chan and Lawrence Chung, “Taiwan excluded from RIMPAC war games as US avoids crossing Beijing’s red line,” *South China Morning Post*, August 17, 2020, <https://www.scmp.com/news/china/military/article/3097658/taiwans-air-force-renews-order-pilots-not-fire-first-shot-amid>.

Appendix III: Why Network Analysis?

To better understand the changes in security dynamics, I visualize the joint military exercise network of the Asia-Pacific by each decade (the 1970s, 1980s, 1990s, 2000s, and 2010s) and compare the security cooperation pattern over time by using social network analysis (SNA). Adopting the simplest definition, I define a network as “any set of interconnected nodes.”²² In the JME network, countries are individual nodes and joint military exercises are ties that connect them.

Why Network Analysis?

I employ network analysis for examination of my JME data largely due to two reasons. First, network analysis is a methodology appropriate for examining relational data like interstate ties (e.g., security ties and economic ties). There are two principal types of data in social science: relational data and attribute data. According to John Scott, network analysis is apt for examining social phenomenon that “concern the contacts, ties and connections, and the group attachments and meetings that relate one agent to another and that cannot be reduced to the properties of the individual agents themselves.”²³ On the other hand, the methods most appropriate for analyzing attribute data – data related to the properties, qualities or characteristics that belong to individuals such as income and material capabilities – are “those of variable and multivariate analysis.”²⁴

Second, network analysis provides a body of useful measures that help us systematically examine how central each actor is in network and how has the overall structure of network evolved over time. In the words of Thomas Valente, “[i]n networks, change occurs at two levels: the individual and the network. Individuals add and lose connections, and individual indicators of

²² Kahler, “Networked Politics,” 5.

²³ John Scott, *Social Network Analysis: 4th Edition* (London: SAGE Publications Ltd., 2017) 4.

²⁴ Ibid.

centrality...change over time. At the network level, the overall network density, centralization, and transitivity (as well as other indicators) change over time....”²⁵ IR literature’s attention to and adoption of network analysis is relatively recent, but scholars appear to concur that it is suitable method for disclosing patterns that are not generally apparent to human observers in international system, where states are not isolated bubbles but a complex set of dyadic ties,²⁶ and useful for going beyond dyadic lens in analyzing international relations.²⁷

²⁵ Thomas W. Valente, *Social Networks and Health: Models, Methods, and Applications (1st Edition)* (New York: Oxford University Press, 2010), 12.

²⁶ Han Dorussen, Erik A. Gartzke, and Oliver Westerwinter, “Networked international politics: Complex interdependence and the diffusion of conflict and peace,” *Journal of Peace Research* 53, no. 3, Special Issue on Networked International Politics (May 2016): 283-291, <https://www.jstor.org/stable/43920590>; Hafner-Burton, Kahler, and Montgomery, “Network Analysis for International Relations,” 559–592.

²⁷ Paul Poast, “(Mis)Using Dyadic Data to Analyze Multilateral Events,” *Political Analysis* 18, no.4 (Autumn 2010): 403-425, <https://www.jstor.org/stable/25792022>; Skyler J. Cranmer and Bruce A. Desmarais, “A Critique of Dyadic Design,” *International Studies Quarterly* 60, no. 2 (June 2016): 355-362. <https://doi.org/10.1093/isq/sqw007>.

Appendix IV: Measuring the Changes in JME Network – Node and Network Level

In this paper, I discuss the changes in the JME network structure (network level) and the position of each country in the network (node level) by decade using the measures listed in Table 6.

Table 6 Measuring JME Network Properties

Dimension	Measure	Definition	Significance
Node level	Eigenvector Centrality	The extent to which each node is in the center or the periphery of a network.	High centrality score means high social capital a country possess.
Network level	Density	The overall level of connectedness in a network.	High density means high level of strategic affinity and trust exist between countries in a network.
	Centralization	The extent to which links are concentrated among one or few nodes in a network.	High centralization means that power and control is concentrated on a single country in a network.
	Inclusiveness	The proportion of the total number of nodes minus the number of isolates. <i>Isolates</i> refer to nodes that does not have connection with other nodes in a network. ²⁸	Perfect inclusiveness means that every country has connection to other countries in a network.
	Homophily (Assortativity)	The tendency for nodes to form ties based on common attributes (e.g., alliance membership, regime type).	High homophily score means that countries with similar attributes tend to conduct JMEs more often.

²⁸ John Scott, *Social Network Analysis: A Handbook 2nd Edition* (London: Sage Publication, 1991), 70.