

China's diversification strategy in Latin American and African markets: Defense software and hardware exports

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ABSTRACT

In the past two decades, China has become a strategic economic partner for both Latin American and African nations. China's economic global relevance is translating via its “Belt and Road Initiative (BRI)” into massive amounts of foreign trade, Foreign Direct Investment (FDI), loans, and aid for both regions. Recently, China has added a national security and defense dimension to its BRI relationship with both regions. China's global strategic economic, geopolitical, and global defense goals are being expressed in its global “Road and Belt” power initiatives and strategies. This paper explores an additional dimension of China's BRI initiative: its role in both regions' defense industries and national security environments. China is increasingly using its trade and investment leverage with both regions to unbalance their defense choices and strategic defense relationships. China's increasing interactions with African and Latin American countries poses a number of geopolitical implications for both the United States and Western European countries.

Keywords: Africa, China, defense, exports, Latin America

1 INTRODUCTION

In the last two decades China has prompted an inflection point in the global reallocation of economic power. In 2018, China was the world's second largest economy, accounting for 9.3% of global GDP. Moreover, China was also the world's largest exporter of tangible goods, accounting for 9.6% of global trade in tangible goods. China's massive economy is allowing the country to generate economic inflection points in various regions of the globe, including Africa and Latin America. These interactions take the form of increasing levels of international trade, foreign direct investments, loans, and aid from China to both Latin American and African nations (Mastro, 2019; Sweigart, 2019).

It is against this backdrop of China's increasing global economic predominance and increasing political clout, that China is sowing defense and national security strategic alliances with both Latin American and African nations. This relationship, however, poses

challenges and opportunities for both Latin American and African nations. This relationship may signify a new paradigm shift in the possibilities for both regions to cooperate and integrate their economies with China involving costs and benefits (Brinza, 2018; DIA, 2019; Myers, 2018; Quartz, 2015; Xuotong, 2019).

China, through its “Belt and Road Initiative,” is pursuing an alternative global economic growth and development paradigm, where China leads the way. In the process, it shares its economic and geopolitical goals, global vision, and objectives with countries affected by and enrolled in the “Belt and Road Initiative” master power plan.

In 2013 newly installed President Xi Jinping launched the ambitious New Silk Road project on land and sea. Later dubbed, “One Belt, One Road,” the massive strategic infrastructure project aims to connect multiple countries spanning four continents. It seeks to establish a web of interconnectivity throughout Eurasia, by both land (the belt) and sea (the maritime road), allowing goods and commodities to be transported everywhere. This was intended partly as a revival of the old, original Silk Road. While China has long been the eastern terminus of the Silk Road, the term *die Seidenstrasse* was actually coined by German geographer Ferdinand von Richthofen in 1877 (Chin, 2013). Prior to that, the network of trails that connected China to the Mediterranean for two millennia had no specific name.

A rising China now seeks ownership of the phrase “Silk Road” and to turn it into a brand name for its ambitious project. Chanda (2015) points out that while the historical Silk Road was marked by lucrative trade, it was also important for its significant military trade and the exercise of raw Chinese power. For example, bolts of silk were carried to Chinese border garrisons to pay soldiers and these same soldiers then exchanged pieces of silk with traders to buy essentials, thus introducing silk as a form of currency.

Guan (2016) presents a masterful treatment of the development of the Maritime Silk Road Initiative (MSRI). He points out that China has appropriated the metaphors of reviving this ancient Maritime Silk Road to project its new foreign policy initiatives and political-economic initiatives. By contrast, Zhang (2017) identifies the Maritime Silk Road Initiative as a strategy of China as a semiperipheral country whose economic model has reached a point of exhaustion. Economic issues such as overproduction, a declining return on capital coupled with excess reliance on capital investment, and rising labor costs have spurred a number of “outward oriented” policies, in which both state and nonstate actors play a role, of which the MSRI is yet but another manifestation.

China's strategy will have important business implications. We believe that the primary implication of the growing Chinese presence in Africa and Latin America for American and European business is that these firms will experience declines in both relative market share and absolute unit sales in these markets. By contrast, the implications for Chinese business should be more positive. Growing access to new markets provides Chinese firms with the opportunity to benefit from both economies of scale and experience curve effects. Finally, there are the implications for African and Latin American business, and here the outlook is more mixed. To some extent, there has been a tendency for governments in these markets to prefer domestic providers where possible. However, these firms often have neither the technological superiority of Western firms, nor the low-cost advantage of Chinese firms. As such, they are often stuck with a generic strategy that Porter (1989) describes as “middle of the road” that is unlikely to create a sustainable competitive advantage.

2 CHINA'S DEFENSE ECONOMY

Accurate data on the Chinese defense industry is hard to come by. The Stockholm International Peace Research Institute (SIPRI) states that China spent an estimated \$250 billion on military expenditures in 2018, second only to the United States at \$649 billion. Although military expenditure as a share of GDP declined from 2.1% in 2009 to 1.9% in 2018, in absolute terms it grew by 83% over the same period (Tian, Fleurant, Kuimova, Wezeman, & Wezeman, 2019). Chinese military expenditure, relative to other major countries and the world, is summarized in Table 1.

TABLE 1. Top five countries by military expenditure

Rank		Country	Spending (\$B) 2018	Change (%) 2009–2018	Spending as a share of GDP (%)		World Share (%) 2018
2018	2017				2018	2009	
1	1	United States	649	–17	3.2	4.6	36
2	2	China	250	83	1.9	2.1	14
3	3	Saudi Arabia	67.6	28	8.8	9.6	3.7
4	4	India	66.5	29	2.4	2.9	3.7
5	5	France	63.8	1.6	2.3	2.5	3.7
Subtotal top 5			1,097				60

Source: Tian et al. (2019).

MarketLine's (2017) industry profile of the aerospace defense industry in China is perhaps the most current and thorough treatment of the Chinese defense industry available to the public. In their market analysis, they state that the Chinese aerospace and defense market grew robustly between 2012 and 2016, as both civilian aerospace integrated itself into the global supply chain and the Chinese government sought to improve its military capabilities.

China is emerging as a major player in the global defense market. For instance, between 2008 and 2017, China was ranked the world's fifth largest exporter of arms with a 5.7% global market share. China is still lagging behind traditional arm exporters such as the United States with a 34% share of the global arms exports and Russia with a 22% share. However, China is narrowing the gap with traditional exporters such as France (6.7%), Germany (5.8%), having surpassed the UK (Bitzinger, 2017; Bitzinger & Popescu, 2017; Cowburn, 2016; CSIS, 2017; DOD, 2018a, 2018b; Wezeman, Fleurant, Kuimova, Tian, & Wezeman, 2018).

China has been known for exporting small arms and light combat vehicles. In the past two decades, however, China has dramatically diversified its defense export portfolio of products and markets (Anderson, 2015; Ani, 2018; Starr & Jones, 2018).

China's strengthening economy, expanding defense budget, and expanding science research and technology (S&T) efforts have allowed China to expand the scope and nature of its defense forces. The relationship between a strong and dynamic economy and its capability to effectively and competitively defend one's country can be expressed in the slogan “Fu Guo Qiang BinG” or the wealth and influence of a nation is reflected in its strong army (Barney & Breen, 2014; Brands, 2018; Erickson, 2015; White House, 2018).

In 2018, China realized that there is a new paradigm in place dictating new types of conflicts and new domains for potential conflicts. China is preparing itself for the transition from “informatized” warfare to the new paradigm of a cognitive, or “intelligentized,” warfare. China's ability to enforce A2/AD, or anti-access and area denial objectives, will be closely related to its ability to adapt and to innovate in these new defense realms and dimensions. The next armed conflicts will be unmanned, inaudible, and also invisible. Countries that are able to master these technologies will be able to enforce A2/AD strategies, goals, and objectives more effectively (Lei, 2017; Nurkin, 2018; Williams, 2018; Zhen, 2018).

President Xi Jinping's “Chinese Dream” explicitly states a wealthy, mighty, civilized, and modern society. This “dream” aims at giving the People's Liberation Army (PLA) the ability to challenge potential contenders on land, sea, air, space, and cyberspace. This goes along with China's three core principles and interests: Security, economic development and growth, and sovereignty. Xi understands that it is not the size of China's army that will address China's security, economic, and sovereignty goals, but rather China's ability to innovate and to lead in a number of key defense technologies (Cheung, 2011; Cheung, 2013a, 2013b; Cooper, 2018; Kim, 2018).

Xi Jinping also announced the “Made in China” economic strategy, permeated by an increase in R&D and innovation efforts and expenditures. The 13th “Five Year Defense S&T Plan and the Defense S&T Industry 2025 Plan” solidifies China's defense strategy. The building of a strong and increasingly more self-sufficient national security state is driving a number of these developments. This “technonationalism” or techno-security state (TSS) strategy is bearing fruits in the development of new defense innovations and technologies. This triple pronged approach, encompassing national security, economic development, and R&D and innovation, is a key component in China's strategy and design. For instance, China is pushing to become the world's defense innovation and technological powerhouse in a number of emerging and disruptive defense technologies such as supercomputing, big data, artificial intelligence (AI), military robotics, unmanned systems, directed energy weapons, hypersonic flight vehicles and scramjet engines, and quantum technologies. China's military-industrial complex (MIC) is comprised of more than 1,000 state-run companies, with more than 3 million employees, producing a diversified portfolio of defense hardware and software (Bitzinger, 2016, 2017; Cheung, 2018; Department of Defense, 2015; Kania, 2018; RAND Corp., 2015).

Xi Jinping has placed innovation and R&D at the core of China's economic development and growth strategy. This has led China to develop a nationwide “National and Strategic Innovation System,” spanning through China's private and state-run companies. A number of these technologies are the result of increasing cooperation and integration between China's private sector and defense state-owned enterprises (SOEs). Chinese universities, such as Tsinghua University and Peking University, are also involved in developing a number of these defense projects (Cheung, 2019). This increasing cooperation between China's defense SOEs, or integration, is key to unleash China's next generation of defense hardware and software. Moreover, it constitutes an attempt to mimic defense efforts such as the United States' DARPA agency, bringing together China's SOEs, China's private sector, and China's universities.

In 2017, the Chinese Communist Party's Military – Civil Fusion Development Commission was created to foster the next generation of defense hardware and software by relying on dual-use technologies. Universities are also engaged in this effort. A technological-innovation

driven state is being fostered by Xi's administration (Butin, 2017; Campbell, 2015; Kania, 2018; Williams, 2018).

China's recent technological achievements in the areas of (a) counter-space measures, (b) AI – autonomous unmanned systems, (c) maneuverable re-entry vehicles (MaRVs), (d) hypersonic glide vehicle (HGV), (e) directed energy weapons, (f) electromagnetic Railguns, (g) quantum computing and encryption, (h) robotics, (i) supercomputers, and (j) cyberwarfare will have a deep impact and will shape China's future defense industry capabilities and the world's defense establishment.

In 2017, Xi Jinping's speech during the 19th Communist Party Congress stated that China's goal is to build a strong military, a world-class force that can fight and win. He called for the PLA to be modernized by developing a number of disruptive and game-changer defense technologies. The call for China to play a larger role in the global arena was set. The Belt and Road Initiative (BRI) has been used to also foster China's global defense and national security initiatives.

In 2019, China was exporting defense hardware and software to more than 48 nations around the globe. Like other traditional arms exporters, China sees foreign markets as a way to further finance the next generation of defense hardware and software. Africa and Latin American nations, in addition to Asian nations, are an integral part of China's defense export-driven strategy. This export driven strategy also allows China to project “soft-power” when addressing China's global geopolitical goals. In addition, it provides China with the defense clout to secure sources of natural resources and protect China's investments and assets overseas and trade routes.

3 CHINA'S EXPORTS OF DEFENSE SOFTWARE AND HARDWARE TO LATIN AMERICA AND AFRICA

China, in addition to bilateral trade, foreign direct investments, loans, and aid, is expanding its national security and defense ties to both Latin America and Africa. This interaction takes many forms, from exports of defense hardware and software and peacekeeping operations to the local manufacturing of arms. China is promoting the sales of its defense hardware and software to (a) further finance its own defense domestic industry, (b) further promote its global geopolitical goals and project “soft power,” (c) develop closer ties to political leaders in both Latin America and Africa, and (d) as another export item in its diversified portfolio of manufactured products and services (Legarda, 2017). Table 2 summarizes the categories of Chinese arms exports to all countries around the world, including Africa and Latin America, for the period 2016–2018. As can be seen, aircraft (47.3%) and engines (22.9%) constituted more than two-thirds of Chinese arms exports during this period.

China's involvement with both Latin America's and Africa's defense and national security programs and projects has followed the dimensions of the Belt and Road Initiative, including economic, political, cultural, and business involvement. It is important to assess China's traditional BRI interactions with both regions in order to understand and gauge BRI's new layer of involvement, defense and national security (Myers, 2018; ZiroMwatela & Changfeng, 2016).

TABLE 2. Categories of Chinese arms exports, 2016–2018

Category	2016	2017	2018	Total	% of all Chinese arms exports, 2016–2018
Aircraft	527	642	626	1795	47.3
Air defense systems	15	8	268	290	7.6
Engines	298	288	283	869	22.9
Missiles	28	48	275	351	9.2
Naval weapons	28	25	25	78	2.1
Sensors	146	121	89	356	9.4
Ships		59		59	1.6
Total	1,041	1,190	1,566	3,797	100

Note: Units are SIPRI trend indicator values (TIVs) expressed in millions.

Source: SIPRI arms transfers database.

China is using arms sales with both regions as one strategy to add another layer of economic and political interaction. China wants to become not only their major source of trade and investment, loans, and aid, but also a reliable and alternative source for Latin America's and Africa's defense and national security needs. China is contesting traditional partners of Latin American and African nations not only at the economic level, but at the defense and political levels as well (Barragan, Manuel, & Aguilera Castillo, 2017; ECLAC, 2015; Escher, Schneider, & Ye, 2015; Gouvea & Kassichieh, 2009; Gouvea & Montoya, 2013; Leo, 2015).

3.1 Africa

China is playing an increasingly meaningful defense and national security role in Africa. In the past 10 years, China has actively increased its exports of defense hardware and software to Africa. For instance, between 2013 and 2017, China's share of Africa's total defense imports has increased from 16% to 27% (Benabdallah, 2018; DW, 2018; Pant & Haidar, 2017; SIPRI, 2018). Table 3 summarizes Chinese arms exports to African countries for the period of 2016–2018.

China's defense and security approach to Africa reflects and is intertwined with its overall business, political, and “soft power” projection. China has created a strategy that blends defense sales to medical assistance, anti-piracy drills and oversight, infrastructure development, in addition to oil prospection and exploration. This comprehensive strategy has allowed China to expand its defense sales in Africa (Chandran, 2018; Henry, 2016; New Delhi Times, 2018).

During the period of 2013–2017, African nations only accounted for close to 7% of global arms imports. However, African nations are becoming increasingly important to China's total exports of defense hardware and software. For instance, in 2017 Algeria accounted for close to 10% of China's total defense exports (DW, 2018).

In 2018, more than two-thirds of African nations were using Chinese-made military equipment. China's most important clients include Algeria, Angola, Cape Verde, Nigeria, Chad, South Sudan, Djibouti, Equatorial Guinea, Gabon, Uganda, and Ghana. Algeria accounted for 52% of total African imports of China arms exports to Africa, Morocco for 12%, and Nigeria for 5.1%. China's share of Africa's arms imports increased from 8.4% to 17% (Cowburn, 2016; SIPRI, 2018).

TABLE 3. Arms exports from China to African countries, 2016–2018

Country	2016	2017	2018	Total	% of all Chinese arms exports, 2016–2018
Algeria	499	17	33	550	11.9
Angola	15			15	0.3
Central African Republic			1	1	0.0
Cote d'Ivoire		4		4	0.1
Djibouti	4			4	0.1
Egypt		15	15	30	0.6
Ghana	8			8	0.2
Kenya	11			11	0.2
Mali		4		4	0.1
Mauritania	34			34	0.7
Mozambique	2			2	0.0
Namibia	3	34		37	0.8
Niger		3		3	0.1
Nigeria	36			36	0.8
Rwanda		1	3	4	0.1
Senegal	16	20		36	0.8
Sierra Leone	1			1	0.0
Somalia		2		2	0.0
Sudan	12	32	32	76	1.6
Tanzania		2		2	0.0
Zambia	33	33		65	1.4
Total	2,360	1,227	1,040	4,627	19.8

Note: Units are SIPRI trend indicator values (TIVs) expressed in millions.

Source: SIPRI arms transfers database.

In the period of 2008–2017, China exported close to US\$ 3 billion worth of defense hardware to African nations. It is important to note that, in the same period, the United States exported close to US\$ 4.9 billion and Russia exported close to US\$ 12.4 billion. China's main defense markets in Africa during the 2008–2017 period were in (a) Algeria (US\$ 910 million, 27.6%), (b) Tanzania (US\$ 340 million, 10.6%), (c) Morocco (US\$ 239 million, 8.8%), (d) Nigeria (US\$ 271 million, 8.21%), (e) Sudan (US\$ 259 million, 7.9%), and then the rest of Africa (US\$ 1.22 billion, 37%) (SIPRI, 2018).

In Africa, China is not only replacing aged and antiquated Russian-made defense hardware, but also selling more increasingly sophisticated defense equipment. China exports combat-ready k-8 jet training aircrafts, unmanned armed aerial vehicles (UAVs), missile systems, to rifles and ammunitions. Illicit trade has also contributed to the dissemination of Chinese-made defense equipment in Africa. China also exported third generation VT4 battle tanks to both Tanzania and Chad made by China's defense company Norinco. China also exports armored vehicles to Ghana, Rwanda, Burundi, Mozambique, Chad, Gabon, and Namibia. Combat aircrafts have been sold to Nigeria, Tanzania, Zambia, Namibia, Zimbabwe, and Ghana along with armed drones. Countries like Morocco and Sudan are also importing missiles and missile launchers. South Sudan has acquired 100 guided missile systems to South Sudan. Congo, Ghana, Sudan, Cameroon, Tanzania, Niger, and Rwanda have also acquired caliber artillery from China. Moreover, China has engaged in the sales of (a) Unmanned Aerial Systems and Armed drones (Egypt, Nigeria), (b) JF-17 Thunder Fighter Jets (Nigeria), (c) C-801/C-802 antiship cruise missiles-ASCMs (Algeria), (d) K-8 Trainer Jets (Egypt, Bolivia, Ghana, Namibia, Sudan, Tanzania, Venezuela, Zambia, and Zimbabwe), (e) F-7MG Fighter Jets (Namibia, Nigeria, Tanzania), (f) WZ-551 Armored Personnel Carrier

(Argentina, Gabon, Kenya, Sudan, and Tanzania), (g) Y-12 and MA-60 Small and Medium Size Transport Aircraft (Ghana, Kenya, Uganda, Zambia). In addition, China is also a major supplier of small arms, trucks, uniforms, assault rifles, ammunitions, and mortars among other defense related items. China has also built small arms factories in Zimbabwe, Sudan, and Uganda (Enuka, 2011), showing that China has not shied away from supporting oppressive regimes in Africa (Bitzinger, 2017; Jeong-Ho, 2018).

China has also established ground satellite stations in Namibia and Kenya to further China's space programs. For instance, in Namibia, in the city of Swakopmund, China built a tracking, telemetry, and command station, and in Kenya, in the city of Malindi, China built a ground satellite station (Solomon, 2018; Sputnik, 2018; Woody, 2017).

A number of Chinese companies such as CSIC, Changhe, Norinco, and Harbin Corporation have dispelled the low quality, maintenance, and reliability issues and have increasingly expanded their African and Latin American defense market share by offering more reliable, cost-effective, and sophisticated products. Chinese arms are cheaper than traditional suppliers but still address the needs of the African and Latin American buyers. Moreover, China is not a member of the “Missile Technology Control Regime” allowing Africa to supply its arms to countries subjected to trade embargos. For instance, China sold guided missile systems to the South Sudan regime drawing international criticism. Moreover, unlike the United States that imposed restrictions on the sales of UAVs, China is filling the void by selling its UAVs to countries like Nigeria and Egypt. Recently, China has been more careful about selling its arms to regimes that may engage in genocides.

These sales of Chinese-made defense hardware and software are being conducted by government-to-government agreements and are enabled by Chinese loans as one dimension of infrastructure projects, making the tracing of these transactions hard to assess (Cowburn, 2016; Johnson, 2015).

China is gradually moving from the noninterference approach to a “constructive involvement” strategy, aimed at protecting its vital economic interests and also protecting its people in Africa. One of the dimensions of China's support of African Peace and Security Architecture (APSA) is through collaborations with the African Union (AU). The AU has also been granted full membership in the FOCAC, linking business to national security and defense initiatives in Africa. In addition, China has also assisted African nations in their antiterrorism efforts (Legarda, 2017, 2018).

China is also training African military officers in China's prestigious College of Defense Studies at the National Defense University in Beijing and has expanded its role in peacekeeping missions in Africa. China has contributed soldiers to missions in South Sudan, a major oil supplier, and Congo where China has interests in cobalt and copper. China is definitely expanding its military footprint in Africa, and if the United States and European nations lower their presence in Africa any more it would create a vacuum of geopolitical power that would easily be addressed by China (Dahir, 2018; Olander & Staden, 2015).

3.2 Latin America

Like in Africa, China has penetrated the region's defense markets, and China is supplying an increasing number of Latin American armed forces with defense hardware and software. Prior to 2000, Chinese arms sales to Latin America were mostly comprised of military

supplies and small arms. Since then, the level of sophistication of China's arms sales to the region has increased substantially. A number of reasons explain China's aggressive move towards Latin American markets, such as (a) China's attempt to expand its global geopolitical objectives, (b) their ability to develop closer political and diplomatic ties to Latin America's elite and project “soft power,” and (c) the ability to expand China's portfolio of manufactured products, in this case arms, to a number of Latin American markets. China has engaged and resorted to countertrade transactions with a number of Latin American countries, exchanging arms for natural resources, in order to expand its market share of Latin America's defense industry (Coyer, 2016; Defesanet, 2015; Ellis, 2011, 2015; Gouvea, 2015, 2017; Gurrola, 2018; Zibechi, 2015).

Even though Latin American defense markets only account for close to 6% of total global arms sales, China's other goals and objectives in the region may also be guiding these efforts. For instance, in 2018 China was able to convince Panama and the Dominican Republic to sever ties to Taiwan (Londono, 2018; Mares & Kacowicz, 2015; Nixon, 2016).

It is important to notice that in South America, most non-MERCOSUR members have kept away from Chinese-made defense hardware and software. A strong ideological bias, against the United States and several Western European countries, has helped to expand China's defense market share in these non-MERCOSUR countries. China is trying to counter American influence in the region by deepening its economic and political ties via trade, investment, loans, aid, and exports of arms (Bouzas, 2013; Coyer, 2016).

China's main arms clients in the region are members of the “Alianza Bolivariana para Los Pueblos de Nuestra America – ALBA.” Venezuela is Latin America's largest buyer of Chinese arms. For instance, Venezuela has acquired planes from China, such as the K-8, Harbin Z-9C anti-submarine helicopters, in addition to radar systems and command and control equipment. Other countries like Ecuador and Bolivia have also procured defense hardware and software from China. Bolivia acquired surface-to-air missiles, and H425 helicopters, and Ecuador acquired two M-60 transport airplanes, and SAMS antitank missiles (Ellis, 2011; Francis, 2011; Hearn, 2014; Wiltgen, 2014).

The Macri government cancelled the 2014 the “China – Argentina Defense Agreement.” As a result of this agreement, Argentina would have engaged with China to co-produce a number of Chinese-designed defense hardware and software. These defense purchases would have constituted a major deepening of China's defense relationship to another Latin American country in addition to Venezuela (Fisher, 2015a, 2015b; Jennings, 2015; Maele, 2017).

Argentina, however, is not completely closing its door to China. It is building a nuclear power plant with Chinese technology, Atucha III, breaking a new ground on the Argentina–China defense relations. In addition, Argentina and China are also developing a space station in the Neuquen province where China will be able to track satellites—with a potential military purpose. This would certainly foster China's ability to greater develop its intelligence capabilities. This project involves Chinese financial services and the participation of Chinese engineering companies and workers. It is also expected that China will maintain Chinese engineers and technicians on Argentine soil. This satellite tracking station changes the nature of Chinese defense interactions with South American defense forces. It marks an inflection point in China's involvement with South American defense forces, since it will have a physical presence on South American soil (Londono, 2018; MercoPress, 2015; Portal Vermelho, 2015).

China has identified Brazil as one of its largest potential defense markets in Latin America. As discussed previously, China has developed expertise in nuclear submarine construction and design, missiles, cyber warfare, and satellite and space systems. These areas are of vital importance for Brazil's defense industry. It is expected that in the next few years, China's participation in Brazil's defense industry will be more pervasive as a result of China's increasing defense capabilities and expanding portfolio of defense hardware and software (Foreque & Agostini, 2014; Goes, 2015; Korolkov & Rusakova, 2015).

In 2018, China was developing a number of defense related projects in Brazil such as (a) monitoring of Brazil's Amazon region, (b) local manufacturing of military trucks in Brazil, and (c) developing an Earth Resource Research satellite (CBERS with Brazilian counterparts (Forcas Terrestres, 2014; Gugliano, 2015; INPE, 2015; Monteiro, 2015; Prates, 2015; Vosman, 2015).

China has engaged in joint military exercises with countries like Peru, Chile, Argentina, and Brazil as well as the exchange of officers since China hosted the 2012 “China-Latin America High-Level Forum on Defense.” In 2015, China hosted officials from Latin American countries for another round of defense related talks such as the forum “Strengthening Mutual Understanding for a Win-Win Cooperation.” China is engaging in the same type of military building relationship that the United States had in place with Latin America until the 1990s (Coyer, 2016; Londono, 2018).

3.3 Comparison: China and United States arms exports to Africa and Latin America

One important question that arises is how China compares to other major defense exporters. A partial answer to this question can be provided by comparing and contrasting Chinese and American arms exports to countries in Africa and Latin America. Table 4 provides this data for the period of 2016–2018. A few points are immediately apparent. First, Africa is a more important export market than Latin America for China and the United States, both in terms of number countries exported to and in terms of the monetary value of exports. Specifically, China exports to 21 countries in Africa and for the period of 2016–2018 those exports were valued at \$925 million. By contrast, China exported to only two countries in Latin America and those exports were valued at \$82 million for the same period. Similarly, the United States exports to 16 countries in Africa (value = \$1,919 million) versus nine in Latin America (value = \$686 million). Second, we see that America dwarfs China in importance as an arms exporter, both to Africa and to Latin America. In Africa, America exports more than twice as much as China (\$1,919 m vs. \$925 m) and in Latin America, America is eight times larger as a source of arms than China (\$686 m vs. \$82 m). Third, there are differences in the relative importance of the two markets for China and the United States. Africa is more important than Latin America to China, accounting for 91.7% of its arms trade to those two markets; by contrast, Latin America is more important than Africa for the United States, accounting for 73.6% of its arms trade to those two markets. Finally, we note that the vast majority of countries in both Africa and Latin America import exclusively from either China or the United States. In Africa, only Algeria, Angola, Djibouti, Egypt, Kenya, Nigeria, and Senegal imported arms from both China and America. In Latin America no country imported arms from both China and America.

TABLE 4. China and United States arms exports to Africa and Latin America, 2016–2018

Importer	Exporter		Importer	Exporter	
Africa	China	United States	Latin America	China	United States
Algeria	550	22	Argentina		46
Angola	15	1	Bolivia	6	
Botswana		2	Brazil		103
Burundi		2	Chile		62
Cameroon		2	Colombia		54
Central African Republic	1		Guatemala		3
Chad		2	Honduras		1
Cote d'Ivoire	4		Mexico		402
Djibouti	4	1	Panama		11
Egypt	30	640	Peru		4
Ethiopia		10	Venezuela	76	
Ghana	8				
Kenya	11	25			
Libya		1			
Mali	4				
Mauritania	34				
Morocco		1,045			
Mozambique	2				
Namibia	37				
Niger	3				
Nigeria	36	15			
Rwanda	4				
Senegal	36	4			
Sierra Leone	1				
Somalia	2				
Sudan	76				
Tanzania	2				
Tunisia		131			
Uganda		16			
Zambia	65				
Total	925	1,919		82	686

Note: Units are SIPRI trend indicator values (TIVs) expressed in millions.

Source: SIPRI arms transfers database.

4 IMPLICATIONS OF CHINA'S INCREASING DEFENSE INTERACTION WITH LATIN AMERICA AND AFRICA

The past sections elaborated on China's Belt and Road Initiatives in both Latin America and Africa. It is clear that China sees both regions as key players in the economic and political dimensions of their BRI global power strategy. More recently, China has also added a defense and national security dimension to their BRI in both regions. It is clear that China has become a very meaningful player in both regions, as well as a substantial stress to the presence of the United States and Western European economies in both regions. For decades, the United States and Western Europe approached both regions as their “backyard,” that is, markets that were not going to be contested by countries outside the realm of these regions. China has turned this established geopolitical assumption upside down and brought about new competition as the new player in an old game.

4.1 Implications for business

We believe that the primary implication of the growing Chinese presence in Africa and Latin America for American and European business is that these firms will experience declines in both relative market share and absolute unit sales in these markets. However, consistent with insights from market strategy (Day, 1990; Porter, 1989), these declines will not be evenly distributed across firms. Rather, we expect to see exit by the weakest competitors with the remaining, stronger competitors consolidating, or perhaps even strengthening, their positions. An important determinant of exit will be the extent to which the incumbent's offering is technologically unique and superior versus the extent to which the incumbent relies on price advantage. Over the longer term, Chinese firms will use their lower cost structure, government subsidies, and economies of scale to provide the lowest cost alternative in every major product category. To the extent that American and European firms can remain competitive in African and Latin American defense markets it will be due to technological superiority. As an example of this strategy, consider the Lockheed Martin and Northrop Grumman joint venture, Longbow, that was awarded a contract to supply Apache helicopter radars to Morocco because of their superior quality (African Military Blog, 2020a). By contrast, the Turkish firm BMC ran into repeated quality challenges with its Kirpi armored vehicle in Libya (African Military Blog, 2020b).

By contrast, the implications for Chinese business should be more positive. Growing access to new markets provides Chinese firms with the opportunity to benefit from both economies of scale and experience curve effects. These benefits are not limited just to Chinese defense firms. Rather, because the Belt and Road Initiative is a comprehensive and integrated effort across multiple sectors of Chinese industry, there will be positive interaction effects across defense, construction, civil engineering, and so on. To date, Chinese firms have relied primarily on cost advantages secured through government subsidies, economies of scale, and lower input costs in order to compete against Western firms. However, with the mammoth state investments in R&D that are part of the BRI, one can foresee a time Chinese firms compete less on low cost and compete increasingly on technological parity or even superiority.

Finally, there are the implications for African and Latin American business, and here the outlook is more mixed. To some extent, there has been a tendency for governments in these markets to prefer domestic providers where possible. However, these firms often have neither the technological superiority of Western firms, nor the low-cost advantage of Chinese firms. As such, they are often stuck with a generic strategy that Porter (1989) describes as “middle of the road” that is unlikely to create a sustainable competitive advantage. Middle of the road businesses usually do the worst in their industry because they are not concentrating on one business strength. The example of South African arms manufacturer Denel is instructive. Coetzee (2002) traces the history of Denel (formerly Armscor) from its inception in the 1960's due to an international arms embargo on Apartheid South Africa. During this period, Denel had the benefit of being a monopoly. However, after the collapse of Apartheid, and the subsequent lifting of the arms embargo, foreign competitors entered the South African market. Denel quickly discovered that it had neither the technological superiority nor the low-cost advantage to be competitive and sales quickly collapsed. Another example is the Brazilian firm CBC (Companhia Brasileira de Cartuchos), an ammunitions manufacturer. Following increased international competition, CBC managed to avoid the “middle of the road” trap and found a path to sustainability via the acquisition of the Czech company Sellier & Bellot; MEN in Germany; and Magtech, based in the United States.

4.2 Implications for geopolitical strategy

The Bush and Obama administrations both relegated Latin America and Africa to secondary roles in their global economic and geopolitical strategies. This was a key mistake for the United States and for Western European countries, and it allowed China, in less than two decades, to develop a strong foothold in both regions. In 2019, the Trump administration began trying to regain the lost momentum in both regions by designing China-specific containment strategies.

As mentioned previously, China's BRI efforts in both Africa and Latin America are clearly not only driven by economic goals and objectives but also by geopolitical, defense, and national security reasons. China is leveraging its economic presence to build political and geopolitical clout in both Africa and Latin America, thus lessening the foothold of the United States and Western Europe. China is no longer willing to play the junior role in these two regions and is drastically challenging the so-called established Latin American and African order that where mostly influenced and formatted by Western Europe and the U.S. demonstrated by China's bases in Djibouti and Nequen in Argentina (Mastro, 2019; Xuetong, 2019).

China evidently is trying to undermine the United States and Western European countries' geopolitical and military presence and influence in both Africa and Latin America. China has been pursuing the same strategy in the Western Pacific for the past decade. China's anti-American and anti-Western European actions are definitely reviving and propitiating the harbinger of an era of global geopolitical strategies, one that is locking all three of these players in a new cold war mindset. China is counting on the fact that the U.S. liberal hegemony has already peaked and that it will be able to replace the United States on the global stage. However, China does not offer democratic values, instead it offers an authoritarian alternative disguised in an updated “wangdao,” or human authority. China's misleading and disguised foreign policy is coming “out of its closet” more clearly in the South China Sea. China has engaged in an increasingly belligerent approach to its neighboring countries like Vietnam and the Philippines. In Latin America, China's support of Maduro's authoritarian regime also sheds light on how China is willing to support regimes that violate human rights and engage in corruption schemes. China's loan-for-oil deals in Venezuela have strangled the Venezuelan economy, leading to an astronomical debt spiral. The Venezuelan crisis has resulted in Latin America's largest ever migration crisis. Close to three million Venezuelans have left the country, creating a humanitarian crisis in the region. In Ecuador, close to 90% of the country's oil revenues are being used to repay loans from China. A number of projects funded by these loans face an increasing scrutiny in Ecuador. This is just one more example of China's “debt-trap-diplomacy.” That is not the vision and practice that African and Latin American nations expect from a business and political partner. China's vision and practices in both continents reflect old business and political practices that have kept both regions hostage of totalitarian regimes and high levels of corruption (Badri-Maharaj, 2016; Dreyer, 2019; Kaplan & Penfold, 2019; Yan, 2018).

Latin America and Africa are now active members stuck in the middle of China's cold war efforts. This new bipolar arrangement is going to reshape alliances in both Latin America and African. More than ever, China, the United States, and Western European countries will be pushing these countries to clearly identify their alliances.

China's BRI, however, is facing not only opportunities in economic and global growth, but challenges around the globe as well. Clearly, China's "wangdao" diplomatic philosophy and strategy works better with countries where levels of corruption are high and where there is lack of economic and political transparency. For instance, Venezuela in Latin America and Zimbabwe in Africa are good examples of China targeting countries where its projects would not be subjected by a free press and effective governance. Moreover, China's "neoextractivist" approach to African and Latin American economies is becoming increasingly questionable as countries embrace democratic regimes and higher levels of transparency in their societies (Ellis, 2017; Kazem, 2018; Wedell, 2019).

China is also undermining democratic regimes in both regions through things such as the "One China Policy." China was also able to turn Panama's and the Dominican Republic's support of Taiwan to China, ending a long-term alliance between the two countries. Another example is how China is the second-largest utilizer of the Panama Canal. This is important to mention because the Panama Canal (Atlantic and Pacific) are under the control of a Hong Kong based company, "Hutchison Whampoa," with ties to China's People's Liberation Army. The same company also leased Rodman Naval Base. China's quest for dominance of a number of key ports is also reflected in its presence in Djibouti and Egypt. Close to 30% of the global maritime trade goes through the Red Sea and Suez Canal. Will China use its economic clout in Africa and Latin America to limit the United States' use of ports and airspace in both regions? China's "anti-access/area-denial" strategy and doctrine could jeopardize U.S. military operations in both regions (Zamorano, Martinez, & McDonald, 2019).

China's multipronged approach to both Latin America and Africa entails an increasing participation in these regions' telecommunications industry. Africa and Latin America are attractive markets for technology. They are both the world's fastest growing markets for mobile technology and have experienced China and the U.S. battling in tech space. China is approaching a number of markets in Africa and Latin America to upgrade their mobile infrastructure, including 5G. The Trump Administration is lobbying hard for U.S.'s mobile technologies and standards to also be used in both regions. Mexico, however, is not caving to the U.S. pressure and it is working with Huawei to develop its mobile networks. Brazil has been warned not to allow Huawei to develop its 5G network in Brazil. In Venezuela, China's ZTE is deeply imbedded in the country's telecom industry. ZTE has been fined by the United States for violating sanctions by selling products to North Korea and Iran. In Africa, Huawei is building South Africa's 5G network, further encroaching in one of United States' traditional allies in Africa. For instance, Huawei has been accused of spying and meddling in domestic political elections in both Uganda and Zambia (Dreyer, 2019; Parkinson, Bariyo, & Chin, 2019; Wedell, 2019).

Will Latin American and African countries be aligned with the United States on traditional security issues and, at the same time, still maintain close economic ties to China? This two-track strategy will certainly be challenged by both China, Western Europe, and the United States on an ongoing basis (Yin-Hang & Acuna, 2018).

The United States and Western European countries will have to sell a more appealing geopolitical and economic vision to countries in both regions if they are willing to lessen the national security threat imposed by China. The Free Trade Agreement for the Americas (FTAA) championed by the George Bush Senior administration should be revived. Increasing flows of trade, foreign direct investment and defense cooperation may be one of the avenues

to build a stronger U.S. footprint in Latin America. Similar efforts in Africa may allow Western European countries and the United States to regain market share and national security leadership in the region.

China still needs to develop a vision that benefits not only itself but also countries it is working with. The United States has been more successful in selling a vision of democracy and of economic development and prosperity, while China's vision so far has been sold more easily in countries where the level of opacity tends to be higher.

The United States and Western European nations need to offer a competing growth and development vision and strategy for both Latin America and Africa in order to curb China's increasing multidimensional footprint in both regions. The United States and Western Europe also need to design more appealing defense and national security arrangements towards Latin American and African countries and customizing defense hardware and software needs for both markets will aid in the return of some United States and Western European former customers. In addition, increasing military interactions will also develop new generations of officers in Latin America and Africa closer to the United States and Western European defense and national security environments.

5 FINAL REMARKS

China is dramatically changing the nature and scope of the global defense industry. Currently, China is the world's fifth largest exporter of arms. China's defense products are becoming more ubiquitous in a number of defense forces around the globe. Increasingly, a number of Latin American and African defense forces are engaging in defense agreements with China. The scope of China's defense and national security engagement with both regions has evolved considerably in the last decade. In Latin America, China has mostly exported its defense products and prompted joint military exercises and exchanges of military personnel. China has also built a satellite tracking station in Argentina staffed with Chinese defense forces on Argentine territory, marking an inflection point in China's defense relationship with Latin American countries. In addition to becoming Latin America's main trading partner and an increasingly important source of investments and loans, China is increasing its defense stake in the region. China has positioned itself to increasingly challenge traditional Latin American economic and defense partners such as the United States and Western Europe.

China has followed a similar economic and defense footprint in Africa, where, in addition to becoming a major trade and investment partner to a number of African nations, China has expanded its defense and national security footprint throughout the region. Contrary to the Latin American experience, China is taking a much more aggressive standing in Africa's defense industries and national security. Africa has gotten involved in peacekeeping missions as well as counter-terrorism missions against organizations such as Boko Haram and Al Qaeda. China has also been linked to interferences in African nations' domestic affairs, aiming at protecting their economic and geopolitical interests in the continent. Chinese arms have been found in the hands of African mercenaries and operating in African countries that are subject of arms embargo by the United Nations. Zimbabwe is a good example of such aggressive Chinese moves. Thus, a very complex arrangement is taking place between China and African nations, not only at the economic level but also at the defense level. The China days of non-interference in Africa's domestic affairs are over. The erection of Chinese bases in Namibia, Kenya, and Ethiopia also challenges early statements by China of not establishing of overseas military bases.

China's main objectives in both Latin America and Africa show a strong convergence as China's goal of controlling sources of raw materials and energy for its growing economy have been accomplished in both regions. China's search for new markets for its manufacturing industry and service industries has also been accomplished. The defense dimension of China's interaction with both regions allows China to establish additional diplomatic and political ties in both regions, favoring the expansion and clout of its "soft power projection."

What role China may play in the future in both regions is unclear. However, it is clear that China's economic and defense footprint in both regions is bound to expand. Will Africa and Latin America become the next dimension in the global economic and defense rivalries between China, the United States, Western Europe, and Japan?

It is becoming clear that recent developments in China's economy and defense forces are creating a new economic, geopolitical, and defense paradigms around the globe. This new paradigm offers a number of national security challenges and opportunities for the United States and Western European countries in Latin America and in Africa.

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