



INSTITUTE FOR NATIONAL STRATEGIC STUDIES

EXPLAINING AND INFLUENCING **CHINESE ARMS TRANSFERS**

KARL W. EIKENBERRY

NATIONAL DEFENSE UNIVERSITY

McNair Paper 36

***A popular Government,
without popular information or the means of
acquiring it,
is but a Prologue to a Farce or a Tragedy; or
perhaps both.
Knowledge will forever govern ignorance;
And a people who mean to be their own
Governors,
must arm themselves with the power which
knowledge gives.***

**JAMES MADISON to W. T. BARRY
August 4, 1822**

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- *Director:* Frederick Kiley □ *Chief, Publications Branch:* George C. Maerz

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EXPLAINING AND INFLUENCING CHINESE ARMS TRANSFERS

INTRODUCTION

In July 1987, the United States began Persian Gulf escort operations for reflagged Kuwaiti tankers to guarantee safe passage through vital international shipping lanes threatened by the escalating Iran-Iraq War. The task was complicated for the American Navy by Iran's deployment of shore batteries of Chinese-manufactured HY-2 *Silkworm* antiship missiles (AShMs). Washington negotiated with Beijing, seeking to deny further antiship missile deliveries to Teheran. Although an understanding was reached in March of the next year, the "*Silkworm* controversy" marked a watershed in Sino-American relations.¹ Henceforth, disagreements over arms transfer issues were to prove a recurring source of bilateral friction. In 1992, a U.S. Congressional research analyst noted:

China's role in missile and nuclear weapons proliferation has become one of three issues—along with human rights and trade—upon which Congress has focused its reassessment of U.S. policy toward China, especially whether to attach conditions to the renewal of China's Most-Favored Nation (MFN) trade benefits. . . . China has a track record as a clandestine, renegade arms supplier that transferred CSS-2 intermediate range ballistic missiles to Saudi Arabia, *Silkworm* antiship missiles to Iran and Iraq, and missile technology to Pakistan.²

PRC leaders, of course, disagree with this assessment. Their basic position was stated by then Chinese President Yang Shangkun:

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American opinion censures us for selling weapons. Yet the U.S. also sells weapons. Why does it not censure itself? . . . So there is a question of fairness here. . . . China has a saying, "Only magistrates are allowed to set fires. Ordinary people are not allowed to light lamps." You [the U.S.] are strong, so you can sell without constraint. We are not strong, and so we sell very much less. Yet you denounce us every day. We feel uncomfortable.³

The global significance of China's arms sales was implicitly recognized when the PRC, as one of the five major suppliers of conventional weapons in the world (the others being the United States, Russia, France, and the U.K.), was invited to participate in discussions deriving from President Bush's Middle East arms control initiative announced in May 1991.⁴ The following year, the difficulties in finding common ground between the United States and China on weapons transfers policies became even more apparent when Beijing, responding to Washington's decision to sell the F-16 jet fighter to Taiwan, declared it would not attend the next round of the "Big Five's" Middle East arms control talks.⁵ Given the PRC's great power aspirations and growing military strength, its arms sales activities are likely to remain an area of Sino-American contention and to be increasingly scrutinized in world disarmament forums.

Anticipating the subject's continuing relevance to international security affairs, this paper addresses the factors motivating Chinese conventional arms sales and speculates on means to influence them.* We start by describing the history of PRC weapons exports, then examine various supply- and demand-side reasons for these transfers. In developing both explanations, we will identify recurring patterns in the global arms trade to put our study of China's into perspective. Such an approach should help distinguish between those phenomena whose origins are best attributed to the nature of the international political system, and those more properly ascribed to the specifics of the Chinese case. Such distinctions become crucial in

* In this paper, conventional arms refer to all weapons except nuclear, biological, and chemical.

assessing options for modifying Beijing's behavior, the topic with which we will conclude this analysis.

HISTORICAL OVERVIEW OF CHINESE ARMS TRANSFERS

With the establishment of the PRC on 1 October 1949, the Chinese Communist Party assumed leadership of a country whose economy had been seriously weakened by inflation and the disruption of war. Heavy-industry output in that year was only 30% of the peak level prior to the Sino-Japanese War.⁶ Armaments production was limited to ammunition, small arms, and artillery.⁷ The People's Liberation Army (PLA) used captured Nationalist Chinese and Japanese weapons, as well as arms transferred from the USSR, to equip its forces. In 1952, however, with the creation of a Ministry of Machine Building (MMB) specializing in military items, the PRC's indigenous arms production capability began to grow.

During the course of China's First Five Year Plan (1953-1957), considerable financial and technical assistance from the Soviet Union enabled the PRC to develop production facilities for aircraft, naval vessels, electronic equipment, and land armaments.⁸ In the wake of serious setbacks to the nation's industrial base caused by Mao's Great Leap Forward (1958-1960) and the Soviet withdrawal of advisors and assistance (1960), the machine building industries were reorganized. By 1965, six MMBs had been formed to oversee defense production in nuclear weapons, aircraft and air-to-air missiles (AAMs), electronics, ordnance (ground force weapons), shipbuilding, and ballistic missiles.⁹ With a military-industrial base capable of manufacturing fighters, tanks, armored personnel carriers (APCs), artillery, and small naval vessels, mostly based upon mid-1950's Soviet models,

Beijing had acquired the capacity to export conventional weapons in appreciable quantities.¹⁰ From this point on, despite the economic turbulence experienced during the Great Proletarian Cultural Revolution (1966-1976), the PRC increasingly engaged in arms transfers and trade.

From the mid-1960's until the late-1970's, the scope of Beijing's arms exports were quite limited (except to Pakistan), and provided at low cost or even as free military aid.¹¹ As indicated in Table 1, weapons during this period were supplied to two types of clients: 1) countries, such as North Korea, North Vietnam, and Pakistan, important to China in its efforts to maintain adequate regional security, and 2) African states that the PRC sought to win over in its ideological struggle with both the United States and Soviet Union.

During the late 1970's, fundamental changes in China's domestic and strategic environments affected the scope and direction of its arms transfers. The end of the Cultural Revolution, and the subsequent reemergence of Deng Xiaoping and his "four modernizations" policy heralded increased reliance on market-oriented reforms to stimulate economic growth. It became evident following the Third Plenum of the Eleventh Party Congress in December 1978 that China's industrial production ministries were to receive reduced subsidies. Objectives were established for the arms industries that included down-sizing, technological improvement, more efficient production and use of resources, and the integration of military and civil industries. Defense industry ministries and their affiliated factories were directed to decentralize their decision-making processes, grant more autonomy to managers, use excess capacity to manufacture civilian goods, and to emphasize quality over quantity.¹² Not unexpectedly, command, control, and coordinating responsibilities within the military-industrial complex shifted over the next decade. The PLA Commission of Science, Technology and Industry for National Defense (COSTIND) was established in 1982 to supervise and coordinate weapons R&D, production, and procurement.¹³ With the ministries and their subordinate factories

under pressure to reduce the financial burden they imposed on the state budget, selling arms abroad for profit offered possible relief. Each of the MMB's, in turn, set up their own companies to promote and secure foreign sales.

The major firms created for the export of conventional armaments were China North Industries Corporation (NORINCO) for ground force combat and combat support equipment, China Shipbuilding Trading Corporation (CSTC) for naval craft, China Aviation Technology Import-Export Corporation (CATIC) for military aircraft and AAM's, China Precision Machinery Import-Export Corporation (CPMIEC) for surface-to-surface tactical missiles, and China Electronic Import-Export Corporation (CEIEC) for communications gear.¹⁴ Additionally, COSTIND formed the New Era Company, which focused on the import and export of military technologies.¹⁵ Thus, over a period of only several years (from the late-1970's to mid-1980's), the PRC had hastily put in place a marketing system for its defense industries.

The PLA, likewise, felt the impact of Deng's economic reforms, with defense given the lowest priority, after agriculture, industry, and science & technology, in the four modernizations program.¹⁶ From 1979 to 1989, defense allocations as a portion of national spending fell from 17.5% to 7.4%.¹⁷ The Chinese military, consequently, looked for opportunities to sell its hardware for monetary gain. A host of export companies were established representing many of the PLA General Staff Department's (GSD) directories, as well as the General Political Department, General Logistic Department, Navy, and Air Force.¹⁸ By far, in terms of volume of sales and profit, the most important of these firms was to become Poly Technologies, Inc., subordinate to the GSD Equipment Directory. Staffed with politically well-connected officers and able to provide quick deliveries by drawing upon the military's existing stocks of weapons, the company moved aggressively in the 1980's to compete for Third World clients.¹⁹

The foreign exchange earned by PLA export companies proved a significant extra-budgetary source of funding for R&D and equipment procurement.²⁰

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Table 1
Chinese Arms Transfers from 1966 to 1979

<i>COUNTRY^a</i>	<i>TANKS: MED/ LIGHT</i>	<i>APCs</i>	<i>ARTY PIECES^b</i>	FIGHTERS	NAVAL PATROL CRAFT
Angola (FLNA)	25/0				1
Bangladesh	36/0			12	
Cameroon					2
Congo	15/28 ^c	35 ^c	18 ^c		
Egypt				40	
Guinea			20		6
Kampuchea	0/100	33		19	
Mali	0/6				
North Korea	20/20 ^c	50 ^c	150 ^{c,d}	6	29 ^{c,e}
North Vietnam	0/20		100 ^c	55	2 ^c
Pakistan	519/50 ^f	200	250	139 ^c	8
Sierra Leone					3
Somalia				20 ^c	
Sri Lanka					7
Sudan	10/30			4	
Tanzania	20/35	70 ^c	18 ^c	60	10
Tunisia					2
Zaire	0/60		100 ^c		8
Zambia				22	

NOTES: a. No data available for Romania and Albania which were major recipients of PRC arms during this period of time; b. includes artillery pieces and multiple rocket launcher systems; c. exact quantities not confirmed; d. includes self-propelled howitzers; e. does not include 7 Romeo-class submarines transferred to North Korea in mid-70's; f. Type-59 medium tank transfers for '78-'79 estimated at 75 per year.

SOURCES: Michael Brzoska and Thomas Ohlson, *Arms Transfers to the Third World, 1971-1985* (Oxford: Oxford University Press, 1987), pp.138-280; and Stockholm International Peace Research Institute, *SIPRI Yearbook 1991: World Armaments and Disarmament* (New York: Oxford University Press, 1991), p.265.

The diversity and capabilities of arms offered for sale grew steadily, although not spectacularly, in the years following the adoption of an export promotion policy by the PLA and China's defense industries. Most equipment was based upon the core designs of late-1950's Soviet systems, but was modified and upgraded incrementally to improve combat performance. For example, the F-7M fighter (the export model of the PLA Air Force's F-7 fighter series) is modeled after the Soviet MiG-21, first fielded in 1958.²¹ The Type-69 main battle tank (MBT) traces its origin to the Soviet T-54 tank of the mid-1950's, although considerable improvements have been made on the armaments, fire-control, and optics.²² Similarly, Chinese naval architecture finds its roots in the Soviet *Riga*-class frigate, *Romeo*-class diesel submarine, and *Osa*- and *Komar*- fast attack craft (FAC), all from the 1950's.²³ New to the inventory of weapons stocked on the shelf for export in the 1980's, however, were missiles. These included not only antitank guided missiles (ATGM's), surface-to-air missiles (SAM's), and AAM's, but antishipping and tactical surface-to-surface missiles as well. In general, Chinese conventional weapons became widely-regarded as rugged, simple to operate and maintain, and cheap. On the other hand, inconsistent quality and technological inferiority to Western and Soviet equipment have made PRC arms unattractive to any purchaser seeking world-class war fighting capabilities.²⁴

At the same time they were implementing the new economic line, Beijing's leaders were reappraising the international balance of power and concluding the dangers posed by the Soviet Union mandated the formation of a countervailing bloc. Vietnam's Treaty of Friendship with the USSR and subsequent invasion of Cambodia in December 1978, the Soviet invasion of Afghanistan in 1979, the perceived intimacy of ties between Moscow and

New Dehli, and concern that the United States was still in retreat following its setback in Indochina, all contributed to China's growing fear of encirclement.²⁵ In response, arms shipments to Hanoi were terminated, while, beginning in late-1979, military aid was funneled to the Khmer Rouge forces battling Vietnamese forces in Cambodia.²⁶ The Thai military, concerned by the presence of Hanoi's army along its eastern borders, developed closer ties with the PLA. Weapons transfers to Bangkok followed. In addition, Pakistan, seen as a front line state contending with the Soviet occupation of Afghanistan, and as an ally against the Moscow-New Dehli axis, remained a major recipient of PRC arms exports. Although by the mid-1980's, Beijing adopted a more independent foreign policy less dominated by anti-Soviet rhetoric, it continued to send arms to those countries and guerilla organizations whose efforts helped improve its regional security.

Throughout the 1980's, China also transferred very modest quantities of arms at concessionary rates or as military aid to mostly African states in its attempt to counter Soviet influence, and to add to its credentials as a Third World champion. However, it was the commercial sale of weapons in response to a burgeoning demand among Middle East countries that made up the majority of PRC arms exports during the decade. The Iran-Iraq War and general sense of insecurity among states threatened by the conflict created a lucrative market for Chinese military and defense industry arms merchants at just the time PRC economic policy was encouraging them to seek profit abroad. Weapons sales to the region soon outdistanced the combined total to all other areas in the world. For example, from 1984-87, the value of PRC arms deliveries to Middle East countries represented 89% of all of its global transactions, and from 1988-91, the proportion was 76%.²⁷ The size of different regional market shares for PRC arms sales in recent years can be seen in Table 2 below.

The dominant position among Chinese arms transfer recipients occupied by regional allies and leading Middle East clients, and the increasing diversity of the types of weapons

exported by Beijing are evident from Table 3. Beyond these transactions, the PRC in 1987 sold about 36 CSS-2 intermediate-range ballistic missiles (IRBM's) with ranges of 2,800 kilometers to Saudi Arabia for an estimated \$3-3.5 billion. It is likely, as well, that during the late 1980's and early 1990's, China also transferred some short-range ballistic missile system components and technology to Pakistan.²⁸

The conclusion of the Iran-Iraq War, the 1990 imposition of a comprehensive embargo upon Baghdad by the United Nations, the displacement of the PRC by Russia as Iran's preferred arms supplier, and the reduced purchasing power of Middle East and Persian Gulf states, all led to a precipitous decline in the amount of weapons Beijing exported to that region. Furthermore, no major new contracts were signed with key clients, such as Pakistan and Thailand.²⁹ Even a reported late-1989 arms deal with Burma valued at more than \$1.2 billion did little to reverse the downward trend in the volume of Chinese arms transfers worldwide.³⁰ This is reflected in Table 4:

<i>RECIPIENT</i>	<i>1974-1978^b</i>	<i>1979-1983</i>	<i>1984-1988</i>
Total / % of Total	700 / 100.0	3,455 / 100.0	9,335 / 100.0
Middle East ^a	40 / 5.7	2,135 / 61.8	8,270 / 88.6
Europe	30 / 4.3	0 / 0.0	0 / 0.0
East Asia	280 / 40.0	240 / 6.9	275 / 2.9
Africa	120 / 17.1	595 / 17.3	260 / 2.8
South Asia	240 / 34.3	485 / 14.0	530 / 5.7

NOTES: a. Middle East includes Persian Gulf states; b. \$10 million discrepancy between total and subtotals for 1974-78.

SOURCE: Gordon Adams, *Arms Exports and the International Arms Industry: Data and Methodological Problems* (Washington, D.C.: Defense Budget Project, 1991), tables 1-3.

Table 3
**Chinese Arms Transfers, Less Ballistic
 Missiles, 1980 to 1991**

COUNTRY ^a	MBTs	Light Tanks	APCs	ATGMs	Arty	F'gtr Acft	FACs/ Frigs/ Subs	AshMs	SAMs
Afghan Rebels					350				850 ^b
Bangladesh	36				20 ^c	46	22/2/1	36	
Burma	50	50				18	10/2/0 ^d		
Chile				70					
Congo			18 ^d						
Egypt						240 ^c	14/3/6	104	
Guinea		20 ^d			30 ^{c,d}				
Guinea Bissau			20						
Iran	540		300	7500	1220 ^{d,e}	140		332	600 ^b / 188 ^{4,g}
Iraq	1300		650		720				
Kampuchea ^h	24				6				20 ^b
Nepal									
North Korea					150	40			
North Yemen						6			
Oman					12 ^d				
Pakistan	1110 ^c	50		100 ^c	50	212 ^c	8/0/2 ^{d,e}	32	200 ^{b,e} / 22 ^{4,g}
Somalia			10		20 ^d				
Sri Lanka					18	6	3/0/0		
Sudan			10		40 ^c				
Tanzania			20		200 ^c	10			
Thailand	324	55	360 ⁱ		64		0/3/0	27	18 ^b
Zaire					40 ^d				
Zambia	4 ^d				4 ^d				
Zimbabwe	40 ^d	20 ^d			20	30			

NOTES: 1. Categories of Weapons: MBT = main battle tank; Light Tank = light or reconnaissance tank, or armored assault vehicle; APC = armored personnel carrier (mechanized infantry vehicle); ATGM = antitank guided missile; Arty = artillery piece or multiple rocket launcher system; F'gtr Acft = jet fighter, ground attack, or trainer aircraft; FAC/Frig/Sub = fast attack naval patrol craft/frigate/diesel-powered attack submarine; AshM = antishipping missile (both shore and sea-

based); SAM = handheld portable and crew-served surface-to-air missile (types distinguished in below notes). *II. Explanations:* a. No data available for Romania which maintained an arms transfer relationship with the PRC until the fall of the Ceaucescu regime; b. handheld portable SAMs; c. includes self-propelled artillery; d. deliveries not all confirmed; e. includes some local assembly and/or coproduction of components; f. two frigates and one destroyer (delivery of destroyer not confirmed); g. crew-served SAM's; h. transfers to all Kampuchean guerilla groups, although majority to Khmer Rouge; i. minimum number- total may be 560.

SOURCES: Michael Brzoska and Thomas Ohlson, *Arms Transfers to the Third World, 1971-1985* (Oxford: Oxford University Press, 1987), pp.138-280; and Stockholm International Peace Research Institute, *SIPRI Yearbooks 1987-1992: World Armaments and Disarmament* (New York: Oxford University Press, 1987-1992), from the chapters "Trade in Major Conventional Weapons."

Table 4
PRC Arms Deliveries and Agreements,
1987-1991
(In Millions of Current 1991 U.S. Dollars)

YEAR	DELIVERIES	AGREEMENTS
1987	2,447	5,477
1988	3,259	2,360
1989	2,378	1,729
1990	1,469	2,204
1991	900	300

SOURCE: Richard F. Grimmett, *Conventional Arms Transfers to the Third World, 1984-1991* (Washington, D.C.: Congressional Research Service, Jul.20, 1992), pp.50 and 60.

When examining the growth in the volume and diversity of Chinese weapons exports, it is also worthwhile to compare them on an international basis. Using global, or even regional market share as a standard, the PRC has had only modest success as an arms salesman. For example, excluding those years when it enjoyed significant earnings through transfers to belligerents in the Middle East, the value of PRC deliveries of weapons have never exceeded 4% of totals worldwide, ranking far below the United States and former-Soviet Union whose own portions have varied between 18% and 52% between 1963 and 1991.³¹ And even though the amount of contracts signed with Iran and Iraq during their war were impressive, again, on a comparative basis the results were less spectacular. From 1984 to 1991 the former

purchased 23% of its weapons from China, while the latter only 8%.³² This is not to say the PRC has not become an important second-tier global supplier of armaments, comparable in quantity (but not quality) of exports with France, the United Kingdom, and Germany. A comparison of arms deliveries to Third World countries in recent years, shown in Table 5, makes this clear:

Table 5
Third World Arms Deliveries by Major Suppliers, 1984-1991
(In Millions of Current U.S. Dollars & Percentage of Total)

YEAR	UNITED STATES	SOVIET UNION	FRANCE	UNITED KINGDOM	GERMANY	CHINA	ALL OTHERS	TOTAL
1984	5,574 12.9%	16,200 37.3%	5,600 12.9%	1,300 3.0%	2,500 5.8%	2,100 4.8%	10,100 23.3%	43,374
1985	5,347 14.8%	13,600 37.5%	6,600 18.2%	1,100 3.0%	700 1.9%	700 1.9%	8,200 22.7%	36,247
1986	6,038 16.4%	16,700 45.5%	3,800 10.3%	2,400 6.5%	400 1.1%	1,300 3.5%	6,100 16.7%	36,378
1987	7,010 17.0%	18,300 44.3%	2,200 5.3%	3,600 8.7%	600 1.5%	2,100 5.1%	7,500 18.1%	41,310
1988	4,570 11.7%	19,200 49.3%	1,000 2.6%	3,600 9.2%	600 1.5%	2,900 7.4%	7,100 18.3%	38,970
1989	3,501 10.7%	17,400 53.2%	1,100 3.4%	4,000 12.2%	300 0.9%	2,200 6.7%	4,200 12.9%	32,701
1990	5,182 17.8%	12,700 43.5%	3,700 12.7%	3,700 12.7%	100 0.3%	1,400 4.8%	2,400 8.2%	29,182
1991	5,365 29.2%	6,400 34.8%	1,000 5.4%	3,000 16.3%	600 3.3%	900 4.9%	1,100 6.1%	18,365

SOURCE: Richard F. Grimmett, *Conventional Arms Transfers to the Third World, 1984-1991* (Washington, D.C.: Congressional Research Service, Jul.20, 1992), p.61.

* China does not yet export weapons to the developed world. Since the early 1980's, on an annual basis, aggregate arms imports of industrialized states have varied in value between 43% and 79% of Third World totals (see *SIPRI Yearbook 1992: World Armaments and Disarmament*, p.308).

From this brief historical overview, we can characterize various aspects of and trends in Chinese arms transfers over the past some forty years as follows:

(1) *Quantitative Growth*: From nominal levels in the 1950's, the value of PRC arms exports have risen to between \$1-\$2 billion annually in the past decade.

(2) *Global Market Share*: In terms of value, the PRC has ranked as the fifth largest exporter of arms to the Third World over the past decade, with a market share of very roughly 5%.

(3) *Product Diversification and Quality*: The steady development of China's military-industrial base has made available for export a wide range of ground, air, and naval weapon systems, albeit technologically lagging one or two generations behind state of the art Western and Russian equipment.

(4) *Clientele*: Recipients of Chinese arms have exclusively been developing countries and guerrilla organizations. Almost all major transfers have been to either regional friends or allies on a concessionary or aid basis, or to certain Middle East states (especially Iran and Iraq) on a commercial basis.

With the foregoing provided as background, we will now discuss some of the key factors influencing state decisions on arms transfers and purchases, and relate these to the Chinese experience.

SUPPLY-SIDE EXPLANATIONS OF ARMS TRANSFERS

Nations elect to export arms: 1) to enhance their security; 2) to influence the policies of another state; and 3) for economic gain.³³ Since these goals are often interrelated and mutually supportive, it is difficult to assess their relative importance when looking at a particular arms transfer. Nevertheless, by examining them separately, we are able to draw some useful inferences about the rationales informing supplier state decisions.

Nations have throughout history used arms transfers to improve their security.³⁴ Weapon exports can support a state's strategy by: 1) improving the military effectiveness of an alliance; 2) adding to the war fighting potential of the supplier state; or 3) increasing the capabilities of a non-allied recipient so as to weaken the security of a common adversary. These are elaborated below.

1) Improving the Military Effectiveness of an Alliance: A country capable of producing weapons may opt to strengthen the forces of an alliance partner through arms transfers as part of its overall strategy against an adversary. For example, the United States, throughout most of the Cold War era, viewed commercial and foreign military sales, and military aid, to fellow-NATO members, Japan, Korea, and other allies, as vital to its anti-communist containment policy. Additionally, weapons transfers can help attenuate the combined arms doctrinal and logistic problems inherent in coalition warfare. The predominance of Soviet equipment among the armed forces of the Warsaw Pact was usually viewed in these terms.

2) *Increasing the Supplier's War Fighting Potential*: States also provide weapons to other nations in exchange for special privileges that add to the former's military power. These concessions include basing rights for forwardly deployed units, the establishment of logistic depots and intelligence collection facilities, and accords governing aircraft overflight, ship transit, refueling, provisioning, and maintenance. Both the USSR (with Somalia, Ethiopia, Vietnam, North Korea,) and the United States (with Morocco, Tunisia, Kenya,) have used arms deliveries for such ends.³⁵ In fact, lack of other tools of influence is commonly cited as the reason the Soviets predominantly relied on the export of military hardware to achieve their security objectives abroad.³⁶

3) *Arming a Recipient to Weaken an Adversary*: A nation can also choose to arm a non-allied state or party which is opposed to a common foe. The Chinese expression "my enemy's enemy is my friend" is an apt description of the logic inherent in this strategy. Supplier objectives can range from merely diverting adversary resources, to seriously weakening him in a proxy war of attrition. U.S. aid to the Mujahideen guerrillas in Afghanistan fits into this category.

States also transfer arms to influence the recipient's policies. The provision of armaments to a nation may help gain and maintain access to key political and military leaders (the United States transfers to the Shah of Iran), deny an opponent the opportunity to make inroads (the United States sale of *Hawk* SAM's in 1975 to Jordan, preempting Soviet attempts to reach an agreement with Amman), or result in specific policy acts by the recipient (Egyptian and Israeli acceptance of the Camp David accords). Efforts to acquire leverage over another state through the supply of military equipment have met with mixed results. In fact, complex, symbiotic relationships frequently develop between arms producers and their clients, with recipients often gaining reverse leverage power. Such is attested to by the recurring policy debates in the United States over the sale of advanced weapons systems to states demanding their transfer as a litmus

test of friendship and support (for example, the late 1970's—early 1980's controversies surrounding Iran's and Saudi Arabia's requests to purchase the AWACS aircraft).

Finally, nations sell weapons for economic benefit. Arms sales can represent major sources of foreign exchange, contribute to favorable trade balances, and boost domestic employment. Within the defense industry sector, weapons exports reduce unit R&D costs, defray the high learning costs associated with the initial stages of production of complex systems, and help preserve critical manufacturing capabilities and labor skills.³⁷ All of these factors were expressed in various ways, for instance, by advocates of the 1992 Bush Administration decision to sell the F-16 fighter aircraft to Taiwan.³⁸ Additionally, a state might hope to exchange arms for technology, either in the form of a major end item for subsequent reverse engineering, or as information contributing to defense industry R&D or production.

Three summary observations on the international supply of arms are useful before returning to the Chinese experience. First, nations with strong security interests in a particular area of the world will tend to place a high premium on the military implications of weapons deliveries to that region. A superpower, such as the United States, with a large stake in the maintenance of global order and stability, can be expected to have far-reaching concerns about the effects of arms deliveries on military balances. A local power, with less broadly defined strategic interests, will be inclined to only seriously consider the security consequences of arms shipments to countries in its environs. Second, a supplier's reliance on weapon's exports as a means of influencing other states may be tempered by its domestic policies (Germany and Japan, for instance) as well as the range of its alternatives (as mentioned above, the Soviet Union stands out as an example of a country with few options beyond using deliveries of military equipment to achieve its aims). Third, the economic advantages of arms transfers are more critical to those suppliers whose home markets are relatively small, and who have influential advocates and beneficiaries of domestic defense industries.³⁹

SUPPLY-SIDE EXPLANATIONS OF CHINESE ARMS EXPORTS

The People's Republic of China, like all other states, has exported arms to improve its security, shape the policies of clients, and realize economic gain. We will address these reasons in order.

Since the founding of the PRC, China has been a regional land power. Beijing's limited ability to project naval and air forces has generally restricted its military influence and most pressing security interests to contiguous areas. Arguably, Chinese gratis arms shipments to Third World nations and resistance movements (especially African) during the 1960's and 1970's could be viewed as furthering its ideologically-based national security strategy as PRC leaders spoke of the developing world constituting "a revolutionary driving force propelling the wheels of history" and serving as "the main force combating colonialism, imperialism, and particularly the super-powers."⁴⁰ Yet the rather modest quantities involved (see Table 1) suggest more symbolism than substance. In contrast, Chinese arms exports patterns from the mid-1960's until present do reflect an enduring commitment to maintaining favorable military balances against and among its neighbors. The PRC's transfer of weapons to North Korea, North Vietnam (until the collapse of the South), and the Afghan and anti-Vietnamese Cambodian resistance groups (mostly during the 1980's) are indicative of Beijing's willingness to use arms exports to secure its borders against perceived superpower threats.⁴¹ In fact, the PLA's lack of a credible force projection capability has probably made the

provision of military hardware one of the most cost-effective means by which the PRC can be a player in regional security affairs. It is more difficult to attribute other major arms transfers to Asian nations to a realistic expectation by China that a key adversary might be weakened in any significant way. It wasn't until eight years after the 1962 Sino-Indian War that the PRC began to provide Pakistan with any appreciable amounts of military equipment, and this being of dubious quality (T-54 tank and MiG-19 fighter equivalents).⁴² Although Beijing and Islamabad did subsequently develop and sustain a substantial arms trade (see Tables 1 and 3), India, for reasons of geography and capabilities, was never regarded by China's leaders and PLA planners as a serious threat.⁴³ PRC arms transfers to Thailand are analogous. Beijing had been at war with Hanoi since late-1978, and had made secret arrangements with Bangkok as far back as early-1979 to funnel military aid to the Khmer Rouge.⁴⁴ Yet it is not until the late-1980's that sizeable amounts of Chinese ordnance (Type-69 tanks, Type-531 armored personnel carriers, and artillery—all, admittedly, at least as capable as Vietnamese Army equipment) were provided to Thailand.⁴⁵ By this time, Vietnam's control over Phnom Penh was clearly slipping. With the possibilities of open Vietnamese-Thai warfare increasing remote, it is unlikely the PRC deemed expanded weapons deliveries to Bangkok as a crucial dimension of its anti-Hanoi strategy.

There are signs, however, that with its growing affluence and military capabilities, China is utilizing arms exports to increase its regional war fighting potential. For example, a reported 1989 \$1.2-\$1.4 billion arms deal between the PRC and Burma has possibly provided the Chinese Navy with access to a base on Hangyi Island flanking the Bay of Bengal. Rangoon may have also agreed to allow the PRC to set up a monitoring station on Grand Coco Island, just north of India's Andaman Islands in the east Indian Ocean.⁴⁶ Moreover, China's continuing supply of naval vessels and aircraft to Bangladesh, North Korea, Pakistan, Sri Lanka, and Thailand throughout the 1980's (see Table 3)

would seem to point to an effort to expand the list of seaports and air bases available to the PLA Navy and Air Force. Such access, of course, is a *sine qua non* for China to acquire a regional power projection capability.

A second motivation for supplying arms is to gain influence over the policies of the recipient. There is little evidence of this having been a key factor impelling China's arms exports. The PRC's endeavors to serve as Tanzania's chief weapons supplier during the 1970's and early 1980's do suggest an expectation (realized) that President Julius Nyerere and his military would be more amenable to Beijing's attempts to transship arms to various liberation movements in Angola, Mozambique, and Zimbabwe.⁴⁷ Furthermore, military assistance was only one aspect of a multi-dimensional aid program perhaps best symbolized by the Chinese-built 1600-kilometer Tanzania-Zambia railway line, completed in 1976.⁴⁸ The intense ideological persuasions of Beijing's leadership during this era resonated with Nyerere's own pan-African aspirations, resulting in a conviction among PRC foreign policy makers that leverage over Dar es Salaam was both attainable and useful. But attainability and utility are measures by which other potential Chinese arms for political influence arrangements fall short, helping to explain their scarcity. Within a competitive market, poor quality lowers demand. In a narrow sense, the PRC has yet to produce the kinds of sophisticated, reliable weaponry that would entice other states to acquire them in return for major policy concessions or adjustments. Furthermore, China has not developed to the stage that it offers potential customers with the depth and breadth of additional benefits available from suppliers such as the United States. For instance, prospective foreign purchasers of United States equipment may be convinced not only by the quality of the particular hardware in question, but also by such factors as impressive and credible American security guarantees, access to much needed technology through offset agreements, and

opportunities to study in advanced civil and military institutions.^{*} However, even in those instances where the PRC may have a real chance of gaining influence through arms transfers, the rewards would usually fall short of the investment costs. A state may occasionally turn to China as a seller of last resorts, or to supplement their most advanced equipment. Yet the PRC, as a regional power, will only look to arms transactions within Asia as offering meaningful possibilities to attain policy leverage over recipient states. Hence, while the United States, for instance, has equipped the armed forces of key Middle East countries with an eye on shaping their oil production and distribution policies, Beijing's attempts to use of arms for influence have generally been more localized (the Khmer Rouge and possibly Burma, for example).⁴⁹

China, of course, also sells weapons for economic reasons. It was previously noted that market reforms beginning in the late-1970's led to pressures and opened possibilities to enter the global arms market. To understand the stakes involved for the PRC's defense industries and PLA, some comparisons are in order. The value of arms exports as a percentage of total Chinese exports has been significant, but less so in recent years, reaching a high of 6.7% in 1984, and falling to under 1.5% in 1991.⁵⁰ But from the more limited perspective of China's defense sector, the value of arms transfers is very substantial. To illustrate, in the mid-1980's, the ratio of the value of U.S. arms exports to total defense spending was just under 4%; for the PRC, the ratio (very roughly estimated) was 7.6%.⁵¹ To be sure, expanding military budgets and declining weapons sales have, in the 1990's, diminished the contribution arms transfers make to

* Offsets are defined as "compensatory, reciprocal trade agreements arranged as a condition of the export sale of military material and support services. They are, in effect, countertrade in the defense sector." See Grant T. Hammond, "The Role of Offsets in Arms Collaboration," ed. Ethan B. Kapstein, *Global Arms Production: Policy Dilemmas for the 1990's* (New York: University Press of America, 1992), p.205.

PLA modernization efforts. Moreover, the diversification of the former mini-stries of machine building industry factories into the production of civilian goods has probably reduced PRC defense industry dependence on arms sales. A 1992 study, in fact, showed impressive progress in Chinese defense conversion over the past decade (see Table 6).

<i>DEFENSE INDUSTRY SECTOR</i>	<i>CIVIL SHARE OF PRODUCTION</i>	
	<i>1980</i>	<i>1990</i>
ORDNANCE	10%	63.8%
SHIPBUILDING	40%	81%
AEROSPACE	10%	67%
ELECTRONICS	70%	97%
NUCLEAR	4.9%	48%
TOTAL ARMS INDUSTRY	8.1%	65%

SOURCE: Paolo Miggianno, Elisabeth Skons, and Herbert Wulf, "Arms Production," *SIPRI Yearbook 1992: World Armaments and Disarmament* (New York: Oxford University Press, 1992), pp.373-76.

Nevertheless, the economic motives to sell weapons abroad remain strong. Even if defense conversion is taking place, an aspiring great power like China will still seek an autarkic defense production capability. As such, military and civilian goods output is valued differently. For example, in terms of labor, investment capital, sales, and profits, the Chinese shipbuilding sector in aggregate is far more beholden to civilian than to military orders. Yet, this may be of little comfort or relevance to the PRC's top party leaders, Central Military Commission (CMC), PLA General Staff and Navy, COSTIND, and shipbuilding military subsector. For this group of actors and institutions, booming sales in commercial vessels may make only marginal contributions to the development of advanced naval shipyards. Their parochial interests lead them to esteem warship production in and of itself because of the resulting increases in

R&D, and manufacturing skills and capacities. Hence, to the extent weapons exports help realize these goals, they acquire a worth beyond contract price. In 1992, CMC Vice Chairman Liu Huaqing commenting on defense conversion, noted:

"The building of the weapons industry is an important component of national defense building. It is the first duty of the weapons industry to satisfy the needs of national defense modernization, to safeguard the sovereignty and dignity of the state, and to guarantee smooth progress in socialist modernization. Fighters engaged in the weapons industry must regard the completion of the task of scientific research in and production of military products as the first task and on this foundation, deepen reform, readjust mechanisms, and vigorously do well in converting defense industries to civilian industries while ensuring the development of the weapons industry.⁵²

Additionally, the compartmentalization of the PRC defense industry subsectors has most probably led to arrangements that allow much of the profit earned offshore to be retained by the military and relevant manufacturing firms, further elevating the importance of weapons exports.⁵³ The fact that China is only a second-tier supplier in global arms market, should not obscure the relative magnitude and significance of their sales. For example, the 1987 Sino-Saudi CSS-2 IRBM deal was reportedly worth \$3 to \$3.5 billion to Beijing. Assuming, conservatively, U.S. military expenditures that year were on the order of twenty-five times larger than the PRC's, then on a proportional basis, an equivalent 1987 American arms sale might have netted between \$75 and \$87.5 billion.⁵⁴ Lastly, the search for technology has occasionally been an important factor motivating particular Chinese weapons sales. Reports since the mid-1970's have claimed PRC deals with, among others, Egypt and Pakistan, to obtain the MiG-23, T-62, *Crotale* SAM, and *Magic* AAM for subsequent reverse-engineering.⁵⁵ It is reasonable to speculate

Beijing looks upon its long-term arms supply relationships with such clients as Cairo and Islamabad as providing the best, and possibly only, access to advanced Western and Soviet weaponry. Given the weakness of its defense R&D and production base, the PRC can be expected to cultivate partnerships that offer good prospects for opportunities to acquire high technology otherwise not available to it.

Drawing on the foregoing discussion, and assuming China's economy and defense industries continue to maintain rapid growth rates, we can infer the following about the direction of its arms sales in the decade ahead:

1) Commensurate with its expanding regional security interests, China will increasingly attempt to become a major arms supplier to Asian states.⁵⁶

2) Although it cannot possibly develop a credible overseas power projection capability in the foreseeable future, the demands of the PRC's burgeoning economy may induce China to selectively sell arms to more distant states in return for preferential trade agreements. For instance, the PRC, as a net importer of oil by the year 2000, could plausibly guarantee favorable Middle East contracts with weapons exports.⁵⁷

3) While, in a macroeconomic sense, the contribution of arms exports to China's trade balance and overall growth will continue to decline in relative terms, great power aspirations and the dynamics of the PRC defense industries will, nevertheless, encourage continued aggressive sales abroad.

DEMAND-SIDE EXPLANATIONS OF ARMS TRANSFERS

When states debate the acquisition of arms from abroad, they address: 1) security requirements; 2) demands from their armed forces and defense industries for increased domestic prestige and resources; and 3) economic costs. These factors often are interconnected and difficult to consider in isolation. Yet, by examining them separately in very general terms, it is possible to better understand global supplier-recipient arms transfer relationships.

Although nations seek self-sufficiency in the production of military equipment for their armed forces, the growing complexity of warfare and sophistication of weaponry, along with inadequate domestic markets, have denied this possibility to all except the major global powers.⁵⁸ States dependent on arms imports are vulnerable to supplier conditionality and the interdiction of the lines of communications to their sources. Hence, in descending order of preference, acquisition strategies are: autonomous production, codevelopment, coproduction, and importing. Greater technological and financial resources make autonomy a more attainable objective; conversely, fewer assets limit alternatives, and lead to imports.⁵⁹ But given a certain mix of capabilities that delimits the range of options available to a state on the autonomy-import continuum, specific choices will be strongly influenced by the perceived strength and reliability of potential suppliers. For example, during the Cold War era, nations such as Japan and Korea, both confident of and dependent on America's security guarantees, were willing to

equip their armed forces with U.S. equipment.⁶⁰ However, relationships of this nature are by no means the most common. Lacking a credible and capable guardian, a state may elect to pursue autonomy despite exorbitant costs (South Africa, Taiwan, and Israel). The more pressing the professed need for an independent weapons production capability, the more a country will pursue offset and coproduction arrangements. A nation may also try to expand its sources of supply. Diversification might be aimed at enhancing security by increasing the number of potential allies (Kuwaiti acquisition of U.S., U.K., and French equipment)⁶¹, or hedging against conditionality and supply embargoes (Iraq, Libya, and often those Latin American countries that buy European versus U.S. equipment).⁶² Another determining factor in state arms purchases is the urgency of the threat. Herein can lie a point of contention between military leaders seeking to equip their forces with the best equipment possible, and civil officials and defense industrialists who may opt for second-rate material with the long-term objective of acquiring an independent production capacity.

Given these acquisition strategy tradeoffs, a state will make particular purchases based upon the needs of its armed forces and military strategy. Among some of the more important relevant factors are: 1) enemy capabilities and vulnerabilities; 2) geography; 3) human and logistic resources (can the equipment be operated and maintained?); 4) the anticipated life span of equipment and the potential for subsequent upgrades; 5) the degree to which the weapons system is interoperable with and complements the equipment of allies, as well that of the state's own military services and service branches; and 6) doctrine (defensive, offensive, or deterrence). For example, from the 1950's through the 1980's, Japan actively supported America's strategy of deterrence and defense against the Soviet Union in the Northeast Asia theater. Consequently, it opted for relatively sophisticated U.S. weapons and systems to deny the Soviet Navy and Air Force unchallenged access to the Seas of Japan and Okhotsk.⁶³ Israel, on the other hand, has built powerful combined

offensive operations against its enemies. In contrast to these technologically competent militaries, the less sophisticated may see utility in a very different combination of weapons. For instance, the persistent efforts of certain Middle East and South Asian states to acquire tactical ballistic missiles (TBMs) reflect their inability to field and sustain advanced strike aircraft units, as well as their expectations that such weapons can help deter their opponents.

Beyond the complex calculations of how the acquisition of a certain weapon may strengthen national security, some states carefully weigh the explicit or implicit demands of their militaries for status and resources. Regardless of external threats, leaders may seek to ensure the loyalty of their armed forces by increasing their prestige through the procurement of sophisticated equipment (Iran under the Shah, and Jordan). At the same time, rulers, especially in less developed countries, will sometimes attend to the quality of their militaries with the aim of discouraging internal challenges to their authority.

Lastly, nations must consider the fiscal price of potential weapons imports. Yet, since it is difficult to assess the worth of the expected benefits, exact cost comparisons of alternative arms deals are rarely meaningful exercises. For example, the contribution of offsets to a state's security by increasing defense industry autonomy, could theoretically be described in economic terms by developing a crude utility function, but the results would hardly be of any practical value. Nevertheless, cost-benefit analyses are conducted by prospective buyers, and prices do matter, especially in a competitive environment. The intense struggle waged by General Dynamics against Northrop, Dassault, and Saab, before closing the sale of the F-16 fighter in 1975 to the United States, Norway, Netherlands, Denmark, and Belgium, illustrates this point.⁶⁴ However, even after discounting those states whose acquisition decisions are driven by alliance considerations (Taiwan, until the recognition of the PRC by the U.S.), and those subjected to arms embargoes or blockades (Libya and Iraq), generalizations about the role of market forces in arms

procurement are hazardous. The number of states producing major weapons systems (aircraft, armored vehicles, missiles, and naval vessels) has grown steadily since 1950, increasing purchaser options, at least within the Third World.⁶⁵ But despite this trend, the United States, Soviet Union, U.K., France, and China together consistently accounted for between 80% and 90% of global arms deliveries from the mid-1960's through the early-1990's (with the combined share of the superpowers alone fluctuating around 70%), indicating something less than the emergence of a classic "buyer's market" in the international arms bazaar.⁶⁶ Even so, the success many countries have had negotiating favorable offset and countertrade agreements with the major arms exporters since the early-1970's is evidence that purchasers both have, and exercise, bargaining power in order to get the best financial deal.⁶⁷

In concluding, it is worthwhile to highlight several points that are germane to our examination of Chinese weapons transfers. First, reliability is a crucial determinant in customer decision-making. A state, unsure of the commitment of suppliers, will hedge against uncertainty by expanding its network of sources, even if this entails purchasing qualitatively inferior material. Second, nations attempt to increase their independence within the international order by developing autarkic defense industries. The priority a country places on this objective will be greatly affected by the scope of its resources, as well as its assessment of the possibility of conflict, likelihood of outside intervention on its behalf, and long-term access to key weapons systems and repair parts from abroad. Third, a nation's military doctrine does play an important role in influencing the types of weapons it acquires. Finally, while buyers obviously reflect on prices when shopping for arms, the failure of the smaller arms producers to encroach on the market share of the Big Five demonstrates the premium placed on quality and dependability, particularly for more complex systems, such as fighter aircraft.⁶⁸

DEMAND-SIDE EXPLANATIONS OF CHINESE ARMS EXPORTS

In our review of demand-side explanations of Chinese arms exports, we will dwell only on those transfers that were quantitatively significant and most likely were considered by the recipient as making an important contribution to its security. The acceptance of extremely limited, often symbolic, PRC military aid by mostly African Third World countries (see Tables 1 and 3), after all, tells us little about those states' weapons acquisition strategies. Additionally, the cases of Cambodia, the Afghan rebels, North Vietnam, and North Korea are not especially illuminating. In the first three instances, Chinese weapons were welcomed by belligerents hard pressed to adequately equip their forces; and while Pyongyang's post-Korean War acceptance of PRC military assistance was sometimes conditional upon the vicissitudes of the zero-sum influence game played between Moscow and Beijing, North Korea was ultimately a poor country willing to take what it was offered. Our discussion, then, will focus on the following major recipients of arms from the PRC: Bangladesh, Burma, Egypt, Iran, Iraq, Pakistan, Saudi Arabia, Tanzania, and Thailand.

As previously mentioned, Chinese weapons are often described as "rugged, simple to operate and maintain, and fairly reliable."⁶⁹ Given their affordable prices, we could reasonably expect numerous Third World countries to outfit their militaries accordingly. Yet, as we have seen, the list of long-term serious buyers is a short one. A very rough comparison of some of the factors perhaps influencing the acquisition decisions of the

countries in question is provided in Table 7.

Clearly, most of the nations electing to equip their armed forces with Chinese weapons were faced with formidable internal or external security threats at the time of their initial acquisition decisions; the exceptions were Bangladesh, Tanzania, and Thailand (although some would argue in the latter case, Hanoi posed a serious challenge to Bangkok, at least along the Thai-Cambodian border).

Additionally, the arms purchased were generally qualitatively suitable to cope with the threat at hand, although Chinese weapons were inferior to those of Pakistan's archrival India, as well as Egypt's foe at the time, Israel. The imported hardware, as well, was usually appropriate given each state's military doctrine. For example, most Middle East clients incorporated PRC arms into formations assigned defensive or economy of force missions, while employing better equipped, elite forces for offensive operations to attain maneuver objectives. Saudi Arabia, on the other hand, bought CSS-2 IRBM's as part of its strategy of deterrence.⁷⁰

Given the comparatively limited human and technical resources available of these countries (excepting Thailand), it is also fair to say Chinese arms were consistent with each recipient's operational and maintenance capabilities. While it might be argued that some of the countries under consideration have purchased and managed to field sophisticated superpower and Western European equipment, their unimpressive showings in actual conflicts and poor maintenance records would indicate PRC weapons are by no means ill-suited for their armed forces.

Finally, it should be noted that Beijing's major customers have been, for the most part, pressed for foreign exchange, making the low cost of Chinese weapons an attractive selling point. Unquestionably, savings can be substantial. To illustrate, according to one source, the 1992 cost on the open market of a Russian MiG-29 fighter was around \$25 million, whereas a Chinese F-7M was \$2.5-\$4.5 million.⁷¹ By contrast, the two nations that did maintain significant purchasing power, Iraq and

Saudi Arabia, were driven to Beijing for their own special reasons. Baghdad, involved in a costly war of attrition with Teheran, was on a global shopping spree in order to keep its forces in the field⁷²; Saudi Arabia, despite its appreciable financial assets, could only acquire intermediate-range missiles in the world market from China.

Table 7
Comparison of Major Recipients
of Chinese Arms

COUNTRY	YEARS OF MAJOR SALES	GDP/CAPITA (1992/\$US)	ACCESS TO FOREIGN EXCHANGE	LITERACY RATE (1992)%MALE S)	PRIMARY THREAT	THREAT RISK
Bangladesh	'74-'93	200	Low	35%	Internal	Medium
Burma	'89-'93	530	Low	81%	Internal	High
Egypt	'76-'85	720	Low-Medium	48%	External	High-Medium
Iran	'81-'93	1500	Medium	54%	External	High
Iraq	'81-'90	1940	High	60%	External	High
Pakistan	'68-'93	380	Medium	35%	External	High
Saudi Arabia	'87-'88	5800	High	62%	External	High
Tanzania	'70-'82	260	Low	46%	External	Medium-High
Thailand	'85-'93	1630	Medium	93%	External	Medium-Low

NOTE: Foreign exchange availability, threat, and threat risk pertain only to the years of major PRC arms sales to each country. Foreign exchange availability considers not only currency earnings through trade, but access to grants and loans (Egypt, Iraq, and Pakistan) and bartering power (Iran and its oil). Hyphens represent trends (e.g.- Egypt was at risk of renewed war with Israel prior to the Camp David accords; during the 1980's its security situation steadily improved).

SOURCES: Arms transfer years from Michael Brzoska and Thomas Ohlson, *Arms Transfers to the Third World, 1971-1985* (Oxford: Oxford University Press, 1987), pp.138-280; and Stockholm International Peace Research Institute, *SIPRI Yearbooks 1987-1992: World Armaments and Disarmament* (New York: Oxford University Press, 1987-1992), from the chapters "Trade in Major Conventional Weapons." GDP per capita and literacy rates from Central Intelligence Agency, *The World Factbook 1992* (Washington, D.C.: United States Government Printing Office, 1992).

However, in looking for commonalities among the PRC's important clients, it is more productive to inquire into the origins of the arms transfer relationships and the

forces that either sustained or suspended them. It was previously offered that states hedge against uncertainty and conditionality in formulating an acquisition strategy, and that they value an autarkic defense production capability if at all attainable. A review of the particular security environments shaping the decisions of those nations that turned to Beijing as a source of weapons seems to bear this out.

A majority of the countries that opted to enter into a significant arms transfer relationship with the PRC appear to have been prompted by actual or anticipated reduced access to other sources (see Table 8 below). In the cases of Burma, Egypt, Iran, Iraq, and Pakistan, states were faced rather suddenly with embargoes or severe restrictions imposed by their major suppliers.⁷³ Burma's military, isolated internationally after seizing power and establishing the State Law and Order Restoration Council (SLORC), saw no viable alternative to purchasing weapons from an obliging Beijing. The other countries, faced with serious external threats, did buy large quantities of Chinese arms, but only as part of a source diversification program. For its part, Saudi Arabia, questioning U.S. security guarantees, threatened by the proliferation of missiles in their region, and alarmed at their use in the "war of the cities," bought IRBM's from the only willing supplier available, the PRC.⁷⁴ Dar es Salaam, as well, in its time of crisis, found a reliable provider in Beijing. The 1964 mutiny of the British-trained Tanzanian Army, followed by largely unsatisfactory arms deals with West Germany and Canada, impelled President Nyerere to accept much needed comprehensive Chinese military assistance.⁷⁵ Thai and Bangladeshi decisions to utilize PRC weapons, on the other hand, cannot be attributed specifically to such traumatic events as arms

embargoes. Nevertheless, even here, it is still plausible to argue that issues of supplier reliability were critical factors. Bangkok's belief in the United States commitment to the security of Southeast Asia was greatly shaken after Hanoi's victory in 1975. Moreover, Thailand's generals were most likely concerned by the implications of the dispute with Washington over bases in the late-1970's, as well as the precipitous decline in military aid in the mid-1980's.⁷⁶ Finally, the Bangladesh military, having experienced firsthand (as part of the Pakistan Army) the blow of U.S. and U.K. arms embargoes and restrictions from 1965 until the creation of their nation in 1971, and reluctant to draw too close to New Dehli and Moscow, probably saw its best hope for a reliable supplier of weapons in Beijing. Dhaka's continuing policy of regional neutrality thus seems well-served by its heavy reliance on PRC hardware.⁷⁷

A state unsure of the long-term reliability of its arms suppliers may also seek to reduce its dependence on others by developing an indigenous production capability. Several of the PRC's major clients have, in fact, successfully negotiated for local assembly, coproduction, and various other licensing agreements. Pakistan, for instance, in 1989 signed a memorandum of understanding with China providing for "bilateral cooperation in the fields of purchase, joint research and development, joint production, transfer of technology, as well as export to third countries through mutual agreement."⁷⁸ Concretely, Sino-Pakistani defense production cooperation has entailed, in part, Beijing's help in establishing a Type-59 tank rebuild factory at Taxila, and facilities to overhaul and rebuild F-6 fighters at Karma. Additionally, the Pakistanis locally produce, based upon Chinese designs, the *Karakoram-8* jet trainer, *Khalid* MBT (a version of the Chinese Type-69 tank), HJ-8

antitank missile, and possibly the *Anza-2* portable SAM (a Chinese HN-5A variant).⁷⁹

Likewise, Iran manufactures the *Oghab* multiple rocket launcher system which reportedly embodies technology transferred by the PRC, Egypt locally assembled some 80

Table 8
Events Influencing Major Acquisitions of Chinese Arms

COUNTRY	EVENTS POSSIBLY INFLUENCING DECISION TO ACQUIRE CHINESE ARMS	YEARS OF MAJOR SALES	OVERALL PRC SUPPLY POSITION*
<i>Bangladesh</i>	Independence in '71 and policy of regional neutrality.	'74-'93	Dominant
<i>Burma</i>	World democratic community cutoff of arms exports after Burmese military regime (SLORC) seizure of power in '88.	'89-'93	Dominant
<i>Egypt</i>	Deterioration & break in military ties w/USSR '72-'76; U.S. Congress concern over arm sales to Egypt in late-70's.	'76-'85	Minor
<i>Iran</i>	U.S. led arms embargo since fall of Shah in '79 and pressure from war with Iraq.	'81-'93	Major
<i>Iraq</i>	USSR arms embargo against Iraq from '80-'82 and pressure from war with Iran.	'81-'90	Major ^b
<i>Pakistan</i>	U.S. arms embargo during '65 & '71 wars with India and restrictive transfer policy from '69 until present.	'68-'93	Major
<i>Saudi Arabia</i>	U.S. Congress concern over arms sales to Saudis in '80's; Israel test of strategic missile and "war of cities" in '87.	'87-'88	Major
<i>Tanzania</i>	Tanzania founded and British-trained Army mutiny in '64; German & Canadian arms deals failures in '65 and '70.	'70-'82	Dominant then Major ^c
<i>Thailand</i>	Saigon falls in '75; base disputes w/U.S. in late-70's; drop in U.S. military aid in 80's and temporarily halted after '91 Thai coup.	'85-'93	Major

NOTES: a. Pertains only to years of major arms sales. Supply position defined in value of sales. Dominant=>50%; Major=15% to 50%; Minor=<15%. b. China halted arms sales to Iraq in accordance with U.N. resolutions in '90. c. USSR became most important supplier with growing Tanzanian-Ugandan tensions after '74.

SOURCES: Arms transfer years and PRC overall supply positions from Michael Brzoska and Thomas Ohlson, *Arms Transfers to the Third World, 1971-1985* (Oxford: Oxford University Press, 1987), pp.138-280; and Stockholm International Peace Research Institute, *SIPRI Yearbooks 1987-1992: World Armaments and Disarmament* (New York: Oxford University Press, 1987-1992), from the chapters "Trade in Major Conventional Weapons," and International Institute for Strategic Studies, *The Military Balance 1992-1993* (London: Brassey's, 1992), from "Countries" section, pp.98-184. Sources for events cited in text above.

F-7 *Shenyang* fighters it received from China in the early-1980's, and Bangkok arranged a joint Sino-Thai venture in 1989 to produce armored personnel carriers for domestic use.⁸⁰ While Chinese weapons production licenses granted worldwide are relatively few, it appears the states securing them have done so as part of a broader strategy of reducing their vulnerability in the global arms market.

Let us assume the following:

- The international security order in the next ten years is primarily maintained by the United States, although Washington increasingly finds its leadership challenged at the peripheries by economically robust states (or coalitions).
- The level of U.S. military aid and scope of bilateral and multilateral security guarantees slowly, but perceptibly diminishes.
- 3) China maintains the rapid growth rates it has achieved over the past decade.

We may now deduce three points about demand for PRC arms in the near- and mid-term:

1) Third World demand for Chinese arms may gradually increase. To the extent U.S. weapons transfer policy is perceived as being unreliable—that is, conditional upon recipient behavior or American domestic politics—and its commitment to defend the integrity of former "front line states" in the aftermath of the Cold war in doubt, nations will want to diversify their sources of supply. With its comprehensive, dependable, and inexpensive line of hardware, the PRC is well positioned to secure some contracts from more impoverished, isolated, and threatened clients.

2) Developing countries and states with narrowly based economies will be more inclined to purchase Chinese weaponry since the PRC, with its expanding resources, will be able to arrange favorable offset and countertrade agreements.

3) Any state convinced Beijing will come to its assistance with military force to defend its sovereignty, and willing to join with it in an implicit or explicit bilateral security relationship, will be more prepared to equip its armed forces with Chinese material. In the decade ahead, because of China's limited force projection capability, there are few prospects for this beyond several of the PRC's regional neighbors.

SOURCES OF ARMS TRANSFER RESTRAINT

In spite of potential strategic and economic payoffs, a nation may decide to restrict its transfer of arms to another state under any one or a combination of four circumstances:

- 1) the supplier unilaterally anticipates the transfer may ultimately endanger, or at least not improve its own security, and so displays self-restraint;
- 2) the transfer, while not imperilling the safety of the supplier, is not in accordance with its laws or norms;
- 3) another power or coalition of forces compels the prospective supplier to modify its behavior; and
- 4) the supplier is unwilling to violate the rules of an international regime to which it belongs or observes, and which proscribes the transfer contemplated.

We will first discuss these conditions in general terms, and then examine their applicability to the Chinese case.

In that arms transfers usually increase the military might of recipient states, one significant consequence is the resulting alteration to existing regional, or even global, balances of power. Before a country with vital interests in a certain part of the world delivers weapons to a state within that area, it must anticipate if the cumulative responses of the recipient's adversaries will ultimately outweigh any short-term gains. For instance, throughout the Cold War, both the United States and Soviet Union sometimes withheld advanced military equipment from even their closest allies in order to prevent local arms races and heightened tensions (both sides from their Korean Peninsula

allies, and the USSR from Cuba).⁸¹ Alternatively, a major power may find itself beset with competing requests for weapons from several mutually antagonistic states within the same region. In such instances, selective supplier discretion is often exercised (the United States and its Middle East clients). Additionally, a nation might decline to transfer weapons if it decided the potential recipient was a serious "security risk." Specifically, if the intended purchaser appears likely to turn its newly acquired hardware against the supplier or the supplier's allies (the anxiety of most Western arms producing nations have regarding Libya), exports will be restricted or forbidden. Another security risk issue is the possible loss of technology through illicit sharing between the recipient and third parties. The reluctance of the United States and former-Soviet Union to provide any ally with their state-of-the-art weaponry reflects this concern. Given the aforementioned dangers inherent in the export of high quality or large amounts of major weapons systems, most nations have intra-governmental organizational structures of differing degrees of complexity to evaluate, control, and monitor arms transfers.

States may also restrict arms exports if the conditions of the transfer are inconsistent with domestic regulations and norms that are not necessarily related to issues of national security. For instance, under the Carter Administration, official U.S. policy in deciding on proposed arms transfers included attempting "to promote and advance respect for human rights in recipient countries."⁸² While implementation was subject to the political vagaries of the time, and often subordinated to more practical and pressing strategic issues, the scope of weapons exports, nevertheless, was affected. Similarly, most other countries have articulated certain standards by which to judge proposed arms sales, even if these are often inconsistently adhered to.⁸³

An arms producer may also be persuaded or prevented by another nation or coalition, from either transferring a certain category of weapons, or from exporting to a particular state. Those seeking to deny the delivery of military equipment may take initiatives ranging from, at one end of the spectrum,

informal negotiations with the targeted supplier, to the imposition of an arms embargo enforced with military power, at the opposite end. Those countries with a large stake in maintaining the security within a given region, will carefully scrutinize the quantity and quality of weapons delivered there. Arms exports that threaten to seriously jeopardize the capacity of a state or its allies to effectively protect their key interests will likely be challenged. Furthermore, transfers of potent weapons for which a major power has no effective countermeasures will frequently be opposed, regardless of the destination, because of the erosion to that nation's military supremacy that unchecked proliferation might entail.

International regimes serve as a final source of restraint on global arms transfers. For members, noncompliance can lead to formal sanctions, loss of reputation, the establishment of bad precedents for others to emulate, or retaliation in another issue area.⁸⁴ Even a non-member state, expressly or tacitly observing a widely-recognized regime's norms, may feel considerable pressure to comply. While a majority of the post-World War II international regimes have been primarily concerned with weapons of mass destruction (nuclear, chemical, and biological), many others have addressed conventional arms (the Treaty on Conventional Armed Forces in Europe, the Missile Technology Control Regime, various United Nations General Assembly proposals and resolutions, etc.).

In summary, we can say that a power with both vital interests in a given area of the world and a strong sense of accountability for the maintenance of order there, will be more inclined to define for itself a self-legitimizing role in regulating arms traffic into that region. By extension, a state with global commitments will have extensive concerns about the qualitative and quantitative flow of weaponry worldwide. Conversely, an arms producer with only local security obligations will tend to evaluate transfers far from its shores in mostly economic terms. At the same time, if such a state does not produce any significant world-class military hardware and technologies, it will be relatively

unconcerned with the consequences of proliferation and the loss of proprietary rights, and hence, under less compulsion to restrict its weapons exports. Thus, either compelling through external pressure, or securing compliance within the framework of effective international regimes, would seem to offer the best possibilities for influencing a second-tier arms producer's behavior.

INFLUENCING CHINESE ARMS SALES

Clearly the Chinese perspective on the sagacity and international security implications of several important conventional weapons sales over the past decade has differed sharply from that of the Western world, led by the United States. Can such differences be reconciled? As a departure point, it is useful to briefly outline the official Chinese arms transfer line, pertinent policy positions, and export organizational control structure.

It was not until 1988, perhaps in response to the friction with the United States the previous year over the sale of *Silkworm* AShMs to Iran, that the PRC articulated an arms export policy. The Chinese Ministry of Foreign Affairs (MFA) announced at that time:

China is a responsible country. We always assume a serious, prudent, and responsible attitude toward the military products export question. In this regard, we strictly adhere to three principles: First, our military products exports should help strengthen the legitimate self-defense capability of the countries concerned; second, it should help safeguard and promote peace, security, and stability in the regions concerned; and third, we do not use the military sale to interfere in the internal affairs of other states.⁸⁵

These "three principles" have since remained at the center of Beijing's stated philosophy governing its export of weapons.⁸⁶ In practice, the policy allows for tremendous latitude, as it is based on tenets so sweeping as to be justify almost any arms sales

abroad. Yet the ambiguity of the text is indicative of the difficulty all nations face in establishing steadfast moral guidelines to form decisions in the often "messy" affairs of national security. Still, the third principle, that of noninterference, is especially consistent with the limited faculty China, as yet, possesses to seriously influence outcomes beyond its immediate borders. To become entangled in the internal state affairs would tarnish the PRC's image as a reliable supplier, and lead in some instances to reduced sales. Hence, substantial arms exports to the internationally ostracized SLORC in Rangoon can be justified by Beijing as the act of "a responsible country."

Until the late-1970's, the PRC was only a minor player in the world arms market. United States, and later Soviet, military aid and arms sales, were vilified as self-serving acts by capitalist and social imperialist powers vying for world hegemony. However, by the mid-1980's, its own business had increased dramatically, and the destination and content of some of its transfers became an international topic of discussion.

Specifically, it has been criticized by the United States for selling *Silkworms* to Iran, exporting TBM's to certain Middle East states (or at least providing technical assistance to allow for their foreign production), and, in more sweeping broadsides, in the words of U.S. Senator Joseph R. Biden Jr., for being "a rogue elephant on weapons proliferation [against which America] should be prepared to retaliate with a clear and unequivocal message they will understand: denying China most-favored nation trade status."⁸⁷

The PRC has usually disavowed the particulars of such charges, and, in turn, sought to put its critics on the defensive. Beijing continually emphasizes the small volume of its sales on a comparative basis.

For example, a 1991 *People's Daily* article asserted, "Some people in the U.S., one of the world's largest arms exporters, should first make themselves clear which country should contain its arms sales abroad, before they launch a press campaign against an alleged Chinese arms sales plan."⁸⁸ Allegations of

missile proliferations are rebuffed with two counterclaims. First, the United States is painted as the actual source of the problem. A writer in *People's Liberation Army* newspaper argued in 1988:

Since America has made this great "contribution" to Israel's missile program, what right does the U.S. have to make indiscreet criticisms of other nations? Nevertheless, the U.S. pretends it cannot see that Israel is the origin of the missile threat, and shields Israel in every possible way. On the contrary, the U.S. finds great significance in Saudi Arabia's purchase of missiles [the Chinese CSS-2] for self-defense and trumpets the fact incessantly.⁸⁹

Secondly, Beijing asserts that since advanced aircraft, such as the American F-16, are themselves very capable delivery vehicles, it is inadequate to focus only on the dangers of TBM proliferation.⁹⁰

With growing foreign interest in its arms sales in the late-1980's, China established an export control agency, the State Commission for Arms Export Administration (SCFAEA). Members include senior officials from the Ministry of Foreign Affairs, the Ministry of Foreign Economic Relations and Trade, the PLA General Staff, and COSTIND. The State Arms Export Administration (SAEA) serves as the Commission's executive agency. All proposed major arms sales are reviewed by SCFAEA and must subsequently be authorized by the Central Military Commission and State Council. If approved, the SAEA grants official export licenses.⁹¹ While, as with export control organizations in all nations, the structure says little about the distribution of power, it is probably fair to say that since the PRC first was confronted in 1987 with the fact that arms sales on occasion may have important foreign policy repercussions, China's leaders have taken steps to improve intra-government dialogue and participation in weapons export decision making.

In examining options for influencing Chinese arms sales, it is worthwhile to review the circumstances surrounding several major PRC arms transfer decisions over the past decade to see if

any inferences can be drawn about prospects for success. On two occasions, Washington has used the issue of technology transfer as a lever to persuade Beijing to discontinue or abstain from certain arms sales. In October 1987, having reached a stalemate with China on its negotiations over *Silkworm* transfers to Iran, the U.S. State Department declared that it was suspending the liberalization of controls on the export of advanced technology. By March of the following year, the United States reportedly had been given assurances by the PRC that it would not sell additional ASHM's to Teheran, and soon thereafter, the ban was lifted.⁹² In the second case, in June 1991, the United States imposed sanctions against Beijing for missile technology sales to Pakistan. This action, in effect, prevented any sales (both military, and more to the point here, commercial) from two PRC arms trading companies (Great Wall and CPMIEC) to U.S. firms, suspended the export of high-speed U.S. computers to the PRC, and withdrew China as a possible source for the launching of U.S. satellites. By March of 1992, the sanctions were effectively removed with Beijing's confirmation in writing the previous month that it would adhere to the Missile Technology Control Regime (MTCR) and not export its M-9 and M-11 class missiles.⁹³ However, in August of 1993, new sanctions were announced by the U.S. State Department against ten PRC companies allegedly participating in the transfer of M-11 components and technology (as opposed to complete systems) to Pakistan in an effort by the Chinese to circumvent their MTCR commitment.⁹⁴ Yet China has remained reluctant to formally abandon its earlier MTCR pledge, aware of the more severe measures aimed at the PRC's high tech sector the United States might take in response. It would appear that by choosing a tool (restrictions on dual-use technology transfer) most highly prized by that group of individuals and institutions managing Chinese arms exports, that Washington has been able to elicit favorable responses from Beijing.

China has also shown reluctance to be seen as violating, or being nonsupportive of, international arms control rules and

norms. For instance, it voted for UN Security Council Resolution 600 against the Iraqi invasion of Kuwait, and promptly declared it would halt weapons sales to Iraq.⁹⁵ The PRC initially participated with the other permanent members of the UN Security Council in President Bush's Middle East arms control initiative (the so-called Perm-5 meetings) despite its visceral opposition to such a forum. Beijing did not participate in the December 1991 United Nations General Assembly vote which overwhelmingly (150 to 0) approved the establishment of an international arms registry to promote transparency, rather than join the ranks of the lone two abstainers, Iraq and Cuba.⁹⁶ Additionally, as already mentioned, China has agreed to abide by the rules of the MTCR. Even as sanctions were imposed by the United States in August 1993 for violations of guidelines, PRC officials refused to concede any wrongdoing.⁹⁷ In fact, the possibility remains that China will eventually become an MTCR signatory. Thus, when the payoff for compliance, or costs of noncompliance, are sufficiently great (the Iraq embargo and MTCR), Beijing has shown a willingness to appear responsive to concerted international calls to restrain arms traffic. Furthermore, it is averse to portray itself as a spoiler of even those multilateral initiatives of which it is suspect, provided the anticipated outcomes will be long on form, and short on substance (the Perm-5 talks and UN arms registry). China's September 1992 announcement, in the wake of the U. S. decision to sell the F-16 fighter to Taiwan, that it would not attend the next round of Perm-5 talks, does not prove it is indifferent to global arms control efforts; the agenda was so overly ambitious, the active support of the participants (except the United States) so noticeably missing, and the interest of the international community so obviously lacking, as to make withdrawal from the process an ideal tit-for-tat response for Beijing.⁹⁸

We then return to the question, how can China's arms transfers most effectively be influenced? Drawing from the previous discussion, a comprehensive answer clearly should include both supply and demand perspectives. These will be

addressed in turn.

1) *Influencing Supply*: Simply stated, PRC arms transfers can be restrained by the coercion or persuasion of another power, by the sway of international regimes, or by voluntary controls (self-restraint). As we have seen, the United States has on two occasions convinced Beijing to amend its practices by concentrating on a specific issue, and using incentives and disincentives that seemed well-tailored to draw the desired reaction. On the other hand, across-the-board assaults that lump together an array of unrelated issues such as trade, prison labor, Tibetan autonomy, human rights, and nuclear proliferation are unlikely to achieve meaningful results. In any political system, as a rule, the more disparate the nature of topics under debate, the more difficult it is to build an effective coalition to deal with them. At the same time, those parties most concerned with the likelihood of future tensions with the PRC over its weapons export policies, should maintain an open dialogue with their Chinese counterparts. Outlooks do vary widely, and it is necessary to exchange views to help avoid unanticipated crises. International arms control regimes, however, may offer a more promising avenue than do bilateral or narrowly-based approaches. While "superpower bullying" (to use the Chinese communist vernacular) is found rankling, Beijing has shown more diffidence in global settings. Its accession to the Non-Proliferation Treaty, announced compliance with MTCR (although words and deeds, in this instance, have yet to reconcile), and signing of the UN convention to ban chemical weapons are indicative of its receptivity to cooperating in multilateral and international forums. Hence, widely-endorsed, specific, and verifiable arrangements to restrict arms flows in a given functional area (e.g., missiles), or to a particular region (e.g., an arms embargo against an aggressor state, or belligerents in an ongoing conflict), are probably the most cost-effective way of gaining China's cooperation and compliance. As a caveat, it should be added that one UN initiative that appears to offer little of practical value in actually

controlling weapons transfers, the international arms registry, may have a salutary effect on Beijing. The secrecy and official lack of candor that enshrouds all aspects of the PRC's weapons exports activities has not been conducive to meaningful arms control dialogue with other states, or, for that matter, within the Chinese bureaucracy itself. Any hope for the PRC to practice self-imposed restraint in its sale of military hardware, on the other hand, does not appear realistic in the short-term. First, as a regional power, China does not share the expansive concerns of a superpower, such as the United States, for the maintenance of the international security order. Consequently, it has few incentives to display moderation, outside of Asia, in its transfer of military hardware. Second, there are, as yet, no internal domestic checks, other than perhaps the Ministry of Foreign Affairs, to a laissez faire approach to arms exports. Beijing's leaders do not lose sleep worrying about the possible opposition of say National Party Congress representatives, or the *People's Daily* editorial staff, to arms sales to Burma's military regime. Nevertheless, with continued economic growth, increasing military commitments, and greater demands for political pluralism, more introspection by China's leadership concerning its arms sales policies can be anticipated.

2) *Influencing Demand*: Efforts to prevent global and regional arms races, or to limit the proliferation of certain classes of weapons, that do not adequately address demand, are likely to eventually fail. The meager results many nations have had in ridding their societies of drugs by devoting most of their assets to combatting supply, is not an altogether inappropriate analogy. Clearly, many conflicts in the world are intractable given the limited amount of resources that can be mustered globally to end them. On the other hand, recurring arms transfer problems associated with other than pariah or terrorist states should be seen as symptoms of more serious ills. To the extent the major powers can attend to the sources of insecurity that underlie the seemingly endless attempts of some nations to acquire types and amounts of weapons that will inevitably be viewed by their

neighbors as destabilizing, they should act accordingly. We have seen that many countries turned to Beijing for arms only after they had experienced a loss of confidence in traditional suppliers. This is not to say that arms producers should never impose conditionality on recipients. Rather, the lesson is that to ask only why states sell arms, and not ask why other states buy them, is to get policy analysis only half-right.

CONCLUSION

With a continuation in current growth trends, China's GNP is expected to surpass Japan's by the year 2010, and become the second largest in the world.⁹⁹ Because of its still relatively low standard of living, of course, this does not imply the PRC's global reach will soon only be surpassed by that of the United States. Still, a fundamental shift in the distribution of world power is clearly underway. If China manages to sustain its extraordinary rate of development, it will demand a larger role in shaping the international order. Concomitant with such claims will be an increased use of arms transfers to realize security, versus strictly economic objectives. But such a time is yet distant, and given the unpredictability of world affairs, we should discount concerns about the possible consequences appropriately. This paper, rather, is relevant to the more immediate future, a period when China will primarily assert itself as a regional power, but whose economic clout will, nevertheless, start to be felt worldwide. Thus, we can anticipate Beijing adopting a more assertive role on questions of weapons sales within Asia, and a more entrepreneurial approach to business elsewhere. While the latter portends for occasional bilateral discord with the world's remaining superpower, the United States, the means for the peaceful resolution of such differences unquestionably exist.

ABOUT THE AUTHOR

Colonel Karl W. Eikenberry is a division chief with the Strategy, Plans and Policy Directorate of the United States Department of the Army Staff in Washington, D.C. He commanded a light infantry battalion in the 10th Mountain Division, and has commanded and held staff positions in airborne, ranger, and mechanized infantry units in the United States, Korea and Europe. He has also served as an assistant Army attache in the American Embassy in the People's Republic of China. Colonel Eikenberry is a graduate of the United States Military Academy, holds a master's degree from Harvard University in East Asian studies, has studied at the British Ministry of Defense Chinese Language School in Hong Kong and at Nanjing University in the PRC, was a national security fellow at the John F. Kennedy School of Government, Harvard University, and is a Ph.D candidate with the Department of Political Science at Stanford University.

Notes

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2. Shirley A. Kan, "Chinese Missile and Nuclear Proliferation: Issues for Congress," Congressional Research Service, Nov. 16, 1992, summary remarks.
3. "The United States Also Sells Weapons," *U.S. News and World Report*, May 27, 1991, p. 43.
4. "Middle East Arms Control Initiative," United States Arms Control and Disarmament Agency, Jun. 3, 1991, p. 1.
5. "China Won't Attend Arms Control Talks," *Beijing Review*, Sep. 28, 1992, p. 9.
6. Alexander Eckstein, *China's Economic Revolution* (New York: Cambridge University Press, 1977), p. 26.
7. David L. Shambaugh, "China's Defense Industries," *The Chinese Defense Establishment: Continuity and Change in the 1980s*, ed. Paul H.B. Godwin (Boulder, Colorado: Westview Press, 1983), p. 44.
8. Shambaugh, p. 44. Soviet aid during this period totalled at least \$2 billion. This figure is probably understated, as it likely does not include the full value of military assistance. See Jacques Guillermaz, *The Chinese Communist Party in Power, 1949-1976*, trans. Anne Destenay (Boulder, Colorado: Westview Press, 1976), pp. 82-83.
9. Harlan W. Jencks, *From Muskets to Missiles: Politics and Professionalism in the Chinese Army, 1945-1981* (Boulder, Colorado: Westview Press, 1982), pp. 194-95.

10. United States Defense Intelligence Agency, *The Chinese Armed Forces Today* (Englewood Cliffs, New Jersey: Prentice-Hall, 1979), pp. 24 and 190-240.

11. Richard A. Bitzinger, *Chinese Arms Production and Sales to the Third World* (Santa Monica, California: Rand, 1991), p. 3.

12. Paolo Miggiano, Elisabeth Skons and Hebert Wulf, "Arms Production," *SIPRI Yearbook 1992: World Armaments and Disarmament* (New York: Oxford University Press, 1992), pp. 370-71.

13. Monte R. Bullard, *China's Political-Military Evolution: The Party and the Military in the PRC, 1960-1984* (Boulder, Colorado: Westview Press, 1985), p. 35. COSTIND was formed by combining the National Defense Industry Commission and the National Defense Science and Technology Commission, organizations created in the 1950's.

14. John W. Lewis, Hua Di, and Xue Litai, "Beijing's Defense Establishment: Solving the Arms Export Enigma," *International Security*, Spring 1991, pp. 89 and 92-93. Additionally, China Great Wall Industrial Corporation and China Nuclear Energy Industrial Corporation (CNEIC) were set up by the Ministry of Astronautics Industry (space launch services) and Ministry of Nuclear Industry respectively.

15. Bai Si Yeng, "Understanding the Chinese Defence Industry," *Military Technology*, March 1987, pp. 42-43.

16. Paul H.B. Godwin, *Development of the Chinese Armed Forces* (Maxwell Air Force Base, Alabama: Air University Press, 1988), p. 141.

17. Shirley Kan, "China Arms Sales: Overview and Outlook for the 1990's," Joint Economic Committee of the Congress of the United States, *China's Economic Dilemmas in the 1990's: The Problems of Reforms, Modernization, and Interdependence, Volume 2* (Washington, D.C.: U.S. Government Printing Office, 1991), p. 707.

18. John F. Corbett, Jr. and Clinton B. Mullen, "China's Defense Industrial Trading Companies," Defense Intelligence Agency Reference Aid, VP-1920-271-90, September 1990.

19. Lewis, Hua, and Xue, pp. 93-95. Some of those who were or are associated with the GSD Equipment and Technology Department and Poly Technologies include General He Pengfei (son of the late Marshal He Long, Colonel He Ping (the husband of the daughter of Deng Xiaoping, Deng Rong), and Wang Xiaochao (husband of the

daughter of former President Yang Shangkun, Yang Li.) The list goes on.

20. Kan, "China Arms Sales: Overview and Outlook for the 1990's," p. 707.

21. Kenneth W. Allen, *People's Republic of China People's Liberation Army Air Force* (Washington, D.C.: Defense Intelligence Agency, 1991), pp. 5-6.

22. *Jane's Armour and Artillery, 1988-89* (New York: Jane's Publishing Inc., 1988), pp. 7-9.

23. Paul H.B. Godwin, pp. 115-18.

24. Bitzinger, pp. 14-15.

25. John Calabrese, *China's Changing Relations with the Middle East* (New York: Pinter Publishers, 1991), pp. 103-104.

26. Nayan Chanda, *Brother Enemy: The War After the War* (New York: Macmillan Publishing Company, 1986), pp. 381-82.

27. Richard F. Grimmett, *Conventional Arms Transfers to the Third World, 1984-1991* (Washington, D.C.: Congressional Research Service, Jul. 20, 1992), p. 65. Numerous factors, including the lack of verifiable data, exchange rate and true value conversion problems, and disagreement on what actually constitutes various aspects of transactions, make it difficult, at best, to present unambiguous "facts" on arms transfers. The secrecy surrounding Chinese arms exports compounds the problem. Nevertheless, the general arms transfer trends addressed in this paper are widely agreed upon, even if specifics remain in question. Two good discussions of the obstacles to measuring arms transfers can be found in Edward J. Laurance and Joyce A. Mullen, "Assessing and Analyzing International Arms Trade Data," ed. David J. Louscher and Michael D. Salomone, *Marketing Security Assistance: New Perspectives on Arms Sales* (Lexington, Massachusetts: Lexington Books, 1987), pp. 79-98, and Edward T. Fei, "Understanding Arms Transfers and Military Expenditures: Data Problems," ed. Stephanie G. Neuman and Robert E. Harkavy, *Arms Transfers in the Modern World* (New York: Praeger Publishers, 1979) pp. 37-46.

28. Kan, *Chinese Missile and Nuclear Proliferation: Issues for Congress*, pp. 2-5.

29. Grimmett, p. 9.

30. Bertil Linter, "Rangoon's Rubicon," *Far Eastern Economic Review*, Feb. 11, 1993, p. 28.

31. Keith Krause, *Arms and the State: Patterns of Military Production and Trade* (New York: Cambridge University Press, 1992), p. 87, and Stockholm International Peace Research Institute, *SIPRI Yearbook 1992: World Armaments and Disarmament* (New York: Oxford University Press, 1992), p. 272.

32. Grimmett, p. 29.

33. Andrew J. Pierre, *The Global Politics of Arms Sales* (Princeton, New Jersey: Princeton University Press, 1982), pp. 1-40. Also, see Krause, pp. 12-33.

34. Krause, pp. 1-98.

35. Robert E. Harkavy, "The New Geopolitics: Arms Transfers and the Major Powers' Competition for Overseas Bases," *Arms Transfers in the Modern World* (New York: Praeger Publishers, 1979), pp. 131-51.

36. See, for example, Rajan Menon, *Soviet Power and the Third World* (New Haven, Connecticut: Yale University Press, 1986).

37. William D. Bajusz and David J. Louscher, *Arms Sales and the U.S. Economy* (Boulder, Colorado: Westview Press, 1988), p. 14. There is no general consensus on the contribution arms exports make to a nation's economy and defense sector. See, for example, Lewis W. Snider, "Do Arms Exports Contribute to Savings in Defense Spending?: A Cross-Sectional Pooled Time Series Analysis," ed. David J. Louscher and Michael D. Salomone, *Marketing Security Assistance: New Perspectives on Arms Sales*, (Lexington, Massachusetts: Lexington Books, 1987), pp. 41-63, and U.S. Congressional Budget Office, *Budgetary Cost Savings to the Department of Defense Resulting from Foreign Military Sales* (Washington, D.C.: Congressional Budget Office Staff Working Paper, No. 1107, May 24, 1976).

38. Robert G. Sutter and Wayne Morrison, "Taiwan: U.S. Advanced Fighter Aircraft Sales- Pro and Con," Congressional Research Service, Sep. 1, 1992, pp. 1-4.

39. For example, during the mid-1980's, the percentage of defense production exported was 30% for the United Kingdom, 40% for France, 60% for Italy and Belgium, and over 70% for Brazil, versus only 11% for the United States. (Krause, p. 93). Also, see William W. Keller, "Global Defense Business: A Policy Context for the 1990s," ed. Ethan

B. Kapstein, *Global Arms Production: Policy Dilemmas for the 1990's* (New York: University of America Press, 1992), pp. 61-104.

40. Chen Qimao, "China's Global Strategic Perspectives on the Third World," *After Tiananmen Square: Challenges for the Chinese-American Relationship* (New York: Brassey's (US), Inc., 1990), pp. 22-26.

41. Chinese military aid to Cambodian resistance forces was driven by Beijing's fear of their encirclement by Moscow. One of the three major obstacles to progress in Sino-Soviet relations articulated by the PRC during the 1980's was Moscow's aid to the Vietnamese Army in Kampuchea. See Douglas Pike, "China's Policies Toward Vietnam and Cambodia in the 1990s," *After Tiananmen Square: Challenges for the Chinese-American Relationship* (New York: Brassey's (U.S.), Inc., 1990), pp. 72-84.

42. Ian Anthony, *The Arms Trade and Medium Powers* (New York: Harvester Wheatsheaf, 1992), p. 108.

43. Even during the brief, but sharp escalation of tensions along the Chinese-Indian frontier in 1987, PRC military strategists still listed Soviet troop strength in the Far East and Mongolia, Moscow's occupation of Afghanistan, and Vietnam's domination of Cambodia as their chief concerns. (Author's discussions with PLA National Defense University and Academy of Military Sciences researchers in Beijing in 1987). At any rate, it is hard to imagine Beijing, after sitting on the sidelines during the 1965 and 1971 Indian-Pakistan Wars, could contemplate any realistic scenario in which it would undertake coordinated military action with Islamabad against New Dehli.

44. Chanda, 348-49.

45. Stockholm International Peace , *SIPRI Yearbooks 1988-1992: World Armaments and Disarmament* (New York: Oxford University Press, 1988 -1992), from the chapters "Trade in Major Conventional Weapons" (see "Thailand").

46. Bertil Linter, "Rangoon's Rubicon," *Far Eastern Economic Review*, Feb. 11, 1993, p. 28, and William Branigin, "Armed and Dangerous: China's Neighbors Are Getting Nervous," *The Washington Post National Weekly Edition*, Apr. 12-18, 1993, p. 7. Reports of the PLA gaining special military access in Burma were vigorously denied

by Chinese authorities after the visit of PRC Foreign Minister Qian Qichen to Burma in January 1993. See Wang Fang, "Zhonggong Weixie Yazhou," *Zhongguo Ribao*, Mar. 7, 1993, p. 9.

47. George T. Yu, "Chinese Arms Transfers to Africa," ed. Bruce E. Arlinghaus, *Arms for Africa* (Lexington, Massachusetts: D.C. Heath and Company, 1983) pp. 110-17.

48. Guillermaz, p. 525.

49. John Garver, "China-India Rivalry in Nepal: The Clash Over Chinese Arms Sales," *Asian Survey*, October 1991, p. 961.

50. Richard Grimmett, *Trends in Conventional Arms Transfers in the Third World by Major Supplier, 1982-1989* (Washington, D.C.: Congressional Research Service, Jun. 19, 1990), Table 2; Richard Grimmett, *Conventional Arms Transfers to the Third World, 1984-1991* (Washington, D.C.: Congressional Research Service, Jul. 20, 1992), Table 2G; and Central Intelligence Agency, *The World Factbook 1992* (Washington, D.C.: U.S. Government Printing Office, 1993), p. 72.

51. Krause, p. 93.

52. "Military Commission Official at Weapons Meeting," *Jiefangjun Bao* in Foreign Broadcast Information Service (hereafter FBIS), *Daily Report, China*, Mar. 31, 1992, p. 22.

53. United States Senate Permanent Subcommittee on Investigations of the Committee on Government Affairs, "Trade in Conventional Weapons: The International Arms Bazaar," *Hearings*, 102nd Cong., 1st sess. (Washington, D.C.: Government Printing Office, 1991), p. 158.

54. Stockholm International Peace Research Institute, *SIPRI Yearbook 1992: World Armaments and Disarmament*, pp. 245-48 and 259.

55. Bitzinger, p. 27.

56. Note, for example, the tentative 1993 deal between the Malaysian company Aneka Bekal Sdn Bhd, and the PRC's NORINCO, to manufacture Chinese armored vehicles in Malaysia. Michael Vatikiotis, "Political Weapons," *Far Eastern Economic Review*, Aug. 26, 1993, p. 12.

57. William Branigin, "Oil-Hungry Asia Relying More on Middle East," *Washington Post*, Apr. 18, 1993, pp. A33 and A36.

58. Stockholm International Peace Research Institute, *SIPRI Yearbook 1992: World Armaments and Disarmament*, pp. 272-73. For example, from 1987 until 1991, the developing world spent almost \$110 billion on conventional arms imports. However, over this same time, the industrialized world's total was about \$67 billion. Even France, which has vigorously promoted and subsidized its arms industries, imported \$1.7 billion in weapons during these five years. Nor was the Soviet Union completely self-sufficient as it purchased in excess of \$3 billion in arms from 1987 to 1991.

59. Ethan B. Kapstein, "Introduction: Explaining Arms Collaboration," ed. Ethan Kapstein, *Global Arms Production: Policy Dilemmas for the 1990's* (New York: University Press of America, 1992), p. 4.

60. David J. Louscher and Michael D. Salomone, "Brazil and South Korea: Two Cases of Security Assistance and Indigenous Production Development," ed. David J. Louscher and Michael D. Salomone, *Marketing Security Assistance: New Perspectives on Arms Sales* (Lexington, Massachusetts: D.C. Heath and Company, 1987) p. 144, and Michael W. Chinworth, *Inside Japan's Defense: Technology, Economics & Strategy* (New York: Brassey's (US), Inc., 1992), pp. 26-29.

61. Defense Security Assistance Agency official, personal interview, Washington, D.C., Nov. 25, 1992.

62. Edward A. Kolodziej, "Arms Transfers and International Politics: The Interdependence of Independence," ed. Stephanie G. Neuman and Robert E. Harkavy, *Arms Transfers in the Modern World* (New York: Praeger Publishers, 1979), pp. 12-13.

63. Noboru Yamaguchi, "The Future of the U.S.-Japan Security Relationship," *Japan and the United States: Troubled Partners in a Changing World*, (New York: Brassey's (US), Inc., 1991), pp. 44-56.

64. Ingemar Dorfer, "Arms Deals: When, Why, and How?," ed. Stephanie G. Neuman and Robert E. Harkavy, *Arms Transfers in the Modern World* (New York: Praeger Publishers, 1979), pp. 206-14.

65. Andrew L. Ross, "On Arms Acquisitions and Transfers," ed. Edward A. Kolodziej and Patrick M. Morgan, *Security and Arms Control, Vol. 1: A Guide to National Policymaking* (New York:

Greenwood Press, 1989), pp. 97-115. For instance, the number of Third World producers of any of the four major weapons systems increased from four in 1950 to twenty-six by 1980. (p. 109).

66. Krause, pp. 88-89, and Stockholm International Peace Research Institute, *SIPRI Yearbook 1992: World Armaments and Disarmament*, p. 309.

67. Grant T. Hammond, "The Role of Offsets in Arms Collaboration," ed. Ethan B. Kapstein, *Global Arms Production: Policy Dilemmas for the 1990's* (New York: University of America Press, 1992), pp. 205-15. To illustrate, the 1982 sale of the McDonnell-Douglas/Northrop F-18 to Canada entailed offset agreements valued at over 100% of the purchase price. (p. 209). Also, see Tracy E. DeCourcy, "Countertrade and the Arms Trade in the 1980s," ed. David J. Louscher and Michael D. Salomone, *Marketing Security Assistance: New Perspectives on Arms Sales* (Lexington, Massachusetts: D.C. Heath and Company, 1987), pp. 165-84.

68. In fact, only in areas of relatively simple equipment, such as artillery and minor surface combatants, did the Big Five and other European producers see their market shares eroded. See Grimmett, p. 77. The major arms producers still account for the sale of most high price items, such as aircraft (a category which alone accounted for the over 50% of the value of arms sales to the Third World during the 1970's and 1980's). See Michael Brzoska and Thomas Ohlson, *Arms Transfers to the Third World, 1971-1985* (Oxford: Oxford University Press, 1987), p. 2.

69. Bitzinger, p. 15.

70. Calabrese, pp. 148-50.

71. United States Defense Intelligence Agency analyst, personal interview, Washington, D.C., Nov. 23, 1992.

72. Anthony H. Cordesman, *The Iran-Iraq War and Western Security 1984-87: Strategic Implications and Policy Options* (London: Jane's Publishing Company Limited, 1987), pp. 23-27. For example, from 1979 to 1983, Iraq reportedly spent \$17.6 billion on arms imports from such diverse sources as the USSR, France, the U.K., West Germany, East Germany, Italy, the PRC, Poland, Romania, Czechoslovakia, Brazil, Kuwait, and Spain.

73. For Burma, see Shirley Kan, "Chinese Arms Sales: Overview and Outlook for the 1990's," p. 703; for Egypt, Iran and Iraq, see Calabrese pp. 79-91, 106-118, 131-33, and 144-50, Cordesman, pp. 18-36, Stephen C. Pelletiere, Douglas V. Johnson II, and Leif R. Rosenberger, *Iraq Power and U.S. Security in the Middle East* (Washington, D.C.: United States Government Printing Office, 1990), pp. 61-68, and Philip H. Stoddard, "Egypt and the Iran-Iraq War," ed. Thomas Naff, *Gulf Security and the Iran-Iraq War* (Washington, D.C.: United States Government Printing Office, 1985), p. 35; for Pakistan, see Ian Anthony, pp. 77-150, and Stephen P. Cohen, *The Pakistan Army* (Berkeley, California: University of California Press, 1984), pp. 139-40 and 150.

74. Calabrese, pp. 147-50.

75. George T. Yu, pp. 110-17.

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77. Talukder Maniruzzaman, "Bangladesh in 1976: Struggle for Survival as an Independent State," *Asian Survey*, February 1977, pp. 191-94, and M. Rashiduzzaman, "Changing Political Patterns in Bangladesh: Internal Constraints and External Fears," *Asian Survey*, September 1977, pp. 805-807.

78. "Accord Signed with PRC for Defense Cooperation," *Islamabad Domestic Service* (reported by FBIS Bangkok, Thailand), United States Joint Staff, Washington, D.C. message 191617Z DEC 89, pp. 0001-0002.

79. Anthony, pp. 139 and 150, and Stockholm International Peace Research Institute, *SIPRI Yearbook 1992: World Armaments and Disarmament*, p. 348.

80. Stockholm International Peace Research Institute, *SIPRI Yearbook 1991: World Armaments and Disarmament*, p. 257, Calabrese, p. 106; "Trade in Conventional Weapons: The International Arms Bazaar," p. 213; and "Iran Announces Development of Two New Missiles," *The Los Angeles Times*, Mar. 29, 1987, p. 25. Egypt has attempted since 1948, after its first war with Israel, to build a modern

arms industry, establishing with Saudi Arabia in the early-1970's the short-lived Arab Organization for Industrialization, and subsequently securing licenses to assemble *Mirage* fighters, surface-to-air missiles, and the American M-1 tank. See Krause, p. 156.

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83. "China Responsible for Its Arms Sales," *Beijing Review*, Mar. 2-8, 1992, p. 33.

84. Carroll J. Doherty, "Arms Sales Reports Stir Hill Critics," *Congressional Quarterly Weekly Report*, Apr. 27, 1991, p. 1046.

85. "Renmin Ribao Cited on U.S. Arms Sales," *The People's Daily Overseas Edition* in FBIS, *Daily Report, China*, Jul. 17, 1991, p. 6.

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88. The British American Security Information Council, "Recent Initiatives to Control the Arms Trade," BASIC Report 92.3, p. 5. A good description of the competing domestic interest groups influencing Chinese arms export decisions can be found in Lewis, Hua, and Xue, "Beijing's Defense Establishment: Solving the Arms Export Enigma." (see note 14).

89. Harry Harding, *A Fragile Relationship: The United States and China Since 1972* (Washington, D.C.: Brookings Institute, 1992), pp. 187-88.

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91. Nayan Chanda, "Red Rockets' Glare," *Far Eastern Economic Review*, Sep. 9, 1993, p. 10. The 1993 sanctions were not as comprehensive, nor did they carry the economic costs, as the 1991 sanctions. For instance, American companies already licensed to sell satellites to China, or use Chinese rockets to launch satellites, will be unaffected.

92. "Arms Shipments Halted to Iraq," *Beijing Review*, Aug. 13-19, 1990, p. 8.

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