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## China as a Major Importer and Investor

The previous chapters addressed both the domestic and international economic and political effects of the natural resource curse in resource-producing and resource-exporting countries. But the implications of the resource curse may not be confined to countries in which the resources are located. The resource curse may affect large consumers as well, insofar as it shapes their foreign policies to a significant degree.

As of 2011, China and the United States together consumed 40 percent of the world's primary energy, 32 percent of its oil, and 26 percent of its natural gas (USEIA 2012).<sup>1</sup> The rise of China as an energy consumer has been meteoric. In 1973, China accounted for less than 5 percent of world energy consumption, and the United States accounted for 32 percent. By 2011, China had surpassed the United States as the single largest energy consumer (BP 2012). The true takeoff, however, has been a more recent occurrence. Between 2000 and 2011, China's energy consumption more than doubled, growing at an annual rate of 8.6 percent. Although China's economy will become more energy efficient as it develops, its expanding middle class and growing manufacturing sector ensure that conventional energy demands will continue to grow, likely at a rate three to four times that of the United States (USEIA 2011). As documented below, China's emergence as a major consumer (and investor) is not limited to oil but extends to a broad array of potentially contestable commodities, including industrial metals and diamonds and gold associated with luxury consumption.

Although both China and the United States have large conventional energy reserves in the form of coal, both are net oil and natural gas importers,

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1. Primary energy comprises commercially traded fuels, including modern renewables (biomass, geothermal, hydropower, etc.) used to generate electricity (BP 2012).

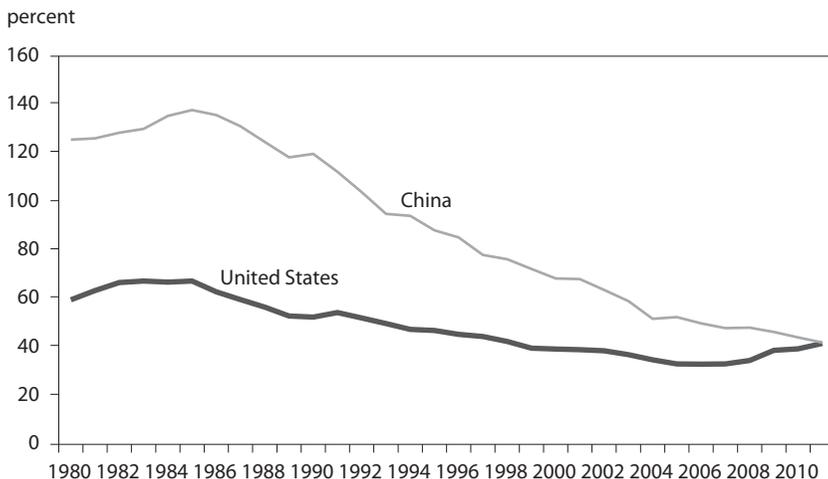
dependent on international markets to satisfy domestic energy demand. As of 2011, domestic production accounted for 42 percent of total oil consumption in both countries. Over the medium term, China and the United States are headed in opposite directions in terms of their reliance on these markets. The shale gas revolution is radically altering the US outlook. The International Energy Agency forecasts that the United States will surpass Saudi Arabia to become the biggest oil producer by 2020 and that it will shift from net importer to net exporter by 2030, reversing nearly two decades of declining domestic production (IEA 2012). The upturn in US production is already evident. As figure 5.1 demonstrates, domestic production as a share of total consumption in the United States has increased significantly since 2005, when it stood at 33 percent. In contrast, China's rapid economic growth and relatively modest increases in domestic capacity have meant a monotonic decline in domestic production as a share of total consumption, down from 52 percent in 2005. China's domestic oil production is forecast to grow by only 4.4 percent between 2013 and 2035, not nearly enough to keep pace with increased demand (USEIA 2012). In the 21st century, China will assume the United States' mantle as the world's preeminent oil importer.

Since 2000, global oil markets have been characterized by the highest prices and price volatility since the 1970s (see figure 3.1). High prices and volatility are the result of both market fundamentals (increasing demand in developing countries has not been offset entirely by new production elsewhere or increases in refining capacity) and the rise of commodities as an asset class for institutional investors. Michael Klare (2002, 2004) argues that a resource scramble has supplanted (or will supplant, at some point in the near future) the capitalist-communist ideological struggle as the main source of conflict in the post-Cold War era, both within resource-exporting states (or states with export potential, in the case of new discoveries) and as part of a larger pattern of geopolitical competition between the world's two largest importers (the United States and China) over access to the oil reserves of the Middle East, North Africa, and Central Asia.

The United States' relative decline as an energy importer does not mean that energy security will cease to be a significant foreign policy issue. The idea that US energy independence will clear energy issues from the agenda is a nice campaign slogan but a specious claim, as major trading partners and allies in Europe and Japan will continue to be import reliant. Moreover, price shocks as a result of political instability in producing countries will still have the capacity to roil consumer markets. What happens in global markets will necessarily affect the US market and US interests abroad. Natural resource needs will continue to shape the foreign policies of both countries.

China's appetite for natural resources extends beyond oil and natural gas. China's economy accounts for 14.3 percent of world GDP in purchasing power parity but more than 60 percent of global iron trade and more than 30 percent

**Figure 5.1 Domestic oil production in the United States and China as a share of domestic consumption, 1980–2011**



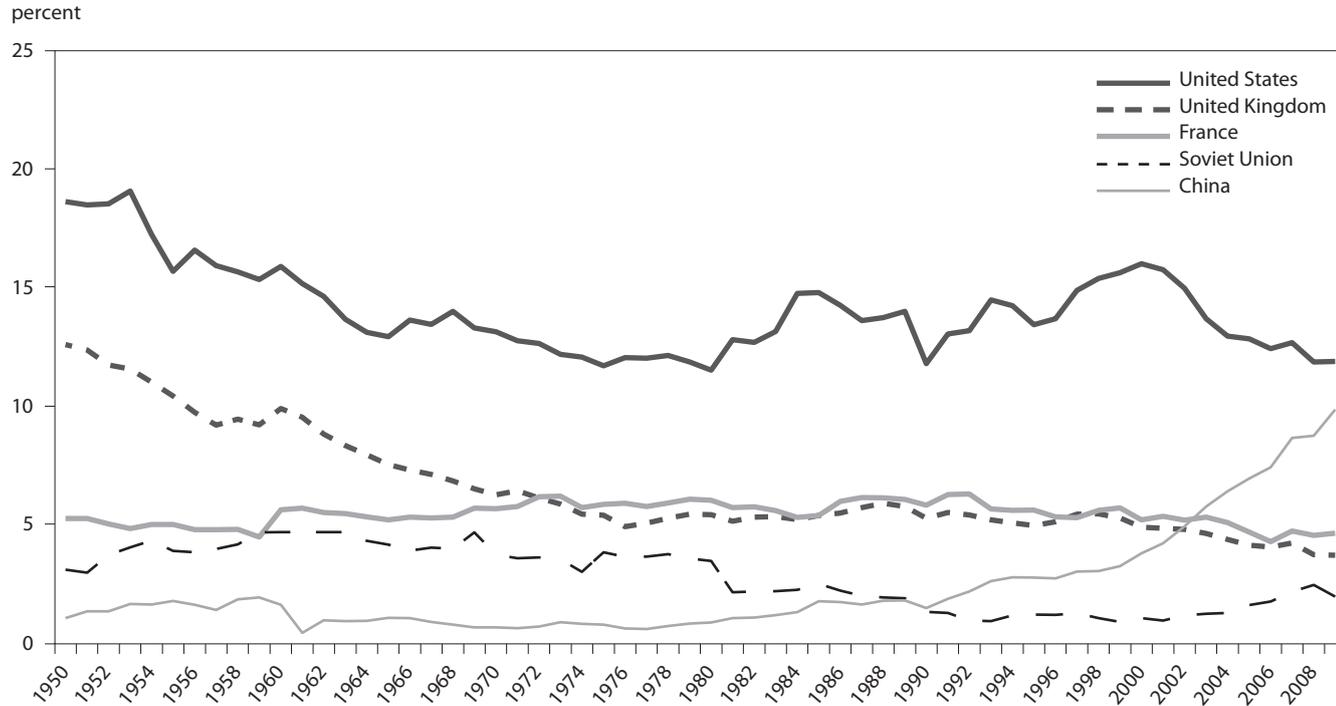
Source: BP (2012).

of global metals trade.<sup>2</sup> Growing consumption of natural resources, particularly energy and metals, is the handmaiden of industrialization and economic development. As the manufacturing sector grows, per capita demand for industrial inputs—especially base metals like aluminum, copper, lead, nickel, tin, and zinc—rises. Even among rapid industrializers, China’s demand for energy and base metals is unprecedented. Demand intensity can be measured by commodity consumption per capita relative to GDP; China’s rapid industrialization has been more energy and metals intensive than that of either Brazil or South Korea (Roache 2012).

As China has become a major resource importer, its economic growth and large current account surpluses have fueled greater scrutiny of its foreign affairs. Although China has been a major power throughout the post–World War II era, with a permanent seat on the UN Security Council, it was the least economically integrated of the permanent members until its rapid economic ascent in the early 1990s. In the early 1980s, China accounted for less than 1 percent of global trade flows (imports plus exports); by the early 2000s, it was second only to the United States, having surpassed the United Kingdom and France (see figure 5.2). Its rise as a trading power has been accompanied by persistent current account surpluses that reached 10 percent of GDP in 2007 (Cline 2012). Although these current account surpluses have dipped recently,

2. The United States is the world’s number one exporter and importer of foodstuffs (FAOSTAT Database, accessed on January 12, 2013).

**Figure 5.2 Share of total world trade accounted for by permanent UN Security Council members, 1950–2009**



Source: Barbieri and Keshk (2012).

they are forecast to remain at 3 to 4 percent of GDP through 2017 (Cline 2012). At least since 2000, China has been flush with cash, enabling it to significantly expand its economic and security ties with the rest of the world, in terms of outward foreign direct investment (OFDI), development finance, and military assistance/sales.

From a market liberal perspective, this increased integration into the world economy could be heralded as good news. Trade and financial integration tend to pacify relations between states, raising the opportunity costs associated with conflict and creating vested domestic interests in both that prefer peace to war (Oneal, Russett, and Berbaum 2003; Gartzke 2007). The rise of global supply and production networks only enhances these tendencies (Brooks 2007).

However, not all observers are cheerful about China's rise as a major trader, source of FDI, and aid donor. Indeed, the prevailing conventional wisdom is highly skeptical, if not downright contemptuous. Moisés Naím (2007, 95) has called Chinese development assistance "rogue aid," claiming, "It is development assistance that is nondemocratic in origin and nontransparent in practice; its effect is typically to stifle real progress while hurting average citizens." Stefan Halper (2010a, 102) alleges that China's economic rise is "marginalizing the values that have informed Western progress for 300 years."

These concerns have arisen around the loose banner of the "Beijing Consensus," an alternative economic model to the prevailing market-oriented logic of the Washington Consensus. Rather than emphasizing open markets, private ownership, and retrenchment of the government's role in the economy, the Beijing Consensus—to the extent that it is a meaningful concept—means pursuing economic development along Chinese lines: gradual policy changes; experimentation and incremental reform and policy changes, as opposed to great leaps; state enterprises working within a predominantly market framework; and authoritarian rule (Williamson 2012).<sup>3</sup>

The term, which is also applied to China's foreign economic engagement, comes in several flavors. The most benign is that China simply does not account for democratic institutions and practices in its investment and aid allocation decisions: It is driven entirely by economic concerns, particularly securing natural resources; politics are largely irrelevant (Bräutigam 2008, 2009). Dambisa Moyo (2012, location 1496) casts this perspective in starkly resource-seeking terms: "Like a 19th-century colonial power, China has ranged the world over to secure the resources needed to meet its ambitions. Unlike many of those earlier colonial powers, though, its strategy has been less to

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3. "In a lecture I delivered in Birmingham, I tend to take a somewhat cynical view about that. I argued first of all that there's not a lot of content in the concept of the Beijing Consensus beyond saying, 'This is what the Chinese do.' There's no list of propositions [comparable] to those [that] I suggest constituted the Washington Consensus. Instead it's what China does, and I've identified four things." John Williamson, "Beijing Consensus vs. Washington Consensus," Peterson Perspectives interview, November 2, 2010.

plunder the natural wealth of the countries it deals with than to strike long-range aid and trade agreements.”

More strident definitions point to an illiberal, antidemocratic bent in China’s investment and development assistance. Halper, in particular, argues that China prefers to invest in nondemocratic countries and that Chinese investment and development assistance are part of a strategy for developing a pro-China (and often anti-Taiwan) voting coalition in multilateral institutions like the United Nations and World Trade Organization. In this version, China’s rise is qualitatively different from that of other developing countries, particularly South Korea, in the postwar period (Halper 2010c). Rather than integrating into the West-led economic and political order, it seeks to develop its own: “China will not join the club. It cannot be housebroken. It marches to its own drummer” (Halper 2010b).

Hyperbolic statements aside, the factors that shape China’s foreign policy have not been subjected to rigorous empirical analysis. Are China’s 21st century investment, aid, and security ties disproportionate to nondemocratic countries? If so, does this pattern reflect an affinity for authoritarian governments, or is China interested in natural resources, particularly mined commodities, which stifle democracy via the mechanisms discussed in chapter 3? The remainder of this chapter investigates these claims with respect to China’s OFDI, official development financing, and arms transfers.

## **Outward Foreign Direct Investment**

Most discussions of FDI involving China focus on its rise as an investment destination. In 1990, China attracted 1.7 percent of total FDI inflows; by 2011, it attracted more than 8 percent, second only to the United States.<sup>4</sup> Since 2000, China’s OFDI has grown at an average annual rate of 50 percent, taking off particularly sharply after 2003 (see figure 5.3). Although China has moved into the ranks of the world’s major sources of OFDI, the United States still accounts for nearly eight times as much OFDI, and Japan nearly twice as much. Chinese OFDI has attracted attention because of its role in China’s broader policy of exporting capital in order to achieve domestic price stabilization and prevent real exchange rate appreciation and because of China’s dependence on global markets to satisfy its resource needs. China’s emergence as a major destination for and exporter of FDI has been facilitated by its aggressive pursuit of bilateral investment treaties (box 5.1).

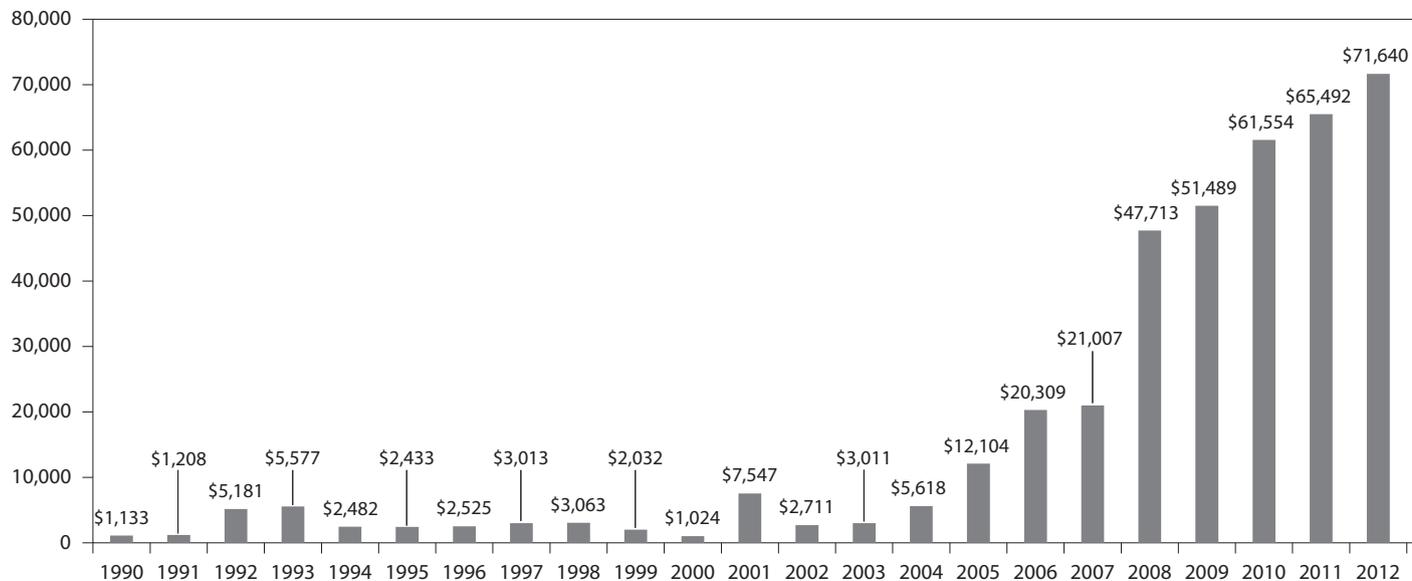
Chinese OFDI is clearly targeted toward extractive industries. Previous Peterson Institute research found that 73.5 percent of Chinese OFDI in Latin America was targeted at metals, coal, oil, and natural gas (Moran, Kotschwar, and Muir 2012). Global and regional analyses point to the significance of host-country oil and mineral exports in attracting Chinese OFDI (Asiedu 2006; Kolstad and Wiig 2012; Ramasamy, Yeung, and Laforet 2012; Aleksynska and

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4. UNCTADstat Database, 2012, <http://unctadstat.unctad.org> (accessed on December 10, 2012).

**Figure 5.3 Chinese outward foreign direct investment flows, 1990–2012**

millions of constant 2005 US dollars



Source: UNCTAD Trade Statistics, 2012.

### **Box 5.1 Bilateral investment treaties**

Bilateral investment treaties (BITs) establish terms for private investment by foreign nationals and companies. They are distinguished by provisions for channeling disputes through international arbitration rather than the host state's legal system. BITs are particularly relevant for investment in extractive industries because the underlying assets are immobile, eliminating the possibility of using capital flight as a mechanism to keep host governments honest.

The United States has negotiated and enacted BITs with 41 countries; BITs with another six have been signed but not entered into force. China has been much more active in securing BITs, with 128 signed and 101 in force. China's role as both a destination and source of foreign direct investment (FDI) partially explains the gap, as does the fact that US outbound and inbound FDI tends to flow between developed economies with strong domestic legal systems and investor protections.

Havrylchuk 2013). Ivar Kolstad and Arne Wiig demonstrate that Chinese OFDI targets countries that combine large natural resource endowments and weak rule of law. China lacks the same domestic constraints on engaging in corrupt practices abroad that many developed countries face (a subject addressed in chapter 6). A more permissive environment for corrupt practices back home gives Chinese firms a competitive advantage over more constrained developed-country firms in corrupt environments. State-owned enterprises (SOEs) may have a particular advantage. Bala Ramasamy, Matthew Yeung, and Sylvie Laforet (2012) find that OFDI by state-owned firms is more attracted to countries combining weak political institutions and large resource endowments, whereas OFDI by private firms is attracted to larger markets. However, the correlation between Chinese investment and high natural resource endowment yet institutionally weak countries does not imply nefarious intent or a preference for corrupt environments on the part of Chinese firms: If Western firms are constrained from investing in these countries by their home-country regulatory environment, more corrupt countries will be relatively undercapitalized, implying higher potential rates of return for unconstrained firms. Politically connected SOEs may also have an advantage in obtaining resolution of disputes via diplomatic intercession in weak institutional environments.<sup>5</sup>

Chinese investment in extractive industries may be driven by a much more prosaic concern: return on investment. Following two decades of stagnant, if not declining, real prices, commodities have boomed in the 21st century.

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5. North Korea may present an extreme case. Survey evidence indicates that Chinese participants in cross-border trade regard North Korea as a very corrupt and challenging business environment. As a consequence, they undertake a variety of hedging strategies. In particular, fearing expropriation, they are reluctant to invest; much of the investment and provision of credit that occurs is done by Chinese SOEs, which have a greater expectation of calling upon political connections to resolve disputes (Haggard, Lee, and Noland 2012; Haggard and Noland 2012).

Although the metals index of the International Monetary Fund is down from its high in February 2011, metals were nevertheless trading at 250 percent of their 1990 prices in 2012.<sup>6</sup> Oil prices were up 450 percent. Profits in extractive industries reflect these increases. Margins may be larger in other industries, but the 2011 profits of the Big Five oil companies—BP, Chevron, ConocoPhillips, ExxonMobil, and Shell—were \$137 billion, up 75 percent from 2010 (Weiss, Weidman, and Leber 2012).

That Chinese OFDI is heavily invested in energy and minerals is beyond argument. Whether this behavior reflects China's desire to corner the world's energy and mineral reserves and thus bodes ill for other economies is up for debate. As Theodore Moran, Barbara Kotschwar, and Julia Muir (2012) point out, the answer turns crucially on whether Chinese investment simply real-locates property rights within an essentially fixed stock of natural capital or expands those stocks by spurring new exploration and relieving upward pressure on prices by enhancing competition in the global supplier system.

How fixed is the stock of natural capital? All the relevant commodities are nonrenewable resources. Barring developments in asteroid mining, the resource stock is, in some sense, fixed. Although the world can ill afford to be sanguine about depleting nonrenewable resources, there are several reasons why the natural resource stock is less fixed than its nonrenewable status would seem to imply. All mined commodity reserve estimates are based on surveys, from which estimates of geologic resources (mineral concentrations that have been sampled and surveyed) and reserves (the subset of resources "from which a usable mineral or energy commodity can be economically and legally extracted at the time of determination," i.e., given present technology and market prices) are made (USBM/USGS 1980). Until the 2000s, real prices for many mined commodities had been stagnant or falling for at least a decade. Higher prices should spur more investment, the search for new concentrations of valuable minerals, and the conversion of known resources into reserves, resulting in higher reserve estimates for most commodities.

Table 5.1 reports changes in estimates of reserves of crude oil, natural gas, and several key minerals from 2000 to 2012. For all commodities except tin, the 2000s saw increases in reserve estimates, despite higher consumption. Clearly, prices are up more than reserve estimates, partly because of the often multiple-year lags between initial exploration and resource discovery and discovery and extraction. Mined commodity exploration and production—ultimately, supply—is simply slower to adjust to rapid price increases than other primary commodities. Grain producers responded to surging world food prices in 2007–08 with the largest two-year increase in area under cultivation (4.5 percent) in more than 40 years, leading to lower prices in 2009 and the

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6. The index includes prices of copper, aluminum, iron ore, tin, nickel, zinc, lead, and uranium, and their relative trade values compared with the total world trade as reported in the UN Comtrade Database (IMF Primary Commodity Price Tables 2013, [www.imf.org/external/np/res/commod/index.aspx](http://www.imf.org/external/np/res/commod/index.aspx)).

**Table 5.1 Spot prices and estimated global reserves of crude oil and key industrial metals, 2000–12**

| Metal                    | Estimated global reserves<br>(metric tons) |                 | Price change,<br>2000–12<br>(percent) | Estimated<br>reserve<br>growth,<br>2000–12<br>(percent) |
|--------------------------|--|-----------------|---------------------------------------|---|
|                          | 2000                                       | 2012            |                                       |   |
| Bauxite                  | 25,000,000                                 | 29,000,000      | 23                                    | 16.0  |
| Copper                   | 340,000                                    | 690,000         | 199                                   | 103.0   |
| Iron                     | 74,000                                     | 80,000          | 815                                   | 8.0   |
| Lead                     | 64,000                                     | 85,000          | 155                                   | 33.0  |
| Crude oil                | 171,600,000,000                            | 225,400,000,000 | 360                                   | 31.4  |
| Natural gas <sup>a</sup> | 154.3                                      | 208.4           | 459                                   | 35.1  |
| Nickel                   | 46,000,000                                 | 80,000,000      | 98                                    | 74.0  |
| Tin                      | 7,700,000                                  | 4,800,000       | 247                                   | -38.0   |
| Uranium <sup>b</sup>     | 3,700,000                                  | 6,950,000       | 402                                   | 88.0  |
| Zinc                     | 190,000                                    | 250,000         | 28                                    | 32.0  |

a. Unit is trillion cubic feet.

b. The most recent reserve estimate is for 2011.

Sources: US Geological Survey (USGS 2000, 2012a, 2012b); OECD (2012b); BP (2012); IMF (2013).

largest global stockpiles since 2003 (Hendrix 2011). Moreover, more careful firm- and project-level analysis indicates Chinese OFDI is having a positive impact by diversifying the global supplier system. Moran’s (2010) analysis of Chinese foreign investment in extractive industries concludes that the predominant form of investment involved equity stakes and/or long-term contracts with comparatively minor players. In Latin America, the majority of Chinese natural resource investments were aimed at “new frontier or even fringe” projects (Moran, Kotschwar, and Muir 2011, 50). Although Chinese OFDI is clearly targeted at extractives, the evidence does not support the simple neo-Malthusian notion that Chinese companies are controlling a larger share of a dwindling pie.

## Development Assistance

Whatever its humanitarian aims, development aid is an important mechanism for governments to curry favor with or discipline other governments. Many studies confirm that aid is given for many reasons beyond—and in some cases, in place of—economic need: to maintain former colonial ties, build coalitions in the UN General Assembly, and garner support from newly elected members of the UN Security Council (Alesina and Dollar 2000; Kuziemko and Werker 2006; Dreher, Thiele, and Nunnenkamp 2008; Bueno de Mesquita and Smith 2009).

In the past, virtually all development assistance<sup>7</sup> flowed from wealthy to poorer countries, coordinated through the Organization for Economic Cooperation and Development's Development Assistance Committee (OECD-DAC).<sup>8</sup> Rapid development in the BRIC (Brazil, Russia, India, and China) economies and near-record oil prices have transformed several developing, middle-income, and high-income non-OECD countries into increasingly important aid donors. OECD estimates put annual non-DAC development commitments (promises of funded assistance projects) at 3.4 to 7.5 percent of DAC commitments, which ranged from \$107 billion to \$128 billion over the past five years.<sup>9</sup>

Official OECD data vastly underreport the extent of non-DAC development assistance, largely because of the murky reporting practices of many non-DAC donors. Data on DAC members' assistance—project descriptions, aid amounts, targeted countries and sectors, etc.—are available through the DAC Creditor Reporting System (CRS); official non-DAC development assistance does not adhere to a similar reporting standard. China, believed to be the largest nontraditional donor, has argued strongly that such a transparent standard should not apply to nontraditional donors. At the 2011 High Level Forum on Aid Effectiveness in Busan, South Korea, Chinese officials stated that the “principle of transparency should apply to north-south cooperation, but...it should not be seen as a standard for south-south cooperation.”<sup>10</sup> China and many other nontraditional donors are signatories to the Paris Declaration on Aid Effectiveness, which stresses transparency and mutual accountability, but they have generally argued that their signatures govern their activities as aid recipients rather than donors (Grimm 2011).

Nevertheless, China periodically divulges data on its development assistance activities. A 2013 White Paper entitled “The Diversified Employment of China's Armed Forces,” released by the same office, reports that since 2002, the People's Liberation Army has been involved in 36 humanitarian aid opera-

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7. “Grants or loans to countries and territories on the DAC List of ODA Recipients (developing countries) and to multilateral agencies which are: (a) undertaken by the official sector; (b) with promotion of economic development and welfare as the main objective; (c) at concessional financial terms (if a loan, having a grant element of at least 25 percent). In addition to financial flows, technical co-operation is included in aid. Grants, loans and credits for military purposes are excluded. Transfer payments to private individuals (e.g., pensions, reparations or insurance payouts) are in general not counted” (OECD 2012a).

8. The OECD-DAC members are Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, the European Union, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

9. OECD StatExtracts, <http://stats.oecd.org> (accessed on January 11, 2013).

10. Mark Tran, “Transparency Could Be the Sticking Point for China at Busan,” *Guardian's Poverty Matters Blog*, November 14, 2011, [www.guardian.co.uk/global-development/poverty-matters/2011/nov/14/busan-aid-china-rejects-transparency](http://www.guardian.co.uk/global-development/poverty-matters/2011/nov/14/busan-aid-china-rejects-transparency).

tions, with disbursements amounting to roughly \$200 million (Information Office of the State Council of China 2013). In addition, the Chinese military has provided in-kind assistance, in the form of military training, to almost 40 countries. A 2011 White Paper entitled “China’s Foreign Aid,” released by the Information Office of the State Council of China, provides some highly internally vetted data on where China’s development assistance goes.<sup>11</sup> Instead of reporting project-level or country-level statistics, the report reveals regional and income-level aggregates. The data, which cover only China’s aid activities in 2009, show that roughly half (45.7 percent) of aid went to Africa, with the next largest blocks flowing to Asia (32.8 percent) and Latin America (12.7 percent) (see figure 5.4).<sup>12</sup>

These three regions have the highest oil export potential (measured as the ratio of proven oil reserves to annual domestic consumption [BP 2012]). They are also home to most of the world’s poor and food insecure, with China itself home to one in five of the world’s undernourished (FAO 2012). Export potential and poverty are related: Countries can have high export potential by having small populations relative to their reserves, large populations with low per capita fossil fuel consumption rates, or truly massive reserves. Kuwait and Qatar fit the first profile; Saudi Arabia, Venezuela, and Iran fit the third. Virtually all sub-Saharan African oil producers fit the second: The top five oil producers in sub-Saharan Africa—Nigeria, Angola, Sudan, the Republic of the Congo, and Gabon—emit roughly 22 times fewer carbon dioxide emissions per capita than the United States. These data are hardly conclusive evidence of either proauthoritarian or resource-seeking tendencies in Chinese aid disbursement.

Africa is comparatively poor in investment capital and rich in natural capital, with large endowments of many key mineral commodities. African countries have 32 percent of world reserves of bauxite and aluminum, 58 percent of industrial-grade diamonds, and 76 percent of rock phosphate, a key, nonsubstitutable input for agriculture.<sup>13</sup> Although Africa accounts for only 8 percent of global proven oil reserves and 7 percent of natural gas reserves, exploration effort—and FDI more generally—lagged in the 1990s and early 2000s because of political instability and concerns about corruption and currency instability (Rogoff and Reinhart 2003, Asiedu 2006). Continentwide, new FDI projects have more than doubled since the early 2000s, and 2011 saw Africa achieve its highest proportion ever of global FDI projects, although that proportion was still smaller than the continental population and economic growth rates

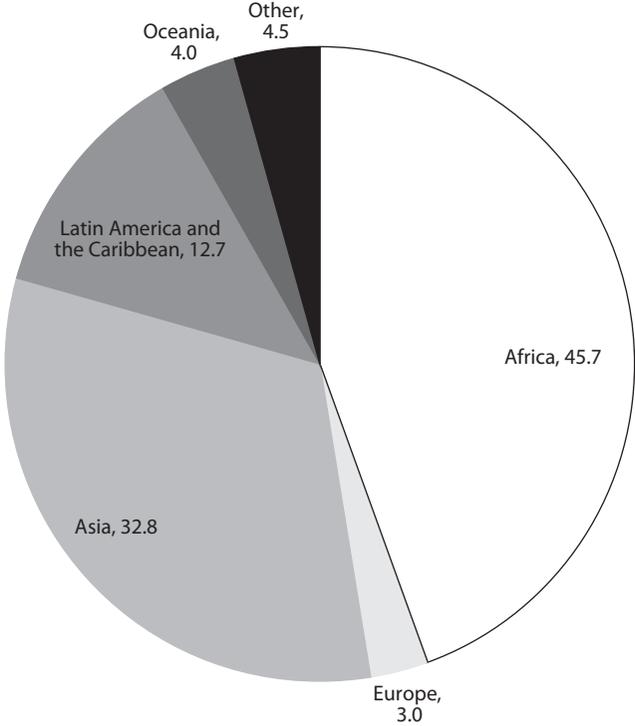
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11. Tellingly, the elaboration of the “White Paper on Chinese aid included interministerial communication but does not appear to have involved consultations with researchers” (Grimm 2011, 4).

12. Chinese development statistics do not recognize North Africa and the Middle East as a separate geographic region. North African countries are included in Africa; Western Asian countries are included in Asia.

13. Figures are authors’ calculations, based on data from USGS (2012b).

**Figure 5.4 Geographic distribution of China's foreign aid funds, 2009**  
(percent)



Source: Information Office of the State Council of China (2011).

would seem to justify (Ernst & Young 2012). Africa is both resource rich and capital scarce, making it an ideal target for Chinese development assistance and FDI. Moreover, the continent has widely varied governance structures, ranging from consolidated democracies (Ghana, South Africa) to soft autocracies (Sudan, Uganda); hybrid regimes (Tanzania); and hard authoritarian regimes (Eritrea and, until 2011, most of North Africa). If Chinese development assistance were particularly resource seeking or proauthoritarian, Africa would be the place these tendencies would be most manifest.

New data on Chinese development assistance and investment in Africa allow these propositions to be tested. AidData researchers at the College of William and Mary scrutinized media reporting on Chinese development assistance and FDI to develop systematic data on official Chinese financial flows to Africa from 2000 to 2011 (Strange et al. 2013a). These data indicate that China has become a, if not the, major player in development assistance in Africa. In the early 2000s, China was already providing nearly as much official devel-

opment finance (ODF) as the United States.<sup>14</sup> Over the entire period, China committed \$107.5 billion to the region, equivalent to 26.6 percent of all official OECD-DAC commitments (\$404 billion)—and \$17.5 billion more than the United States over the same period.

Table 5.2 shows the top 10 recipients of Chinese ODF in Africa for the period 2000–11, along with their average Polity score and the country's share of all oil, natural gas, and mineral capital on the continent as of 2005, the most recent year for which comparable data are available.<sup>15</sup> The Polity IV Project ratings range from 10 (most democratic) to -10 (least democratic), based on, *inter alia*, the relative competitiveness of the head of government's recruitment, constraints on him or her, and the competitiveness of political participation (Marshall, Jaggers, and Gurr 2011).

At first blush, the resource-seeking hypothesis seems to receive some support. The top 10 countries account for 50 percent of the region's natural capital and 41 percent of the region's population but receive 67 percent of Chinese aid. Because data for oil-rich Equatorial Guinea are not available, the proportion of natural capital belonging to the top 10 aid recipients is biased downward. Nigeria, the second largest aid recipient, is also the best endowed with natural capital, accounting for more than one-third of the continent's total. The proauthoritarian hypothesis does not receive much support: Countries on the list range from strongly democratic Ghana to highly authoritarian Libya, and the mean Polity score for the top 10 countries is not significantly different from the mean Polity score for non-top 10 countries.<sup>16</sup>

Moving beyond simple ranking orderings, regression analysis indicates that in the main, neither democracy nor natural resource wealth drives

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14. Per the AidData coding scheme, ODF includes “official development assistance (ODA)-like,” “other official flows (OOF)-like,” and “vague official finance.” It includes only project records that have not been cancelled, suspended, or sourced from suspicious reports. OOF come from governments but do not meet ODA criteria. They could be loans with a grant element of more than 25 percent, or they could be “official bilateral transactions, whatever their grant element, that are primarily export facilitating in purpose” (OECD 2010, quoted in Bräutigam 2011a, 757). This category includes “grants with a representational or commercial purpose (i.e., grants that do not have a primary objective of promoting economic development or welfare in the recipient country), loans from a Chinese government institution that do not have any apparent grant element (commercial loans based on Libor or Libor plus a margin) or a grant element that does not exceed 25 percent, and export credits from a Chinese government institution to a recipient institution” (Strange et al. 2013b, 36). OOF activities also include “short-term credits to Chinese exporters (export sellers’ credits) to help them finance foreign sales, and...longer-term credits to foreign buyers to assist in the export of Chinese goods and services” (Bräutigam 2011b, 206). OOF also include lines of credit that the Chinese government provides to a Chinese enterprise (state-owned or not-state-owned) to do business overseas (Strange et al. 2013b, 36).

15. In addition to oil and natural gas, this measure includes 10 other mined commodities: bauxite, copper, lead, nickel, phosphate, tin, zinc, gold, silver, and iron ore (World Bank 2006).

16. Mean Polity score = -0.1 for top 10 aid recipients, = 1.8 for non-top 10 (two sample *t*-test *t*-statistic = 1.09, *p* > 0.10).

**Table 5.2 Top 10 recipients of Chinese official development finance in Africa, 2000–11**

| Country                             | Official development finance (billions of dollars) | Average Polity score, 2000–10 | Percent of Africa's oil, gas, and mineral capital, 2005 |
|-------------------------------------|--|-------------------------------|---|
| 1. Ghana                            | 13.8   | 7                             | 0.01  |
| 2. Nigeria                          | 11.1   | 4                             | 35.05   |
| 3. Democratic Republic of the Congo | 7.8  | 3                             | 0.28  |
| 4. Mozambique                       | 7.1  | 5                             | 0.15  |
| 5. Zimbabwe                         | 6.4  | -3                            | 0.02  |
| 6. Sudan                            | 6.2  | -5                            | 3.54  |
| 7. Ethiopia                         | 6.0  | 1                             | 0.01  |
| 8. Mauritania                       | 5.2  | -4                            | 0.26  |
| 9. Angola                           | 4.7  | -2                            | 11.09   |
| 10. Equatorial Guinea               | 3.8  | -5                            | n.a.  |
| Total Africa                        | 107.5  | 1                             | 100.00  |

Sources: Strange et al. (2013a); Marshall, Jagers, and Gurr (2011); World Bank (2006, 2011a).

Chinese aid allocations: Although countries with larger mineral stocks receive larger ODF commitments, the effects are both small and relatively poor predictors of aid allocation.<sup>17</sup>

We regress Chinese ODF on the two key variables of interest—the Polity score and various measures of a country's mineral wealth—and a sparse set of controls.<sup>18</sup> We split the sample into two periods, 2000–05 and 2006–11. The Polity score proxies democracy. Given Beijing's stated principle of nonintervention in domestic affairs, we expect democracy to exert no effect on aid targeting. In order to measure mineral wealth, we include stock measures of mineral capital. These measures—of oil reserves, natural gas reserves, and mineral reserves and oil, natural gas, and minerals combined—are taken from the World Bank's Measuring Capital for the 21st Century Project. They represent the present discounted value of economic profits over the life of the resource (World Bank 2006).<sup>19</sup> Virtually all studies of Chinese aid and OFDI use measures of current energy and/or mineral exports to proxy natural resource wealth. Stock measures are preferable to measures of current (or

17. See appendix A for regression tables.

18. Summed and log-transformed across the periods 2000–05 and 2006–11.

19. The value of the resource stock is calculated as  $v_i = \pi q_i \left(1 + \frac{1}{r}\right) \left(1 - \frac{1}{(1+r)^T}\right)$ , where  $\pi$  is the unit rent,  $q$  is the volume of production,  $r$  is the social discount rate, and  $T$  is the lifetime of the resource (World Bank 2006).

past) production, because they are more likely to affect long-term investment decisions.

The minerals category includes bauxite, copper, gold, iron ore, lead, nickel, phosphate, silver, tin, and zinc, which have been prominent in discussions of Chinese investment in Africa's resource sector (Halper 2010b, Bräutigam 2009, Moyo 2012). If the resource-seeking hypothesis were correct, we would expect ODF to be significantly and positively associated with the various measures of mineral wealth.

We also include controls for population and level of development (real GDP per capita). Population proxies both the need for aid—*ceteris paribus*, more aid should flow to countries with larger populations, because they need more resources to develop—and the potential size of the domestic market, as Chinese aid is also believed to be market seeking. Real GDP per capita proxies recipient need, with poorer countries expected to receive more development financing. We also include a control for whether the country extends diplomatic recognition to Taiwan, because previous studies highlight China's use of aid to further its One China policy of denying diplomatic recognition to Taiwan (Bräutigam 2009, Halper 2010b, Dreher and Fuchs 2013).

For the period 2000–05, the most striking finding is that only (non) recognition of Taiwan robustly predicts Chinese ODF. For the entire period, no ODF flowed from China to the three countries in the sample—Burkina Faso, the Gambia, and Swaziland—that recognize the government in Taipei. In keeping with our expectations, democracy does not affect aid targeting. In contrast with our expectations, neither population nor real GDP per capita predicts ODF. The resource-seeking hypothesis does not find support either: None of the coefficients on the resource variables is significant.

For the period 2006–11, we find some evidence that mineral wealth attracts Chinese ODF. For each near tripling (171.8 percent, to be exact) in the dollar value of a country's mineral resource endowment, Chinese ODF increases by about 8 percent. This effect holds for mineral resources in the aggregate (oil plus natural gas plus minerals) and for mineral stocks when each resource type is analyzed separately. Although the effect is statistically significant, it would be misleading to say that, in the main, mineral resource stocks are driving Chinese ODF allocations: The target country's mineral resource endowment explains only 1 percent of the variation in Chinese ODF allocations.

For the period 2006–11, the single strongest predictor of aid targeting remains (non)recognition of Taiwan. Neither democracy nor real GDP per capita affects aid targeting. Significantly more Chinese aid went to more populous countries, but neither democracy nor natural resource wealth significantly predicted ODF flows. As expected, democracy does not seem to affect Chinese aid targeting in Africa. Aid is somewhat disproportionately targeted at countries with larger mineral resources. However, mineral resources contribute only a small fraction to the explanatory power of the models: China's aid may be somewhat resource seeking, but it is not only, or even in the main, resource seeking. In the aggregate, population and (lack of)

diplomatic relations with Taiwan seem to be the primary drivers of Chinese aid on the continent.

These relatively weak findings are at odds with conventional wisdom—that China’s development assistance is primarily resource seeking. They are more consistent with the only other quantitative analysis of Chinese aid allocation. Axel Dreher and Andreas Fuchs (2013) use project aid, food aid, medical staff, and total aid money to developing countries to analyze Chinese aid allocation patterns. They find no relationship between oil production and aid projects or volumes of food aid. The only systematic evidence of oil increasing aid allocations in their analysis is for the period 1979–95, well before China’s 21st century ascendancy. During that period, China provided more medical staff to oil-producing countries. For the period 1996–2006, Dreher and Fuchs find no systematic evidence of a pro-oil exporter bias in Chinese aid. Looking at slightly different measures of mineral resource wealth, we find some evidence that China accounts for mineral resource endowments in its aid allocation decisions, but the effect is relatively small.

## Arms Transfers

Even more than development assistance, arms sales and military aid are tried and true mechanisms by which governments can develop new strategic partnerships and reward and punish existing partners. Because arms are crucial to a recipient government’s ability to defend its interests—and often, the regime itself—they are a natural lever for influencing both the domestic and foreign policies of recipient governments. This section analyzes patterns in Chinese military transfers—sales, in-kind military aid, and aid that is tied to purchases—in order to assess whether Chinese military sales and assistance provide evidence of resource-seeking behavior.

China’s rapid, outward-oriented growth has both facilitated and necessitated a large increase in its military spending. As China’s global economic ties deepen, its national interests increasingly require the ability to project force on more than a regional scale, especially in the case of extractives, which entail massive investments in fixed assets abroad. Even if China were not so heavily invested in extractives, its dependence on natural resources sourced from abroad compels it to invest in significant military capacity in order to secure supply lines.

Since 2000, China’s military spending has grown significantly more rapidly than GDP per capita (286 versus 178 percent). China’s \$143 billion in military spending in 2011 places it second only to the United States, with twice the spending of its closest rival, Russia (SIPRI 2013). In 2012, China commissioned its first aircraft carrier, the *Liaoning*, and details of its stealth fighter program—including photographs of a new prototype—were leaked to media outlets in March 2013.<sup>20</sup>

Like many other large industrial countries, China has pursued a policy of

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20. The *Liaoning* is not an entirely new ship. Her stripped hull was purchased in 1998, from Russia,

self-sufficiency in the production of arms, resulting in a large defense sector with an exportable surplus that has made China a top 10 exporter of military technology. Chinese arms transfers to the developing world have been criticized for both facilitating state repression and spurring armed conflict. In *China Safari: On the Trail of Beijing's Expansion in Africa*, Serge Michel and Michel Beuret report that “China appears increasingly willing to support repressive African regimes and rebellions alike, and to profit from the resulting chaos by selling weapons and improving its access to natural resources” (2009, 135). These arms transfers, along with FDI and development assistance, form what Halper calls “the Chinese exit option,” a diplomatic place for countries to turn when under pressure from the incumbent Western powers.

An influential background report by Amnesty International (2006) criticizes Chinese arms transfers to, among others, Liberia and Sudan, in contravention of the then-active UN arms embargo, arguing that these transfers allowed state forces to increase repression in the midst of already protracted and intense civil wars. In 2012, the *Washington Post* ran a story with the headline “China’s Arms Exports Flooding Sub-Saharan Africa” (August 25). It noted that “Chinese arms have surfaced in a string of U.N. investigations in war zones stretching from the Democratic Republic of the Congo to Ivory Coast, Somalia and Sudan” and that although Chinese arms are not the only ones implicated in these conflicts, “China has stood apart from other major arms exporters, including Russia, for its assertive challenge to U.N. authority, routinely refusing to cooperate with U.N. arms experts” during investigations.

The conventional wisdom, then, is four pronged:

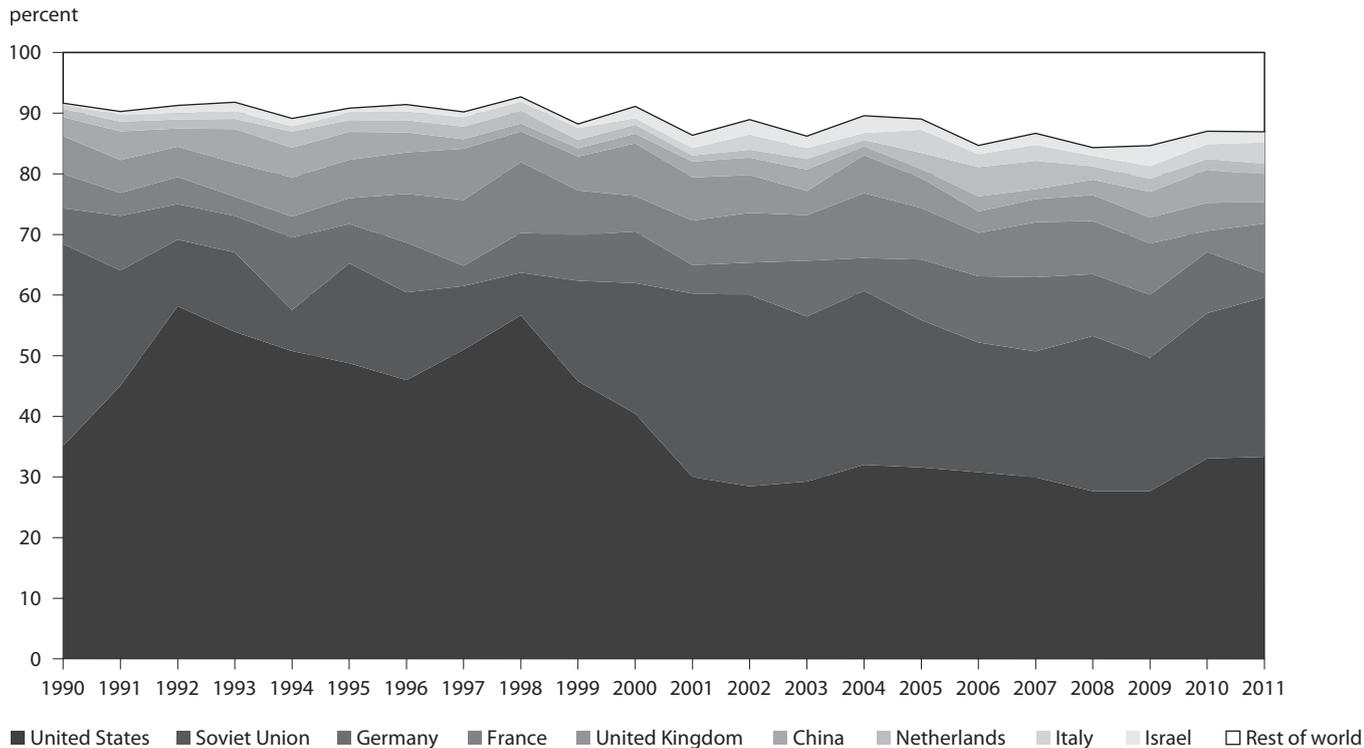
- Chinese arms transfers have increased significantly, especially in Africa.
- Chinese arms are helping fuel conflict and human rights abuses.
- Arms flows are motivated by Chinese national interests, in particular the pursuit of natural resources.
- These flows are different from those from other major arms exporters.

How well does this conventional wisdom stand up to scrutiny? First, Chinese arms transfers should be placed in the broader context of global arms transfers. Figure 5.5 presents the share of global arms transfers for the nine largest exporters—the United States, the Soviet Union/Russia, Germany, France, the United Kingdom, China, the Netherlands, Italy, and Israel—for the period 1990–2011. Since the end of the Cold War, the United States, Germany, France, the United Kingdom, the Netherlands, and Italy (all core North Atlantic Treaty Organization members) have been responsible for, on average, 63.6 percent of global military transfers per year. China’s share of global arms transfers averaged 3.1 percent. For much of the post–Cold War era, China’s total military transfers were comparable to those of the Netherlands,

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where she served as the *Varyag*. The ship was modified and refitted by the Dalian Shipbuilding Industry Company.

**Figure 5.5 Share of global arms transfers by exporting country, 1990–2011**



Source: Stockholm Peace Research Institute, Arms Transfers Database, 2013.

an economy roughly 1/16th the size of China's. China is a major player, but it is far from dominant.

China's relatively minor position may mask its relevance for certain regions or types of regimes. If Halper is correct, China has carved out a niche as an arms provider for regimes that have fallen out of favor with the West; its transfers should disproportionately target countries with poor human rights records and illiberal political institutions. However, any correlations between arms transfers and authoritarian institutions, human rights violations, and violent conflict may be the result of the effect of natural resources on arms transfers through multiple channels. On the supply side, China may target arms transfers to countries with larger natural resource endowments as part of a policy to secure long-term access by currying favor with resource-rich governments. On the demand side, resource rents inhibit democratization and respect for human rights and, under certain circumstances, promote conflict, as chapter 4 shows. The stylized profile of a Chinese arms importer is thus very similar to the stylized profile of a resource curse country, characterized by nondemocratic institutions, poor human rights performance, and violent conflict.

We test the proposition that Chinese arms transfers are resource seeking, focusing on Africa. We regress each measure of arms transfers on three variables of interest—the Polity score, the Physical Integrity Rights Index, and various measures of a country's mineral wealth—and a sparse set of controls.<sup>21</sup> The Physical Integrity Rights Index proxies human rights conditions, measuring “the rights not to be tortured, summarily executed, disappeared, or imprisoned for political beliefs” (Cingranelli and Richards 2010a, 403). It ranges from 0 (no government respect for these rights) to 8 (full government respect for these rights). If China disproportionately targets its arms transfers to human rights abusers, we would expect the relationship between arms transfers and human rights conditions to be negative. Alternatively, if China's noninterference principle extends beyond political institutions and to human rights practices, we would expect no correlation. We include an additional control, conflict intensity, to proxy “need” for arms shipments. Conflict intensity refers to the scale of domestic armed conflict; higher values indicate more violence and should generate more government demand for military resources (Gleditsch et al. 2001).

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21. The data are summed and log-transformed across the periods 2000–05 and 2006–11. For regression tables and expanded discussion, see appendix B. The units for arms transfers are trade in value (TIV) units, constructed by the Stockholm International Peace Research Institute (SIPRI). “These prices are based upon the average unit costs for core conventional weapons. Weapons for which the cost is unknown are compared with core weapons based upon size and performance characteristics (weight, speed, range, and payload); type of electronics, loading or unloading arrangements, engine, tracks or wheels, armament and materials; and finally the era in which the weapon was produced. SIPRI then calculates the volume of transfers to, from, and between all end-users using the TIV / price and the number of weapon systems or subsystems delivered in a given year. The quantitative data provide a common unit for measuring trends in the flow of arms to particular countries and regions over time—in effect it is a price index” (de Soysa and Midford 2012, 846, footnote 10).

In order to place Chinese arms transfers in context, we run these models using total arms inflows and US arms inflows as well. Much of the discourse surrounding Chinese arms transfers focuses on their purported “rogue” status, breaking with international norms governing arms shipments to countries in which they would be used to violate human rights.<sup>22</sup> As with the ODF estimates, we split the sample into two periods, 2000–05 and 2006–11.

Across both time periods, more populous countries, wealthier countries, and countries experiencing more intense armed conflict received a higher volume of total arms transfers. Neither democracy nor respect for human rights is correlated with Chinese arms transfers, seemingly confirming the noninterference hypothesis. Yet if China is practicing noninterference, it is hardly alone: Neither total arms inflows nor US arms transfers are correlated with either measure. These nonfindings, consistent across both time periods, belie the notion that Chinese arms transfers are systematically “different” or “rogue” with respect to democracy and human rights abuses, at least in Africa.

Evidence of a resource-seeking bias in Chinese arms transfers is slightly more convincing. Between 2000 and 2005, China transferred significantly more arms to countries with larger stocks of total oil, natural gas, and mineral resources. Disaggregating according to resource type, mineral resources appear to drive the main result; they are positively correlated with Chinese arms transfers. For the 2006–11 period, however, there is no evidence of Chinese arms transfers disproportionately favoring countries with large natural resource endowments. Context is important: During this period, countries with larger stocks of total oil, natural gas, and mineral resources received significantly more *total* arms transfers, with both oil stocks and mineral stocks predicting arms inflows when assessed independently. If anything, the evidence suggests a resource-seeking bias in US arms transfers, which are positively correlated with oil stocks and mineral resources.

The data have some limitations. They do not include small arms and light weapons—assault rifles, pistols, submachine guns, or light machine guns—which can change hands easily once exported and are responsible for the vast majority of deaths in contemporary armed conflicts. As with ODF, however, data on arms transfers indicate that China’s military assistance/sales are not quite as rogue as believed.

## Conclusion

As an import-dependent major power, China is hardly unique in shaping its foreign policy by natural resource-related concerns. Dependence on energy imports has exerted a profound influence on US foreign policy since World

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22. The United States, Canada, the European countries, and Russia are all parties to the 1993 Organization for Security and Cooperation in Europe (OSCE) Principles Governing Conventional Arms and the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies. China is not.

War II. The Foreign Petroleum Policy of the United States, released in 1944, encouraged a shift from domestic production and export to conservation of Western Hemisphere petroleum and the supplying of demand domestically and in Europe via exports from the Middle East. Thirteen years later, President Dwight Eisenhower specifically cited the Middle East's oil deposits in committing the United States to a policy of military aid and assistance—including troops, if need be—to “secure and protect the territorial integrity and political independence” of Middle Eastern countries against Communist aggression.<sup>23</sup> From the Carter Doctrine to the Iraq wars, US foreign policy reflects the primacy of energy concerns.

This assessment of whether Chinese FDI, ODF, and arms transfers flow disproportionately to countries with large endowments of oil, natural gas, and mineral capital finds that in the main, the resource-seeking hypothesis holds for FDI and, to a lesser extent, ODF. However, arms transfers are not as robustly correlated with recipient-country resource wealth as conventional wisdom suggests.

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23. Dwight D. Eisenhower, Special Address to Congress, January 5, 1957.