

AN EXAMINATION OF CHINESE FOREIGN DIRECT INVESTMENT INTO THE
ECONOMIES OF SUB-SAHARAN AFRICA

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MASTER OF MILITARY ART AND SCIENCE
Strategic Studies

by

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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

AN EXAMINATION OF CHINESE FOREIGN DIRECT INVESTMENT INTO THE ECONOMIES OF SUB-SAHARAN AFRICA, by Major Jeremy Muller, 78 pages.

This thesis studies the above stated question using a comparative approach. The examination conducted involved using qualitative textual analysis, quantitative judgment, and mixed method analysis. In addition to the stated thesis question, the following sub-questions were considered in the examination: Is Chinese financial aid to sub-Saharan Africa altruistic as professed, or is it correlated with commercial interests? Does financial aid from China improve the stability of a state? How quickly are Chinese SOEs accelerating their investments into sub-Saharan Africa? To what extent are these investments targeting natural resource extraction? How much of total sub-Saharan trade with China are the extraction of natural resources? What share of total sub-Saharan exports go to China? What countries have the greatest exposure to China consumption? Do SOE investments have a positive or negative correlation with a state's diaspora? How does trade with China affect the poverty levels of a state?

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ACRONYMS

ADO	Aid Data Organization
FCPA	Foreign Corrupt Policies Act
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GHI	Global Hunger Index
IEA	International Energy Agency
IFPRI	International Food Policy Research Institute
IMF	International Monetary Fund
JODI	Joint Organizations Data Initiative
MOFCOM	Ministry of Commerce
NPC	National People's Congress
NSS	National Security Strategy
OECD	Organization for Economic Cooperation and Development
PRC	People's Republic of China
SIPRI	Stockholm International Peace Research Institute
SOE	State Owned Enterprise
SSA	Sun-Saharan Africa
UN	United Nations
UN Comtrade	United Nations Commodity Trade Statistics Database
UNCTAD	United Nations Conference on Trade and Development.
UNHCR	United Nations Refugee Agency
UNICEF	United Nations Children's Fund
WHO	World Health Organization

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CHAPTER 1

INTRODUCTION

In the operations of war, where there are in the field a thousand swift chariots, as many heavy chariots, and a hundred thousand mail-clad soldiers, with provisions enough to carry them a thousand Li, the expenditure at home and at the front, including entertainment of guests, small items such as glue and paint, and sums spent on chariots and armour, will reach the total of a thousand ounces of silver per day. Such is the cost of raising an army of 100,000 men.¹

— Sun Tzu, *The Art of War*

Background

Simply put, the rise of China's economic strength over the past decade is unprecedented. Never before has a single country become so prominent so quickly. In 2000, the size of the Chinese economy was 11 percent the size of the United States as measured by Gross Domestic Product (GDP). By 2012, China's economy had reached 50 percent of American GDP (figure 1, left). While the United States registered an impressive 4.1 percent real growth rate per year, China grew at an astonishing 17.1 percent over the same period, accumulating a total growth of 311 percent (figure 1, right).

¹Sun Tzu, *The Art of War by Sun Tzu: Classic Edition* (London: Special Edition Books, 2009), 102.

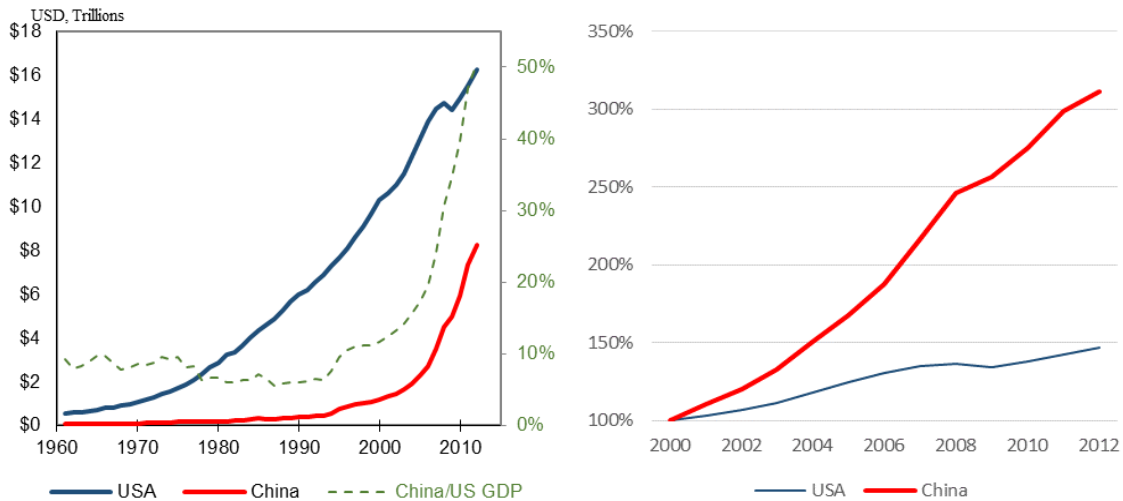


Figure 1. GDP Growth: USA vs China

Source: Created by author with data from The World Bank, “World Development Indicators,” <http://databank.worldbank.org/data/views/variableSelection/selectvariables.aspx?source=world-development-indicators#> (accessed February 1, 2014).

Maintaining this level of growth over a period as expansive as a decade is unheard of, and most certainly unsustainable. Regardless of the conditions, however, China’s economic growth has come with impressive political power. After it passed Japan to become the world’s second largest economy in 2010, China took just a few years before it confronted its former enemy. In 2013, China expanded its Air Defense Identification Zone over the Senkaku Islands in the East China Sea in a possible precursor to annexation.² China’s willingness to flex its newfound muscle to this degree should be of concern to U.S. policymakers. Even assuming a reduced growth rate of 7.5 percent, China will surpass the United States to become the world’s largest economy sometime

²BBC, “China establishes 'air-defence zone' over East China Sea,” November 23, 2013, <http://www.bbc.com/news/world-asia-25062525> (accessed May 7, 2014).

between 2025 and 2030.³ Under the same logic, an emboldened China might challenge American dominance in the near future. Just as the Senkakus with Japan, Taiwan may well become a major point of conflict between the two world powers.

But with this growing economic power comes added pressure on the Politburo. The ruling communist party faces a restless public becoming increasingly accustomed to a new standard of living afforded by rising wages. This pressure has resulted in a laser-like focus on economic growth, a concentration that comes at the expense of practically everything else. China has recently become the world's largest consumer of power and the greatest emitter of greenhouse gasses, but these milestones come with significant secondary effects. Air pollution in urban areas has reached 4000 percent of the maximum safe level recommended by the World Health Organization (WHO),⁴ major rivers have inexplicably turned dark red,⁵ and smog gets so bad in cities that urban residents frequently cannot see across the street.⁶ A massive study conducted by scientists from the WHO found that pollution causes as many as 1.2 million deaths in China every year,⁷ and

³Based on this author's extrapolations. *The Economist* is considerably more ambitious in its April 17, 2014 issue, pegging the eclipse to 2025.

⁴Bloomberg News, "Beijing Orders Official Cars Off Roads to Curb Pollution," January 14, 2013, <http://www.bloomberg.com/news/2013-01-12/beijingers-told-to-stay-indoors-as-pollution-hits-record.html> (accessed January 10, 2014).

⁵ABC News, "Yangtze River Turns Red and Turns Up a Mystery," September 7, 2012, <http://abcnews.go.com/blogs/headlines/2012/09/yangtze-river-turns-red-and-turns-up-a-mystery/> (accessed December 28, 2013).

⁶National Public Radio (NPR), "China's Air Pollution Linked To Millions Of Early Deaths," April 2, 2013, <http://www.npr.org/blogs/health/2013/04/02/176017887/chinas-air-pollution-linked-to-millions-of-early-deaths> (accessed January 19, 2014).

⁷The Lancet, "Global Burden of Disease Study 2010," December 13, 2012, <http://www.thelancet.com/themed/global-burden-of-disease> (accessed January 19, 2014).

the World Bank asserts that pollutants costs the country about 9 percent GDP per year in lost production.

Regardless of the rising environmental pressures, the Politburo has signaled an unwavering commitment to sustaining growth at no less than 7.5 percent.⁸ This growth was initially fueled by international trade, a function of manufacturing that required rapid urbanization and marginalization of its agricultural heritage (figure 2, left). Increased standards of living have driven domestic consumption and reduced the nation’s reliance on international trade, but in raw numbers, the country still requires substantial—and increasing—amounts of raw materials to feed its booming manufacturing sector (figure 2, right).

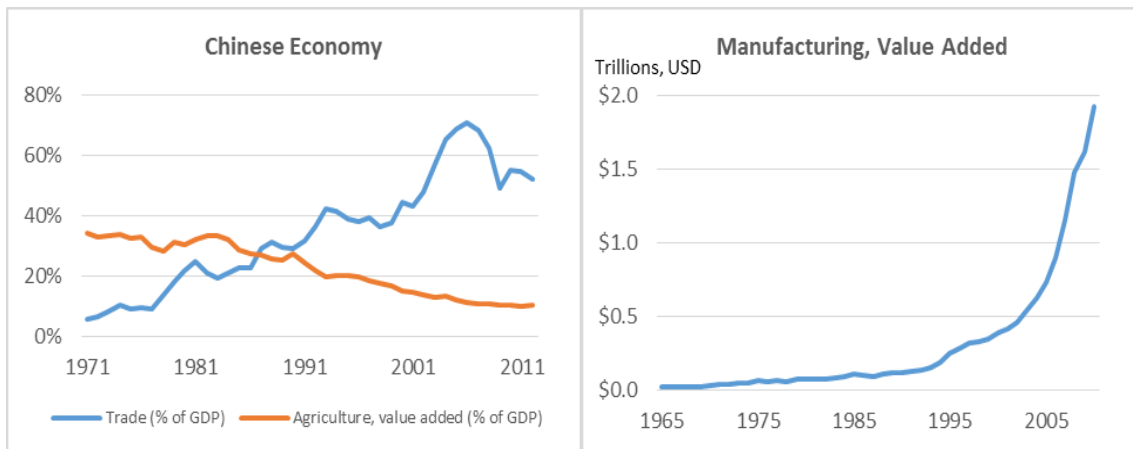


Figure 2. Values of Trade, Agriculture, and Manufacturing in China’s Economy

Source: Created by author with data from the The World Bank, “World Development Indicators,” <http://databank.worldbank.org/data/views/variableSelection/selectvariables.aspx?source=world-development-indicators#> (accessed February 1, 2014).

⁸Bloomberg News, “China Retains 7.5% Growth Target for 2014,” March 5, 2014, <http://www.bloomberg.com/news/2014-03-05/china-retains-7-5-growth-target-for-2014-as-challenges-mount.html> (accessed January 14, 2014).

The Politburo's desire to increase the standard of living within its own country, keep its people content, and thus ensure regime survival, leads to an unavoidable interest in sub-Saharan Africa (SSA). The sheer size of Africa is often misunderstood due to distortions caused by traditional map orientation. At 30.2 million square kilometers, Africa is over three times the size of either the contiguous United States or China (which are comparable at about 9.6 million km² each). With this size comes considerable resources, the raw materials that China desperately needs to fuel its ravenous economy (figure 3), but it also comes with significant challenges. Distance to major ports and trading routes stunt the growth of many SSA nations, compounding the hangover left behind by colonialism. The fifteen nations in the world with the highest percentage of populations living on less than \$2 USD per day all reside in Africa,⁹ and concerns of corruption persist.

⁹The World Bank, "World Development Indicators," <http://databank.worldbank.org/data/views/variableSelection/selectvariables.aspx?source=world-development-indicators#> (accessed February 1, 2014).

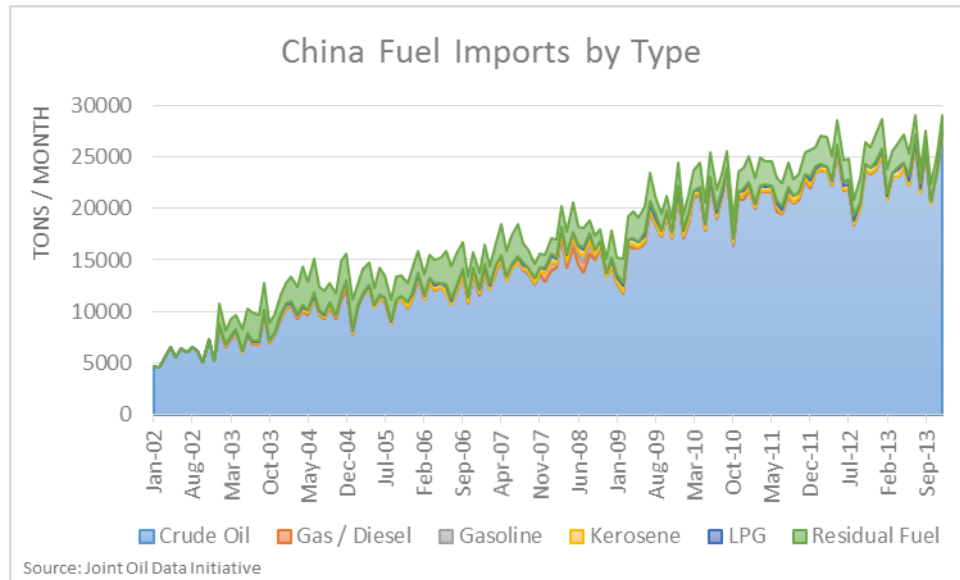


Figure 3. China Fuel Imports by Type

Source: Created by author with data from JODI, “JODI Oil World Database,” <http://www.jodidata.org/database/access-database.aspx> (accessed December 3, 2013).

China’s great fortunes have been due, in large part, to its ability to obtain resources from around the world. The SSA provides a specifically interesting case study for several reasons. Its significant natural resources have spurred incredible investment from China. China’s investments are not limited to Africa, but nowhere is the power gap as great than between the Chinese Empire and the impoverished sub-Saharan nations it is extracting resources from. The dichotomy presents the potential for very large and unforeseen secondary effects. It also presents China with the opportunity to manipulate otherwise weaker countries and promote corruption in politically unstable nations in order to facilitate its goals. Finally, the sub-Saharan provides abundant data from which to conduct research. At the time of this study, there are 49 countries in Sub-Saharan

Africa,¹⁰ of which China has invested in 45. This allows for a pairwise research methodology unavailable in any other continent.

Poverty, political instability and religious conflict have made Africa a birthing ground for terrorism, resulting in a new focus from senior U.S. leadership. Acknowledging the severity of the problem, the President broadened his vision of national security to include a stable Africa in the 2010 National Security Strategy (NSS). It was the first time any U.S. president had done so. As large an impact as China is having on Africa, little is known about its potential effects on regional U.S. strategic interests. This research will attempt to answer that question.

Research Questions

This study examined Chinese trade and Foreign Direct Investment (FDI) into the economies of sub-Saharan Africa to determine if these effects are incongruent with regional U.S. strategic interests as outlined in the 2010 NSS. In order to address the research question mentioned above, the following sub-questions were raised in order to expand the scope of research:

1. Is Chinese financial aid to sub-Saharan Africa altruistic as professed, or is it correlated with commercial interests?
2. Does financial aid from China improve the stability of a state?
3. How quickly are Chinese State-Owned Enterprises (SOE) accelerating their investments into sub-Saharan Africa?
4. To what extent are these investments targeting natural resource extraction?

¹⁰See “Definitions” section in this chapter, and Appendix “A” for a list of sub-Saharan countries.

5. How much of total sub-Saharan trade with China are the extraction of natural resources?
6. What share of total sub-Saharan exports go to China? What countries have the greatest exposure to Chinese consumption?
7. Do SOE investments have a positive or negative correlation with a state's diaspora?
8. How does trade with China affect the poverty levels of a state?

Assumptions

The assumptions for this thesis include:

1. That China will continue to require vast amounts of resources to fuel its economy.
2. That China's GDP will continue to grow over the next decade, albeit at a slower rate.
3. That China investments into Africa will continue to grow with its economy.
4. That Chinese-African trade will continue to eclipse U.S.-African trade.
5. That China will continue to act in a socially-conscious manner only when its access to African resources is threatened.
6. That the conduct of Chinese SOEs represents a potential threat to regional stability

Definitions

The following terms will be used throughout this thesis:

Beta: Beta (β) is the statistical measure of a regression slope that informs the relationship between two series of data in bivariate regressions, as conducted in this study. This measure is commonly used in finance as a measure of volatility; in this study, Beta is used to measure the effect of one data series (i.e. FDI) upon another (i.e. displaced persons).

FDI: Foreign Direct Investment is broadly defined as an investment made by an entity from one country into an entity based in another, and narrowly defined in terms of business relationships – foreign companies investing into domestic companies – typically in the form of mergers and joint ventures. This thesis employs the former definition encapsulating a wider flow of capital into sub-Saharan Africa.

GDP: Gross Domestic Product is the monetary value of all finished goods and services produced within a country's borders in a specific time period, expressed on an annual basis. As an equation, GDP is expressed as the sum of consumption, government spending, gross investment, and net exports.

SOE: State-Owned Enterprises are wholly or partially-owned legal entities (usually businesses), which some definitions require be created by the government. This thesis does not include the latter. Generally speaking, a Chinese SOE is at least 30% owned by the government.

Sub-Saharan Africa: Various definitions conflict in which nations they include in the sub-Saharan. The United Nations (UN) excludes Sudan, yet UN institutions include it in their statistical reporting. This thesis includes Sudan, as well as the Arab countries (Somalia, Djibouti, Comoros and Mauritania) that some definitions exclude. A table of all 49 sub-Saharan nations can be found in Appendix A.

Scope

This study applies the 2010 NSS in order to determine U.S. strategic objectives for the SSA region. These strategic interests are identified as (1) improvement in the rule of law, (2) conflict prevention, and (3) the eradication of extreme poverty.

Additionally, the study examines economic data available from the International Monetary Fund (IMF), the World Bank, the UN, and other sources as a basis for research. Data collected includes SSA country-specific economic and survey data, as well as Chinese investments into the region. Of the records available to conduct statistical analysis, several were isolated as evaluation criteria for statistical analysis. These include (1) GDP, (2) FDI, (3) financial aid, (4) commercial trade, (5) the State Fragility Index, (6) diaspora, and (7) the Global Hunger Index.

Limitations

Limitations were identified prior to initiating research. Time available to conduct the study and volume of available data constrain the author's ability to conduct thorough analysis. China is extremely secretive of its investments into sub-Saharan Africa, and officially reported investment amounts are not an accurate representation. Existing databases rely on investigative research into Chinese SOE projects in Africa. The databases available on Chinese investments provide a more accurate depiction of the truth, but remain incomplete. The extent of this inaccuracy is unknown to the author. There may be under or over-estimates of Chinese investment levels. As this thesis entails an empirical study of China's investments, it must be acknowledged that the conclusions will be drawn upon incomplete data. This data will provide basic insight, rather than a 100 percent accurate picture, of China's investments, strategies, and motivations.

Delimitations

The scope of the study will not include recommendations for U.S. actions based upon the findings of the research. The author lacks the experience to make such recommendations. This study will not describe or assess the moral or ethical implication of China's investment strategy. The purpose of the study is to provide information only.

Significance of the Study

This study examines whether Chinese investments conflict with U.S. strategic interests as outlined in the NSS. A holistic understanding of secondary effects of Chinese actions will facilitate an understanding of the operational environment. The importance of this study is to provide information to those with a professional responsibility of evaluating such implications and developing U.S. strategy.

Chapter Summary

This chapter introduced the topic of this study and provided the primary and secondary research questions that will be answered by this thesis. It provided a brief synopsis of China's growth since 2000 as a driving factor for its resultant interests in African natural resources. It outlined the assumptions used throughout this study, and key terms were defined so as to provide clarity on the references made throughout this thesis. Finally, this chapter provided the limitations and delimitations of the study, as well as the significance and scope of the study itself. In chapter 2 existing literature of China's involvement with sub-Saharan Africa will be reviewed. It will be organized by type of financial interests as they relate to the research questions. These financial interests are (1) financial aid, (2) foreign direct investment, and (3) extraction of natural resources.

Chapter 3 will provide the research methodology for this thesis. It will establish the process this study will take in answering the secondary research questions, and how this study answers the primary research question. Chapter 4 will provide analysis of the data collected and evaluate the findings in order to answer the primary and secondary research questions. Finally, chapter 5 will provide conclusions and recommendations. Research questions will be answered, and recommendations will be made for future research.

CHAPTER 2

LITERATURE REVIEW

The purpose of this chapter is to outline the existing academic research available on China's investments into the sub-Saharan, and whether or not they endanger U.S. strategic interests in the region. The literature that was used in this study provided a context as it related to the stated thesis by identifying relationships, determining trends, and discovering if there were any gaps or lags in information. It demonstrated the contentious nature of the subject matter, and the diverse array of opinions established across the academic community. All of the literature examined were considered viable, and included government publications, federal reports, news briefings, intergovernmental organization reports and non-governmental organization studies. The following sources were utilized in conducting research for the stated thesis, and provided direct evidence in support of the study.

Financial Aid to Africa

While much of the narrative asserts that China employs financial aid in support of its commercial interests, Jian-Ye Wang contends that the economic exchanges between China and Africa are have remained largely decentralized. He does cede to a commercial shift in China's economic policy towards Africa, but argues that an inherent separation persists between the profitability of China's SOEs and the financial aid provided by state-

owned banks.¹¹ Wang does not see a correlation between levels of trade and financial assistance.

Au Yu et al. argue that Chinese loans to African countries are not inherently harmful. They see China's rise as that of an important international lender providing balance to the "hegemony of the International Financial Institutions."¹² They further assert it is hypocritical for institutions such as the IMF and World Bank to denigrate China for providing loans to the burgeoning economies. Yu argues that while the IMF warned a debt-ridden Congo not to accept more Chinese loans, it was the actions of this very financial institution that established the debt to begin with.¹³

Alternatively, Carol Lancaster argues that Chinese aid has become a major source of concern for good reason: "How do the Chinese program their aid? Do they do strategic country planning like the United States? Do they manage by results? Do they evaluate the outcomes and impact of their aid? 'No' appears to be the answer."¹⁴ She argues that China uses aid as a tool of international diplomacy, and has "no obvious constituency . . . for the direct use of aid to reduce poverty, either inside government . . . or outside."¹⁵

¹¹Wang, Jian-Ye, "What Drives China's Growing Role in Africa?," IMF Working Paper No. 211, 2007, <http://www.imf.org/external/pubs/ft/wp/2007/wp07211.pdf> (accessed January 13, 2014), 5.

¹²Au L. Yu and Kevin Li, *Preliminary Report On China's Going Global Strategy* (Hong Kong: Globalization Monitor, 2009), 53.

¹³*Ibid.*, 52.

¹⁴Carol Lancaster, "The Chinese Aid System" (Essay, Center for Global Development, 2007), http://www.cgdev.org/sites/default/files/13953_file_Chinese_aid.pdf (accessed January 12, 2014), 4.

¹⁵*Ibid.*, 5.

Lancaster also indicates that China's management of financial resources is partly to blame, lamenting the fact that it has no well-informed governmental focal point where international organizations can raise, or even discuss, issues of financial aid in Africa.¹⁶ She believes China appears to be maintaining a distance from the West by design, gaining a kind of sympathetic political capital with its target African nations due to the shared challenges wrought by poverty. Lancaster's interactions with the Ministry of Commerce (MOFCOM) make it clear that Chinese institutions "do not want to be identified as just one more member of the rich countries' aid clubs."¹⁷ Ghirmai Kefela disagrees, countering that the focus is there, just not outward as Lancaster would desire. He notes that China has "set up 10 centers for investment and trade promotion . . . [that] provide business consultation services, special funds, and simplified approval procedures for Chinese enterprises seeking to invest in Africa."¹⁸ Kefela observes that forums are indeed available to domestic audiences, but not to international outsiders.

In literature from the pro-politburo China Monitor, Peter Bosshard also challenges Lancaster's view. He points out that in 2005, MOFCOM requested that the Organization for Economic Cooperation and Development (OECD) explain its guidelines on corporate social responsibility for European multinationals to Chinese SOEs in order to determine shortcomings. MOFCOM further asserts that the Ministry issued recommendations based

¹⁶Ibid., 5.

¹⁷Ibid.

¹⁸Ghirmai Kefela, "China's Expanding Engagement in Africa as a Global Influence," *E3 Journal of Business Management and Economics* 3, no. 4 (April 2012), http://www.e3journals.org/cms/articles/1336843035_Ghirmai.pdf (accessed January 26, 2014), 148.

on the OECD's guidance the following year, urging SOEs to hire local workers, improve safety, and respect local customs.¹⁹ Yet eight years following this alleged enlightenment, Charles Wolf points out that Chinese aid programs “do not conform to OECD and U.S. definitions of what constitutes foreign ‘aid’,”²⁰ highlighting a requirement of concessional loans. At least 50 percent of these loans must be tied to the purchase of Chinese goods, a clear violation of OECD standards.²¹

Foreign Direct Investment

Mary-Francoise Renard, chief economist of the African Development Bank, contends that Western nations' reluctance to engage economically with some African states, and their proclivity to impose demeaning conditions upon provisional financial assistance, has opened the door for Chinese financial assistance. She believes China exercised significant foresight when it recognized that Western aversions were creating a market gap that ultimately allowed China to foster relationships through FDI.²² Renard further contends that generally, trade and FDI in pursuit of natural resources pose a threat

¹⁹Peter Bosshard, “China and the West in Africa: Shared Interests?,” *The China Monitor* (June 2007): 9.

²⁰Charles Wolf Jr., Xiao Wang, and Eric Warner, *China's Foreign Aid and Government-Sponsored Investment Activities* (Washington, DC: Rand Corporation, 2013), 2.

²¹Wolf, 7.

²²Mary-Francoise Renard, *China's Trade and FDI in Africa*, Series No 126 (Tunis, Tunisia: African Development Bank, 2011), 7.

to the governance of sub-Saharan states, and that only those states capable of improving government institutions will realize the long-term benefits of trade with China.²³

Richard Behar, who believes that China's policy in Africa represents an "economic model of exploitation that is at once formidably efficient and tragically flawed,"²⁴ asserts that most of China's projects in Africa provide a lift to economic development: "improving a road, or building one, helps not just the trucker hauling copper feedstock to the coast, but also the owner of the new hotel along the route and the women selling oranges in the parking lot."²⁵ Hany Besada et al. concur, claiming that not only are elevated levels of economic growth in sub-Saharan Africa proof that Chinese FDI has been "both significant and positive," but that "future impacts will be even more pronounced"²⁶ as well.

Behar also notes the West is ceding Africa to China. He asserts it is for the "right reasons," due in large part to the Justice Department's enforcement of the Foreign Corrupt Policies Act (FCPA) and similar investigations from the OECD. He rightly claims that these actions are discouraging Western investments, whereas China imposes no such restrictions on its SOEs.²⁷ Besada et al. also point to restrained OECD flows as

²³Ibid., 30-31.

²⁴Behar, Richard, "China Africa," Fast Company, June 2008, <http://search.proquest.com/docview/228744659?accountid=28992> (accessed June 15, 2014), 2.

²⁵Ibid., 23.

²⁶Hany Besada, Yang Wang, and John Whalley. "China's Growing Economic Activity in Africa" NBER Working Paper No. 14024, 2008, <http://www.nber.org/papers/w14024> (accessed January 13, 2014), 4.

²⁷Behar, 22.

creating a void that China readily filled, but believe China's rapid growth of investments are motivated by altruism, meant to "speed the growth and development of countries now poorer than China."²⁸

Karl Sauvant and Victor Chen take the middle road, arguing that China's regulatory framework for outbound FDI is meant to achieve both self-serving and altruistic objectives. They maintain that Chinese FDI is designed to make its SOEs more competitive internationally, while also assisting target nations with development efforts.²⁹ They observe that the bulk of China's outward FDI is the largely the function of a few, very large SOEs, with smaller SOEs and private enterprises accounting for just a small portion of the total.³⁰ With the largest SOEs having the most to gain from African resource extraction, this key observation calls in to question the motive for much of China's FDI.

Wolf et al. conducted a state-by-state analysis of Chinese FDI into sub-Saharan Africa, and found that while investments have undergone significant changes since 2000, they settled into a rather predictable pattern in 2011. They find that recipients of large amounts of FDI targeting natural resource extraction are also the recipients of large investments of infrastructure development, concluding that "infrastructure and natural-

²⁸Besada, 4.

²⁹Karl Sauvant and Victor Chen. "China's Regulatory Framework for Outward Foreign Direct Investment," East Asian Bureau of Economic Research Working Paper No. 88, 2013, http://www.vcc.columbia.edu/files/vale/content/EABER_Working_Paper_88_Sauvant_and_Chen.pdf (accessed January 15, 2014), 2.

³⁰Ibid., 40.

resource programs appear to be complementary.”³¹ The purpose of their study was to demonstrate the relationship between FDI investments that target natural resources, and the subsequent infrastructure investments required to extract the resources. This thesis will build on Wolf’s analysis, demonstrating the statistical significance of both Chinese FDI into Africa, and the subsequent export levels of natural resources.

Trade and Resource Extraction

Wang believes Africa’s increasing trade with China is not only helping to fund infrastructure development, it is also correcting a “chronic undervaluation” of African commodities. In Wang’s view, “expanding trade and investment ties are mutually beneficial and contribute to sustainable growth and development in Africa.”³²

Kefela believes the results of African trade with China are bifurcated along resource rich and resource poor countries. He asserts that resource rich countries that are the target of Chinese resource extraction are “in a winning position . . . getting wider access to [the] grants and loans needed for urgent public investments in infrastructure,”³³ while resource poor countries tend to have a negative balance of trade with China. In his opinion, “their long term development perspectives do not seem to be very promising.”³⁴

In a small state-focused study, Oyejide Ademola et al. conclude that the negative effects of trade with China outweigh the positive for many African nations. Beyond the

³¹Wolf, 32.

³²Wang, 23.

³³Kefela, 148.

³⁴Ibid., 149.

challenges presented by natural resource extraction, a high volume of cheap Chinese products is simultaneously displacing African producers and yielding less competitive African economies. They posit that responsive policy measures should be crafted to individual countries, and not to the entire continent.³⁵

Paulo Drummond et al. argue that concentrating only on trade between sub-Saharan Africa and China is too narrow a focus, and that Africa's exposure goes well beyond resource extraction. This IMF working paper posits that during the global financial crisis of 2008, Africa was shielded from its historically high export volatility due to its increased trade with China:

Although in 2000–04 advanced economies contributed an annual average of 6.6 percentage points to SSA's export growth, they contributed less than 1 percentage point in 2005–09 because of their economic deceleration. Yet, China increased its contribution to the growth of SSA exports from 3 percentage points in 2000–04 to 5 percentage points in 2005–09, thus providing a cushion for SSA exports and SSA economies in general during the crisis.³⁶

Alternatively, rising exposure to the Chinese economy poses increasing risk to sub-Saharan nations who find their exports less diversified and thus more vulnerable to economic shock. The paper cautions against this, finding that a 1 percent decline in

³⁵Oyejide Ademola, Abiodun Bankole, and Adeolu Adewuyi, "China–Africa Trade Relations: Insights from AERC Scoping Studies," *European Journal of Development Research* 21 (2009), <http://www.palgrave-journals.com/ejdr/journal/v21/n4/full/ejdr200928a.html> (accessed January 20, 2014), 503.

³⁶Paulo Drummond and Estelle Xue Liu. "Africa's Rising Exposure to China: How Large Are Spillovers Through Trade?," IMF Working Paper No. 250, 2013, <http://www.imf.org/external/pubs/ft/wp/2013/wp13250.pdf> (accessed January 14, 2014), 12.

domestic Chinese investments corresponds to a 0.8 percent decline in exports from sub-Saharan economies.³⁷

Effects on the Populace

With respect to China's impact on poverty levels in sub-Saharan Africa, opinions are as robust as the economic theories they draw from. Besada et al. draw a tenuous link between the financial support Chinese SOEs provide for foreign ministry buildings and stadiums as demonstration of a "commitment by China to development and poverty alleviation programs... even in countries without abundant mineral resources"³⁸

Branko Milanovic conducted a study of real global incomes from 1988 to 2008, finding that while China was a big "winner" who gained the most real individual income relative to the global growth of personal incomes, most African populations fell into the "losers" category, ceding income and becoming poorer relative to the international community.³⁹ This is somewhat incongruent with the rising GDPs of African economies over the same decade that are used to substantiate claims of the positive economic impact of Chinese FDI into Africa. Milanovic finds this inconsistency difficult to reconcile as well. He attempted to find an answer with the Gini coefficient, an intra-state measure of income inequality, but became frustrated with the lack of household reporting afflicting

³⁷Ibid., 21.

³⁸Besada, 13.

³⁹Branko Milanovic, "Global Income Inequality by the Numbers: in History and Now," The World Bank Development Research Group Working Paper No. 6259, 2012, <http://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-6259> (accessed January 10, 2014), 15.

most sub-Saharan nations.⁴⁰ Milanovik points out that non-reporting is a symptom of extreme poverty. It is an issue that continues to affect academic research into sub-Saharan economies, to include efforts made by the author of this thesis.

Chapter Summary

This chapter discussed the relevant literature relating to China's alternate financial interests in sub-Saharan Africa as they relate to the research questions. The review provides a foundation for the analysis in chapter 4, and identifies consistent themes found in current literature. The next chapter will outline the research methodology and discuss how the author will answer the primary and secondary research questions.

⁴⁰Ibid., 10.

CHAPTER 3

RESEARCH METHODOLOGY

The purpose of this chapter is to identify the methods and techniques used in determining the level and impact of China's financial aid, FDI, and resource extraction from sub-Saharan Africa. The study incorporates available data from the years 2000 through 2013. Meta-analysis was utilized to examine the data, with heavy use of correlation/regression analysis and descriptive/quantitative analysis. Some descriptive/qualitative analysis was incorporated in a case study postscript to provide a narrative to the data.

Data Sets

Data sets from well-known intergovernmental organizations were preferred over all others and used when available. These include databases from the statistics divisions and subunits of the World Bank, the UN, the International Energy Agency (IEA), and the IMF. Databases from reputable research and education institutions—think tanks—were the first subordinate providers of data. These include the Heritage Foundation, the Stockholm International Peace Research Institute (SIPRI), the Center for Systemic Peace, and the International Food Policy Research Institute (IFPRI). Data collection platforms, including the Joint Organizations Data Initiative (JODI), and the Aid Data Organization (ADO), were incorporated next. Data directly reported from China and individual sub-Saharan nations were considered unreliable and generally avoided.

Methodologies

The author manipulated the data collected in order to determine total levels of financial aid, foreign direct investments, and trade between China and sub-Saharan Africa. These totals were analyzed to answer the primary and secondary research questions. The statistical analysis included bivariate regressions between financial aid and official FDI, financial aid and unofficial FDI, financial aid and the Fragility Index, displaced persons and unofficial FDI, diaspora growth (decline) and unofficial FDI, and SSA exports to China against unofficial FDI.

The author also employed descriptive quantitative methods to explore relationships between China and sub-Saharan nations. These relationships were defined in terms of investments, exports of natural resources over time, extraction of natural resources as a percentage of total trade, percentage of China's resource extraction as a share of worldwide extraction, and the effects of trade with China on the Global Hunger Index.

Descriptive qualitative methods were used to further explore China's impact on Sudan, the war in Darfur, and the resultant split of the country. The results of the above meta-analysis were assembled to answer the primary and secondary research questions, and to inform the author's recommendations for further analysis.

Threats to Validity

There are several threats to validity of concern to the author. For various reasons, intergovernmental databases containing detailed state-by-state statistical information do not always sum to nationwide totals. Some states reporting total trade to the UN fail to report individual commodity levels due to administrative constraints. Others withhold

reporting levels of some detailed trade due to concerns of confidentiality, while including the sums in their total trade report. Some countries do not report statistics each and every year, a phenomenon most common in sub-Saharan Africa and a direct threat to this study. Others may simply obscure reporting levels to deliberately deceive the international community. Valuations and accounting for transactions may also vary by state. This results in inconsistencies between the report of exports from one country to a partner, and the subsequent report of imports received by the partner country.

Internal database maintenance may result in misrepresented data after software updates. The UN reports that updating commodity codes from older classifications can “sometimes” result in misdirected data. Collection methods are another concern; SIPRI is somewhat opaque as to its sources of information while ADO is very transparent in the origin of its data. But this author remains concerned about the inherent accuracy of the reported data. There is little to gauge the how comprehensive the platforms are, how accurate the reported information is, and to what extent they capture the reality on the ground.

Human error also represents a validity issue. Upon collection, databases were analyzed and information manipulated—most often through Microsoft Excel PivoTables—in order to yield the desired reports. When synchronizing two or more reports, data was imported either indirectly through the ‘VLookUp’ function, or directly by copy and paste. While the author has made extensive efforts to ensure databases are collected, organized and integrated accurately, this threat must be acknowledged.

As this study employs significant statistical analysis to answer the primary and secondary research questions, it is subject to errors of statistical validity. These include the following.

1. Type I Errors: The researcher thinks there is a relationship where one doesn't exist.
2. Type II Errors: The researcher thinks there is no relationship, but there really is.
3. Causal Ambiguity: The researcher misinterprets the causal direction of relationships, particularly in correlative studies.
4. Interaction and Non-Linearity Errors: The researcher fails to account for possible interaction effects and nonlinear effects within the data.

Chapter Summary

This chapter outlined the research methodology by identifying the types of data, types of research, and evaluation criteria the author will employ to answer each secondary research question. The analysis of existing research, data available from existing sources, and subsequent analysis provided the necessary information for evaluating the impact of China's rising investment strategy in sub-Saharan Africa. Chapter 4 will provide the data, analysis, and evaluation of the material outlined in this chapter in order to answer the primary and secondary research questions.

CHAPTER 4

ANALYSIS

Purpose

The purpose of this chapter is to analyze the data collected in order to determine if China's investments endanger U.S. strategic interests in sub-Saharan Africa. Research was conducted to determine if there are any trends, patterns, or correlations between the quantitative and qualitative data in addressing the stated thesis question. Data and databases from the IMF, the World Bank, the United Nations Conference on Trade and Development (UNCTAD), the United Nations Refugee Agency (UNHCR), the United Nations Commodity Trade Statistics Database (UN Comtrade), the United Nations Children's Fund (UNICEF), the CIA World Fact Book, the Heritage Foundation, the World Health Organization (WHO), SIPRI, the Center for Systemic Peace, the IFPRI, the World Integrated Trade Solution, the IEA, the Joint Organizations Data Initiative (JODI), and ADO were organized, combined, and analyzed to identify trends, fluctuations, relationships and irregularities between China and sub-Saharan Africa during the period examined for this study. The 2010 NSS was employed as the foundation for U.S. Strategic interests in the Africa continent, and the benchmark to measure China's actions.

China Goes Out

The People's Republic of China (PRC) is an entity often misunderstood by the Western world, a communist/capitalist hybrid that resembles no other regime in the world. There are three primary instruments of governmental power in China—the Presidency, the National People's Congress, and the State Council. The current head of

state is President Xi Jinping. This office is elected by the National People's Congress (NPC) which, at 2,987 legislators, is the largest congressional assembly in the world. The State Council is the executive branch, and includes the Chinese Premier, four Vice Premiers, five State Councilors, and 29 ministers. While the President is the paramount leader of China, he holds far less power than Westerners might assume. At any time, the NPC can remove him from office by way of majority vote.

China is thus a state ruled by committee. As outlined in chapter 2, Western discussions often assume that China's actions in Africa are driven by a singular purpose. Yet SOEs operate with relative impunity and yield remarkably little accountability to the PRC. The chief executives of these state-owned multinational corporations often hold senior political office before and after their tenure, and thus wield enormous political power themselves.⁴¹ The issue is so pronounced that during the 3rd Plenum of the 18th Congress, President Xi made an administrative effort to consolidate power and force SOE accountability to his office.⁴² But Xi is not the first president to make this effort. Hu Jintao tried, and failed, to accomplish the same daunting task. Until this change is realized, China will continue to operate as it has for the past decade – as a conglomerate of disparate, self-interested entities.

Administratively, however, there is clearly a working methodology.

Contemporary Chinese SOEs came in to focus in the early 1990's, when the state began

⁴¹“Over Half of China's SOE Executives Come from Politics,” *Want China Times* (Taipei), November 25, 2013, <http://www.wantchinatimes.com/news-subclass-cnt.aspx?cid=1202&MainCatID=12&id=20131125000004> (accessed January 13, 2014).

⁴²The Economist, “Reform in China: Every Move You Make,” November 16, 2013, <http://www.economist.com/news/leaders/21589882-xi-jinping-has-made-himself-most-powerful-leader-deng-xiaoping-probably-good> (accessed January 13, 2014), 1.

taking controlling interests of large corporations. This shift not only yielded domestic monopolies and thus assured commercial success, it also gave them the resources and political muscle required to expand beyond their borders.⁴³ With this political support, the PRC developed an administrative framework to further enable outward-bound expansion, and the state began directing internal growth thru external FDI.⁴⁴

As China joined the World Trade Organization (WTO) in 2001, the State Planning Commission released its *10th Five-Year Plan on Economic and Social Development*. In it, the PRC formalized its ‘go out’ strategy into three lines of effort: (1) to actively and stably expand investment overseas, (2) to facilitate investments in natural resource exploration, and (3) to develop internationally competitive multinational enterprises.⁴⁵ More recently, the *12th FDI Five-Year Plan* of 2012 expands this focus beyond SOEs to private enterprises.⁴⁶

While this formal strategy is exercised through several state actors, finances are primarily managed through four entities. Internally, project financing is provided with government debt delivered by state-owned banks. The Export-Import Bank of China provides favorable loans at concessional rates beyond the private sector’s competitive ability, the China Development Bank funds FDI projects of SOEs targeting overseas

⁴³Au L. Yu and Kevin Li, *Preliminary Report On China's Going Global Strategy* (Hong Kong: Globalization Monitor Limited, 2009), 17.

⁴⁴Karl Sauvart and Victor Chen. “China's Regulatory Framework for Outward Foreign Direct Investment,” East Asian Bureau of Economic Research Working Paper No. 88, 2013, http://www.vcc.columbia.edu/files/vale/content/EABER_Working_Paper_88_Sauvant_and_Chen.pdf (accessed January 15, 2014), 4-6.

⁴⁵*Ibid.*, 7.

⁴⁶*Ibid.*, 8.

natural resources, and the Chinese Investment Corporation, China's sovereign wealth fund, acquires controlling stakes in foreign resource companies. External finances are managed by MOFCOM. It provides foreign aid, determines when to forgive debt, and ensures good relations between the SOEs and the nation-state targets of their investments. It also acts as the approval authority over the SOE bids for aid projects.⁴⁷

But this patchwork of organizations creates powerful and competing interests. While the 'go out' strategy provides political pressure, it is questionable if all Chinese actors move with a uniform interest. Does the Politburo actively influence African governments to facilitate SOE entrance and thus encourage resource extraction to the benefit of Chinese manufacturing? The preponderance of academic literature implies the answer is yes. With such a singular focus on economic growth as evidenced in Chapter 1, the Chinese government must actively set the conditions to encourage economic growth in the homeland. But to what degree? How much are the public and private sectors linked?

One answer might lie in seemingly altruistic actions of MOFCOM. Since 2000, the organization has acted as the bank of last resort to unstable African powers, providing \$13.8 billion in financial aid during the period of review.⁴⁸ Developed nations often refuse to provide financial assistance to African countries due to regime corruption and ethical decay, while western financial institutions frequently refuse to take on the professional risk posed by these regimes. American investors must ensure they abide by

⁴⁷Elizabeth C. Economy and Michael Levi, *By All Means Necessary: How China's Resource Quest Is Changing the World* (New York: Oxford University Press, 2014), 51.

⁴⁸Analysis of Aid Data Organization database. Years included: 2000-2012.

the Foreign Corrupt Policies Act or face stiff penalties at home, but China places no such constraint on its SOEs. And when the United States does provide financial aid, it does so according to the Millennium Challenge program, allocating aid according to how well countries improve their measure of democratization and rule of law.⁴⁹ China's policy of non-interference has allowed it to fill the void left by Western disengagement, facilitating the hundreds of grants and loan concessions the country has provided over the past decade.

But these grants do not come free of strings. Although evidence is mostly anecdotal in nature, there are indications the PRC is actively pursuing advantageous terms for SOEs during loan renegotiations. In fact, several cases indicate China has provided loans to nations that were never in an economic position to repay them in the first place, only to use the inevitable loan renegotiations or terms of forgiveness as platforms to force greater access to natural resources.⁵⁰ Is PRC altruism, by way of grants and loan forgiveness, not as philanthropic as it appears?

Quantitative Findings

To find a link between government action and private investment, this author analyzed public financial assistance and benchmarked it against officially reported FDI into Africa from Chinese SOEs, with the hypothesis that a positively correlated link

⁴⁹Jack Snyder, "One World, Rival Theories," *Foreign Policy*, November 1, 2004, http://www.foreignpolicy.com/articles/2004/11/01/one_world_rival_theories (accessed February 2, 2014).

⁵⁰Li Xiaoyun, "China's Foreign Aid and Aid to Africa: Overview" (Powerpoint briefing to the OECD, Beijing), <http://www.oecd.org/development/povertyreduction/40378067.pdf> (accessed April 13, 2014).

between the two would reveal an intent to use money as an instrument of national influence. The purpose of this sub-study was to answer the first secondary research question: Is Chinese financial aid to sub-Saharan Africa altruistic as professed, or is it correlated with commercial interests?

All known transactions of financial assistance from 2000-2012 were summed by sub-Saharan nation.⁵¹ These transactions included debts forgiven and rescheduled, monetary grants, grants in-kind, and grants of an otherwise vague nature. The analysis excluded regular loans, as these are normal investments made on the open market and subject to default. Until they are forgiven by MOFCOM, loans do not qualify as assistance. The overall totals of grants and forgiven loans represent the degree of economic influence the PRC has built up within each nation over the past decade. These sums were benchmarked against the total amount of official FDI that Chinese SOEs have invested into each nation as recorded by the Heritage Foundation. The analysis reveals that financial aid is, in fact, correlated with official FDI, and thus the grants and loans forgiven are not completely altruistic (figure 4).

⁵¹As recorded by the Aid Data Organization.

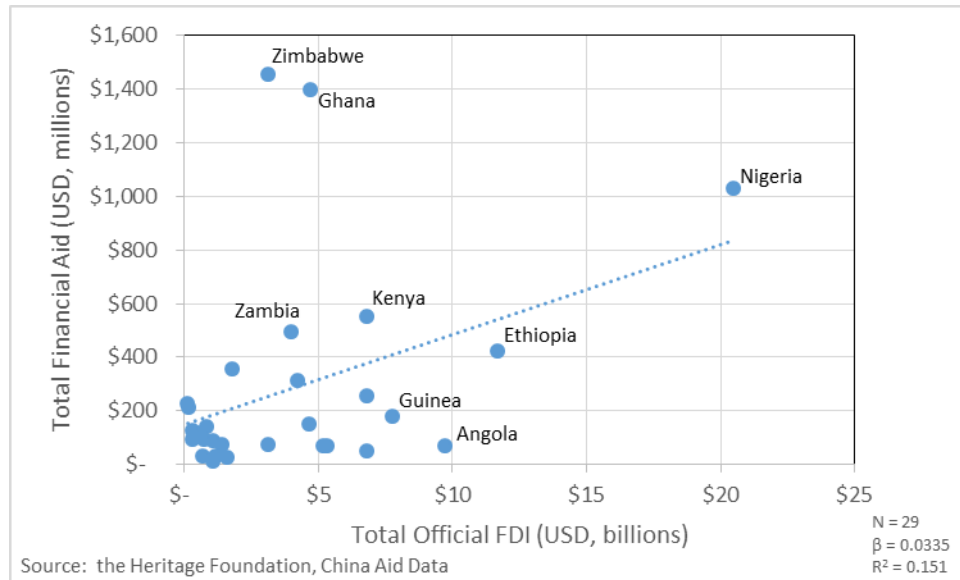


Figure 4. Regression: Financial Aid on Official FDI

Source: Created by author. Data from The Heritage Foundation, “China Global Investment Tracker,” <http://www.heritage.org/research/projects/china-global-investment-tracker-interactive-map> (accessed October 25, 2013); Aid Data Organization, “API Data,” <http://aiddata.org/api-data> (accessed November 12, 2014).

With an R-Square of 0.151, a bivariate regression reveals that while the above chart contains only slight predictive power, it is still statistically significant. The level of FDI cannot be accurately predicted by financial aid, but neither can it be discounted. And while there is no apparent scientific nature behind the PRC’s monetary influence, this study does yield a positive correlation that reveals a connection between the two. The 0.0335 Beta of the least-squared line (depicted) indicates that for every additional \$1 billion in financial assistance provided, private FDI investment can be generally expected to increase by an additional \$33.5 billion over the same time period. It is not coincidence that Nigeria, the single greatest target of official SOE FDI in support of resource extraction, is also one of the greatest recipients of monetary aid from the Chinese

government. China may be a nation governed by committee, but there is a clear intent by the state to use monetary influence in order to facilitate the extraction of African resources by Chinese SOEs.

When it comes to China, the official investment flows used above are only part of the story. To account for the rest of the flows, the previous analysis was repeated using known unofficial FDI, investments not officially recognized by MOFCOM, as the x-axis for the regression against financial aid totals (figure 5). The results were both unexpected and revealing. While the study produced a slightly higher Beta of 0.0369, the R-Square of 0.505 revealed much greater predictive power.

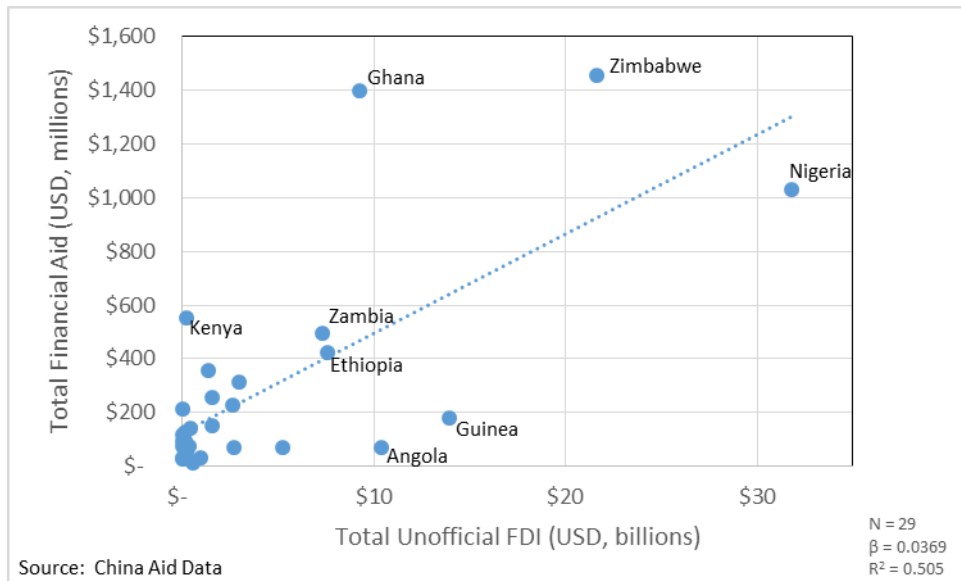


Figure 5. Regression: Financial Aid on Unofficial FDI

Source: Created by author with data from ADO, “API Data,” <http://aiddata.org/api-data> (accessed November 12, 2013).

The results of the two regressions indicates that financial aid holds a much stronger correlation with unofficial FDI than it does official FDI, a result that raises more questions than it answers. But these findings demonstrate that since 2000, the Chinese government has applied financial aid throughout the sub-Saharan in a manner that benefits both official and unofficial investments (and investors).

Next, official FDI was utilized to answer two secondary research questions: to what extent are SOE investments targeting natural resources, and how quickly are Chinese SOEs accelerating their investments into sub-Saharan Africa? Official FDI is more accurately categorized than unofficial flows, and thus more easily analyzed. A deeper examination of official investments by Chinese SOEs reveals that a growing majority target resource extraction. In 2005, less than a third of total official FDI targeted resources (fuel extraction, precious metals extraction, land acquisition, or agricultural programs in support of food security). By 2013, 83 percent of total official FDI (\$26.5b of 31.9b) was oriented towards resource extraction (figure 6, left), indicating a shift towards resource-heavy investments over previous years. It is worth noting that these investments yielded perfectly correlated outflows. In 2013, 83.3 percent of total exports from sub-Saharan Africa to China were outflows of natural resources.

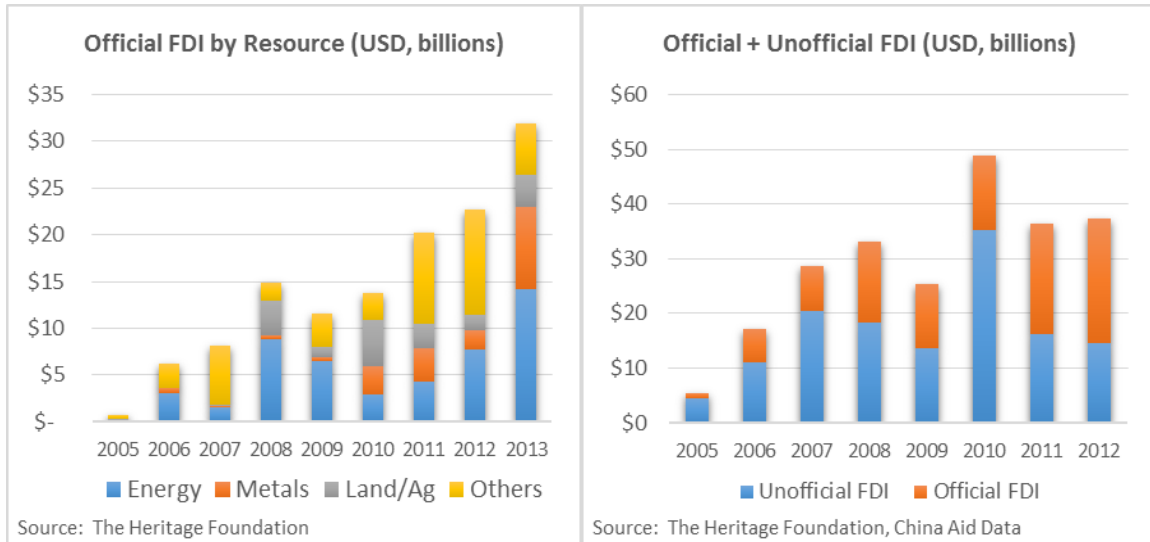


Figure 6. Levels of FDI

Source: Created by author. Data from The Heritage Foundation, “China Global Investment Tracker,” <http://www.heritage.org/research/projects/china-global-investment-tracker-interactive-map> (accessed October 25, 2013); Aid Data Organization, “API Data,” <http://aiddata.org/api-data> (accessed November 12, 2013).

When stacked against unofficial FDI, official FDI accounts for less than half of all investments (figure 6, right). From 2005-2012, official investments accounted for just 42 percent of total (known) investments. This still does not explain the previous study’s findings, that unofficial Chinese FDI is significantly more correlated with financial aid than official FDI. Apparently, official FDI paints an incomplete picture of Chinese interests in sub-Saharan Africa.

Together, overall official and unofficial FDI levels reveal a trend of rising total Chinese investment into sub-Saharan Africa. From 2005 to 2013, official FDI grew annually at an average rate of 60 percent per year, while unofficial totals saw more modest gains of 18 percent thru 2012. Arguments positing that China’s investments are

too low to cause a dependency (see chapter 3) fail to account for this ever-increasing economic nexus between China and sub-Saharan Africa.

Unofficial FDI by Country

Simply examining the sum of all investments into sub-Saharan Africa paints with too broad a brush to conduct state-by-state analysis. In order to determine what share of unofficial Chinese investments pursue resource extraction relative to all investments, aggregate 2000-2012 investments into industry, mining, construction, and energy were sorted by their proportion to total financial interests (figure 7). The large majority of remaining non-resource investments were concentrated in the agriculture, forestry and fishing sectors, likely in pursuit of food security for the nation of 1.3 billion.

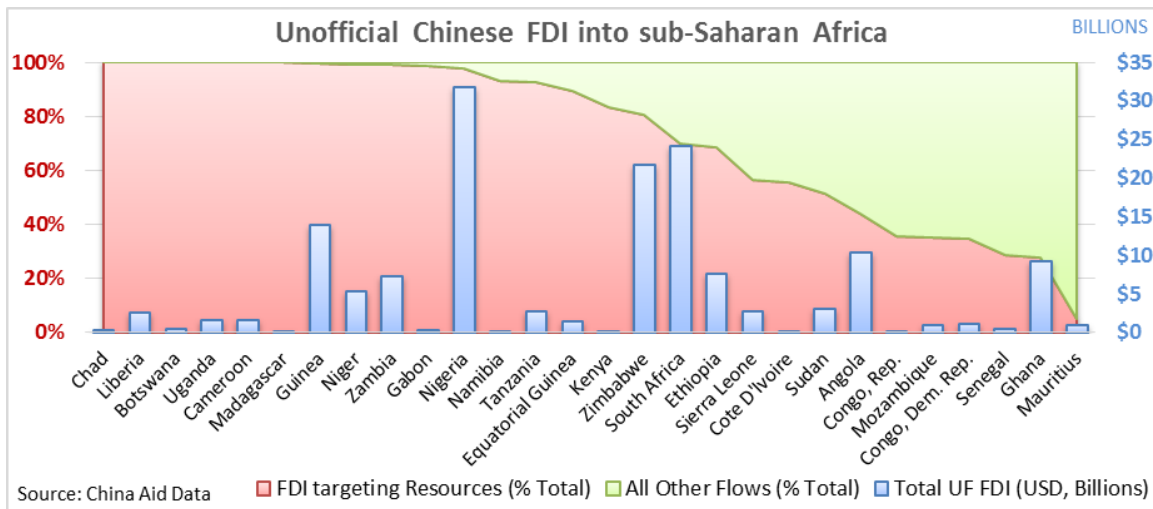


Figure 7. FDI Targeting Natural Resources

Source: Created by author with data from ADO, “API Data,” <http://aiddata.org/api-data> (accessed November 12, 2013).

As with official FDI, unofficial investments are primarily concentrated across natural resources. When total investments from 2000-2012 were filtered to those greater than \$100,000,000 (figure 7, left index), most, but not all countries, were entered for resources. Projects associated with resource extraction accounted for the majority of all investments in 21 of 28 nations, and 13 of those states were targeted for their natural resources in at least 90 percent of aggregate FDI. The \$100 million filter excluded 14 nations from this analysis, including Cape Verde, Comoros, Djibouti, Malawi, Mauritania, South Sudan, Rwanda, Benin, Burundi, Central African Republic, Eritrea, Guinea-Bissau, Lesotho, and Somalia. The latter seven of this group received no FDI from China between 2000 and 2012.

Total unofficial FDI during this period totaled \$152 billion. Of the 36 sub-Saharan recipients of Chinese FDI, Nigeria, South Africa, and Zimbabwe led the group by far. These three were the target of \$77.5 billion in total investments, accounting for more than half of all unofficial flows (figure 7, right index). Of the \$152 billion in total investments, those that financed projects in support of resource extraction accounted for 78.3 percent of the total.

Trade from Sub-Saharan Africa to China

The increasing levels of Chinese FDI discussed above have spurred rising levels of trade. The following chart shows, by year, sub-Saharan exports to China, sorted by those countries that traded most heavily in recent years as a percentage of their aggregate exports to China. The red line demarks trade conducted over the past three years as a percentage of overall trade with China. This example reveals the states where China has shifted focus to since 2010. It is apparent that SOEs are rapidly expanding operations in

several nations (figure 8, left), while ceasing operations in others (figure 8, right).

According to the available data, Niger, the Central African Republic, and Mozambique have seen ~100 percent of total Chinese resource extraction occur over the past three years.

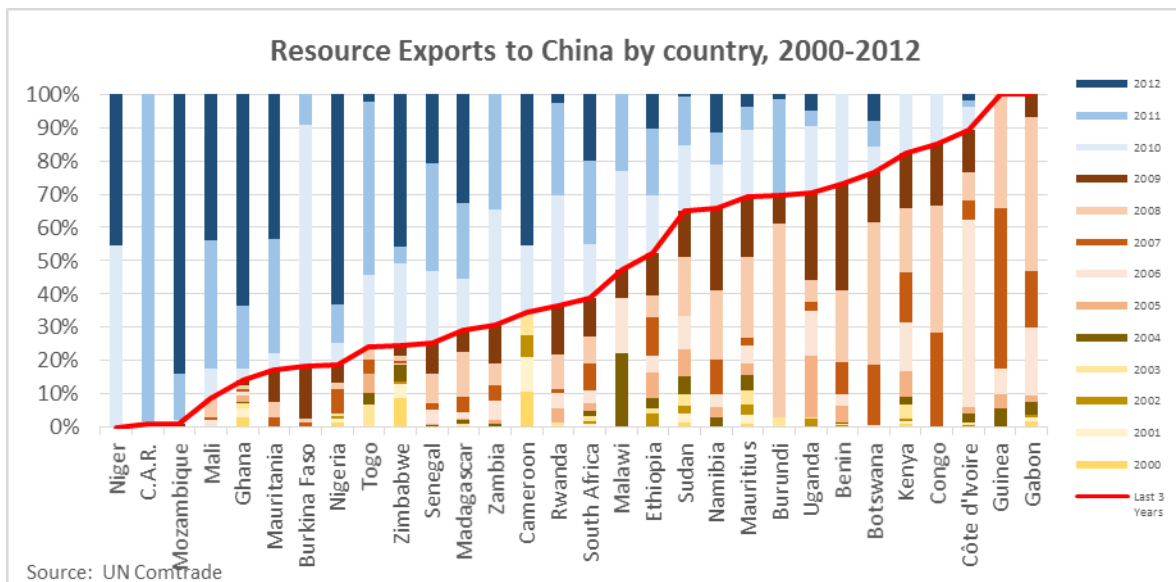


Figure 8. Exports of Natural Resources by Year

Source: Created by author with data from UN Comtrade, “United Nations Commodity Trade Statistics Database,” <http://comtrade.un.org/db/> (accessed November 22, 2013).

Next, data from UN Comtrade was measured to answer the next secondary research question, how much of China’s imports from sub-Saharan Africa the extraction of natural resources? According to the statistics database, natural resource extraction accounted for 86 percent of aggregate sub-Saharan trade to China between 2000 and 2012 (figure 9, left). Based on the information available, exports of natural resources increased at an aggressive and sustained average pace of 25 percent per year. But even

this number belies a more compelling truth. Due to a variety of reasons, several African nations have failed to report annual trade levels in recent periods, up to three years in some cases. When non-reporter trade-levels were extrapolated and filled from the last-reported export amounts, the average annual growth rate of resource extraction grew to 27 percent (figure 9, right).⁵² The method used to extrapolate export-levels was conservative in nature, assuming no growth over previous reports. The actual growth rate is likely greater than this moderate calculation. Whether or not the overall growth of resource extraction continues at its current pace for the next several years or shallows out into a traditional S-curve sooner remains to be seen. Regardless, these findings are important to consider in future analysis, as international concern over China's extraction of African resources has been vocalized since the early 2000's when trade amounts were just a fraction of current levels.

⁵²Extrapolation of trade values for non-reporters was only conducted on those countries that had reported trade in previous years, and failed file follow-on reports. Angola, reportedly one of China's largest trade partners, has never filed trade statistics with the UN, and is thus not represented in either figure 9 chart.

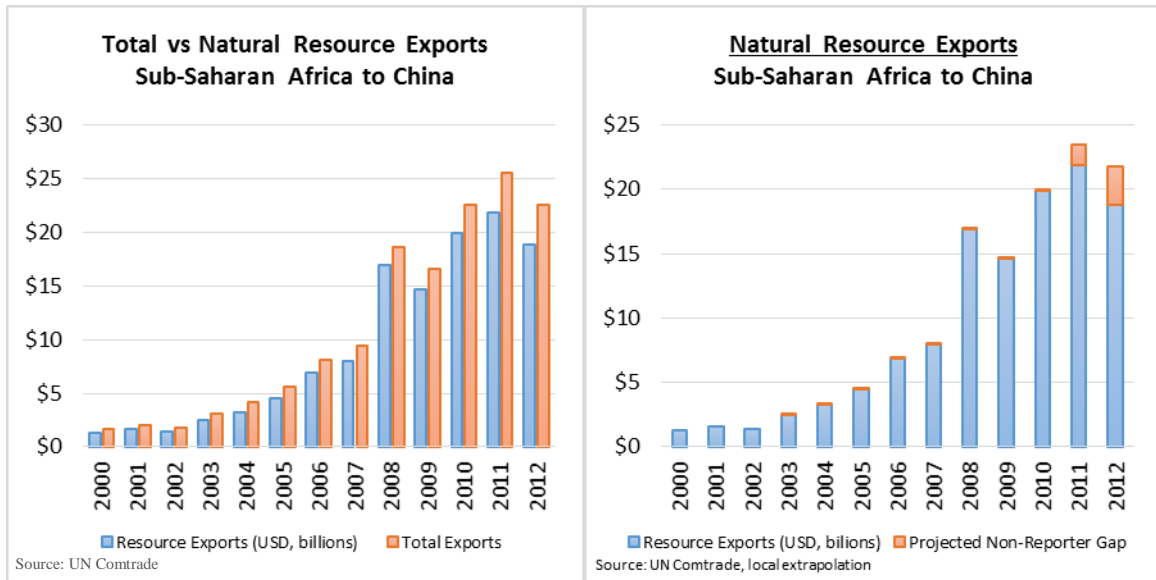


Figure 9. Exports to China (1)

Source: Created by author with data from UN Comtrade, “United Nations Commodity Trade Statistics Database,” <http://comtrade.un.org/db/> (accessed November 22, 2013).

Given these rapidly expanding levels of trade (and corresponding global concern), one would assume that China has ‘cornered the market’ on natural resources from sub-Saharan Africa. In order to determine precisely how much market-penetration China has accomplished over the past decade, the aggregate export levels in figure 9 were benchmarked against total exports of natural resources from individual sub-Saharan nations to the rest of the world from 2000 through 2012. The purpose of this study was to answer two research questions: What share of total sub-Saharan exports go to China, and what countries have the greatest exposure to China consumption? No extrapolation was conducted, as the previous non-reporters also failed to report annual exports to the rest of the world, and extrapolation would thus unnecessarily compromise the findings.

The results were particularly surprising. Although China’s share of worldwide trade with Africa has been steadily growing since 2000, it never accounted for more than 13 percent of annual sub-Saharan resource extraction (figure 10, left), and has recently dipped below nine percent. The assertion that China is the only major consumer of African resources is patently false, and will shape follow-on analysis. Additionally, a country-by-country breakdown reveals that only six of 49 sub-Saharan nations export more than 10 percent of their annual natural resource trade to China (figure 10, right). As China’s share of resources extracted continues to grow year-over-year, however, this number will increase (for example, when totals are filtered to 2008-2012, the number of countries that China claims greater than 10 percent of natural resource trade from grows to seven). This analysis does reveal that China wields substantial economic power over Mauritania, the Congo, and Sudan (prior to the independence of South Sudan).

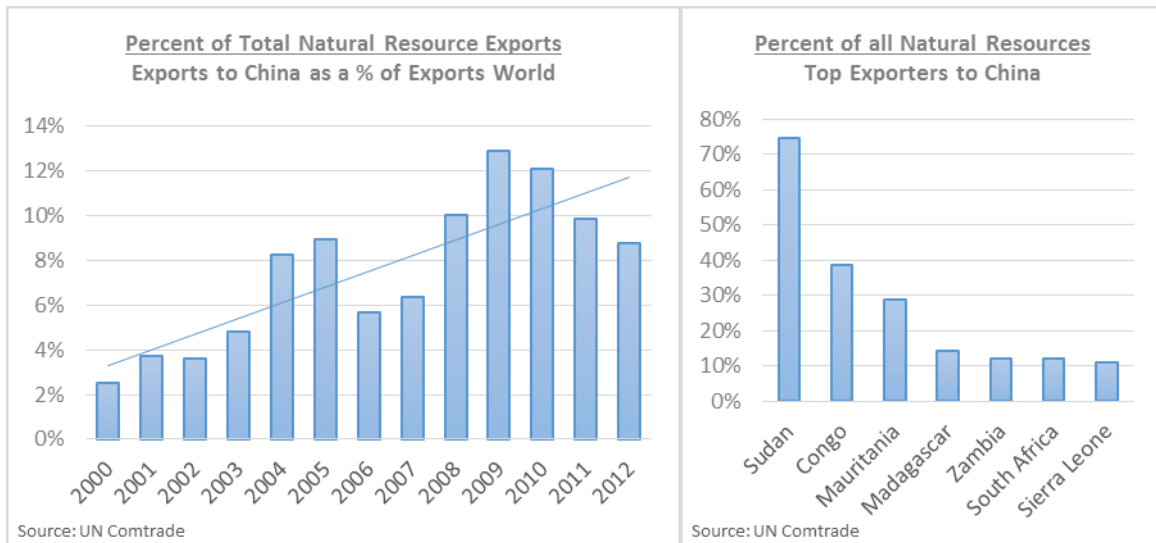


Figure 10. Exports to China (2)

Source: Created by author with data from UN Comtrade, “United Nations Commodity Trade Statistics Database,” <http://comtrade.un.org/db/> (accessed November 22, 2013).

US Strategic Objectives

The 2010 NSS outlined the President's vision for Africa. The agenda includes promoting dignity by meeting the basic human needs of food, clean water, and medicine. Specific goals of eradicating extreme poverty, reducing HIV/AIDS, reducing diseases such as malaria and tuberculosis, and improving maternal and child health are outlined.⁵³

The directive goes on to outline "national priorities:"

National priorities including access to open markets, conflict prevention, global peacekeeping, counterterrorism, and the protection of vital carbon sinks. The Administration will refocus its priorities on strategic interventions that can promote job creation and economic growth; combat corruption while strengthening good governance and accountability; responsibly improve the capacity of African security and rule of law sectors; and work through diplomatic dialogue to mitigate local and regional tensions before they become crises... infrastructure development, improving reliable access to power, and increased trade and investment remain high on our agenda.⁵⁴

The section derives three definable—and measurable—strategic objectives. They are (1) improvement in the rule of law, (2) conflict prevention, and (3) the eradication of extreme poverty.

To evaluate the first of these U.S. strategic objectives, this thesis used the State Fragility Index as a benchmark for rule of law, while allowing the author to answer the research question of whether China's financial aid improves the stability of a state. Index scores from 2000 and 2012 were measured to indicate improvement of state fragility levels. The results (figure 11) indicate that financial aid from China is associated with improvements in national stability.

⁵³The White House, *National Security Strategy 2010* (Washington, DC: The White House, May 2010), http://www.whitehouse.gov/sites/default/files/rss_viewer/national_security_strategy.pdf (accessed December 20, 2013), 39.

⁵⁴*Ibid.*, 45.

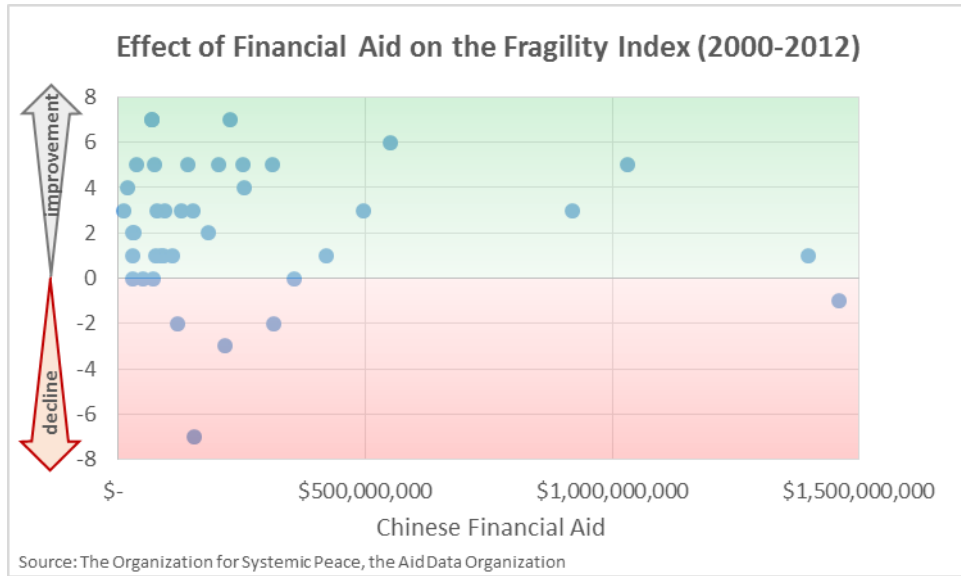


Figure 11. Impact of Financial Aid on the Fragility Index

Source: Created by author with data from Center for Systemic Peace, “State Fragility Index and Matrix, Time-Series Data, 1995-2012,” <http://www.systemicpeace.org/inscrdata.html> (accessed December 3, 2013); ADO, “API Data,” <http://aiddata.org/api-data> (accessed November 12, 2013).

Of the 39 states receiving financial aid, 30 saw net gains (improvements) averaging 3.5 each (on a scale of 0-25) on their fragility index scores, while four countries saw no change and just five declined. The seven countries that did not receive financial aid from China improved by an average of 1.8 index points. Because analysis of total financial aid received by each country is outside the scope of this thesis, the degree of impact imparted specifically by Chinese aid cannot be accurately measured. These findings do indicate, however, that on an aggregate basis, financial aid provided by China does not pose a net detrimental effect to the greater sub-Saharan, and may in fact improve overall stability.

To measure the strategic goal of conflict prevention, 2012 diaspora were analyzed by country. Refugees are a direct result of war, cumulative in nature, and thus a straightforward unit of measure to determine the level of ongoing conflict internal to each country. Displaced persons were recorded for those countries receiving greater than \$1 billion in unofficial Chinese FDI,⁵⁵ and total displaced persons were regressed against the total FDI levels into each country (figure 12). This study was developed to answer the research question of whether SOE investments impact the levels of diaspora within a nation. The regressions yielded a relatively weak R-Square of 0.1345, indicating a somewhat positive correlation, and the Beta implies that every \$1 billion of FDI is associated with about 11,000 displaced persons. This is simply a snapshot in time, however, with 2012 refugees regressed against total unofficial FDI from 2000-2012.

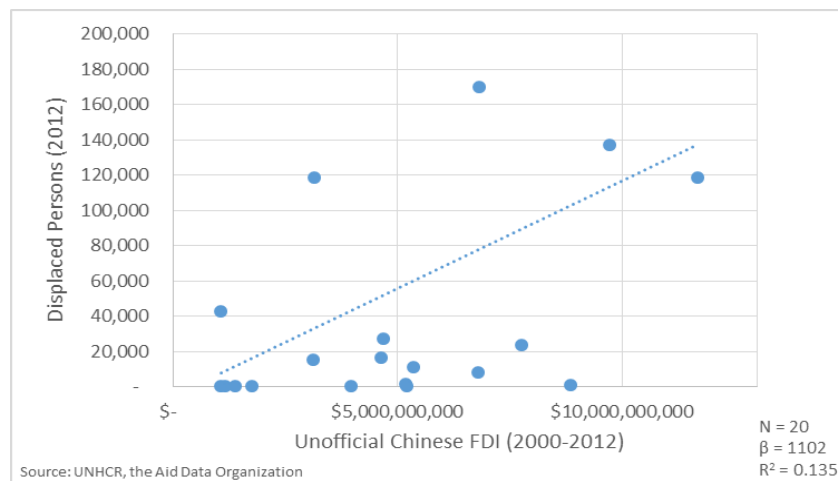


Figure 12. Regression: Displaced Persons against Unofficial Chinese FDI

Source Created by author, data from UNHCR, “Total Refugee population by country of asylum, 1960-2012 and Total Refugee population by origin, 1960-2012,” http://www.unhcr.org/statistics/Ref_1960_2012.zip (accessed January 7, 2014); ADO, “API Data,” <http://aiddata.org/api-data> (accessed November 12, 2013).

⁵⁵Two outliers excluded from analysis: Nigeria, Sudan.

But this analysis is fairly one dimensional, failing to account for each nation's position when China first began investing heavily at the start of the millennium, and thus subject to causal ambiguity or a type I error. In order to capture potential trends in refugee statuses, the increase or decrease of displaced persons between 2000 and 2012 was calculated for each nation, and then regressed against unofficial FDI as before (figure 13). The results changed the paradigm of the analysis. A negative Beta now indicates that over time, Chinese investments may have had a positive impact on regional conflict as measured by displaced persons. Excluded among two outliers, however, is Sudan. It is at once highly exposed to trade with China, and a nation facing incredible adversity and conflict from within.

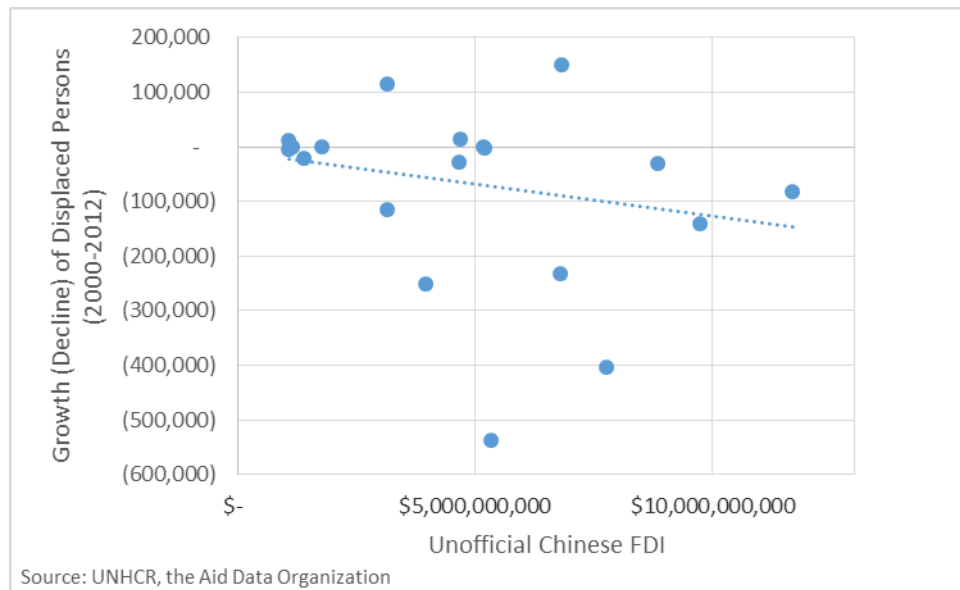


Figure 13. Regression: Displaced Persons against Unofficial FDI

Source: Created by author with data from UNHCR, “Total Refugee population by country of asylum, 1960-2012 and Total Refugee population by origin, 1960-2012,” http://www.unhcr.org/statistics/Ref_1960_2012.zip (accessed January 7, 2014); ADO, “API Data,” <http://aiddata.org/api-data> (accessed November 12, 2013).

The next study set out to measure the U.S. strategic objective of the eradication of extreme poverty, and answer the final research question: how does trade with China affect the poverty levels of a state? Self-reported levels of poverty were generally unavailable, and so hunger levels were used as a substitute. Aggregate exports to China, by country from 2000-2012, were regressed against each country's improvement or decline on the Global Hunger Index (GHI) from 2000-2013. A positive score would indicate increasing levels of hunger, while negative would show hunger declining within the country. With nearly all countries in the study⁵⁶ receiving improving GHI scores over the 13-year period, an overall trend of declining hunger throughout sub-Saharan Africa was observed (figure 14).

⁵⁶Total exporters greater than \$5b were excluded as outliers: South Africa, Nigeria, Sudan; 12 countries that either exported nothing or failed to report exports to China were excluded.

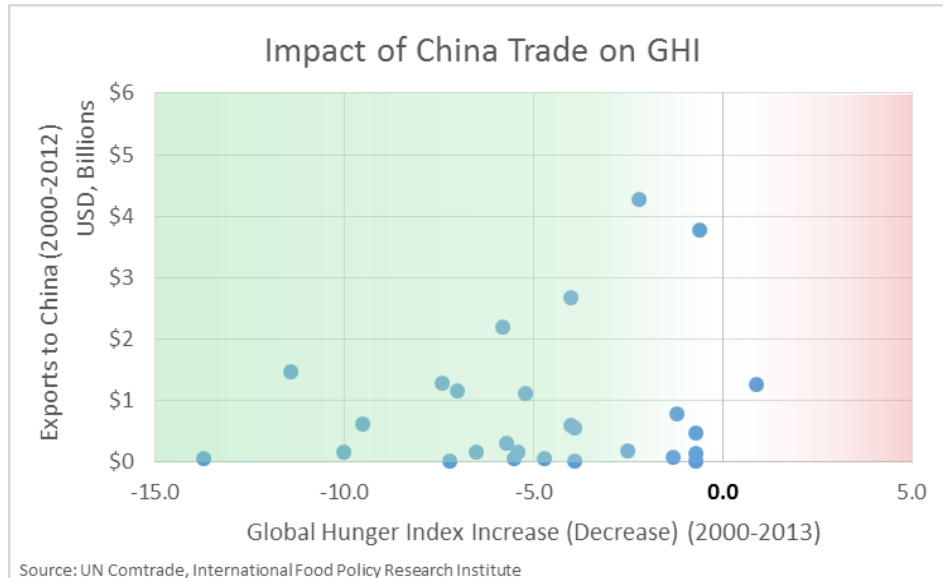


Figure 14. Impact of Trade with China on the GHI (1)

Source: Created by author with data from UN Comtrade, “United Nations Commodity Trade Statistics Database,” <http://comtrade.un.org/db/> (accessed November 22, 2013); IFPRI. “Appendix A: Data Sources and Calculation of the 1990, 1995, 2000, 2005, and 2013 Global Hunger Index Scores,” <http://www.ifpri.org/sites/default/files/publications/ghi13appa.pdf> (accessed February 4, 2014).

Figure 14 also revealed that major exporters did not seem to yield the benefits of lower-quantity exporters, a result that prompted follow-on analysis. Nations were divided into three groups: the twelve that did not engage in exports to China, the 23 in the ‘low’ bucket that exported up to \$2 billion, and 7 in the ‘high’ bucket that exported \$2-\$52 billion.⁵⁷ The average GHI scores were benchmarked against each other, yielding mixed results (figure 15).

⁵⁷No outliers, all sub-Saharan countries included.

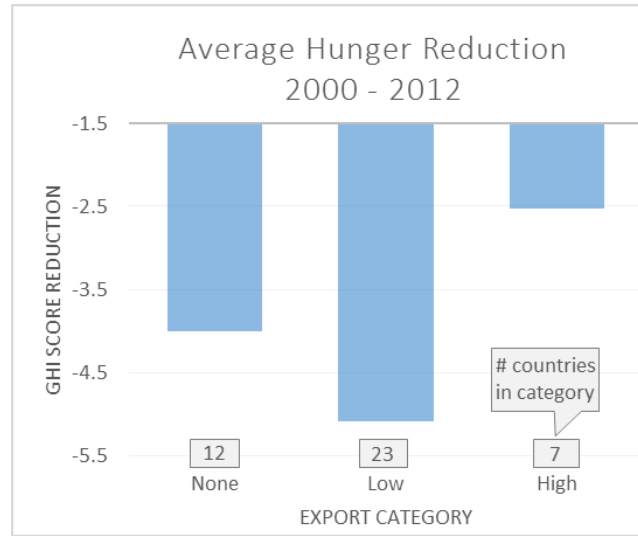


Figure 15. Impact of Trade with China on the GHI (2)

Source: Created by author with data from UN Comtrade, “United Nations Commodity Trade Statistics Database,” <http://comtrade.un.org/db/> (accessed November 22, 2013); IFPRI, “Appendix A: Data Sources and Calculation of the 1990, 1995, 2000, 2005, and 2013 Global Hunger Index Scores,” <http://www.ifpri.org/sites/default/files/publications/ghi13appa.pdf> (accessed February 4, 2014).

The moderate exporters realized the greatest gains with an average reduction of 5.1 points on the GHI, while the nations reporting no trade with China reduced their hunger index by 4.0. Those nations in the ‘high’ bucket, engaging in greatest trade volume with China, failed to reduce hunger at the same pace of the others. They saw an average reduction of just 2.5 GHI points, less than half the improvement of the moderate traders in the low bucket. This analysis reveals that while some trade with China is good, excessive trade may inhibit progress.

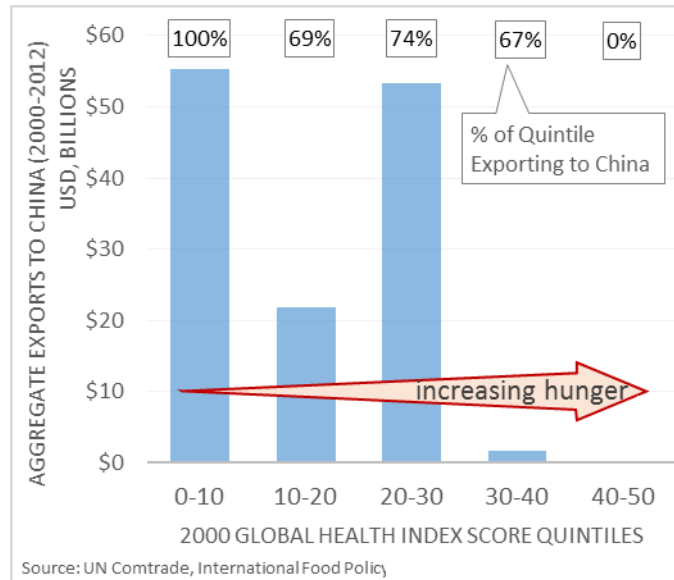


Figure 16. Impact of Trade with China on the GHI (3)

Source: Created by author with data from UN Comtrade, “United Nations Commodity Trade Statistics Database,” <http://comtrade.un.org/db/> (accessed November 22, 2013); IFPRI, “Appendix A: Data Sources and Calculation of the 1990, 1995, 2000, 2005, and 2013 Global Hunger Index Scores,” <http://www.ifpri.org/sites/default/files/publications/ghi13appa.pdf> (accessed February 4, 2014).

Finally, all sub-Saharan nations were grouped into quintiles based on their 2000 GHI scores, and benchmarked against their aggregate export levels to China over the following 12 years. The objective was to determine if the most unstable countries were targeted for resource extraction over the more stable nations (figure 16). If so, it would be expected that both export volumes and percentage of countries trading with China would be highest in the unstable regions. The study yielded no such evidence of this type of exploitation, and that China may, in fact, generally avoid countries burdened with crippling levels of hunger.

China in Sudan

China is Sudan's greatest trading partner, a major source of financing, and a key strategic ally. By 2005, oil shipped to China represented 72.8 percent of all Sudanese exports,⁵⁸ creating the conditions for a highly dependent economy. This dependency is not completely one-sided, however, as Sudan's oil accounted for 73.4 percent of reported⁵⁹ sub-Saharan natural resource exports to China.⁶⁰ This oil is trafficked via sea lanes from Sudan's coast, out the Red Sea, and through the Gulf of Aden. When Somali pirates threatened this transportation route, China responded forcefully in 2008 by deploying the People's Liberation Army Navy. While the international community benefitted from the augmented security, China gained valuable experience in conducting expeditionary maritime operations, sustaining a deployed military, and maintaining sea lines of communication.⁶¹ The Gulf of Aden effort also launched unprecedented developments of military cooperation between the naval fleets of China and the U.S., as

⁵⁸Analysis of UN Comtrade data.

⁵⁹Angola has failed to report export statistics in every year of record, thus inflating this number. According to the IEA, Angola exported 80.55 millions of tons of oil equivalent (MTOE) in 2011, vs. Sudan's 18.45 MTOE, <http://www.iea.org/Sankey/index.html#c=Angola&s=Balance>. According to The World Bank, the [_growing_relation_ship_between_China.pdf](#), Angola accounted for 17 percent of China's total oil imports in 2005, while Sudan accounted for 7 percent.

⁶⁰Analysis of UN Comtrade data.

⁶¹Andrew S. Erickson and Austin M. Strange, "Why China's Gulf Piracy Fight Matters," *CNN*, January 7, 2014, <http://globalpublicsquare.blogs.cnn.com/2014/01/07/why-chinas-gulf-piracy-fight-matters/> (accessed February 17, 2014).

they worked in concert to defeat a common enemy.⁶² This cooperation sparked successive drills and drove a new level of military diplomacy between the two powers. In 2014, China received its first-ever invitation to the Rim of the Pacific Exercise in Hawaii, the world's largest multinational naval drills hosted biennially by the U.S. Navy.⁶³

Trade with China also yielded significant benefits to Sudan, proving to be an extremely lucrative venture for the government. While its GDP remained virtually unchanged from 1979 to 1999 when adjusted for inflation, Sudan grew by over 500 percent between 1999 and 2010 (figure 17). Fueled by rising exports, Sudan surged to become the fifth-fastest growing economy of the 49 sub-Saharan nations during this period.⁶⁴

⁶²Defence Talk, China Ready to Use Force On Somali Pirates, December 23, 2008, <http://www.defencetalk.com/china-ready-to-use-force-on-somali-pirates-16106/> (accessed February 23, 2014).

⁶³Russia Today, "China Dispatches Ships for Rare Drills with Us Navy," August 21, 2013, <http://on.rt.com/vplio4> (accessed February 20, 2014).

⁶⁴Analysis of World Bank data. Excludes South Sudan.

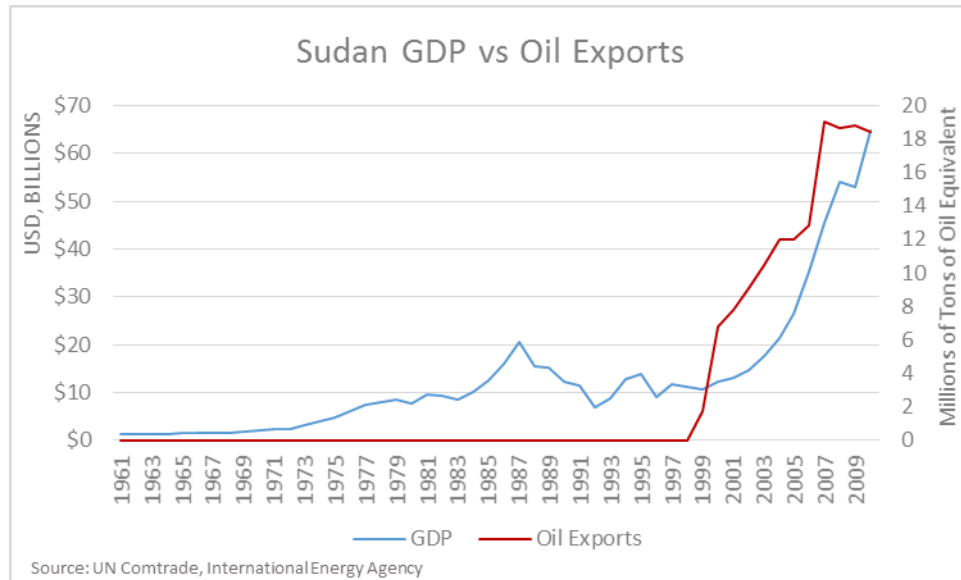


Figure 17. Relationship of Sudan’s Oil Exports to GDP

Source: Created by author with data from UN Comtrade, “United Nations Commodity Trade Statistics Database,” <http://comtrade.un.org/db/> (accessed November 22, 2013); IEA, “Energy Balance Flows,” <http://www.iea.org/Sankey/index.html> (accessed January 22, 2014).

But while natural resources enriched the Sudanese government and triggered new levels of military diplomacy between China and the U.S., they also generated conflict between China and the developed world. As government coffers in Sudan’s capital Khartoum ran flush, a war 500 miles west in Darfur was escalating at the same pace. Yet to be resolved, the war in Darfur has claimed an estimated 480,000 deaths⁶⁵ and created 2.7 million displaced persons⁶⁶ since 2003. The religious conflict between Sudan’s Arab government and African rebel groups is still raging after numerous embargoes, sanctions,

⁶⁵Olivier Degomme and Debarati Guha-Sapir, “Patterns of Mortality Rates in Darfur Conflict,” *The Lancet* 375, no. 9711 (January 23, 2010): 298.

⁶⁶BBC, “Q&A: Sudan’s Darfur Conflict,” February 23, 2010, <http://news.bbc.co.uk/2/hi/africa/3496731.stm> (accessed February 20, 2014).

and cease fires have failed to bring the war to a resolution.⁶⁷ The government of Sudan, repeatedly implicated in attacks on civilians, ethnic cleansing, and arming Arab militant groups known to employ rape as a weapon of war,⁶⁸ has continued to operate with impunity. Between 2003 and 2013, the UN issued several unanimous Security Council Resolutions against Sudan (with China abstaining), and in 2009 the International Criminal Court in the Hague ordered the arrest of President Omar Hassan al-Bashir on charges of genocide.⁶⁹ He remains in power and has yet to be prosecuted.

Given the abhorrent nature of its regime, Western nations refuse to engage in commerce with the government of Sudan. China has taken a shrewder approach, making no such reservations and prospering with its de facto monopoly in the Sudanese oil market. Its policy of non-interference, long begrudged by the western world,⁷⁰ has given China access to a reliable source of oil. The regime in Khartoum has benefitted as well, growing strong on the Yuan. Instead of falling to an internal revolution or military coup as unstable regimes tend to do, the Sudanese government has grown capable of arming its military and crushing any source of political upheaval. Increasing oil exports to China

⁶⁷All Africa, "Sudan: Ambassador Smith - 'Security Situation in Darfur Deteriorated Compared to 2011'", September 19, 2012, <http://allafrica.com/stories/201209200049.html> (accessed February 20, 2014).

⁶⁸BBC, "Q&A: Sudan's Darfur Conflict," February 23, 2010, <http://news.bbc.co.uk/2/hi/africa/3496731.stm> (accessed February 20, 2014).

⁶⁹Marlise Simons, "Court Issues Arrest Warrant for Sudan's Leader," *New York Times*, March 4, 2009, http://www.nytimes.com/2009/03/05/world/africa/05court.html?_r=1& (accessed February 13, 2014).

⁷⁰Kerry Brown, "Is China's Non-Interference Policy Sustainable?," *BBC*, September 16, 2013, <http://www.bbc.com/news/world-asia-china-24100629> (accessed February 20, 2014).

allowed Sudan to make corresponding increases to its military budget on a nearly dollar-for-dollar basis (figure 18).⁷¹



Figure 18. Relationship of Sudan’s Exports on Military Budget

Source: Created by author with data from SIPRI, “SIPRI Military Expenditure Database,” <http://milexdata.sipri.org/files/?file=SIPRI+military+expenditure+database+1988-2013.xlsx> (accessed February 6, 2014); UN Comtrade, “United Nations Commodity Trade Statistics Database,” <http://comtrade.un.org/db/> (accessed November 22, 2013).

But evidence is mounting that China does not just adhere to a policy of non-interference, and will do far more to protect its investments than simply observe from the sidelines. In 2005, after previous cease-fires had failed and government airstrikes continued in Darfur, the UN issued Security Council Resolution 1591. This decree built upon previous arms embargos levied against Sudanese militias, expanding its original

⁷¹Sudan military expenditures not available past 2006.

intent and banning the sale of arms to the government of Sudan.⁷² The international community was now barred from trafficking weapons to any actors involved with the war in Darfur. Yet three years later, a BBC investigation revealed that China, a major supplier of arms to Sudan prior to the resolution, continued providing arms and equipment to al-Bashir's military after the embargo was implemented.⁷³ The PRC initially denied the claims,⁷⁴ but has since defended its actions.⁷⁵

A decade of persistent conflict has scarred the country and levied a somber reality upon a populace ravaged by war. Sudan remains one of the most malnourished countries in the world (figure 19), and as of 2006, one in four children died before the age of five.⁷⁶ In the eight years between 2005 and 2013, the turmoil in Sudan continued, rising it to fourth on the infamous list of the most malnourished countries in the sub-Saharan.⁷⁷

⁷²United Nations, "Report of the Panel of Experts established pursuant to paragraph 3 of resolution 1591 (2005) concerning the Sudan," January 30, 2006, http://www.un.org/ga/search/view_doc.asp?symbol=S/2006/65 (accessed February 18, 2014), 3.

⁷³Hilary Anderson, "China 'is Fuelling War in Darfur'," *BBC*, July 13, 2008, <http://news.bbc.co.uk/2/hi/africa/7503428.stm> (accessed April 13, 2014).

⁷⁴"China says BBC's accusation on arms sales to Sudan 'ungrounded'," Embassy of the People's Republic of China in the United States of America, July 18, 2008, <http://www.china-embassy.org/eng/gyzg/t476081.htm> (accessed February 15, 2014).

⁷⁵Kate Zhao, "China Defends Arms Sales to Sudan," *China Digital Times*, February 22, 2008, <http://chinadigitaltimes.net/2008/02/china-defends-arms-sales-to-sudan/> (accessed February 21, 2014).

⁷⁶Peter Glover, "Mortality, Southern Sudan, and Counterintuitive Indicators," *IAREIRBLOG*, March 28, 2011, <http://iareirblog.wordpress.com/2011/03/28/southern-sudan/>. (accessed February 20, 2014).

⁷⁷GHI scores between 5 and 9.9 indicate "moderate hunger," scores between 10 and 19.9 reflect "serious hunger," scores between 20 and 29.9 are "alarming," and scores exceeding 30 are "extremely alarming."

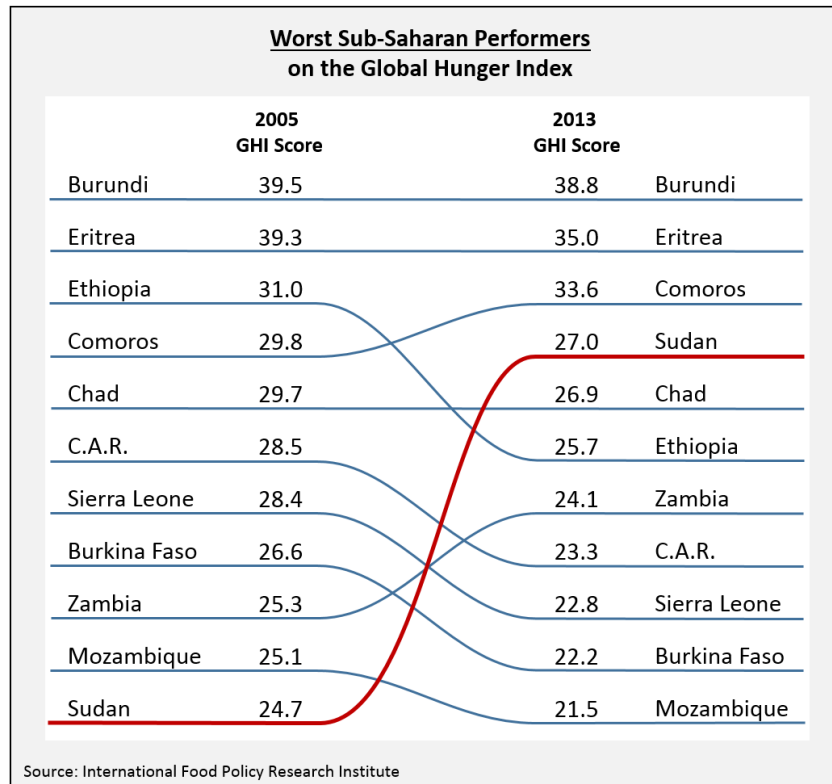


Figure 19. Sudan's Hunger Worsens

Source: Created by the author with data from the IFPRI. “Appendix A: Data Sources and Calculation of the 1990, 1995, 2000, 2005, and 2013 Global Hunger Index Scores,” <http://www.ifpri.org/sites/default/files/publications/ghi13appa.pdf> (accessed February 4, 2014).

Further inspection reveals that Sudan's rise was not only due to its own GHI increase, but also in part to a trend of general improvement in malnourishment levels across the sub-Saharan. Of these eleven worst performers, only Comoros's GHI also deteriorated over the previous eight years. Instead of translating to better living conditions for the general population, the Chinese oil boom fueled a civil war that devastated the countryside.

To the bewilderment of the international community, the Sudanese population has directed little anger at China. A former child soldier from southern (now South) Sudan explained the prevailing point of view.

The Chinese don't influence our politics. . . . They don't comment on it, and what they want, they pay for--sometimes double the amount. This tends to make all Africans happy--from the dictators to the democrats. . . . There isn't a party in Africa that doesn't like them. Even if you're a rebel movement and you say to them you can secure gold, the Chinese will simply say they want to buy it.⁷⁸

Perhaps due to government propaganda, a lack of information, or general lack of education, the local population does not view China as a threat to stability. This former child soldier saw his home burned to the ground, his aunts raped, and his uncles murdered. Between the ages of 7 and 12, his sole possession was an AK-47. Yet even years later, as an adult who escaped the war, he never questioned where the money or the weapons came from.

Summary of Findings

The analysis conducted throughout the study answered the secondary research questions. Financial aid is correlated with China's financial interests in the sub-Saharan, but it is also seen to improve the general stability of a state. China's SOEs are rapidly scaling-up their investments into the region at an official rate 60 percent per year, increasingly in pursuit of natural resources. These investments are correlated with an overall decline of displaced persons. China's share of total sub-Saharan trade was much lower than expected at between 9 and 13 percent in recent years. Still, China's levels of

⁷⁸Peter Shadbolt, "China, Hip-Hop and the New Sudan," *CNN*, February 4, 2011, <http://www.cnn.com/2011/WORLD/africa/02/02/sudan.jal/index.html> (accessed February 25, 2014).

resource extraction have been growing quickly, creating a handful of economies with concentrated exposure to China. When measured against the global hunger index, moderate trade with China yielded the greatest gains, while those economies with the greatest raw exposure realized the lowest improvements.

Chapter Summary

This chapter evaluated the impacts of China's growing financial involvements with sub-Saharan Africa and answered the secondary research questions. The purpose of this study was to answer the primary research question: are the effects of Chinese financial interests in sub-Saharan Africa incongruent with U.S. strategic interests? In the opinion of this author, the study failed to answer this question. While 49 sub-Saharan nations initially appeared to provide a sizeable catalog of data from which to draw, just 63 percent regularly report trade data to the UN, and only 41 percent reported in 2012 (Appendix A). The resultant pool provided only a partial representation of the reality. China's investments and trade levels have only recently grown to scale, and are still increasing. A comprehensive analysis will require additional time and research to determine the implications of China's involvement in sub-Saharan Africa. The next chapter will provide conclusions and topics for future research.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This thesis set out to answer the primary research question, are the effects of Chinese FDI and trade in sub-Saharan Africa incongruent with regional U.S. strategic interests as outlined in the 2010 NSS? In order to answer this question several secondary questions were answered: is Chinese financial aid to sub-Saharan Africa altruistic as professed or is it correlated with commercial interests, does financial aid from China improve the stability of a state, how quickly are Chinese SOEs accelerating their investments into sub-Saharan Africa, to what extent are these investments targeting natural resource extraction, how much of the total trade between sub-Saharan Africa and China is the extraction of natural resources, what share of total sub-Saharan exports go to China, what countries have the greatest exposure to China consumption, do SOE investments have a positive or negative correlation with a state's diaspora, and how does trade with China affect the poverty levels of a state, in order to determine if China's investments and resource extraction run counter to U.S. strategic objectives.

China's financial aid is positively correlated with both official FDI and unofficial FDI from the country, indicating that aid is used as a market penetration tool rather than the driver of altruistic objectives. Chinese investments in Africa have been growing strongly since 2005, official FDI at 60 percent per year and unofficial FDI at 18 percent

per year. Nigeria, South Africa and Sudan are the greatest targets of FDI associated with resource extraction, accounting for nearly half of all sub-Saharan flows.⁷⁹

Trade from sub-Saharan Africa to China has been increasing nearly as fast as Chinese FDI has been flowing into the region. Total reported exports to China grew 1,500 percent between 2000 and 2011, driven mostly by the extraction of natural resources. Aggregate levels of resource extraction in the three years from 2010 to 2012 were nearly equal to the combined extraction from the previous decade. Correspondingly, China's world share of sub-Saharan resource extraction has been growing as well, from less than three percent of world extraction in 2000 to nine percent in 2012. But much of this growth is due to trade with 'off-limits' countries the developed world refuses to engage with.

When measured to evaluate rule of law, Chinese financial aid has a beneficial impact on the State Fragility Index score of each country. When measured for conflict prevention, greater FDI was correlated with declining refugee populations from 2000-2012. The impact of trade on hunger was mixed, however, as moderate exporters saw the greatest improvement on hunger scores while high-volume exporters garnered the lowest gains throughout the region. The results indicate that while moderate economic engagement is beneficial, countries that are highly trade dependent on China are uniquely exposed to detrimental effects.

Sudan's high level of economic exposure to Chinese oil consumption makes for an interesting case study. Oil deliveries to China account for nearly three quarters of its total annual exports, a reality that is cultivating dependency. The PRC has displayed a

⁷⁹According to available data.

desire to protect this source of oil at all costs, deploying the PLA Navy when shipments were threatened at sea, and aligning itself with a war criminal when shipments were threatened on land. Under the guise of a “non-interference” policy, China has disregarded international sanctions, supplying the weapons that fan the flames of civil war at the expense of a starving population. As China’s share of resource extraction continues to increase and more African governments become solely reliant on China for economic growth, this story may become a familiar one. Only time will tell if China’s actions in Sudan are a harbinger of the future.

Topics for Future Research

It is recommended that further research be conducted on the primary research question to understand the implications of Africa’s rising dependence on China. Additional research should be conducted to determine if loans from Chinese state-owned banks to sub-Saharan states are clearly unaffordable and thus create dependency. Follow-on research should also examine forgiven loans to determine to what extent they are tied to SOE market penetration or resource extraction. This author’s literature review identified several qualitative arguments that focused on China’s use of financial aid, but no quantitative analysis of data was discovered that might reveal the use of Chinese loans, grants and aid as leverage for FDI and resource extraction. Additional research should also be conducted to analyze Western disengagement from sub-Saharan economies as a result of the FCPA and OECD regulations, and to what extent China has successfully leveraged this void with their own investments and loans.

Chapter Summary

This thesis identified that China's financial involvement in sub-Saharan Africa has both positive and negative effects, but failed to answer the primary question of whether this involvement runs counter to strategic U.S. interests in the region or not. It is evident from these mixed results that further examination is required, and this study made recommendations for future research the author believes will aid strategic planners and policy makers with respect to China in Africa.

APPENDIX A

SUB SAHARAN COUNTRIES

Country	Report Trade Data to the UN	Reported 2012 Trade
Angola	No	No
Benin		No
Botswana		No
Burkina Faso		No
Burundi		
Cameroon		
Cape Verde	No	No
Central African Rep.		No
Chad	No	No
Comoros	No	No
Congo, Dem. Rep.	No	No
Congo, Rep.		No
Cote d'Ivoire		
Djibouti	No	No
Equatorial Guinea	No	No
Eritrea	No	No
Ethiopia		
Gabon		No
Gambia, The	No	No
Ghana		
Guinea		No
Guinea-Bissau	No	No
Kenya		No
Lesotho	No	No
Liberia	No	No
Madagascar		
Malawi		No
Mali		
Mauritania		
Mauritius		
Mozambique		
Namibia		
Niger		
Nigeria		
Rwanda		
Sao Tome and Principe	No	No
Senegal		
Seychelles	No	No
Sierra Leone		No
Somalia	No	No
South Africa		
South Sudan	No	No
Sudan		
Swaziland	No	No
Tanzania	No	No
Togo		
Uganda		
Zambia		No
Zimbabwe		
	63%	41%

BIBLIOGRAPHY

Magazines

- All Africa. "Sudan: Ambassador Smith- 'Security Situation in Darfur Deteriorated Compared to 2011'." September 19, 2012. <http://allafrica.com/stories/201209200049.html> (accessed February 20, 2014).
- Anderson, Hilary. "China 'is Fuelling War in Darfur'." *BBC*. July 13, 2008. <http://news.bbc.co.uk/2/hi/africa/7503428.stm> (accessed April 13, 2014).
- BBC. "China establishes 'air-defence zone' over East China Sea." November 23, 2013. <http://www.bbc.com/news/world-asia-25062525> (accessed May 7, 2014).
- . "Q&A: Sudan's Darfur Conflict." February 23, 2010. <http://news.bbc.co.uk/2/hi/africa/3496731.stm> (accessed February 20, 2014).
- Brown, Kerry. "Is China's Non-Interference Policy Sustainable?" *BBC*. September 16, 2013. <http://www.bbc.com/news/world-asia-china-24100629> (accessed February 20, 2014).
- Defence Talk. "China Ready to Use Force On Somali Pirates." December 23, 2008. <http://www.defencetalk.com/china-ready-to-use-force-on-somali-pirates-16106/> (accessed February 23, 2014).
- The Economist. "Reform in China: Every Move You Make." November 16, 2013. <http://www.economist.com/news/leaders/21589882-xi-jinping-has-made-himself-most-powerful-leader-deng-xiaoping-probably-good> (accessed January 13, 2014).
- Erickson, Andrew, and Austin Strange. "Why China's Gulf Piracy Fight Matters." *CNN*. January 7, 2014. <http://globalpublicsquare.blogs.cnn.com/2014/01/07/why-chinas-gulf-piracy-fight-matters/> (accessed February 17, 2014).
- Russia Today. "China Dispatches Ships for Rare Drills with US Navy." August 21, 2013. <http://on.rt.com/vplio4> (accessed February 20, 2014).
- Shadbolt, Peter. "China, Hip-Hop and the New Sudan." *CNN*. February 4, 2011. <http://www.cnn.com/2011/WORLD/africa/02/02/sudan.jal/index.html> (accessed February 25, 2014).
- Snyder, Jack. "One World, Rival Theories." *Foreign Policy*. November 1, 2004. http://www.foreignpolicy.com/articles/2004/11/01/one_world_rival_theories (accessed February 2, 2014).

Books

- Behar, Richard. "China Africa." Fast Company. June 2008. <http://search.proquest.com/docview/228744659?accountid=28992> (accessed January 15, 2014).
- Economy, Elizabeth C., and Michael Levi. *By All Means Necessary: How China's Resource Quest Is Changing the World*. New York: Oxford University Press, 2014.
- Renard, Mary-Francoise. *China's Trade and FDI in Africa*. Series No 126. Tunis, Tunisia: African Development Bank, 2011.
- Tzu, Sun. *The Art of War by Sun Tzu: Classic Edition*. London: Special Edition Books, 2009.
- Wolf Jr., Charles, Xiao Wang, and Eric Warner. *China's Foreign Aid and Government-Sponsored Investment Activities*. Washington, DC: Rand Corporation, 2013.
- Yu, Au L., and Kevin Li. *Preliminary Report On China's Going Global Strategy*. Hong Kong: Globalization Monitor Limited, 2009.

Databases

- Aid Data Organization. "API Data." <http://aiddata.org/api-data> (accessed November 12, 2013).
- Center for Systemic Peace. "State Fragility Index and Matrix, Time-Series Data, 1995-2012." <http://www.systemicpeace.org/inscrdata.html> (accessed December 3, 2013).
- International Energy Agency. "Energy Balance Flows." <http://www.iea.org/Sankey/index.html> (accessed January 22, 2014).
- International Food Policy Research Institute. "Appendix A: Data Sources and Calculation of the 1990, 1995, 2000, 2005, and 2013 Global Hunger Index Scores." <http://www.ifpri.org/sites/default/files/publications/ghi13appa.pdf> (accessed February 4, 2014).
- International Monetary Fund. "IMF eLibrary–Data." <http://elibrary-data.imf.org/DataExplorer.aspx> (accessed December 23, 2013).
- Joint Organizations Data Initiative. "JODI Oil World Database." <http://www.jodidata.org/database/access-database.aspx> (accessed December 3, 2013).
- Stockholm International Peace Research Institute. "SIPRI Arms Transfers Database." <http://portal.sipri.org/publications/pages/transfer/tiv-data> (accessed February 6, 2014).

———. “SIPRI Military Expenditure Database.” <http://milexdata.sipri.org/files/?file=SIPRI+military+expenditure+database+1988-2013.xlsx> (accessed February 6, 2014).

The Heritage Foundation. “China Global Investment Tracker.” <http://www.heritage.org/research/projects/china-global-investment-tracker-interactive-map> (accessed October 25, 2013).

The World Bank. “World Development Indicators.” <http://databank.worldbank.org/data/views/variableSelection/selectvariables.aspx?source=world-development-indicators#> (accessed February 1, 2014).

UN Children’s Fund. “UNICEF Statistics and Monitoring.” http://www.unicef.org/statistics/index_step1.php (accessed February 19, 2014).

UN Comtrade. “United Nations Commodity Trade Statistics Database.” <http://comtrade.un.org/db/> (accessed November 22, 2013).

UN Conference on Trade and Development. “UNCTAD Statistics Database.” http://unctadstat.unctad.org/ReportFolders/reportFolders.aspx?sCS_referer=&sCS_ChoosenLang=en (accessed February 2, 2014).

UN Refugee Agency. “Total Refugee population by country of asylum, 1960-2012 & Total Refugee population by origin, 1960-2012.” http://www.unhcr.org/statistics/Ref_1960_2012.zip (accessed January 7, 2014).

Journals

Ademola, Oyejide, Abiodun Bankole, and Adeolu Adewuyi. “China–Africa Trade Relations: Insights from AERC Scoping Studies.” *European Journal of Development Research* 21 (2009): 485-505. <http://www.palgrave-journals.com/ejdr/journal/v21/n4/full/ejdr200928a.html> (accessed January 20, 2014).

Bosshard, Peter. “China and the West in Africa: Shared Interests?” *The China Monitor* (June 2007): 8-10.

Degomme, Olivier, and Debarati Guha-Sapir. “Patterns of Mortality Rates in Darfur Conflict.” *The Lancet* 375, no. 9711 (January 23, 2010): 298.

Kefela, Ghirmai. “China's Expanding Engagement in Africa as a Global Influence.” *E3 Journal of Business Management and Economics* 3, no. 4 (April 2012): 147-54. http://www.e3journals.org/cms/articles/1336843035_Ghirmai.pdf (accessed January 26, 2014).

Working Papers

- Besada, Hany, Yang Wang, and John Whalley. "China's Growing Economic Activity in Africa." NBER Working Paper No. 14024, 2008. <http://www.nber.org/papers/w14024> (accessed January 13, 2014).
- Drummond, Paulo, and Estelle Xue Liu. "Africa's Rising Exposure to China: How Large Are Spillovers Through Trade?" IMF Working Paper No. 250, 2013. <http://www.imf.org/external/pubs/ft/wp/2013/wp13250.pdf> (accessed January 14, 2014).
- Lancaster, Carol. "The Chinese Aid System." Center for Global Development Essay. 2007. http://www.cgdev.org/sites/default/files/13953_file_Chinese_aid.pdf (accessed January 12, 2014).
- Milanovic, Branko. "Global Income Inequality by the Numbers: in History and Now." The World Bank Development Research Group Working Paper No. 6259, 2012. <http://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-6259> (accessed January 10, 2014).
- Sauvant, Karl, and Victor Chen. "China's Regulatory Framework for Outward Foreign Direct Investment." East Asian Bureau of Economic Research Working Paper No. 88, 2013. http://www.vcc.columbia.edu/files/vale/content/EABER_Working_Paper_88_Sauvant_and_Chen.pdf (accessed January 15, 2014).
- Wang, Jian-Ye. "What Drives China's Growing Role in Africa?" IMF Working Paper No. 211, 2007. <http://www.imf.org/external/pubs/ft/wp/2007/wp07211.pdf> (accessed January 13, 2014).

Additional Internet Sources

- Embassy of the People's Republic of China in the United States of America. "China says BBC's accusation on arms sales to Sudan 'ungrounded'." July 18, 2008. <http://www.china-embassy.org/eng/gyzg/t476081.htm> (accessed February 15, 2014).
- Glover, Peter. "Mortality, Southern Sudan, and Counterintuitive Indicators." IAREIRBLOG. March 28, 2011. <http://iareirblog.wordpress.com/2011/03/28/southern-sudan/> (accessed February 20, 2014).
- The White House. *The National Security Strategy 2010*. Washington, DC: The White House, May 2010. http://www.whitehouse.gov/sites/default/files/rss_viewer/national_security_strategy.pdf (accessed December 20, 2013).
- United Nations. *Report of the Panel of Experts established pursuant to paragraph 3 of resolution 1591 (2005) concerning the Sudan*. January 30, 2006. http://www.un.org/ga/search/view_doc.asp?symbol=S/2006/65 (accessed February 18, 2014).

Xiaoyun, Li. "China's Foreign Aid and Aid to Africa: Overview." Powerpoint Briefing to the OECD. Beijing, <http://www.oecd.org/development/povertyreduction/40378067.pdf> (accessed April 13, 2014).