

A Corruption, Military Procurement and FDI Nexus?

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Abstract

Since the end of the Cold War, the levels of both international arms trade and military procurement are increasing exponentially in the developing world. Given that military procurement is seriously prone to corruption (Willett 2009; Auriol 2006; Gupta, de Mello and Sharan 2001), and corruption is more prevalent in lower-income countries, this gives academics and policy analysts some pause. This chapter builds off of previous research showing that countries that are perceived to be corrupt actually attract more foreign direct investment (FDI) when they spend more on their military (Drezner and Hite-Rubin 2014). Using this analysis, I also demonstrate that arms procurement corresponds to higher FDI at an increasing rate along the axis of corruption. Both findings are critical, and elicit further discussion as to the mechanism that underlies these empirical facts. One hypothesis put forward in this paper is that military offsets commonly associated with the purchase of major arms act as a springboard for broader foreign investment into corrupt markets. Questions over market efficiency, as well as, ethical ramifications of this trend, are still very much up for debate.

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Corruption in military procurement is a very serious problem (see, e.g., Willett 2009; Auriol 2006; Gupta, de Mello and Sharan 2001),¹ particularly for developing economies that have experienced the greatest increase in military spending since the Cold War. Corruption of any form arguably stifles economic development. Yet, a recent paper by Daniel Drezner and Nancy Hite-Rubin (2014) provides a possible refutation of this notion. In their global analysis of post–Cold War military spending, they find that countries that are perceived to be corrupt actually attract more foreign direct investment (FDI) when they spend more on their military. The authors attribute their robust empirical finding to the geo-economic favoritism hypothesis. This is the idea that military spending signals to foreign investors that FDI property rights are more secure. Could it also be the case that military procurement, a key component of military spending, stimulates FDI?

Drezner and Hite-Rubin’s finding that military spending attracts foreign capital only into corrupt economies is worth further discussion. In this chapter, I explore the relationship between corruption and FDI with an emphasis on how corruption may play a role in arms procurement. I build off of Drezner and Hite-Rubin’s previous finding that aggregate military spending leads to higher FDI, and look more closely at the relationship between major arms transfers and subsequent FDI in corrupt states. I show that the purchase of major arms on the international market is also linked to greater FDI, even when controlling for total military spending. This is important, as it means that both the level of overall military spending and the composition of that spending each help to determine foreign investment. In this chapter I explore the possibility that military contracting creates rent-seeking opportunities that actually encourage the flow of foreign capital into corrupt states.

Military procurement is highly prone to corruption for several reasons. First, for security reasons, governments tend to be least transparent in their spending on defense. This alone creates opportunities for rent seeking and project misallocation. Furthermore, military equipment is usually highly specialized, which reduces market entry and competition among suppliers as well as buyers. Finally, because major arms are expensive and complicated, prices vary highly and thus provide a window for corruption. The highly specialized nature of military goods, large profit margins and lack of market competition sets the stage for bribe-taking, collusion and misallocation. Indeed, research using firm-level data indicates that purchases of military equipment are more prone to corruption, and that bribes usurp nearly twice the contract value of any other sector (Cole and Tran 2011). Certainly, corruption in military spending results in losses and is market-distorting. How,

¹ Transparency International (TI) has also done extensive work on this issue, including issuing a Government Defence Anti-corruption Index (Cover et al. 2013). See also “Defence and Security,” Transparency International, accessed September 17, 2014, http://www.transparency.org/topic/detail/defence_security.

then, can it be the case that military spending in relatively corrupt markets actually corresponds to higher investment?

The following section reviews literature on corruption and foreign direct investment, discussing how the Drezner and Hite-Rubin article contributes to this debate. I then provide an overview of trends in military spending and arms transfers in the post–Cold War era. Here, I describe the phenomenon of military offset agreements and how they have become increasingly more common, especially in connection with the sale of major arms from wealthy to developing countries. The empirical section of this chapter establishes two findings. First, when corrupt countries spend more on their military they attract foreign capital, whereas non-corrupt countries that spend more do not. Second, arms procurement from foreign sources also significantly attracts FDI, even when controlling for total military spending. This empirical evidence sheds light on the curious triangular relationship between military procurement, foreign capital investment and corruption. The chapter concludes with a discussion on the role of corruption in military procurement, and how it may distort the composition of investment at the same time as it attracts larger dollar totals.

1. Corruption, institutional quality and FDI

Many influential studies have demonstrated that corruption stifles foreign investment and thus growth (Mauro 1995; Keefer and Knack 1997; Wei 2000; Habib and Zurawicki 2002; Dreher and Herzfeld 2005; Hsu 2008; Castro and Nunes 2013). This is based on the idea that the institutional quality of the host country is the paramount factor determining the riskiness, and ultimately the profitability, of foreign investment. As Raymond Vernon (1971) observed more than four decades ago, the “obsolescing bargain” of FDI means that companies must be concerned about the ability of host countries to credibly commit when it comes to maintaining the foreign investment climate. A country’s ability to signal to investors that its commitments are credible is inversely related to the degree that it is perceived as being corrupt.

The attractiveness of a host country to foreign investors is deeply intertwined with institutional quality. For example, in recent years a fair amount of empirical research has been devoted to examining the effect that investment-specific institutions, such as bilateral investment treaties and preferential trade agreements, have on FDI (Tobin and Rose-Ackerman 2005; Neumeyer and Spess 2005; Kerner 2009; Büthe and Milner 2008). Neumeyer and Spess ran an empirical analysis looking at the relationship between BITs and foreign direct investment inflows and found a robust, positive correlation. They contend that BITs can function as a substitute for poor institutional quality. Alternatively, Tobin and Rose-Ackerman are more cautious in interpreting this correlation. They find that this BIT-FDI relationship is only robust for countries that already have a stable institutional

environment, and caution against asserting any substituting function. Kerner adds to the debate by providing a more refined model, asserting that BITs attract FDI through indirect channels. Finally Bütte and Milner investigate the empirical relationship with FDI inflows across a multitude of international political institutions, contending that these international institutional agreements (including BITs) allow host governments to make more credible commitments and thus attract more investment. All of these papers share an implicit assumption that corruption is a sign of institutional shortcomings, which sends negative signals to foreign investors.

In addition to exploring the role of international agreements, other scholars argue that due to their inherent institutional checks, democracies are more capable of committing credibly to investors and thus attracting greater FDI. States with democratic regimes are perceived to be more likely to honor their contracts (North and Weingast 1989; Schultz and Weingast 2003; Besley and Persson 2007; Acemoğlu and Robinson 2012). Relatedly, foreign investors are thought to be more vulnerable to the development of “extractive,” non-democratic political institutions where politically powerful actors can exploit the coercive apparatus of the state to reward members of the selectorate with private goods, rather than providing the general population with the public goods necessary to attract inward capital flows (Bueno de Mesquita et al. 2003). As Daron Acemoğlu and James Robinson (2012) have observed, countries that rely on extractive institutions are more likely to possess comparatively more sclerotic economies. Finally, Nathan Jensen (2006) argues that because of the higher “domestic audience costs” of democratic institutions, democratic leaders are more geared to policies that facilitate the operations of multinationals.

Although most scholars view corruption as an institutional problem, there is not an overwhelming consensus that such corruption deters foreign direct investment. Egger and Winner argue that corruption is actually a stimulus for FDI (Egger and Winner 2005). They base this claim on their empirical analysis of 73 countries between 1995-1999, wherein they find a strong statistical correlation between positive corruption levels and FDI. From this evidence they assert that corruption is associated with more direct investment in low-income economies, due to its being utilized as a means to circumvent bureaucratic inefficiencies and obstacles. Egger and Winner’s paper complements the “efficient grease” view of corruption under which it facilitates rather than deters economic activities (Kaufmann and Wei 1999; Méon and Weill 2009).

Egger and Winner’s empirical strategy is, however, seriously flawed. First and foremost, the mere existence of a robust statistical correlation does not provide sufficient grounds to make causal claims. In this chapter, I utilize cross-sectional time series data from 90 countries (1990-2008) and also find that the correlation between corruption and FDI inflows is significant and positive (across a multitude of similarly conservative

specifications). However, I attribute this global relationship to the fact that since the end of the Cold War, the most rapid growth in the world economy has occurred in developing markets. The Global South is also significantly more corrupt than the Global North. Therefore, a cross-sectional empirical model – even one using lags and country-fixed effects as Egger and Winner did – would likely still produce a significant beta coefficient for corruption as a predictor of FDI (due to cross-sectional variation). This does not mean that FDI will increase if corruption levels rise within an individual country, nor does it explain the growth in foreign investment in any particular country. Indeed, when I split the sample of countries between “corrupt” and “non-corrupt” states, the statistical correspondence between corruption and FDI vanishes.² In other words, if the corruption level in the Philippines (and similarly “corrupt” countries) is perceived to rise or fall from one year to the next, this change does not affect expected FDI.

Our recent paper on military spending and foreign direct investment demonstrates that military spending is linked to foreign direct investment, but more importantly this link is contingent upon corruption levels (Drezner and Hite-Rubin 2014). We are not suggesting that corruption causes a particular change in FDI. There are numerous factors that correspond with corruption levels that would make the investment climate and political economy of a host country distinct. For this reason, I use the rather simple technique of sample splitting the countries in terms of their corruption levels.³ In doing so I hope to advance the debate on whether corruption helps or hinders FDI, by showing that military spending only attracts investment into corrupt countries. The purpose of this chapter is to explore why that is the case.

“Military spending” is a measure of all spending on state defense, which includes maintenance, personnel, domestic production of military equipment, and the purchase of major weapons from foreign entities. The measure for “arms transfers” is but one component of military spending, and arguably the only component that involves purchases in the international market. When I analyze the relationship between military spending (excluding arms imports) and FDI, military spending alone is still strongly linked to FDI. I attribute this to the geo-economic favoritism mechanism, whereby domestic investment in security signals to foreign investors that the institutional environment is secure.

² See the empirical analysis presented in Tables 1, 3 and 4, wherein I split the sample according to level of corruption. The impact of corruption thus vanishes. This is because the significance of the coefficient picks up on differences across the Global South and North, rather than how volatility of an individual country’s corruption score predicts FDI. Although fixed effects helps to correct for this problem (by estimating individual intercepts for each country), it is not sufficient. Simply splitting the sample enables an empirical analyst to check for these differentials in the impact of corruption on FDI.

³ We can learn a lot more from doing this, than running more elaborate models which require implausible assumptions. However it is also important to justify the dimensions of by which to split categories and not split into very small groups.

In this chapter, I pay close attention to an auxiliary finding from our previous article; namely, that the volume of major arms transfers into corrupt countries appears to increase FDI. The relationship between arms procurement and the attraction of foreign capital is statistically independent of the relationship between overall military spending and FDI. Whereas the tendency of aggregate military spending to attract FDI is explained by the logic of geo-economic favoritism as stated earlier (Drezner and Hite-Rubin 2014), the nature of military procurement in international markets merits further consideration. The following section explores trends in military expenditures, focusing on arms transfers. The purpose here is to begin a discussion on whether military procurement in corrupt countries can actually be beneficial to these economies. Alternatively, is there something about military purchases and offset agreements that could distort local markets, while still resulting in a net increase in FDI inflows?

2. Military spending, procurement and offset agreements

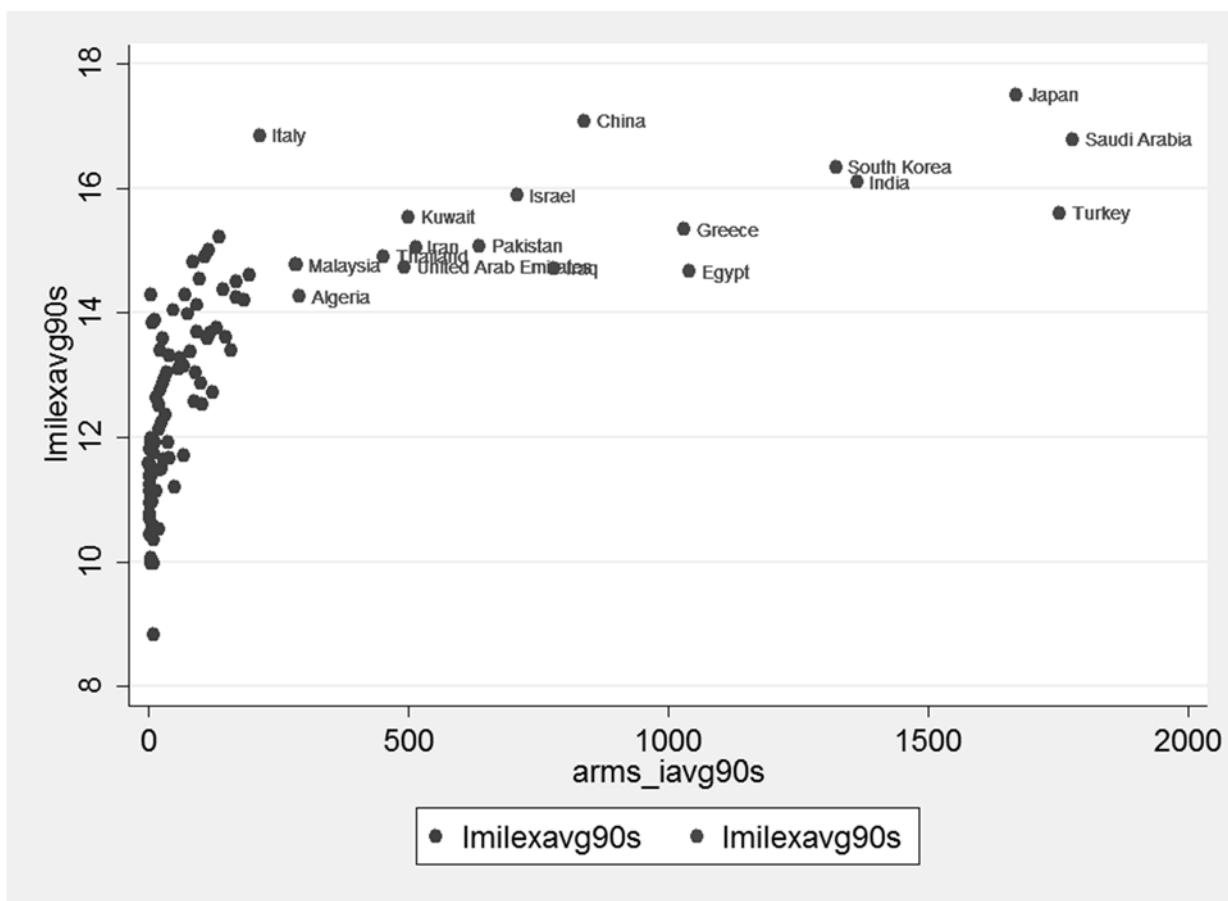
Global military expenditures are currently at an all-time high, estimated to be 1.7 trillion US dollars per year (Archer and Willi 2012). Although the United States still outspends the rest of the world, its relative share is diminishing as other countries (mostly middle-income) are quickly catching up. Although North America and Western and Central Europe have scaled back military spending since 2004, spending has more than doubled (even quadrupled) in many countries throughout the rest of the world (Perlo-Freeman and Solmirano 2014, 6). Much of this increase is attributable to major weapons purchases in the world market. According to the Stockholm International Peace Research Institute (SIPRI), the volume of international arms trade has increased considerably in the last ten years. The world's top importers of major weapons are India, China, Pakistan, the UAE and Saudi Arabia. SIPRI identified over 150 countries that imported weapons since 2009, and finds that sales are growing everywhere except for European states (Perlo-Freeman and Solmirano 2014).

The following two figures illustrate which countries, spent the most on their militaries and imported the highest volumes of major weapons per year. Figure 1 covers the period from the post-Cold war era through 1999, and Figure 2 covers trends in the 2000s. The sample has been censored to only include “corrupt” countries,⁴ purposely excluding countries such as the US and Western European countries in which the link between military spending and attracting FDI does not apply. During the 1990s, the greatest quantities of arms were transferred to countries in the Middle East, northern Africa and Asia. Saudi Arabia had the highest annual level of transfers during the 1990s, closely

⁴ This means the chart is censored to only include countries that are considered to be corrupt. In this case, I used a PRS score of under 4 to make this determination.

followed by Turkey and Japan. No Latin American countries stood out, nor did any of the sub-Saharan African states have major weapons transfers that were above average at that time.

Figure 1: Military Spending and Weapons Transfers into Corrupt Countries, 1990-1999

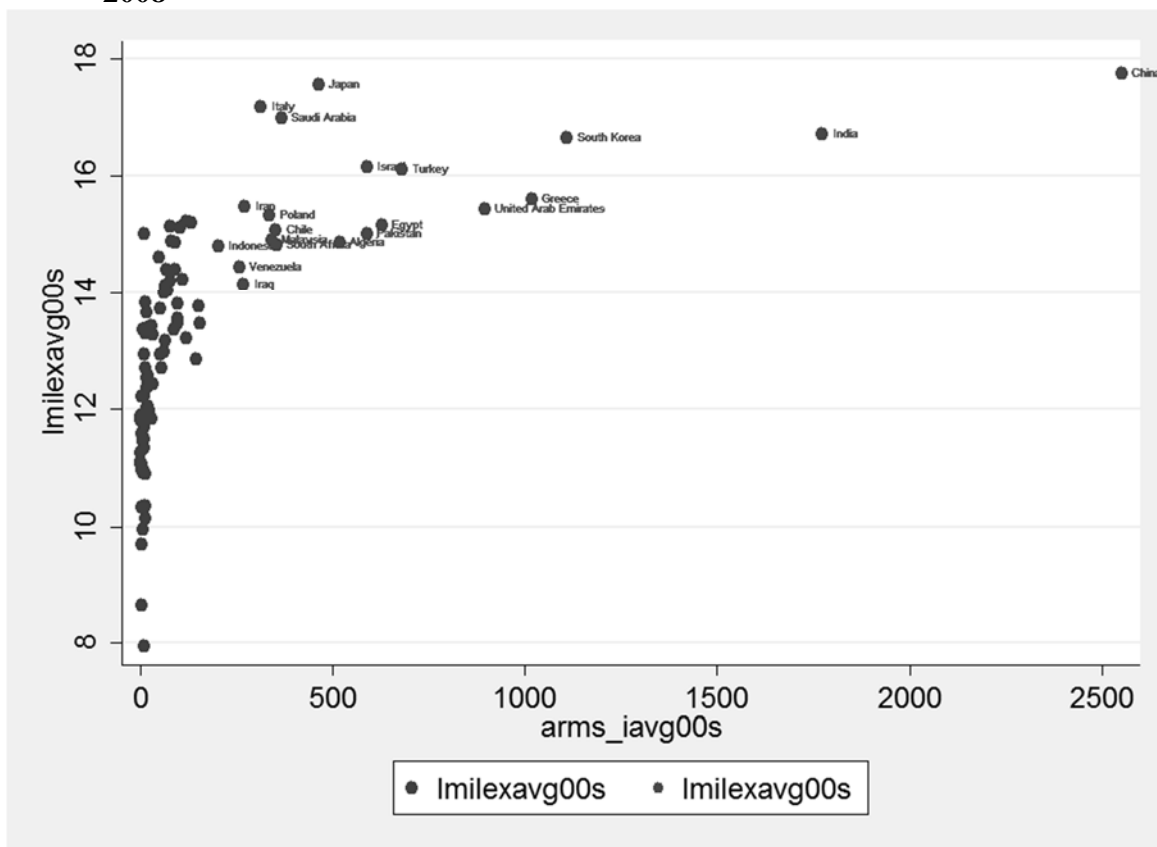


Notes: The scatter plot depicts logged military expenditures on the y-axis and average arms spending (between 2000 and 2008) on the x-axis. “Corrupt” countries that acquired major weapons at markedly high rates are labeled within the plot. These countries, from order of highest import to lowest are Saudi Arabia, Turkey, Japan, India, South Korea, Egypt, Greece, China, Iraq, Israel, Pakistan, Iran, Kuwait, the United Arab Emirates, Thailand, Algeria, Malaysia and Italy.

Between 2000 and 2008 the international sale volume of major arms nearly doubled, as evidenced by the country averages in Figure 2. Comparing across the two charts illustrates several important points. First, the composition of arms transfers has changed considerably. From the Cold War until the 1990s, there was a shift away from Western

Europe. This shift continued into the 2000s and, in fact, there was even more of a pivot towards developing states. Latin American countries such as Chile and Venezuela imported major arms at unprecedented rates, and South Africa became a major player. During the 2000s, arms production and military service companies found profitable consumer bases throughout the developing world. China has dramatically increased its defense spending as well as its importation of major arms, more than quadrupling the former and more than tripling the latter during this decade. Since the end of the Cold War, there has been a marked rise in military spending, as well as, arms procurement by countries with lower institutional credibility and political stability.

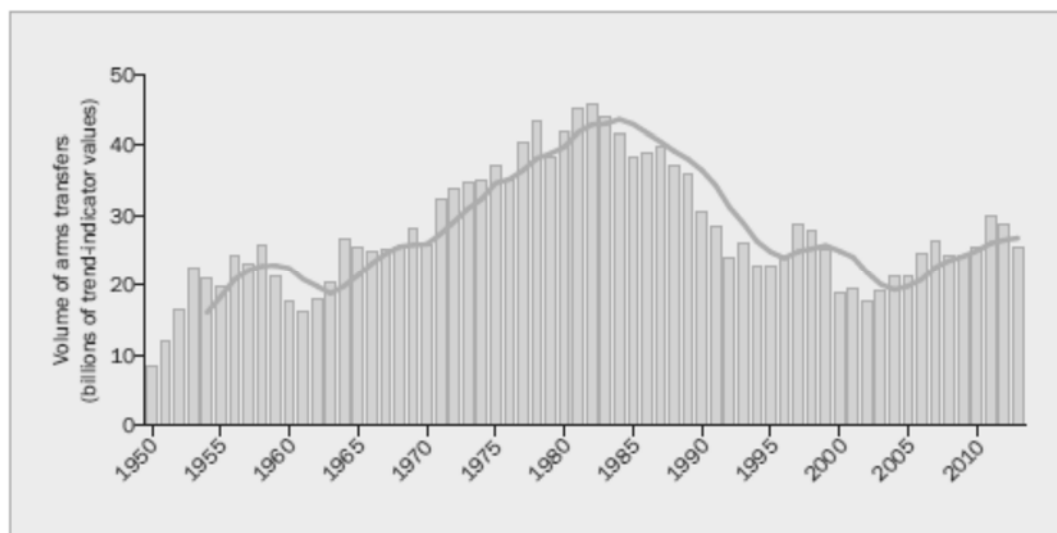
Figure 2: Military Spending and Weapons Transfers into Corrupt Countries, 2000-2008



Notes: The scatter plot depicts logged military expenditures on the y-axis and average arms spending (between 2000 and 2008) on the x-axis. Corrupt countries that acquired major weapons at markedly high rates are labeled in the plot. These countries, from order of highest import to lowest are: China, India, South Korea, Greece, United Arab Emirates, Turkey, Egypt, Israel, Pakistan, Algeria, Japan, Saudi Arabia, South Africa, Chile, Malaysia, Poland, Italy, Iran, Iraq, Venezuela and Indonesia.

The SIPRI measure of arms transfers is an annual, country-level estimate of the volume of military weapons purchased (or transferred) on the international market. The values displayed in Figure 3 show the aggregate volume of “major conventional weapons and components” that are tracked by SIPRI. This includes expensive and complicated items such as missiles, reconnaissance satellites, ships and large artillery (both new and old).⁵ The measure does not account for major weapons transferred or sold to non-state actors, nor does it cover smaller items such as trucks, guns and life vests. SIPRI collects its information directly from arms suppliers and indirectly from the US Congressional Research Service’s (CRS) annual report, *Conventional Arms Transfers to Developing Nations*. SIPRI claims to receive data regarding arms transfers from non-US countries from CRS sources (Holtom, Bromley and Simmel 2012); however, it is not entirely clear how complete this information is because many of the details are classified.⁶

Figure 3: The trend in international transfers of major weapons, 1950-2013



Source: Wezeman and Wezeman (2014: 1).

The sale of defense equipment has been notoriously associated with corruption (Willett 2009; Auriol 2006; Gupta, de Mello and Sharan 2001).⁷ Such corruption ranges from bribes

⁵ “Coverage,” SIPRI Arms Transfers Database, accessed September 17, 2014, <http://www.sipri.org/databases/armstransfers/background/coverage/>.

⁶ For example, CSR reports rely only on unclassified information and estimated data (see Grimmett and Kerr 2012, 1, 69–75; Holtom, Bromley and Simmel 2012, 4; Federation of American Scientists 1991).

⁷ Transparency International (TI) has also done extensive work on this issue, including issuing a Government Defence Anti-corruption Index (Cover et al. 2013). See also “Defence and Security,”

deposited into personal offshore accounts to generally opaque and non-competitive procurement contracts. Military purchases are particularly non-transparent because government defense ministries can invoke national security as a plausible excuse to prevent oversight. Military procurement is prone to rent seeking for economic reasons. Namely, major arms are difficult to price fairly because of product complexity, uniqueness and variation in size. Additionally, the market for international defense equipment is extremely opaque, due in part to national security considerations. Finally, since the end of the Cold War arms procurement has become a “buyers’ market,” meaning that arms sellers clamor to sell equipment and generate elaborate schemes to win contracts. The phenomenon of military offsets in procurement contracts, increasingly prevalent in the wake of the Cold War, is arguably the result of the shadowy incentives of this arms economy.

A military offset is a reciprocal economic agreement associated with large arms and/or infrastructure purchases from foreign countries. They are the result of negotiations between large suppliers and governments and a typical part of such agreements (Economist Intelligence Unit 2013).⁸ According to the US Defense Procurement and Acquisition Policy, the term “offset” refers to:

. . . the entire range of industrial and commercial benefits provided to foreign governments as an inducement or condition to purchase military goods or services, including benefits such as co-production, licensed production, subcontracting, technology transfer, in-country procurement, marketing and financial assistance, and joint ventures. (Defense Offsets Disclosure Act of 1999, Pub. L. 106-113, section 1243(3))⁹

The broad definition reflects the general diversity that exists across offset arrangements, as well as the fact that little systematic information exists. There are two types of offsets: direct offsets relating to the primary military arms transactions, and indirect offsets, which can be entirely unrelated to security (Ungaro 2013). Another classification relates to whether offset contracts entail “countertrade”, “local content requirements” or “bundling” (Markowski and Hall 2006). A “countertrade” provision in an offset agreement refers to the major arms supplier being compensated with goods from the purchasing nation; for example, if part of the contract for military jets is financed with

Transparency International, accessed September 17, 2014,
http://www.transparency.org/topic/detail/defence_security.

⁸ For further information on countertrade and offsets, see “FAQs” issued by the Global Offset and Countertrade Association at <http://www.globaloffset.org/faqs.php> or read about offsets on the EPICOS website at <http://www.epicos.com/Portal/Main/AerospaceDefence/ICOffset/Pages/default.aspx>.

⁹ For more information about the US law, see “Offsets of Foreign Military Sales: FMS Offsets and Other Issues Affecting FMS Procurements Frequently Asked Questions (FAQs),” Defense Procurement and Acquisition Policy (DPAP), accessed September 18, 2014,
http://www.acq.osd.mil/dpap/cpic/ic/offsets_of_foreign_military_sales.html.

palm oil. Such arrangements are argued to be beneficial to host countries because they are export-creating. “Local content requirements” refer to offset stipulations whereby the arms supplier sub-contracts, licenses production or directly finances activities according to the preferences of the arms-importing country. Finally, Markowski and Hall refer to “bundling” as supplying products and services that represent bonuses to the primary arms acquisition. This often takes the form of technology transfers.

Some argue that offset agreements facilitate trade and spill over positively in other sectors unrelated to security (Taylor 2011; Grieve n.d.; Khaitan 2013). Many governments explicitly require offset agreements for all military procurement. In some countries, such as India, the general culture embraces offsets as a means of developing local capacities through technology transfer, creating export markets, and even stimulating foreign investment (Khaitan 2013).

The U.S. Department of Commerce Bureau of Industry and Security (BIS) reports that American defense firms entered into defense export sales contracts worth \$122.67 billion from 1993 to 2011. Of these contracts, associated offset agreements were valued at \$83.73 billion (approximately 68 percent of all contract value) (BIS 2013). The majority of global sales of arms originate from U.S. suppliers. According to a 2012 Congressional Research Service Report, between 2004 and 2011 U.S.-origin conventional arms transfers totaled \$145.2 million. This was twice the amount of arms transfers from the next highest supplier country (Russia, which contracted for \$72.5 million), and nearly six times the amount of transfers from the following two suppliers (France and the United Kingdom, at \$25.7 and \$23.2 million, respectively) (Grimmett and Kerr 2012, 41).¹⁰

Importantly, offsets agreements are not illegal bribes, and the act of offsetting military spending does not explicitly defy international law¹¹ or anti-corruption regimes. Despite criticisms, offsets do not necessarily entail bribery. However, the negotiations involved in order to arrive at an offset agreement may provide avenues for corrupt rent seeking. According to a Transparency International research report, offset agreements are particularly prone to corruption in three specific channels (Muravska et. al. 2010). The lucrative incentives presented in offset packages may influence leaders to procure arms that they would otherwise not. Second, officials involved in the offset negotiation and competition may exploit their influence for personal gain. Third, private sector corruption may also play a nefarious role if private companies collude with the arms supplier to

¹⁰ Interestingly, the US supply of offset contracts especially took off between 2008 and 2011. Between 2004 and 2007, Russia led the world in supply of offset contracts, nearly doubling those of the US in contract value (Grimmett and Kerr 2012, 40).

¹¹ According to WTO’s Agreement on Government Procurement (GPA) Article XXIII, procurements that the acquiring country views as “necessary for the protection of its essential security interests” are exempt from the GPA general ban on offset agreements. Yet when national security interests are involved, private influence may affect the outcome of procurement decisions (Piga 2011, 146).

unfairly extract gains from the offset provisions. The authors' broad categories for corruption in defense offsets highlight just some of the ways that non-competitive, highly secretive and exceedingly complex market for major arms could be rife with rent seeking.

The following statistical analysis is not able to determine whether offset agreements lead to more corruption than arms procurement that does not involve offsets. Unfortunately, it cannot determine if the counter-trade, local context requirements and procurement bundling provisions in offset packages induce corrupt governments to buy unnecessary equipment. Nor will I show definitively whether the complexity and secrecy of military procurement directly feeds political patronage and generates economic losses. Rather, the analysis does establish that there is an empirical link between major arms procurement and subsequent foreign investment, which is stronger the higher the levels of perceived corruption.

3. Empirical Methods and Data

The analysis presented here extends the earlier empirical strategy, utilizing some of the same model specifications as the previous article (Drezner and Hite-Rubin 2014). I first revisit the correlation between foreign direct investment and military spending to show how the relationship is tied to perceptions of corruption. In addition to looking at military spending, I narrow the focus to arms transfers (a component of military spending). As discussed in the previous section, these arms transfers are often tied to military offset agreements. Such agreements are becoming increasingly more complex, and may in their own right produce avenues for FDI. Through this empirical analysis, I explore the possible connection between arms purchases and FDI.

The data are organized in pooled time-series cross-sectional format (TSCS), covering 92 countries from the end of the Cold War (1990) through 2008. The results presented account for heteroskedasticity, autocorrelation and cross-sectional dependence of the data. All of the variables utilized in this analysis are described in Table 1.

3.1 Corruption

I utilize two independent index measures of corruption. The primary measure (*corr*) is a measure of “corruption within the political system . . . [that is] a threat to foreign investment,” determined annually and published as part of the ICRG.¹² This indicator

¹² The *ICRG Methodology* explains more fully that this is an assessment of corruption within the political system. Such corruption is a threat to foreign investment for several reasons: it distorts the economic and financial environment; it reduces the efficiency of government and business by enabling people to assume positions of power through patronage rather than ability; and, last but not least, it introduces an inherent

measures country-level corruption on a 0–6 relative scale: 6 is considered a perfect score and 0 is considered extremely corrupt. To insure robustness the analysis is retested using Transparency International’s Corruption Perceptions Index (TI’s CPI) as an alternative measure (*ti_cpi*). The two corruption indices have a correlation coefficient of .837. The ICRG measure is arguably a more appropriate measure for this analysis, because of its balance with respect to the data set and focus on foreign investor incentives.¹³

3.2 FDI inflows

The dependent variable is a measure of net FDI inflows into the host country in a given year, measured in current US dollars. There are two measures of FDI inflows: one relying on Political Risk Services (PRS) Group data, and one relying on World Bank data. The PRS Group’s International Country Risk Guide (ICRG) is a subscription-based service that provides data on foreign investment and country-specific political and economic factors.¹⁴ Both sources utilize the same definition and measure for FDI inflows, with the two sources co-varying at over 90 percent.

3.3 Military spending

Military expenditure data are from the National Material Capabilities (NMC) data set, which is part of the Correlates of War Project at the University of Michigan. Its variable *milex* is a country-year measure of military expenditures, measured in current US dollars. This project utilizes the most recent version (4.0) that covers 158 countries from 1990 to 2007.

3.4 Arms purchases (from abroad)

This logged variable utilizes SIPRI’s five-year moving average of arms transfers, a measure that aims to account for year-to-year fluctuations in arms delivery given the often significant variation in total annual transfers (Wezeman and Wezeman 2013, 1). The value is a trend indicator value, designed by SIPRI as a roughly equivalent in estimate of the current dollar value of arms import volumes. The value is not to be confused as an exact

instability into the political process. (PRS Group 2014) The *ICRG Methodology* also contains maximum points for these variable and related formulas for calculating risk.

¹³ “Balance” refers to the consistency in coverage of country-year observations over the post–Cold War data set. The PRS Group provides data as an investment-focused consumer service. The data it covers are most complete for middle income and emerging market countries.

¹⁴ More information about PRS Group’s data is available at <http://www.prsgroup.com/ICRG.aspx> and <http://www.prsgroup.com/CountryData.aspx>.

value, and thus relative comparisons are more meaningful than absolute figures. Notice in Table 1, that both logged military expenditures (*lmilex*) and arms imports (*larms_i_*) are both negatively associated with corruption. This descriptive statistic indicates that both arms imports and military spending tend to be higher in less corrupt countries. Similarly, the raw correlation test statistic across FDI and corruption is also negative and significant. FDI inflows are lower on average the more corrupt a country is perceived to be.

[INSERT TABLE 1]

3.5 Core political and economic controls

Many institutional, economic and political factors account for changes in FDI inflows from one year to the next. The data set is constructed to comprehensively control for these competing explanations, ensuring that relationships between military spending and FDI inflows are not spurious. The following measures are utilized throughout the findings section. Later, the number of controls is increased in order to verify the robustness of the findings.

Economic Controls. I use two measures control for market size. Logged population (*lpop*) is taken from the Composite Index of National Capability (CINC)¹⁵ version 4.0, which is based on the NMC data set. In addition, CINC's measure for logged primary energy consumption (*lpec*) provides a fairly good proxy for the size of the domestic market within a country in a given year. This energy consumption variable is measured in thousand coal-tons by country-year. In addition to market size, level of economic development is another key control and is measured here as the log of GDP per capita in constant, 2005 US dollars (*lgdp_percap*). This measure is calculated by taking the log of GDP (*gdppcw05*). The control for economic growth is the annual change in estimated GDP, at constant 1990 prices (*gdp_grow*). Finally, a measure from the Penn World Tables (*pst_gsg*) controls for the role of government size in attracting foreign capital, measuring total government spending as a percentage of GDP.

Political risk. The PRS Group's ICRG political risk measures are also used as control variables. The ICRG collects political and economic information and converts these into annual "risk points," or indexed assessments of financial risk in a given country, along several dimensions. Five of these dimensions are used in the data set. The first is corruption (*corr*), which the ICRG measures annually on a 0–6 scale. Another dimension is foreign

¹⁵ This data set is part of the Correlates of War Project, established in 1963 by J. David Singer, a political scientist at the University of Michigan. The Project's goal has been "the systematic accumulation of scientific knowledge about war." See "Project History," Correlates of War, accessed September 17, 2014, <http://www.correlatesofwar.org>. The CINC covers the period from 1816 to 2007 and is "the most widely used indicator of national capability" (see "Available Data Sets" on the Project's website).

debt (*f_debt_gdp*), an annual measure of gross foreign debt expressed as a percentage of GDP. The third dimension is an annual measure of government budget balance (*bb_gdp*), expressed as a percentage of GDP. Fourth, the ICRG provides a 6-point index measure of “law and order”¹⁶ (*law_o_*). The ICRG calculates this risk point based on a combined score that measures the strength and impartiality of the legal system, along with an assessment of the observance of law in practice. Finally, the ICRG's combined economic risk rating (*riskr_*) rates investor risk for each country yearly from 0 (highest risk) to 50 (least risk).¹⁷

International organizations and treaties. Another major factor that can explain FDI flows is bilateral investment treaties (BITs) (Tobin and Rose-Ackerman 2011, 2005). In order to control for the role of bilateral investment treaties, I generated a unique variable *bit*, which, is a country-year measure of the number of active BITs a particular country has with other countries. The intuition behind the measure is that the greater the number of active BITs a country has in a given year, the more capital investment is likely to follow. The variable is constructed with 4,199 country-year observations, with countries averaging 14 treaties in any given year. The model specifications also include two control variables to account for the role of institutionalization upon both attracting FDI and (possibly) stimulating military spending. Formal membership in GATT or WTO is an independent variable to control for the effect of trade alliances. This measure (*GATTWTO*) comes from the Ulfelder International Organizations database. This is a dichotomous measure, coded as a 1 for every year that a given country is a member of either GATT or WTO. In addition, Ulfelder's measure for NATO membership accounts for the possible role of security alliances. *NATO* is a categorical variable, also country-year level of analysis, coded as 0 (neither a member nor formally invited to join), 1 (formally invited to join but not a member), or 2 (member). Both of these control variables cover 160 countries over the 1990–2008 timeframe.

Institutional environment. In addition to political risk factors and international relations variables, I include additional controls for the domestic institutional environment. One such control is the size of government (*pwt_gsp*), a measure of aggregate government

¹⁶ These two measures comprise one risk component, with each sub-component equaling half of the total. The “law” sub-component assesses the strength and impartiality of the legal system, and the “order” sub-component assesses popular observance of the law. (Refer to ICRG Methodology regarding maximum points for these variable and related formulas for calculating risk.)

¹⁷ “Economic risk rating” is a means of assessing a country's current economic strengths and weaknesses. In general, where strengths outweigh weaknesses a country will show low risk, and where weaknesses outweigh strengths the economic risk will be high. To ensure comparability between countries, risk components are based on accepted ratios between the measured data within the national economic/financial structure, and then the ratios are compared rather than the data. Risk points are assessed for each of the component factors of GDP per head of population, real annual GDP growth, annual inflation rate, budget balance as a percentage of GDP, and current account balance as a percentage of GDP. Risk ratings range from a high of 50 (least risk) to a low of 0 (highest risk), though the lowest de facto ratings are generally near 15.

spending as a percentage of GDP. The logic behind this being that official government spending tends to be rather low in more corrupt countries, and military spending (and thus arms procurement spending) is but one component of the overall government budget. I control for size of government, so to avoid spuriously attributing the impact of increasing the size of the public sector to the effects at hand. Similarly, I also control for net development aid (*wdi_aid*), a measure of foreign financial assistance from abroad. I also employ the Freedom House democracy score (*fh_polity2*) and two measures of political stability (*ucdp_count*, *p_durability*). The *ucdp_count* is a measure of the number of conflicts a country is involved in, and *p_durability* is a count of the number of years since a country had undergone a regime change. Unsurprisingly, on table 1, we see that more “corrupt” countries have significantly lower democracy scores, less durable regimes and have experienced more conflicts during the time (1990-2008) time frame.

4. Military spending and FDI in “corrupt countries”

The analysis shows that countries riddled by corruption tend to attract greater foreign capital when their military spending rises. Although a link between military spending and FDI does not hold in less corrupt economies, the relationship is positive and significant for the emerging market economies (EMEs) in the sample. I demonstrate this by first testing for the relationship among all countries in the global sample and then “splitting” the analysis by corruption levels.

Table 2: Military spending and FDI, by level of corruption

Net FDI Inflows (PRS)	ALL	Low Corruption	Corrupt
	Model 1	Model 2	Model 3
<i>lmilex_percap</i>	0.271**	-0.235**	0.322**
	0.104	0.0923	0.117
<i>lgdp_pc</i>	1.952***	3.458***	1.819***
	0.267	0.367	0.446
<i>gdp_grow_</i>	0.0485***	0.0474***	0.0454**
	0.0149	0.0106	0.0175
<i>bit_</i>	0.0219***	0.0167***	0.0333***
	0.004	0.00473	0.00626
<i>corr_</i>	-0.069	-0.0252	-0.0449
	0.0624	0.0841	0.104
<i>riskr_</i>	0.0316***	0.012	0.0276**

	0.00868	0.0124	0.0107
f_debt_gdp_	-0.00291***	-0.000417	-0.00431***
	0.000752	0.00196	0.00143
bb_gdp_	0.00724	0.0150**	0.00715
	0.0049	0.00602	0.00478
lpec	0.17	-0.402	0.287*
	0.114	0.311	0.15
law_o_	0.104**	0.0704	0.114*
	0.0487	0.0545	0.0625
NATO	0.147*	0.0484	0.423***
	0.0709	0.0884	0.0831
GATTWTO	0.330**	0.950***	0.202
	0.121	0.226	0.142
pwt_gsg	-0.00319***	-0.00367	-0.00276**
	0.000965	0.00399	0.00103
Constant	-22.21***	-28.32***	-21.86***
	2.387	4.827	3.644
Observations	1,362	503	859
Number of groups	88	55	74

Notes: Split analysis of military spending and FDI inflows, over corruption level. Estimation of pooled OLS/WLS and fixed effects (within) regression models with Driscoll and Kraay (1998) standard errors. *** p<0.01, ** p<0.05, * p<0.1. Note that the number of groups refers to the number of countries in the model specification. Since corruption scores vary from year to year, the “low corruption” and “corrupt” country groups overlap.

The results presented in Table 2 demonstrate that the relationship across FDI and military spending hinges significantly upon perceptions of corruption. Here, I split the sample by corruption measure to see if military spending relates to FDI differently for corrupt states. The ICRG measures corruption annually with a relative scale, assigning 75 percent of countries to a score of 4.0 or lower. I coded countries with a score of 4.5 or higher as “Low Corruption” and countries scoring 4.0 or lower as “Corrupt.” The split analysis above compares countries that are perceived as corrupt (model 3) to those not perceived by international investors as being corrupt (model 2). What is striking in this analysis is that the relationship between military spending (*lmilex*)¹⁸ and FDI is significant

¹⁸ This logged variable utilizes SIPRI’s military expenditure data. This data aggregates (where possible) all current and capital expenditure on

- the armed forces, including peacekeeping forces,
- defence ministries and other government agencies engaged in defense projects,
- paramilitary forces, when judged to be trained and equipped for military operations, and
- military space activities.

Such expenditure should include

and negative for the subsample of non-corrupt states. This negative relationship for non-corrupt countries is striking in comparison to the robust positive relationship seen in corrupt countries. In countries where corruption does not detract from investor confidence, perhaps military spending is a signal of waste. The relationship for country-year observations that fall at or below 4.0 on the corruption scale is robust and positive, in the same manner as the full sample¹⁹.

One possible explanation for why countries with higher levels of corruption benefit from military spending is that it may signal to international investors that their assets are more secure. This interpretation comports with the geo-economic favoritism hypothesis that military spending attracts foreign investment. Countries that are corrupt have inherently insecure institutional environments, and thus require the expensive signal of military spending to demonstrate to investors that the risk of seizure or conflict is minimized. The primary analysis in Figure 1 supports the claim that military spending may send a favorable signal to foreign investors in such environments. Yet, is it possible that another factor may explain this divergence?

To address the relationship across military procurement, corruption and FDI, I need to “unpack” the measure of military spending. In doing so, I investigate whether military procurement, a component of aggregate military spending, explains the FDI increases in corrupt economies. I look at the potential role of corruption as a factor independently resulting in kickbacks and offsets that may increase the level of FDI. In the preceding analysis, I utilized a measure for aggregate military spending, which is seen to reflect military *power* and thus enables testing of the geo-economic favoritism hypothesis. I find support for geo-economic favoritism only in countries with moderate to high levels of corruption. The question at hand, then, is twofold. First, is it possible that military offsets are driving the finding? In other words, when military procurement costs are removed from the aggregate military spending measure, do the initial results still hold? Second, in addition to testing for the robustness of the geo-economic favoritism interpretation I analyse the role of arms transfers alone. Here, I ask whether military purchases on the international market correspond to higher FDI.

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- military and civil personnel, including retirement pensions of military personnel and social services for personnel,
 - operations and maintenance,
 - procurement, military research and development, and
 - military aid (in the military expenditure of the donor country. (Perlo-Freeman and Solmirano 2014, 8).

¹⁹ Note that the cut off point of 4, is selected as a conceptual benchmark in line with the ICRG’s 75 percentile ranking. In our forthcoming article, we employ marginal-effects analysis to demonstrate that the relationship is insensitive to this arbitrary cut-off.

	FULL SAMPLE	Lowest Corruption	Medium Corruption	Highest Corruption
	Model 1	Model 2	Model 3	Model 4
lmilex	0.233**	-0.393*	0.347**	0.208**
	0.106	0.208	0.121	0.0972
larms_imports	0.0422	-0.00988	0.121*	0.183**
	0.0281	0.028	0.0591	0.0783
corr_	-0.062	0.0282	0.00586	0.0695
	0.0512	0.102	0.12	0.109
lgdp	1.973***	3.115***	2.072***	2.878***
	0.231	0.478	0.426	0.411
ltpop	1.751***	-1.420*	1.710**	3.344***
	0.517	0.772	0.67	0.939
bit_	0.0215***	0.0193***	0.0223**	-0.0209***
	0.00433	0.00463	0.0079	0.00533
riskr_	0.0180*	0.0226	0.0162	0.00859
	0.01	0.0162	0.0101	0.0141
f_debt_gdp_	-0.000999	0.00371	-0.00124	0.000383
	0.00195	0.00385	0.00233	0.00166
bb_gdp_	0.0311***	0.0194*	0.0318***	0.0256**
	0.00646	0.0095	0.0106	0.00957
lpec	-0.652***	-0.557	-0.515	-0.392
	0.201	0.398	0.359	0.304
law_o_	0.0473	0.0662	0.0289	0.0328
	0.0314	0.0473	0.0408	0.0515
Constant	-51.96***	-35.11***	-57.03***	-89.03***
	5.468	4.585	7.775	8.143
Observations	1,091	455	547	289
Number of groups	86	51	68	53

Notes: Estimation of pooled OLS/WLS and fixed effects (within) regression models with Driscoll and Kraay standard errors. *** p<0.01, ** p<0.05, * p<0.1

The regressions presented in Table 3 are consistent with the preceding analysis. The inclusion of arms imports as a control variable appears to bolster, rather than challenge, the main finding. Increased military spending is associated with higher FDI for corrupt states and lower FDI for non-corrupt states.²⁰ The analysis in Table 3 therefore supports the geo-economic favoritism hypothesis that an increase in aggregate military spending signals to foreign investors that the country is more capable of protecting the assets of foreign investors. However, the results also strikingly show that, while the core finding remains robust, arms imports also appear to predict FDI inflows. Notice that this relationship is only significant for the subsample of countries that are “corrupt.” Specifically, arms imports (*larms_i_*)²¹ are positively and significantly associated with FDI for countries that are perceived as moderately to very corrupt. In other words, the more corrupt a country is perceived to be, the higher the likelihood that an increase in arms imports corresponds to an increase in FDI inflows. This empirical finding may provide a first glimpse at the prevalence of military offsets and kickbacks associated with arms purchases.

[INSERT TABLE 4]

	FULL SAMPLE	Lowest Corruption	Medium Corruption	Highest Corruption
	Model 1	Model 2	Model 3	Model 4
<i>larms_i_</i>	0.0643	-0.0871**	0.181***	0.321***
	0.0417	0.0364	0.0599	0.0617
<i>corr_</i>	0.0288	0.258*	0.029	0.0595
	-0.0713	-0.129	-0.0805	-0.13
<i>lgdp</i>	1.628***	0.920*	2.371***	2.911**
	-0.42	-0.43	-0.716	-1.123
<i>ltpop</i>	2.074*	0.632	1.325	2.273**
	-0.983	-1.293	-0.958	-0.897
<i>bit_</i>	0.0274***	0.0183*	0.0266**	-0.0171
	-0.00449	-0.00907	-0.0121	-0.0134
<i>riskr_</i>	0.0222**	0.0144	0.0124	0.00724
	-0.00932	-0.0137	-0.01	-0.0184
<i>f_debt_gdp_</i>	-0.00545**	0.000561	-0.00754**	-0.00343**
	-0.00197	-0.00338	-0.00313	-0.00149
<i>bb_gdp_</i>	0.0233*	0.0500***	0.00719	-0.0263
	-0.0122	-0.015	-0.0147	-0.0176

²⁰ One could simply subtract arms imports from aggregate military spending, but SIPRI advises against combining these two measures into one factor because the data for the two measures are unbalanced.

²¹ This logged variable utilizes SIPRI’s five-year moving average of arms transfers, a measure which aims to account for year-to-year fluctuations in arms delivery given the often significant variation in total annual transfers (Wezeman and Wezeman 2013, 1).

lpec	-0.701***	-0.374	-0.388	-0.306
	-0.147	-0.32	-0.297	-0.622
law_o_	0.126**	0.0878	0.115	0.0689
	-0.0506	-0.0788	-0.0687	-0.0736
NATO	0.274*	-0.0779	0.603**	-0.575***
	-0.141	-0.109	-0.249	-0.133
GATTWTO	-0.378**	1.380***	-0.494***	-0.897***
	-0.148	-0.29	-0.156	-0.199
pwt_gsg	0.000345	0.0131**	0.000339	0.000344
	-0.000516	-0.0061	-0.000759	-0.00104
wdi_aid	2.25e-10***	1.75e-10***	2.40e-10***	1.67e-10***
	0	-5.31E-11	-7.07E-11	0
ucdp_count	0.145**	0.0797	0.158***	0.155***
	-0.0557	-0.362	-0.045	-0.0375
fh_polity2	0.0619	0.633***	0.0273	-0.0567
	-0.073	-0.195	-0.0676	-0.0768
p_durable	-0.0028	0.0824**	-0.0223	0.0136
	-0.0131	-0.0279	-0.0189	-0.0218
Constant	-45.80***	-28.81**	-54.88***	-76.93***
	-4.984	-10.97	-7.757	-16.54
Observations	593	143	397	207
Number	61	30	58	43

To further explore the relationship between arms procurement in corrupt countries and FDI, I have excluded military spending and expanded the model specifications. Table 4 presents the results after extending the analysis to control for conflict-related factors, and isolating the relationship between arms imports and net foreign direct investment inflows. The relationship across arms imports and FDI is quite similar to the relationship across military expenditures and FDI. However, there is one key distinction: arms sales appear to more strongly predict FDI the more corrupt the country is perceived to be. In addition to the core set of controls, I also included measures for international organization membership (NATO, GATTWTO), size of government (pwt_gsp), net development aid (wdi_aid), democracy score (fh_polity2), and two measures of political stability (ucdp_count, p_durability)²². The relationship between the controls and the dependent variable (net FDI

²² These controls were also utilized in (Drezner and Hite-Rubin) as part of additional robustness checks and specifications for testing the relationship across aggregate military spending and FDI. The findings

inflows) are interesting in their own right and warrant further consideration beyond this chapter. What is perhaps most striking is that the number of conflicts a corrupt state has been involved in since the Cold War (`ucdp_count`) positively predicts FDI inflows. Also, relative democracy level (`fh_polity2`) among corrupt and very corrupt states doesn't seem to make a difference when it comes to attracting FDI. Net development aid flowing into countries corresponds to higher FDI, regardless of corruption level. Most importantly, the inclusion of these controls shows us that the volume of arms transfers corresponds to higher FDI, when holding a multitude of important political and economic factors constant.

5. Conclusion

The findings present us with an empirical puzzle that inspires more questions than answers. How can it be the case that for countries such as the Philippines or South Africa, or even the Democratic Republic of Congo, tend to acquire an influx of foreign investment following major military purchases?

An optimistic take on this could be that the offset agreements are making it possible for foreign investors to enter markets that were deemed too risky. In other words, we see that the increase in FDI associated with arms procurement is higher the more corrupt the state is. The observed bump in FDI inflows could be a function of contract “bundling”, as well as, spill over from opening new streams for foreign investment. Consider for example, a scenario wherein a company such as Pepsi invests in Indonesia as part of the offset package for purchasing fighter jets from Lockheed, an American company. Lockheed distributes some of the expected profits to Pepsi, and all colluding parties profit on both the supplier and purchasing end. The success of this contract inspires other MNCs to invest in Indonesia, and thus FDI further increases.

Unfortunately, the rosy scenario is likely to be incomplete. First, we do not know if the Indonesian government would have bought fighter jets, but for the offset package inducements. Second, it may also be unclear if the winning contract was most beneficial to the Indonesian government and economy, or if there were side payments involved. Finally, even if the sale of major weapons to Indonesia corresponds to a boost in FDI, it is not obvious that this is welfare enhancing. In other words, foreign investment for a “bridge to nowhere” could register as FDI but actually undermine the host country's development prospects and international profile.

The preceding analysis demonstrates that a robust correlation exists across arms procurement and FDI, while controlling for economic, geo-political and institutional factors. The finding that arms procurement corresponds to higher FDI, at an increasing

from both analyses discussed in this chapter and the related paper are robust to additional controls and alternative regression estimators.

rate on the axis of corruption, is critical. The question for future research is *why*? One interpretation is that the purchase of major arms, and associated military offsets, may act a springboard for opening broader foreign investment into corrupt markets. The economic, political and security implications of this cannot be understated

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