Propagating a permanent war economy? U.S. FDI in warring host countries

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Abstract

Purpose – Conventional wisdom suggests that war in the host country makes it unattractive for foreign firms to invest. To see if this is true for US firms on the aggregate, this paper aims to examine the veracity of a “permanent war economy” hypothesis, that foreign direct investment (FDI) may, in fact, increase in the host country not despite, but because of, war, i.e. one that lends credence to the idea that, in the USA, “defense [has] become one of constant preparation for future wars and foreign interventions rather than an exercise in response to one-off threats.”

Design/methodology/approach – The authors test the hypotheses using Generalized Method of Moments estimation, with Heckman Selection, on US FDI data from the Bureau of Economic Analysis and war data from the Correlates of War2 Project, the Uppsala Conflict Data Program/International Peace Research Institute data set, the International Crisis Behavior Project and the Center for Systemic Peace Major Episodes of Political Violence data set. The final sample consists of 351 country-year observations in 55 host countries from 1982 to 2006.

Findings – The findings indicate that overall US FDI in a host country in a given year decreases if the host country is engaged in wars with multiple countries and if the US Government is involved in the war. Most notably, the results show that US involvement in multiple host country wars is actually correlated with increased US FDI into the host country, providing empirical support for the “permanent war economy” hypothesis.

Originality/value – While other studies have focused on war and FDI, the authors have sought to show the impact of the involvement of arguably the most influential country, i.e. the USA, in the sovereign matters of a focal host country. By studying FDI from the USA as a function of US involvement in wars overseas, over the years with the greatest use of private military companies by the USA and the largest portion of global FDI accounted for by the USA, this work motivates a research agenda on home-host-other relations in the context of war and FDI, with the “other” being the supranational “elephant in the room.”

Keywords FDI, War

Paper type Research paper

“Trade must be driven and maintained under the protection and favor of your own weapon [. . .] trade cannot be maintained without war, nor war without trade.” – Jan Coen, Governor General of the Dutch East Indies Company

Introduction

War in a country devastates its economy – or does it? Scholars have argued both sides of the coin, namely, that war reduces foreign direct investment (FDI) (Witte et al., 2017) and that trade binds warring countries in spite of war (Gartzke et al., 2001), the latter a classical liberal hypothesis dating back to Adam Smith and Immanuel Kant. We examine the veracity of a third – permanent war – hypothesis that FDI may increase in a country because of war (Arikan et al., 2020), i.e. one lending credence to the notion that “defense [has] become
one of constant preparation for future wars and foreign interventions rather than an exercise in response to one-off threats” (Duncan and Coyne, 2013, p. 415). To the best of our knowledge, the existence of permanent war economies, where “governments – despite public statements to the contrary – may actually be perpetuating rather than deescalating conflict” (Oh and Oetzel, 2017, p. 718), has not hitherto been studied in the international business (IB) literature.

The interactions between political risk and FDI have been thoroughly assessed in the political science and foreign policy literatures (Li, 2006; Pollins, 1989; Schneider and Frey, 1985), where trade (Mansfield and Pollins, 2001) and FDI (Albino-Pimentel et al., 2021) are said to depend on peace, i.e. countries trading with each other are less prone to war. In the IB literature, scholars have examined the impact of bilateral military conflicts on cross border acquisitions (Li et al., 2020), finding that countries with more battle-related deaths receive less greenfield FDI (Witte et al., 2017). Yet, even as “manmade disasters, in particular war, terrorism, and political violence, are often closely intertwined with economic, political, historical, and international relations at large […] relatively little effort has been made to integrate international relations and antecedent literatures with IB research in the context of disasters” (Nielsen et al., 2023, p. 6). Furthermore, the effects of war on US FDI – and US involvement in such wars – have received little attention (Nigh, 1985; Biglaiser and DeRouen, 2007), despite increased flows of US funds to countries with US military interests.

In this paper, we study the resulting “permanent war economy,” where since the Second World War, US defense funding has filtered through to not only giants such as Lockheed Martin and Northrop Grumman but also private military firms to influence services in finance and administration, leisure and hospitality, health and education, construction and other manufacturing (Fuller, 2011). We build theory to isolate a cause (i.e. US involvement in wars) and an effect (i.e. US FDI overseas) of the permanent war economy in the USA, empirically testing the notion that not only the domestic profits of private interests constitute the main reason for US entry into wars (Duncan and Coyne, 2013). That profit from wars accrues to those who use war to protect foreign commercial interests is not a new notion, first surfacing after the First World War (Engelbrecht and Hanighen, 1934) and now embodied in a sustained post 9/11 military-industrial complex, i.e. permanent war economy, propagated by consultants, counterterrorism experts and pundits (Mueller, 2006).

Although theories of FDI do not typically account for war, “war risk” is a major source of political risk covered by insurers of FDI, alluding to FDI’s vulnerability to the threat of war (Jensen and Young, 2008). From 1946 to 2014, there were 259 wars active in 159 locations across the world (Pettersson and Wallensteen, 2015). One in four people (1.5 billion) live in countries affected by armed violence (World Bank, 2017), and between 1989 and 2009, around 2.4 million people worldwide died as a result of war (Kevlihan et al., 2014). In a survey by the Multilateral Investment Guarantee Agency (MIGA), multinational enterprises (MNEs) indicated that a stable social and political environment is a key driver of FDI, second only to access to customers and placing ahead of corruption, taxes and labor relations (p. 19), with risks to the physical security of facilities and personnel being the most salient concerns associated with war (p. 27).

Our study extends knowledge on both FDI theory and phenomena. First, we contribute to the literature on bilateral military conflicts and FDI, which remains scarce (Li et al., 2020). We examine FDI from the USA as a function of US involvement in overseas wars over the years in which the US accounted for the largest portion of global FDI and aid, for needs arising from – mostly – war (Kevlihan et al., 2014). In 2009, for instance, the USA provided 28% of all humanitarian assistance worldwide (UN OCHA, 2011). Our study thus provides initial insights into the empirical realities of the permanent war and debt (i.e. financial war)
economies perpetrated by the USA and represents one of the most comprehensive accounts of US state involvement and US outward FDI (for an analysis of US inward FDI, see Groesse and Trevino, 1996). In doing so, we identify key distinguishing elements between US FDI and non-US FDI.

Second, unlike other studies on war and FDI, we shed light on the involvement of the most influential country, i.e. the USA, in the sovereign matters of countries. With a 16% voting share in the International Monetary Fund (IMF), the USA is by far the largest voting member in this and other supranational organizations, with the power to dictate the policies of entire nations (IMF, 2016). In addition, the USA also plays a unique role in shaping the fates of developing countries, as the only World Bank shareholder that retains veto power over changes in the Bank’s structure (World Bank, 2017) and the largest donor to the United Nations (UN) for more than 70 years (Council for Foreign Relations, 2022). As such, our study represents an important step in understanding home-host-other relations in the context of political risk and FDI.

Theory and hypotheses
Firms carrying out FDI are subject to the jurisdictions of both home and host country governments that not only regulate the investment context but also manage interstate political relations (Li and Vashchilko, 2010). The outbreak of war, as a breach of such relations, may irreparably affect policies related to, for instance, expropriation, divestment, exchange control, contract enforcement, profit repatriation, taxation and other relevant regulations (Li, 2008). As “many host country officials and citizens do not distinguish between the interests of the U.S. government and those of U.S. direct foreign investors,” instances of inter- and intra-country war serve as a valuable source of information for investment climates abroad (Nigh, 1985, p. 4).

For example, FDI in Yugoslavia was stable in the 1980s before Slovenia and Croatia declared independence in 1991, when hostilities began immediately between Yugoslavia and Croatia. The UN and North-Atlantic Treaty Organization (NATO) blamed Yugoslavia and imposed a trade embargo, deployed “peacekeeping” troops in Bosnia, and conducted bombing raids against Serbian forces (Perez, 2003), all of which reduced FDI flows into Yugoslavia, as foreign firms perceived a “problem” in the region, i.e. “a combination of intensified fighting together with US and NATO bombings” (p. 13). Similarly, the ousting of the Mubarak regime in Egypt in 2011 caused FDI in Egypt to plummet from $6.5bn in 2009 and 2010 to a $500m net divestment in 2011 (UNCTAD, 2012). More recently, many foreign firms exited from Myanmar during its 2021 military coup, an example being Japanese beer company Kirin, who withdrew from a joint venture with Myanmar Economic Holdings Limited (Owens, 2022).

Accordingly, political instability in the host country has been found to exert a negative effect on FDI flows (Büsse and Hefeker, 2007; Bussmann, 2010), as well as MNE entry (DeGhetto et al., 2020; Henisz et al., 2010) and commitment (Oh and Oetzel, 2011). In a study of US manufacturing FDI in 24 countries over 21 years, Nigh (1985) finds that FDI is reduced by interstate and intrastate conflicts in the host country, but increased by interstate and intrastate cooperation. In an analysis of US FDI in 143 countries from 1994 to 1997, Globerman and Shapiro (2003) find that an index of political violence, including armed conflict, social unrest and terrorist threats, does not influence the probability of whether a country receives FDI, but reduces the amount of FDI a country receives.

Other studies suggest that war has no significant effect on FDI (Li and Vashchilko, 2010; Sethi et al., 2003). Li (2006) finds that unanticipated interstate wars negatively affect FDI but detects no association between FDI and terrorism or intrastate wars, the latter of which has
a larger negative impact on trade than interstate wars (Marano et al., 2013). Büsse and Hefeker (2007) show that while civil war negatively affects FDI, interstate war has no effect. In a study of positive interstate relations, Biglaiser and DeRouen (2007) find that the presence of US troops encourages US FDI flows to 126 developing countries between 1966 and 2002, concluding that US troops stationed in countries indicate possible US alliances and thus investment stability that is specific to US firms.

From surviving and thriving in war zones to war profiteering
In the IB literature, studies show that although new ventures in regions with homicides and kidnappings have lower survival rates (Hiatt and Sine, 2014), MNEs facing severe political risk can increase their chances of survival by providing goods or services that are perceived as socially valuable (Darendeli and Hill, 2016). In addition to strengthening social ties by focusing on projects related to, for instance, water, transportation and telecommunication (Darendeli et al., 2021), firms can become more resilient to wars by building redundancy in their global network (Dai et al., 2017). While greater proximity and size of wars negatively affect firm survival (Dai et al., 2013), even localized crime can create a geographic halo effect at the country level to reduce FDI (Ramos and Ashby, 2013). Controlling for severity and spatial attributes, Nayal et al. (2020) find that fatality distributions of violence across civilians and regimes influence firms’ market values.

While wars are found to deter firm entry, studies show how firms that have experience with high-impact disasters (Oetzel and Oh, 2014), weak home institutional (Driffield et al., 2013) or high crime (Ramos and Ashby, 2013) environments and dangerous countries (DeGhetto et al., 2020) may not be easily dissuaded and may even profit from war (Chen, 2017; Oetzel and Miklian, 2017). It may further be experience with how host governments manage risks rather than firm-specific experience (Oh and Oetzel, 2017), as well as recent, frequent and high-impact experience that facilitate firm entry (Oh et al., 2021). Experience with war can also shape firms’ ordering of decisions, which can both produce and preclude strategic choices and outcomes (Dai et al., 2022). Buckley et al. (2020) point to a boundary condition for experience beyond which firms enjoy no advantages over less experienced counterparts, whereas for industry boundary conditions, extractive firms are less sensitive to wars (Skovoroda et al., 2019; Witte et al., 2017).

War can thus definitively increase FDI. As conduits of FDI, MNEs have long exploited wars (Owens, 2022). Historical research shows that Britain’s East India Corporation and other early MNEs often used war to defend and extend commercial interests via armed force at sea and on land (Phillips and Sharman, 2020). During the First World War I and the Second World War, MNEs grew and expanded aggressively, exploiting political instability. In the Second World War, for example, Danish construction firms worked with the Nazis and used forced labor in Estonia and Poland to achieve tech advancement and internationalization (Lund, 2010). In modern times, war is also driven as much by commerce as by political agendas. Notably, US firms such as Halliburton, KBR and Brown and Root made billions of dollars from military contracts in the Balkans and Iraq, often without competitive bidding, before, during and after wars (Gaffney, 2018). Other firms across a range of industries reap benefits from war via access to government contracts for data, materials, innovations, labor and military intelligence for economic purposes (Sorensen, 2020).

Given the inconclusive findings, we argue that any impact of war on FDI, if present, may be more amenable to detection if the home country is isolated. Variations in the home country of the FDI may confound the relationship, as the effect of war depends on the extent to which the violence poses a continuous risk to business activities, which can be contingent
on the home country of the originating firms (Li, 2008). Firms in countries at war are prone to expropriation due to capital controls and low transferability of assets, where policy changes engendered by war will likely reduce FDI. In some cases, countries may even use security crises as a justification for targeting foreign firms (Kobrin, 1979). US FDI, in particular, may be subject to targeting given the nature of the US Government’s frequent involvement in wars abroad (Duncan and Coyne, 2013) and its sanctions placed on countries (Meyer et al., 2023).

Even without inducing policy changes, war may reduce FDI by interfering with public utilities, transportation, communication and the smooth functioning of the market, disrupting production (Darendeli and Hill, 2016), destroying private property and public infrastructure (Witte et al., 2017) and altering social and political institutions (Albino-Pimentel et al., 2021). In particular, multiple wars in a country can suppress demand and depress human capital, as skilled individuals are enlisted for war efforts, killed or injured in the ensuing violence, or uprooted and dislocated (Hiatt and Sine, 2014). A greater number of wars also has the potential to damage infrastructure and weaken productive capacity, both crucial to FDI (Blanton and Blanton, 2009).

The effect of multiple wars on FDI is evident in Libya’s wars with Chad, the Sudan and Uganda in the 1970’s, which ended in the early 1980s, and FDI inflows became positive in 1985, after 13 years of reduced FDI in Libya (Perez, 2003). As Cornwell et al. (2023) note, unlike a localized, single conflict, dispersed, nationwide fighting can make basic infrastructure redundant and halt the normal functioning of an economy. To the extent that war increases the urgency in a country to reallocate resources (Dimitrova et al., 2022), an increase in the number of wars may distort policies in favor of domestic firms at the expense of foreign firms. We thus expect the “multiple exposure” of firms’ physical security to multiple wars in a country (Dai et al., 2013) to be associated with a reduction in FDI, such that:

H1. An increase in the number of wars in a host country is associated with a decrease in US FDI in the host country.

A distinguishing trait of foreign firms in a host country is their nationality, which associates them with the political stance of their home country. As foreign firms are often perceived as informal representatives of their country of origin (Cuervo-Cazurra et al., 2007), they can become the target of retaliatory actions in a war, especially in the event of home country engagement. For the USA, involvement in another country’s war(s) typically consists of either participation or mediation. If the USA is active in combat against a country, US firms will likely not invest due to possible policy changes against US entities or consumers in the country being reluctant to purchase US goods and services (Li, 2008).

Similarly, US FDI in a country should decrease if the USA provides the country’s enemy with weapons, which typically correlates with economic sanctions against the host country. In the Iran–Iraq War between 1980 and 1988, for example, the USA was involved in Iran via the 1980 hostage-rescue attempt and the 1988 strikes on offshore oil platforms in the Persian Gulf, where the USA declared Iran a sponsor of international terrorism and imposed sanctions in 1984 (Perez, 2003), reducing US FDI into Iran. As another example, from Russia’s first invasion of Ukraine in 2014, through 2022, the USA has provided more than $20.3bn to help Ukraine preserve territorial integrity, secure borders and improve interoperability with NATO, all the while increasing sanctions on US FDI in Russia (Congressional Research Service, 2022).

Even in a third scenario of US involvement in a country’s war in a supporting capacity, such as with the 2022 war in Ukraine, US FDI should decrease. While US firms may want to
invest in Ukraine for various reasons, the private and public insurance markets may be either unwilling, or very limited, in their ability to underwrite deals (Investment Monitor, 2022). A country experiencing war on its territory would thus be less attractive for FDI not only due to the likely destruction of physical and human assets (Dai et al., 2013), but also restrictive pressures on consumption and lending, volatility in currency value, panics created in the financial market, extortion attempts that inflate overhead costs, holdups in the payments system (Li and Vashchilko, 2010), and in the case of interstate conflict, tighter trade and capital regulations (Li, 2008).

Unlike non-US FDI, much of US FDI is tied to the privatization of US Government functions in war, e.g. reconstructing cities or feeding troops (Biglaiser and DeRouen, 2007). Given the negative publicity related to such war profiteering, war-related sanctions can elicit a public outcry in the home country, which, when combined with the attempts of regional and global organizations to impose codes of conduct against firms operating in war zones, can reduce US FDI in a host country. As an important type of statecraft that can work more effectively than military actions (Drezner, 2003), sanctions motivate the USA to cancel new loans from the US Export-Import Bank [1] and encourage the Overseas Private Investment Corporation (OPIC) [2] to cancel insurance covering US firms (Biglaiser and Lektzian, 2011). Given the instrumentality of credit lines and political risk insurance for conducting FDI in countries at war, we argue that:

\[ H2. \text{ US involvement in a host country’s war(s) is associated with a decrease in US FDI in the host country.} \]

Because economic benefits can translate into military advantages (Li and Vashchilko, 2010), a host country engaged in multiple wars would not likely harm foreign firms, given their potential to build manufacturing capacity, generate jobs and export earnings and invest in R&D (Luo, 2001). For governments in violence-prone countries weakened from spending much of their budget on security and defense (Dimitrova et al., 2022), FDI, especially from the USA, can generate the necessary capital, technological spillovers and local employment to help facilitate economic recovery and ease resource depletion concerns. Any “added costs of doing business” due to operating in a country with multiple wars can thus be leveraged by US firms to negotiate for manufacturing licenses, etc. (Encarnation and Vachani, 1985). Indeed, many contracts with non-competitive bidding to rebuild countries are awarded to US firms, likely helping to compensate for even large reductions in traditional US FDI in the event of war (Singer, 2008).

Furthermore, US involvement in a war typically signifies foreign policy alliances, which have been shown to indirectly reinforce US firms’ property rights (Globerman and Shapiro, 2003). Taking Ukraine, for example, the total amount of aid from the USA to Ukraine between January 2022 and January 2023 totaled $113bn, including $27bn in economic support, $7.9bn for international disaster assistance and $6.6bn to support and relocate refugees (Committee for a Responsible Federal Budget, 2023). Despite the ongoing war and business sentiment for FDI in Ukraine being at its lowest since 2013, 91% of the firms in Ukraine’s European Business Association (the country’s largest network for US firms) still want to operate in Ukraine, while half want to invest more in the country (Investment Monitor, 2022).

Although US involvement in a country’s war likely reduces US FDI, US involvement in a country that experiences many wars may be a sign of US troop deployment, which often occurs in noncombat capacities that have little to do with war and in allied countries that have incentives to nurture bilateral trade (Pollins, 1989). Prior to permitting US troops, countries often have a balance of trade advantage with the USA, which tends to grow over
time and lead to permanence of the troops (Biglaiser and DeRouen, 2007). Countries that host US troops are also likely to receive significant access to the US market, facilitating economic interdependence and US FDI. US troops stationed in a country thus help to create a zone of peace, which reduces the potential for war and facilitates a stable environment for FDI (Rosecrance, 1999), whereby:

\[
H3. \text{ The negative of effect of the number of wars on US FDI decreases given US involvement in the war(s).}
\]

**Methods**

**Data and sample**

We test our theory using US FDI data (in millions of US dollars) for 55 countries from the Bureau of Economic Analysis and war data from the Correlates of War2, Center for Systemic Peace Major Episodes of Political Violence, Uppsala Conflict and International Crisis Behavior Projects. We use the country-year as the unit of analysis in a monadic design to test the extent to which a country at war receives FDI. A dyadic design, in contrast, would not allow us to detect the impact of war on FDI in a country in a given year, as two countries may engage in war in the same dyad multiple times over the period of our study. After accounting for missing data, the sample consists of 351 country-year observations from 1982 to 2006. We focus on interstate war, which involves state governments and accommodates theorizing on firm-government relations. With annual battle-related fatalities for all participants being at least 1,000, interstate wars adhere to Stockholm International Peace Research Institute’s definition of major armed conflicts and are more likely than other types of war to have an observable impact on FDI (Oh et al., 2021).

**Dependent variables**

Our dependent variable, *FDI stock*, is commonly used in studies of political risk and FDI (Bussmann, 2010; Kobrin, 1979), and measures FDI from the USA in industries spanning natural resources, comprising of petroleum, mining and utilities; manufacturing, including food, chemicals, metals, machinery, computer, electrical applications and transportation; and other, such as wholesale trade, information, depository institutions, finance and insurance, professional, scientific and technical services and holding companies. As the share of capital of all the firms from one country invested in another country and a “key indicator of the depth and nature of economic integration of countries” (UNCTAD, 1995, p. 5), FDI stocks facilitate the intrafirm flow of information on a broad front and proxy for foreign market penetration (Hejazi and Safarian, 1999). Our study is thus an inquiry into the effect of war on aggregate firm activity.

**Independent variables**

For *number of wars*, we took a count of the wars in which a host country is engaged in a given year with different countries. The involvement of the USA in a war as either participant or mediator in a given year is measured as a dummy variable, *US involvement*, coded as 1 for involvement and 0 otherwise. Finally, we created an interaction term, *number of wars with US involvement*, by centering and multiplying the *number of wars* and *US involvement* variables, which measures the number of wars with US involvement in the host country in a given year.
Control variables
Empirical work in this line of research should be able to isolate reductions in US FDI in a country as a function of the war itself as opposed to economic or institutional failings due to war. We accordingly collected data from the World Bank Development Indicators to account for alternative explanations related to countries’ market size and growth potential. As developed countries tend to attract more FDI, we controlled for real GDP, economic development (logged GDP per capita) and economic growth (GDP growth, annual %) (Li, 2006). To account for macroeconomic instability, we included measures for inflation (average annual rate of price change in the economy), Asian shock, a dummy variable coded as “1” for 1997 and 1998, and “0” for all other years – to control for the effect of the Asian Financial Crisis on global FDI flows (Brune et al., 2001) – and exchange rate risk (absolute value of the % change in the official exchange rate of local currency units per US dollar) (Li, 2006).

Controls on FDI inflows may seriously limit FDI stock, while controls on outflows could increase inflows via added retained earnings, but also decrease the attractiveness of a country for subsequent inflows. We therefore operationalized capital controls, a nine-point variable measuring FDI inflow and outflow controls, with a score of “9” indicating no controls on capital flows and with each lower number suggesting greater controls (Brune et al., 2001). We controlled for corruption using a composite measure from the Corruption Perceptions Index, calculating the corruption level of a country by subtracting the score of the USA from that of the country to obtain an index ranging from 0 to 7.40, where a higher score signals less corruption relative to the US. Year dummies were included to control for fluctuations in general industry performance, and all variables were lagged by one year to control for possible endogeneity.

Analysis
Our data containing observations from 55 countries for a 24-year period can be described as a pooled cross-sectional time series, which may be prone to autocorrelation, i.e. correlation among error terms within the same unit over time (Beck and Katz, 1995). To address this problem, we include a lagged dependent variable – the level of FDI in a prior year – and use the Generalized Method of Moments (GMM) estimator, which improves on OLS, random effects and fixed effects estimators in at least one of three ways. First, GMM accommodates unbalanced panels and controls for heteroskedasticity (Roodman, 2009). Second, GMM allows current FDI to be influenced by past FDI, thus alleviating dynamic panel bias (Nickell, 1981). Third, GMM relies on a set of internal instruments within the panel itself: past values of FDI can be used as instruments for current realizations of FDI, which eliminates the need for external instruments.

We also consider unobserved factors that may affect the probability of a country’s entry into war, z*, which is dependent on a set of variables, w, such that z* = wα + v, where v is a disturbance term. Yet, we only observe whether a war takes place, or “1” if z* > 0, i.e. there is a war, or “0” if z* ≤ 0 and no war occurs. Estimating the effect of war on FDI using a non-random sample of only countries that experience war may introduce systematic bias, where the effect of war on FDI is overstated. It is therefore important to gauge a country’s (unobserved) probability to engage in war, to address potential sample selection issues. For instance, a selection process that predetermines whether a country enters into war would mean that the equations for selection and FDI are not independent and must be solved simultaneously. Specifically, entry into war and FDI stock jointly depend on unobserved factors and can be characterized as follows:
\text{E}(\pi_1|W_1, X) \neq \text{E}(\pi_1|W_0, X) \text{ and } \text{E}(\pi_0|W_0, X) \neq \text{E}(\pi_0|W_1, X) \quad (1)

where \(\pi_1\) and \(\pi_0\) are FDI stock for a country with and without war, \(W_1\) and \(W_0\) represent countries with war and without war and \(X\) is a vector of control variables.

To minimize sample selection bias, we use the Heckman (1979) method, which first estimates the probability of countries engaging in war, i.e. how they select into wars, via probit modelling of predictor variables: Market size (logged population) is used to control for market attractiveness. Trade is measured as exports plus imports as a percentage of GDP. We included a control for government consumption as a percentage of GDP, given its negative effect on FDI (Jensen, 2002). Defense spending is used to proxy for a country’s propensity to engage in war, population growth for resource scarcity that may incite war and national savings as low savings rates may lead countries to open their capital accounts to attract FDI (Brune et al., 2001). Democracy is based on the ratings for 60 indicators grouped into five categories: government functioning, electoral process and pluralism, civil liberties, political participation and political culture. RIA membership is a variable coded as “1” if a country belongs to a regional integration agreement and “0” otherwise. An unbiased estimate of the inverse Mills ratio obtained from the selection equation is then entered into OLS regressions with independent and control variables.

We are interested in the US FDI stock of a country at war versus the counterfactual \((\pi_1 – \pi_0)\), i.e. the US FDI stock had the country not entered into war, also known as the treatment effect. Following Long (1997), a formal Heckman selection model takes the following form:

\[ \pi_i = a S_i + X_i \beta + \epsilon_i \quad (2) \]

which assumes that the effect of war is homogeneous across countries, even as it may vary across countries with different values of the observed characteristics \(X_i\). For example, the impact of war on FDI stock may be larger for countries with higher corruption. To allow for this heterogeneous treatment effect, let the FDI stock for each alternative treatment be given by the following:

\[ \pi_{1i} = X_i \beta_1 + \epsilon_{1i} \quad (3) \]

\[ \pi_{0i} = X_i \beta_0 + \epsilon_{0i}. \quad (4) \]

where equations (3) and (4) are estimated with OLS regressions using subsamples of countries at and not at war, represented by \(S_1\) and \(S_0\). The difference in FDI stock for \(S_1\) and \(S_0\), or the treatment effect for countries with characteristics \(X_i\), would then be given by \(X_i(\beta_1 - \beta_0)\).

Results

Table 1 presents the descriptive statistics of all variables, which indicate that the sampled countries are characterized by significant variance on FDI. Due to multicollinearity concerns, we centered continuous variables which were to be squared or interacted. VIFs further showed that it was not a problem in our analyses. Table 2 presents the GMM and Heckman sample selection results for our full model containing control variables, independent variables and the interaction term. We performed several tests to assess the validity of our GMM instruments. The AR(2) test, used to test for second-order serial correlation among the differenced residuals, yielded a \(p\)-value of 0.482, indicating no
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<th>Mean</th>
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<td>1.</td>
<td>Total FDI</td>
<td>15,928.41</td>
<td>6,768.02</td>
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<td>2.</td>
<td>Prior year’s FDI</td>
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<td>5,820.86</td>
<td>0.56</td>
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<td>3.</td>
<td>Real GDP(^a)</td>
<td>22.20</td>
<td>1.59</td>
<td>0.37</td>
<td>0.32</td>
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<td>4.</td>
<td>GDP growth</td>
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<td>2.61</td>
<td>-0.17</td>
<td>0.08</td>
<td>0.40</td>
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<tr>
<td>5.</td>
<td>Inflation(^a)</td>
<td>1.62</td>
<td>1.18</td>
<td>-0.27</td>
<td>-0.28</td>
<td>0.02</td>
<td>0.37</td>
<td></td>
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<tr>
<td>6.</td>
<td>GDP per capita(^a)</td>
<td>8.56</td>
<td>1.42</td>
<td>0.29</td>
<td>0.26</td>
<td>-0.38</td>
<td>-0.32</td>
<td>0.27</td>
<td></td>
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<tr>
<td>7.</td>
<td>Asian shock</td>
<td>0.11</td>
<td>0.23</td>
<td>-0.21</td>
<td>-0.14</td>
<td>-0.09</td>
<td>-0.02</td>
<td>-0.04</td>
<td>0.13</td>
<td></td>
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<tr>
<td>8.</td>
<td>Exchange rate(^a)</td>
<td>1.28</td>
<td>1.39</td>
<td>-0.37</td>
<td>-0.29</td>
<td>0.27</td>
<td>-0.08</td>
<td>-0.24</td>
<td>0.06</td>
<td>0.11</td>
<td></td>
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<tr>
<td>9.</td>
<td>Capital controls</td>
<td>3.42</td>
<td>2.29</td>
<td>0.34</td>
<td>0.22</td>
<td>-0.32</td>
<td>-0.31</td>
<td>0.19</td>
<td>-0.04</td>
<td>-0.28</td>
<td>-0.35</td>
<td></td>
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<tr>
<td>10.</td>
<td>Corruption</td>
<td>2.29</td>
<td>1.68</td>
<td>0.42</td>
<td>0.29</td>
<td>-0.20</td>
<td>-0.34</td>
<td>0.41</td>
<td>-0.13</td>
<td>-0.11</td>
<td>0.21</td>
<td>0.27</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Number of wars</td>
<td>2.11</td>
<td>1.21</td>
<td>-0.06</td>
<td>0.21</td>
<td>0.26</td>
<td>0.17</td>
<td>-0.27</td>
<td>-0.11</td>
<td>-0.07</td>
<td>-0.29</td>
<td>-0.16</td>
<td>0.25</td>
</tr>
<tr>
<td>12.</td>
<td>US involvement</td>
<td>0.48</td>
<td>0.37</td>
<td>0.26</td>
<td>0.27</td>
<td>-0.15</td>
<td>-0.24</td>
<td>0.31</td>
<td>-0.04</td>
<td>-0.33</td>
<td>0.27</td>
<td>0.36</td>
<td>-0.28</td>
</tr>
</tbody>
</table>

**Notes:** †\(p < 0.10\); *\(p < 0.05\); **\(p < 0.01\) (two-tailed) \(^a\)Logarithm

**Source:** Authors' own creation
evidence for the existence of serial correlation in the residuals. The Hansen test of over-identification yielded a $p$ value of 0.390, suggesting that the null hypothesis that the lagged DV is exogenous cannot be rejected. Finally, the Wald test in the Heckman model is strongly significant, leading us to reject the null hypothesis that the equations are independent.

Our hypotheses are supported. The effect of the number of wars on US FDI is negative and statistically significant ($p < 0.01$), and associated with a decrease of US$4,429m in US FDI, which, in practical terms, is roughly equivalent to the total US FDI stock in Finland as of 2022. The effect of US involvement on US FDI is negative and statistically significant ($p < 0.01$), and associated with a decrease of US$5,196m in FDI, which, in practical terms, is roughly equivalent to the total US FDI stock in the Philippines as of 2022. The effect of US involvement in multiple wars on US FDI is positive and statistically significant ($p < 0.01$) and associated with an increase of $-5,195.64 + 6,063.48 = -US$867.8m in US FDI, which, in practical terms, is roughly equivalent to the total US FDI stock in Turkey as of 2022.

Robustness tests
To check the robustness of our results, we conducted additional tests. In lieu of number of wars, we used an alternate variable to gauge the intensity of violence, as a single
large war may not necessarily have less impact on FDI than several smaller wars. Following Dai et al. (2013), we divided the number of battle-related deaths over all concomitant conflicts in a host country by its population for a given year. Because this battle-related deaths variable is highly skewed, we took its natural log. We also conducted a Breusch–Pagan Lagrangian Multiplier Test and a Hausman test to determine the appropriateness of a fixed versus a random effects model, which proved inconclusive. The results of the fixed and random effects models, along with those from our model using an alternate variable to test \( H1 \), remained substantively the same.

**Discussion**

War has been “the biggest industry in Europe” since the 17th century (Singer, 2008, p. 28). We find that US security interests are instrumental to the promotion of US FDI in much the same manner, where country alliances increase trade by minimizing any security externalities (Gowa and Mansfield, 2004). In this paper, we examined the effect of war in a country on US FDI therein, isolating the impact of multiple wars, US involvement and multiple wars involving the USA. Our findings show that engaging in multiple wars is not conducive to an attractive investment climate, as US FDI declines with an increase in the number of wars. Yet, while US involvement in a host country’s war is also associated with a reduction in US FDI, its involvement in a number of the host country’s wars notably increases the overall US FDI.

The findings suggest a limited role for conventional armies in warfare, as they are no longer able to achieve successes in current “population-centric” wars whereby tactical successes do not bring a strategic victory, with winning or losing defined by *influencing* and *controlling* the populace rather than dominating territory (Cleveland and Egel, 2020). Indeed, the evolving geopolitical imperative to infiltrate countries via proxy and informational warfare rather than traditional battlefield warfare is at odds with the established wisdom that war in a host country would reduce inward FDI, as firms increasingly act as precisely the vehicles of influence.

These findings, albeit counterintuitive, reflect the US Government’s long-standing incentives for US firms to invest in countries in which the USA has security goals. US firms investing in these countries – where the USA often stations troops - a “seal of approval” – can obtain reduced interest rates on loans from OPIC [3] (Biglaiser and DeRouen, 2007). Often deployed in the absence of war as an essential element of US foreign policy, US troops help to cement ties with allies. For the period of our study, US forces were engaged in drawn-out war in Iraq and Afghanistan, though such cases of US involvement in wars as a belligerent are exceptions. In 2002, for example, a year prior to the Iraq war, the USA had roughly 48,000 troops abroad with nearly all involved in noncombat situations (World Bank, 2004), which explains our finding that US involvement in multiple wars have a net positive effect on US FDI in a given country.

Unlike US firms, non-US firms may not have access to war-profiteering opportunities, but may also not be subject to US sanctions. If the USA is an ally to the host country, the latter’s war(s) will be highly influential and warrant increased US FDI on diplomatic grounds, offering business for US firms from industries such as weapons manufacturing and testing, etc. Multiple wars with US involvement signal not only the presence of US troops in a country but also US sanctions (Biglaiser and Lektzian, 2011). Sanctioned governments, in turn, are known to offer tax credits or access to domestic capital with low interest rates to attract FDI to countries otherwise perceived as unstable (Li, 2006), often...
discounting assets in a “fire sale” to lure foreign firms into a “shopping spree” to capitalize on local currency depreciation (Malesky, 2009). Our findings for increased FDI in the event of war may therefore apply also to non-US firms.

Our study has several limitations that offer opportunities for future research. First, our paper is focused on US FDI. Compared to non-US firms, US firms may be more likely to invest in countries with US troops because of the reduced political risk and lower capital costs via OPIC (Biglaiser and DeRouen, 2007). The US decision to invade Afghanistan and Iraq in 2001 further opened the door for private military firms to play a key role in military operations (Baum and McGahan, 2009). The contracting out of tasks that used to be performed by the US military to private firms underlies how large troop deployments can lead to an increase in US FDI but not non-US FDI. Indeed, the service side of war was understood to be the sole domain of government, where providing for national security defined what a government was supposed to be (Singer, 2008). With the increased prominence of non-government “war service” providers, studies are needed to detect FDI patterns as a function of private military contracting.

Second, we were not able to measure US troop deployments abroad. As diplomatic considerations during wars impart US firms with contracts not available to firms from other countries (Strange, 1992), research is needed on the impact of US troops on not only US FDI, but FDI in general. In addition, while we focused on US firms caught in the middle of a host country’s war(s), it may be useful to study the reciprocal FDI flows between countries engaged in war with each other, for instance, by testing the effect of a history of wars on the entry and exit of their respective firms, as Arikant al. (2020) have done with cross-border firm activity. With domestic political currents often shaped by business interests, future studies can explore the power that firms in the home country has over foreign policy in a rival country.

Finally, while we examined US involvement in wars, future research can explore the involvement of hegemons other than nation-states, including but not limited to OPIC, NATO, UN, WHO, WEF and IMF. Taking the Russian invasion of Ukraine in 2022, for example, Fair (2022) noted that the war could not be understood without looking at the US push to open and give the control of Ukraine’s economy to MNEs, a key instrument of which is the IMF. A civil war in Yemen and a coup in Bolivia, among countless other cases, followed a rejection of terms from the IMF, which leverages “aid” in the form of loans, i.e. debt, to push governments to adopt policies friendly to foreign MNEs. More research is needed to understand the Janus-faced role of supranational organizations including but far from being limited to the IMF.

Notes

1. The US Export-Import Bank is an institution that offers loans for borrowers to purchase the goods of US firms.

2. The mission of OPIC, a US Government agency created in 1969, is to lower risk for US firms in countries in which the USA has foreign policy goals, e.g. the USA has troops therein.

3. OPIC, a US Government agency, provides political risk insurance for US firms that invest in countries in which the USA has foreign policy goals, and has funded more than 3,100 projects (nearly $145bn) for US firms in Eastern Europe, Central America and South Asia from 1971 to 2003 (OPIC, 2006). As part of its funding criteria, OPIC provides coverage for up to 20 years to US firms who invest in “friendly” countries (Moran, 2003, p. 23).
References


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