Moral Hazard and Financial Crises: Evidence from US Troop Deployments*

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Abstract

Many observers worry that international moral hazard is a source of financial instability. Governments might adopt riskier macroeconomic policies ex ante if they can rely on an external lender of last resort such as the I.M.F. Yet past research has found little evidence that moral hazard is a source of financial instability. We claim this lack of evidence is due to the fact that most studies have focused on the role of the I.M.F., ignoring the role of the U.S. as the actual lender of last resort in the past decades. We hypothesize that a credible political commitment by the U.S. towards a foreign country works like an insurance scheme, enabling their governments to pursue overly expansionary macroeconomic policies. As a result, the risk of suffering from a financial crisis increases. Empirically, we use U.S. troop deployments across the world to capture the degree of American commitment to each country. Relying on within-country variation, we find that a one percent increase in U.S. troops raises the likelihood of a financial crisis by 3 to 7%. We also show that hosting U.S. troops increases the likelihood of implementing a deposit insurance scheme, increases the degree of capital openness, reduces interest rates spreads, and strengthens the exchange rate. This reduces concerns of reverse causality, and buttresses the argument that moral hazard is a significant source of financial instability.

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1 Introduction

In the aftermath of the recent global financial crisis, there has been an increasing interest in analyzing the root causes of financial crises. In particular, observers have pointed at lax financial and macroeconomic policies, and deemed them overly risky. By encouraging private spending and increasing public debt, governments may have been able to increase their popularity by boosting short run growth. But by doing so, they also have paved the way for deteriorating macroeconomic fundamentals in the long run (Steinberg, Koesel, and Thompson, 2013). The net effect was to leave these countries vulnerable to financial breakdowns (Laeven and Valencia, 2013; Reinhart and Rogoff, 2008; Schularick and Taylor, 2012).

Given the dire economic and political consequences of financial crises, why do policymakers often adopt these risky policies? Many observers have blamed moral hazard. Countries’ ability to draw on a lender of last resort can encourage governments to adopt ex ante risky expansionary domestic policies. These commentators point at the case of Mexico in the aftermath of the 1995 crisis and its subsequent I.M.F. bailout (Dreher, 2004). They suggest that this intervention has set into motion a “new era of massive risk taking” that eventually led a few years later to the financial crises in East Asia, Russia and Brazil (Lane and Phillips, 2000, 1).

These events have triggered a vast literature debating the role of moral hazard, and the I.M.F. in particular, in promoting global financial instability (Dreher, Sturm, and Vreeland, 2014; Stone, 2008; Reynaud and Vauday, 2008; Dreher, 2004). Most quantitative studies come to the conclusion that moral hazard plays a relatively minor role (Jeanne and Zettelmeyer, 2005). At the same time, numerous country studies suggest the opposite (Calomiris, 2000). How can we make sense of this puzzle? In this paper, we tackle this question in two ways, one theoretical and one empirical. First, we examine how the U.S. – and not solely the I.M.F. – has shaped moral hazard across countries in the past decades. Most existing studies have so far focused on the role of the I.M.F. Implicitly, however, the key lender of last resort since the Second World War has been the U.S. (Stone, 2008; Dreher, Sturm, and Vreeland, 2014). Over this period, the U.S. has been the only country that has had the financial means and the
political influence to provide capital needed to restore stability in financial markets. In fact, I.M.F. lending is difficult to imagine without Washington's green light, in particular when U.S. interests are at stake.

In a nutshell, we argue that a country's expectations of U.S. support is a key source of moral hazard. We conjecture that countries that have been under the American foreign policy umbrella are more prone to implement risky financial regulations and expansionary monetary policy, because they expect the U.S. administration to help in case of financial struggles. U.S. support may come through the I.M.F.; it has been well documented that countries that are of geo-political and strategic importance to the U.S. administration are more likely to receive a bailout from the I.M.F. (Oatley and Yackee, 2004; Thacker, 1999). Help from the U.S. could also be direct, bypassing the I.M.F. (Kahler, 1985; Schneider, 2011). Overall, a country that believes that it has the backing of the U.S. is more prone to engage in risky financial policymaking. First, governments benefit from the growth boost created by laxer regulations and expansionary macroeconomic policies. Second, they form the reasonable belief that the bill of this behavior will be picked up by others. Furthermore, investors will be likely to share these beliefs and therefore be willing to provide capital to these countries. Thus, by examining the role of the U.S., we substantively study the root source of moral hazard. Methodologically, we avoid the challenges related to limited exogenous variation and self-selection into I.M.F. programs that have been nagging the study of moral hazard in the earlier literature.

Second, we innovate empirically by introducing an alternative measure of political proximity to the U.S. Building off the idea that political proximity of a country to the U.S. is a central element in the formation of bailout expectations, we propose to measure it through the number of deployed U.S. troops in that country. In line with a vast literature, we argue that U.S. troops are the most credible commitment device of the US administration towards allies and important countries (Reynaud and Vauday, 2008; Kane, 2012; Machain and Morgan, 2013). Deploying troops is a costly signal that the U.S. is politically invested in that country. We argue that markets and foreign governments observe this signal and act upon it. Consequently, we predict that the presence of U.S. troops works as an implicit insurance
mechanism for governments and international investors in case of a financial crisis. Below, we provide evidence that corroborates these predictions and explain why alternative measures are inferior for our purpose.

Overall, our findings strongly suggest that moral hazard plays a central role in financial crises. We show that a one percent increase in U.S. troops leads to an increase of about 3 to 7% of the risk of a financial crisis in any given year. The results are robust to country and year fixed effects, and are not affected by a range of confounding factors. We then show that the presence of U.S. troops reduces domestic interest rate spreads and leads to a stronger exchange rate for the host country. Taken together, these two findings help us rejecting the idea that our main results are due to reverse causality: one could have argued that financial instability leads to more U.S. troop deployments. However, the decrease of interest rates and a stronger exchange rate are inconsistent with this claim. Finally, we show that more U.S. troops lead to more risky policies: they reduce capital controls and increase the likelihood of implementing a deposit insurance mechanism.

Our paper contributes to several streams of literature. First, we provide robust empirical evidence for the pervasive role of moral hazard in global financial instability (Dreher, 2004). Here, we augment the literature on the political causes of financial crises and their role in market failures. Insofar, our contribution complements the literature on the political economy of international financial contracting and crises. This literature, however, has mostly focused on domestic politics (McCarty, Poole, and Rosenthal, 2013; Mian, Sufi, and Trebbi, 2010). Second, by showing the ties between U.S. troops and financial issues, we contribute to the growing literature on the consequences of defense policy on economic outcomes (Schneider and Troeger, 2006; Berger et al., 2013; Göktepe and Satyanath, 2013).

2 Moral Hazard and Financial Instability

In recent years, scholars across a variety of disciplines have intensified their efforts to identify the causes of financial crises. Although triggering factors behind the onset of a financial crisis may vary, the consensus in the literature is that most crises can be attributed to overly
expansionary macroeconomic and financial policies. These policies foster high levels of leverage and enable the ‘over’-accumulation of debt. In turn, this effect is reflected in overly risky investments, which eventually lead to financial bubbles and deteriorating macroeconomic fundamentals (Steinberg, Koesel, and Thompson, 2013; Laeven and Valencia, 2013; Schularick and Taylor, 2012; Reinhart and Rogoff, 2008). This perspective draws on seminal work on the role of debt in creating financial instability (Fisher, 1933; Minsky, 2008).

The build-up of financial and macroeconomic imbalances can be explained by a variety of political and economic factors, such as the lack of checks and balances (Keefer, 2007). However, given the unpleasant consequences that financial crises have – ranging from a contraction of output to social unrest, a deterioration of public health outcomes, and in some cases to government turnover (Barr et al., 2012; Hall, 2010; Ponticelli and Voth, 2011) – why would policymakers be comfortable with these risks? Financial crises can materialize very quickly, so that high discount rates cannot fully explain the propensity of governments to expose their countries to instability. Our argument here is that these governments believe that there is a substantial likelihood that they will be helped by third parties. In other words, they have a reasonable expectation of being bailed out.¹ In turn, these expectations encourage incumbents to pursue ex ante overly risky policies because they can capture the profits of doing so, while spreading the costs on other agents. Thus, these governments are subject to moral hazard.

The ties between moral hazard and financial instability have long been studied from a domestic perspective (Dam and Koetter, 2012). For instance, some commentators have worried that the $700 billion U.S. bailout of large banks through the Troubled Asset Relief Program reassured banks that they were not at risk.² In a Washington Post column, Simon Johnson and James Kwak claimed that by bailing banks out in 2008, “the government created moral hazard on an epic scale”.³ Similarly, the non-rescue of Lehman Brothers is often perceived as a decision designed to reduce moral hazard.

¹We use a fairly broad definition of bailout. In this paper, a bailout is any financial or fiscal help from a third party, whether it is a state or the I.M.F.
Financial and macrofinancial imbalances, however, often grow uncontrollably. Governments may be unable to bail out their financial sector because of the sheer amount of capital needed. In some cases, governments will first provide liquidity to failing banks and accumulate excessive amounts of debt in the process (e.g. the Eurozone crisis). In either case, these countries need external help, that is, they require an international bailout. When a country enters a phase where it runs into liquidity or solvency problems, international banks and governments historically have turned to international financial institutions, most prominently the I.M.F., the U.S. administration, and more recently China and Russia. By providing support in case of hardship, these states and institutions are shifting the costs of hazardous economic policymaking from the domestic to the international level (Meltzer, 2000). On the theoretical front, Vaubel (1983) shows how I.M.F. bailouts fulfill the same function as a subsidized insurance scheme for countries, leading to a reduction in precautionary macroeconomic measures. Thus, if the institution providing financial rescue funds cannot enforce sound macroeconomic policies ex ante, agents have hardly any incentive to pursue prudent policies, i.e. moral hazard.

Empirically, most studies have focused on the role played by the I.M.F. (Dreher, 2004). Evrensel (2002) examines the introduction of new I.M.F. lending facilities (Structural Adjustment Facility and the Enhanced Structural Adjustment Facility) and finds that these programs encouraged countries to adopt riskier macroeconomic policies, suggesting a moral hazard issue. However, these claims have not remained unchallenged. Several commentators acknowledge the importance of moral hazard in international financial markets, but argue that this effect is small and cannot be accurately measured (Fischer, 2005). In this respect, I.M.F. bailouts are believed to be too small to compensate for the economic losses and political consequences of a crisis (Jeanne and Zettelmeyer, 2005; Lane and Phillips, 2000; Mussa, 2004; Nunnenkamp, 1999). Thus, cross-country evidence on the role of moral hazard shows a mixed record at best.
3 Theoretical Considerations and Hypotheses

Our theoretical argument is straightforward. To begin with, we assume that governments are primarily need to maintain some minimum level of output growth to stay in power. We are agnostic about how they wish to achieve this. They could favor an expansive monetary policy, more private credit, or an aggressive fiscal policy. We do not make predictions about the preferred channel; however, the realization of each of these policies requires fresh capital. Investors are willing to provide capital as long as the return matches the riskiness of the investment. International investors do not possess all information available about the soundness of these investments (Aklin, 2014). Rather, they face a typical principal-agent problem, whereby they cannot be certain about how well their capital will be used. Furthermore, if payment issues arise, investors may struggle to recover their invested funds: it is often arduous to make foreign governments pay or to seize their assets.\(^4\) Their own courts may also not be sympathetic to the creditors’ claims.

Such a setup is not crisis-proof. Governments and private borrowers will occasionally default, because a creditor cannot properly monitor their debtor’s behavior. Despite the presence of this source of moral hazard, we may expect some degree of stability, because repeated cheaters are easy to identify and blacklist. Indeed, in such a situation investors have a strong incentive (1) to detect cheating \textit{ex ante}, and (2) to punish cheaters \textit{ex post} (Stiglitz and Weiss, 1983). Given that countries need fresh capital on a regular basis, and given the importance of this capital for governments, it is thus likely in this two-agent world that the occurrence of financial crises will remain limited.

The issue of international moral hazard arises when a third party (such as the I.M.F.) emerges. Moral hazard occurs when three conditions are met. First, the third party must have enough resources to bail out debtors or creditors. Second, the third party’s interests must be aligned with either the investors’ or the borrowers’. That is, the third party must have an interest the well-being of that country or the institutions that loaned capital to it. Third, and most importantly, the borrowers and the investors must have strong reasons to

\(^4\)The saga following Argentina’s 2002 default is a typical example (Ahmed, Alfaro, and Maurer, 2010).
believe that the third party has an incentive to bail them out. The third party must credibly signal to markets that it has an incentive to help borrowers and lenders.

An important aspect to consider is that the third party itself has no incentive to provide this credible signal. Otherwise, it would willingly promote moral hazard. Thus, on an empirical level, the signal must be provided against the third party’s own will. We return to this point below. For the time being, it suffices to state that this two-sided moral hazard considerably worsens outcomes of the principal-agent relationship. In a classical principal-agent relationship, the principal (here, investors) has an incentive to monitor the agent (the borrowing country). With the presence of a third party, however, even investors have less interest in thoroughly surveilling the borrowing country. Thus, in this setup, we face a situation in which countries have an incentive to over-borrow and lenders have few incentives to scrutinize the debtors.

Since the Second World War, there have been few third parties who meet all three conditions. While the majority of scholarly research focuses on the role of the I.M.F., we claim in this paper that the actual lender of last resort has been, in recent decades, the U.S. There are two reasons for this. First, studies have shown that countries are more likely to be bailed out by the I.M.F. if they are important to the U.S. (Thacker, 1999; Stone, 2004; Oatley and Yackee, 2004; Reynaud and Vauday, 2008; Dreher, Sturm, and Vreeland, 2014). Thus, I.M.F. bailouts are a proxy for U.S. bailouts. The financial crisis in 2008 in Pakistan nicely illustrates this point. At the outset of the crisis, the Pakistani administration unsuccessfully approached several countries among the so-called “Friends of Pakistan,” an informal group of eleven countries (including the U.S.) and delegates from the UN and the I.M.F., to organize a bailout. Being convinced of the fraudulent management behavior of the Pakistani government, the I.M.F. initially declined Pakistan’s bailout request in October 2008 (Martin and Kronstadt, 2008). The Bush administration, on the other hand, sought to expand support to Pakistan. Eventually, after several White House interventions at the I.M.F., Pakistan finally gained access to a $15.8 billion loan in November 2008 (Cohen and Chollet, 2007).

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5“I.M.F. Considers Pakistan Economic Managers Deceitful,” The Express Tribune, April 26, 2011.
6Contrary in 2002, Argentina’s hopes for an I.M.F. bailout were dashed as the U.S. refused to support it. Com-
Relatedly, several empirical studies suggest that important countries to the U.S. also benefit from more generous rescue packages from the I.M.F. (Dreher, Sturm, and Vreeland, 2014), softer conditionality (Dreher and Jensen, 2007; Stone, 2008), face a less strict enforcement of conditionality clauses (Stone, 2004; Steinwand and Stone, 2008), and face a lower probability of program suspension, even if conditions are violated (Stone, 2004; Steinwand and Stone, 2008). More generally, the U.S. is intimately involved in all stages of I.M.F. economic policymaking. Stone (2004, 595) observes that in cases “such as Mexico, Russia, Indonesia, and Korea, senior U.S. Treasury officials were intimately involved in the details of the negotiations.” More generally, the U.S. is in an ideal position to influence the I.M.F. because it is not only the sole active, but also the largest shareholder at the same time (Stone, 2004). Stone (2008) argues that the U.S. has better technologies in gathering information, is home to many systemic financial institutions, and possess more diplomatic corps and troops in foreign countries than any other nation.

Second, the U.S. is one of the few countries that can bypass the I.M.F. altogether and directly provide relief to countries in distress. For instance, the U.S. can draw on a multitude of bilateral bailout instruments. During the Latin American debt crises in the early 1980’s and during the Asian financial crises in the 1990’s, the U.S. provided additional support through measures such as the Exchange Stabilization Fund, commodity imports, credits of the Commodity Credit Corporation Fund, bank guarantees from the EX-IM Bank and the Overseas Private Investment Corporation’s credit insurance schemes, the scaling up of bilateral and multilateral foreign and military aid, and the Federal Reserves’ bilateral bridge loans (Kahler, 1985). For instance, Wellons (1985) points out that Mexico received $3 billion in the midst of the 1982 crisis after one weekend of discussion among U.S. officials. Later, Brazil received a Treasury swap worth $1.23 billion (Wellons, 1985). In addition, Kahler (1985) observes that the Federal Reserve has played an important role in providing bridge loans to Mexico, Argentina, and Brazil. In 1995, the U.S. administration used its Exchange Stabilization Fund.

mentators have suggested that “Argentina's geopolitical significance paled by comparison with Turkey's” (Blustein, 2005, 146). Even then, however, the State Department and the National Security Council both supported the position to continue providing funds to Argentina.
to provide Mexico with a $20 billion loan (Broz, 2005). It has been also well established that these bilateral instruments of the U.S. administration often complement I.M.F. financial arrangements.

For these reasons, regardless of where financial funds come from, we can summarize our theoretical predictions in the form of two central hypotheses:

**Hypothesis 1:** when the U.S. credibly signals to markets its support for a given country, we expect that country to be more likely to suffer from financial turmoil.

This is because:

**Hypothesis 2:** when the U.S. credibly signals to markets its support for a given country, we expect that country to have more expansive macroeconomic policies and riskier financial regulations.

The key challenge, then, is to find a good measurement for what constitutes a credible signal.

4 Empirical Test

4.1 U.S. Troops, Moral Hazard and Bailout Expectations

In order to capture the political support of the U.S. and thus bailout expectations, a variety of empirical measures have been proposed in the political economy literature. In this section, we review the most relevant proxies for our analysis. First, recent studies have used voting patterns at the UN General Assembly to identify countries that were close to the U.S. (Thacker, 1999; Barro and Lee, 2005; Dreher, Sturm, and Vreeland, 2014). The rationale is that voting behavior is a good proxy for alignment with American interests. While this measure has its merits, it fails to meet our requirements. Specifically, we want to measure U.S. commitment to other countries, not the opposite. However, voting in line with the U.S. does not tell financial market participants that the U.S. would intervene in case of a financial meltdown.

American foreign aid could offer another proxy. The advantage is that it would reveal U.S. preferences. However, foreign aid might be problematic for two reasons. First, there are
reasons to doubt the accuracy of some of the data. Taking the case of Pakistan, Cohen and Chollet (2007, 12) note that “not everyone at the National Security Council or the Office of Management and Budget (OMB) or in Congress may have access to full accounting of what the U.S. government is spending in Pakistan, as it is dis-aggregated by sectors and accounts.” Second, and more importantly, foreign aid only covers a fraction of countries that are affected by moral hazard.\footnote{Even complementing this data on foreign aid with U.S. weapon exports cannot be regarded as an accurate measure of foreign policy importance (Reynaud and Vauday, 2008). First, U.S. weapons can theoretically be assembled in countries outside the U.S. in subsidiaries of U.S. weapon manufacturers and thus would not qualify as direct exports. Second, U.S. weapons can be exported to a trading partner country that buys these arms, but immediately re-sells it to another country. The unreported change of final destination in the official statistics introduces substantial statistical bias, especially when capturing the geopolitical importance of a country for the U.S.}

To overcome these concerns, we suggest an alternative measure of support from the U.S. to foreign countries. In line with Thacker (1999) and Reynaud and Vauday (2008), we concentrate on U.S. troop deployments to capture a country’s proximity to U.S. interests. Our approach is related to Reynaud and Vauday (2008), who include U.S. troop deployments in constructing an index of geopolitical importance. Interestingly, they report a significant effect of the size of U.S. troop deployments on the likelihood of a country entering a loan agreement with the I.M.F., as we expected. In addition to being able to address most short-comings of conventional approaches, using troop deployments has several additional advantages.

Although conventional wisdom holds that American troops are only deployed for combat, this is generally incorrect. For most part, troops are stationed in countries that are not involved in violent conflicts. U.S. troops have been an important contributor in delivering foreign aid, technical assistance and capacity building in different economic sectors (e.g. infrastructure) in countries that the American government deems to be important (Kane, 2012). Notably, the U.S. military has even been involved in financial development. For instance, in its latest report on Afghanistan’s Banking Sector in 2014, the Special Inspector General for Afghanistan Reconstruction states that the Department of Defense has been a critical actor in assisting Afghan banks to further develop the existing payments infrastructure (Sopko, 2014).
How could U.S. troops influence a country’s economic policy-making? We argue that this happens in two ways. First, indirectly, U.S. troops are correlated with general U.S. foreign policy preferences. It has been well established that U.S. troops can be regarded as the most credible commitment device of the US administration towards allies and important countries (Reynaud and Vauday, 2008; Kane, 2012; Machain and Morgan, 2013). With respect to moral hazard considerations, several country case studies tie U.S. military presence to a hazardous foreign policy of hosting countries. Critics of the U.S. grand global strategy have argued that “securing smaller allies... emboldens those states to take risks they would not otherwise accept, pulling the superpower into conflict” (Brooks, Ikenberry, and Wohlforth, 2013, 5). For instance, Posen (2013) refers to Taiwanese and Philippine policies towards China as examples of how these allies “can needle China... and then seek shelter under the U.S. umbrella when China inevitably reacts” (Posen, 2013, 3).

In fact, it has been accepted in the U.S. troop deployment literature that the presence of U.S. troops can be regarded as a “U.S. Seal of Approval” (Biglaiser and DeRouen, 2009, 251). For instance, Biglaiser and DeRouen (2009) analyze 126 countries between 1966 and 2003 and detect a “catalytic” effect of U.S. troop deployments on U.S. capital inflows, which they label a “Follow the Flag” effect. Garner (2014) reports a positive effect of U.S. troop deployments on international FDI inflows, even when controlling for a variety of additional political and institutional factors. He argues that this result is primarily driven by a signaling effect, ensuring foreign investors that the U.S. would intervene to restore stability if turmoil starts. Interestingly, this ‘seal of approval’ also comes with substantial government support from the Overseas Private Investment Corporation’s political insurance scheme and other bilateral measures, such as economic support funds (ESF) and export credit guarantees of the EX-IM Bank.

Against this background, we believe that the ‘catalytic’ effect of U.S. troops in attracting foreign capital might be the very reason why governments and the private sector in host countries are able to expand beyond their economic means. Investors who are reassured by

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the so-called ‘seal of approval’ may infer that their assets are safe. In this respect, Turkey’s budgetary pressures and corresponding difficulties in international bond markets in 2003 nicely capture this effect. According to an U.S. government official's assessment:

“[…] while some may argue that Turkey needs a larger up-front disbursement to calm financial markets, our sense from talking to the investment community is that it is sound government policy – much more than additional international borrowing – that is key to short-term stability. Moreover, investors tell us that it is the fact of U.S. support, not the absolute amounts, that has bolstered confidence in recent days.”

Second, and more directly, the U.S. may be willing to monetize its military presence. A small but burgeoning literature examines how military presence affects economic policy making. For instance, Berger et al. (2013) show that following an intervention by the CIA, a country tends to import more goods from the U.S. From an international finance perspective, Calomiris (2000, 88) commenting on the Ecuadorian financial crises states that:

“Ecuador has been suffering a deepening financial crisis for several years caused by the combination of an unresolved internal policy struggle, adverse economic shocks to its terms of trade, and a poorly regulated banking system… As yet, there is no consensus for reform in Ecuador, and there is no reason to believe that reforms will be produced by a few hundreds of millions of I.M.F. dollars. Why in the world is the I.M.F. sending money to Ecuador? Some observes claim that I.M.F. aid to Ecuador is best understood as a means of sending political payola to the Ecuadorian government at a time when the United States wishes to ensure continuing use of its military bases there monitoring drug trafficking.”

The Ecuadorian case illustrates a pattern that has also been observed in several other country cases during the Asian financial crises (Meltzer, 2000), and also more recently, in

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Turkey, in Kyrgyzstan, in Pakistan (Cohen and Chollet, 2007), Afghanistan (Sopko, 2014), and Tajikistan (Nichol, 2003). In this respect, the cases of Turkey in 2002 and Kyrgyzstan in 2008 illustrate the interaction between security and economic policy. In the run-up to the Iraq war in 2002, U.S. representatives offered a generous macroeconomic support package to Turkey in exchange for military cooperation with the U.S.\footnote{According to this arrangement, Turkey was offered $2 billion per year in cash, $1 billion in oil to be donated by other nations, and, up to $500 million in local procurement by U.S. defense forces’ in case the U.S. went to war with Iraq. In case war was not a viable option, Turkey was offered about $500 million in additional foreign aid that would be disbursed through various channels.} During these negotiations representatives of the Turkish government underscored the importance of “early and substantial US financial support in the form of a ‘standby’ arrangement, mentioning a figure of $20 billion...to positively influence the perception of the markets that the US would “not let Turkey go down the drain” and that the Turkish economy would ‘stay afloat.”\footnote{“Wolfowitz and Grossman Press Turks for Support on Iraq,” WikiLeaks, Cable Reference ID:02ANKARA9058, September, 1, 2011.}

Kyrgyzstan is an additional illustrative case in which U.S. troops have been seen as an explicit country insurance. Since 2001, the U.S. operated the Manas Air Force Base supporting its operations in Afghanistan, but seemingly did not pursue other economic interests in the country. In early 2008, in the wake of the global financial crises, Kyrgyzstan’s government faced severe economic pressure and approached the U.S. to seek additional support. Although Kyrgyzstan received an I.M.F. support package to counter the economic downturn, seemingly disappointed high ranking Kyrgyzs government representatives told the U.S. Ambassador in early 2009:

“[...] for Kyrgyzstan, the U.S. relationship was like a ‘wedding without a bride’ – the promised economic investment and compensation has never come. Everything is in the military framework... with no help to Kyrgyz banks or the stock exchange. The U.S. could help ‘with the I.M.F. and World Bank’ to increase their support to Kyrgyzstan.”\footnote{“Russia Offers Kyrgyzstan $2.5 Billion to Shut Down Manas Air Base,” WikiLeaks, Cable Reference ID: 09BISHKEK47, September, 1, 2011.}

Overall, we argue that the presence of American troops on a country’s soil is a credible
commitment by the U.S. to that country. Countries that benefit from observable U.S. support tend to receive indirect support (through increased commercial interactions with the U.S.) and direct support (through cash transfers in exchange for military presence). We therefore expect that political leaders in these countries, as well as their creditors, have higher expectations about getting bailed out than countries that do not benefit from U.S. support.

Is such a belief rational? Our argument rests on the rationality of bailout expectations. If these expectations had never been met in the past, then it is unclear why governments would expect a financial rescue. Our aim is not to replicate the vast literature on bailouts. Numerous scholars have shown that alignment with the U.S. increases the likelihood of receiving an I.M.F. bailout (see, for instance, (Oatley and Yackee, 2004; Thacker, 1999)). Here, we only wish to provide some evidence that U.S. troops reduce the severity of a crisis. We do so in two ways. First, we examine whether troops increase the likelihood of receiving an I.M.F. bailout. The data comes from Copelovitch (2010). Second, we examine whether these troops reduce the severity of an economic crisis. U.S. help may take various forms, so at the very least we would expect that the violence of the downturn may be lower in countries that host a high number of troops. The dependent variable is measured as the first difference of GDP per capita right after a financial crisis. We expect that the presence of troops reduces the depth of an economic crisis. In other words, we expect that countries with fewer troops have a more pronounced downturn. Since this is not the main part of our paper, we limit ourselves to simple correlations and leave more detailed studies to future research. These models contain, on the right hand side, the logged number of troops and both country and year fixed effects. The results are reported in Table 1.

In the first three columns, we show that U.S. troops increase the likelihood of receiving an I.M.F. bailout. The effect of an increase of troops by one percent is about 2 to 4%. The effect does not depend on country nor on year fixed effects. Given less rigid conditionality clauses attached to these bailouts these types of bailouts are particularly valuable, especially when governments can use these funds relatively freely to appease key constituencies. In this
respect, several cases studies indicate that it has been common practice to channel bailout funds to politically important groups. For instance, in the case of the Ecuadorian financial crises in 1999, President Mahuad funded a $6 billion bank bailout package that has been financed through cuts in social spending programs. Interestingly, earlier in 1998, the bailout coincided with an undocumented $3.2 million donation for the President’s election campaign by the founder of the Banco del Progreso (Pineo, 2010).

Traditional bailouts may not be the only way in which the U.S. or the I.M.F. may help distressed countries. To account for other channels of financial and non-financial support, we examine whether countries that have more U.S. troops tend to suffer from ‘softer’ economic crises after a financial breakdown. In columns (4) to (6), the dependent variable is the first difference of GDP per capita between time $t$ and $t - 1$, conditional on a financial crisis at time $t - 1$. The independent variable is then lagged by two years (i.e. it is measured at $t - 2$, or right before the crisis). Again, we find that a one percent increase in troops reduces the depth of the downturn by about $37 to $99 per capita. This eliminates part of the income collapse that countries typically experience after a financial crisis.

Taken together, we find reasonable evidence that the presence of American troops increase the likelihood of receiving I.M.F. help and reduce the magnitude of an economic crisis. This attests to the rationality of decision-makers, for they have good reasons to expect that the cost of a crisis will be limited if the U.S. has an interest in their well-being.

4.2 Data and Model

Our key independent variable is the number of troops, which we measure over a country-year. The data is compiled by the Department of Defense and is available from 1950 until 2012 (Kane, 2004, 2012). Over this period, the share of troops deployed abroad over total troops has varied between 15 and 30% (Kane, 2004). Importantly, these troops are mostly deployed in peaceful locations. Reynaud and Vauday (2008) note that “most troop deployments occur in noncombat situations that have little to do with immediate conflict and signify amicable relations between the U.S. and the developing country.” Our data also includes troops in
embassies, such as military attachés. To reduce the skewness of the distribution of troops, we take the log of the number of troops. Below, we discuss various robustness tests in which we vary the specification of this variable. Notably, we use the log of troops normalized by the local population or the cumulative number of troops, with little effect on our findings. These results are reported in the appendix. The summary statistics for this and all variables used in this analysis are reported in Table 2.

[Table 2 about here.]

Figure 1 reports the general trends in troop deployment over the past decades. Three episodes marked increased troops deployment: the Korean War, the Vietnam War, and the Iraqi War. At its peak in 1968, the U.S. had over one million troops stationed abroad. Whereas most troops were initially stationed in East Asia, most troops have been located in Europe over the full period. Our data also includes troops in conflict situations. Below, we ensure that our results are not driven by these violent conflicts by excluding countries when they are engaged in a violent civil or international conflict.

[Figure 1 about here.]

To provide a sense of the spatial distribution of these troops, we map them (logged) in Figure 2 at four different periods of time. We divide countries in quartiles in order to show the relative shift of troops across the world.

[Figure 2 about here.]

We claim that the presence of U.S. troops increases moral hazard because it provides a credible signal to markets that the U.S. is committed to the stability and welfare of this country. We argue that this materializes through riskier macroeconomic policies that have an expansionary effect.

We test these hypotheses in two steps. First, we examine whether countries that have more American troops on their soil are more likely to suffer from financial distress. Second,
we analyze whether these same countries are more likely to implement risky policies and whether they exhibit signs of loose macroeconomic policies.

To test the first hypothesis, we draw on data on financial crises from Reinhart and Rogoff (2009). Reinhart and Rogoff collected data on six different kinds of crises: banking crises, currency crises, inflation crises, domestic public debt crises, and external public debt crises. Banking crises are marked by either bank runs or by “the closure, merging, takeover, or large-scale government assistance of an important financial institution (or group of institutions) that marks the start of a string of similar outcomes for other financial institutions” (Reinhart and Rogoff, 2010, 1680). A currency crisis happens when a country’s currency depreciates by over 15% in one year. Similarly, inflation crises occur when a country suffers from more than 20% of inflation in a given year. Finally, public debt crises happen when a country defaults on its domestic or its external debt.

Initially, we pool these crises together and create a dummy variable that takes the value 1 if any crisis occurs in a given country-year. This is our main indicator of financial distress. Later, we disassemble this variable to get more fine-grained evidence on the mechanisms through which moral hazard effects occur. In our sample, a financial crisis occurs in about 36% of all country-years. The most common are currency crises, which occur 17% of the time, followed by inflation, external debt, and banking crises. Domestic debt crises are rare, occurring only in 2% of all cases.

Furthermore, we investigate the channels through which the effect of troops materializes. Theoretically, we postulate that they increase the risk of moral hazard. We suggest two kinds of tests. First, we examine whether the presence of U.S. troops increases the likelihood that a government implements expansionary policies. Specifically, we test whether the presence of more troops is conducive to (1) lower interest rates, and (2) appreciated exchange rates. As in most developing countries securities and especially government bond markets are underdeveloped; most countries do not report an interest rate on their treasuries (Demirgüç-Kunt, Karacaoglu, and Laeven, 2005). For this reason, we rely on the difference between bank lend-

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13 Reinhart and Rogoff (2009) also collect stock market crashes, but for a smaller sample of countries, which is why we do not include this data.
ing interest rate and the Federal Reserve’s 3 month T-bill rate. This gives us an interest rate spread that allows us to account for global changes in macroeconomic conditions, changes in U.S. monetary policy and to a certain degree the perceived country risk of international investors. In our sample, we find that lending rates are about 12% higher on average than the Federal Reserve’s 3 month T-bill rate. We expect the spread to decrease as the number of troops increases.

Finally, we measure the degree of economic overheating using the real effective exchange rate. This measure combines exchange rates against other foreign currencies, weighted by trade relations. If the presence of U.S. troops is accompanied by an influx of capital, then we would expect the exchange rate to appreciate. The variable is coded such that 2005 serves as the base year and takes value 100. The data for both variables comes from the World Bank’s World Development Indicators.

Second, we examine changes in financial regulations. Governments may feel empowered to soften regulations if they expect the backing of the U.S. We focus on two particularly relevant regulations. First, we estimate the effect of troops on the creation of deposit insurance. Deposit insurance is a useful instrument to alleviate the risk of bank runs, but can create the problem of excessive risk taking and thus moral hazard (Diamond and Dybvig, 1983). Customers and creditors have little reason to scrutinize their banks if they know that their deposits are safe. This allows banks to venture into riskier investments that may be very lucrative in the short run (Dam and Koetter, 2012). Deposit insurance can thus be regarded as a liability for a government. U.S. support, however, may reduce the reluctance of governments to implement deposit insurance. In this respect, a government implementing such a scheme can benefit by reducing the risk of bank runs and panics, and also shift the costs of the moral hazard problem to the U.S. and/or the international financial community, the I.M.F. The data comes from Demirgüç-Kunt, Karacaövali, and Laeven (2005).

Second, we analyze whether the presence of U.S. troops increase the degree of capital account openness. Governments may desire to increase capital account openness because fresh capital is required to stimulate economic activity. However, opening up to international capi-
tal inflows leaves these economies vulnerable to sudden shifts of investors’ sentiments, which in turn might lead to a sudden stop or withdrawal of capital. This volatility in international capital flows is often associated with financial crises in emerging market economies, especially in the South-East Asian crisis context in the late 1990’s (Haggard, 2000; Satyanath, 2005). Again, the backing of the U.S. may reduce these concerns and encourage local policymakers to weaken safeguards. The data to measure the openness of an economy to international capital flows comes from Chinn and Ito (2008) and ranges between -2 and 2, with higher values denoting more openness.

Given the observational nature of the data, we need to rely on well-specified models. To obtain a credible treatment effect, we follow various strategies. First, by using country fixed effects, we focus on within-country variation to eliminate unobserved country-specific effects. For instance, some countries may have specific geographical features that make these attractive to host U.S. troops. At the same time, these economies might also be more prone to financial crises. Second, we also include year fixed effects to capture global macroeconomic shocks. Notably, including year fixed effects also captures shifts in American macroeconomic policy making, or the general tendency of the U.S. to station more or less troops abroad (for instance during the Cold War).

Third, we control for a number of confounding factors. Our models include per-capita output, output growth, FDI inflows, and the size of the service sector. Output and growth are key determinants of financial crises. The size of the service sector is an indicator of the development level of the local economy. By including FDI inflows, we allow the effect that U.S. troops primarily operate through moral hazard induced adverse economic policies and are not the result of international investors ‘following the flag.’ These data come from the World Bank’s World Development Indicators. In order to account for the fact that our results might be driven by policy similarity with the U.S., we create a measure of ‘political’ distance between the general position of a given country and that of the Soviet Union and the U.S, respectively. In line with previous research (Bailey, Strezhnev, and Voeten, 2013; Voeten, 2000), we use the ideal point estimates from U.N. General Assembly voting. We also include
a measure of political institutions; our main variable is whether a country is a democracy (Cheibub, Gandhi, and Vreeland, 2010).

Simultaneity bias may threaten our estimates: financial instability may be the key driver of U.S. troops, and not the other way around. That is, U.S. troops may be deployed in areas that suffer from financial and economic instability, and thus a positive effect of U.S. troops may be spurious. This is a classical problem of omitted variable bias. We tackle this issue in four ways. First, we rely on our theoretical predictions. If financial instability determines U.S. troops, we would expect them to be positively correlated with the interest rate spread and negatively related to the exchange rate. In other words, if troops are deployed in countries that are suffering from political and financial distress, we should also observe an increase of interest rate spreads and a drop in the exchange rate. It is well established that international investors shy away from economies under financial distress. This, as we show below, is not the case: U.S. troops are associated with a decrease of domestic interest rates (relative to the Fed’s T-Bill rate) and a stronger exchange rate.

Second, we examine the number of troops before and after a financial crisis. If troops were a function of financial instability, then we would expect their number to increase in the aftermath of a crisis. Figure A4 in the appendix shows that this is not the case. Rather, the number of troops decrease after a financial crisis occurs. Our estimates show that there is a five percent reduction of troops in the year following a crisis, and about 10 percent compared to the year before the crisis.

Third, we remove countries that are engaged in a civil or international conflict from the sample. We draw on data from PRIO to define these countries. Finally, we lag all independent variables by one year.

The main model that we estimate can be written as:

\[
\text{Financial Crisis}_{i,t} = \beta \text{U.S. Troops (log)}_{i,t-1} + \gamma' X_{i,t-1} + \phi_i + \psi_t + \varepsilon_{i,t},
\]  

(1)
where $i$ denotes a country and $t$ a year, $X$ is a vector of control variables, $\phi$ are country fixed effects, $\psi$ are year fixed effects, and $\varepsilon_{i,t}$ is the error term. The key parameter is $\beta$, which we expect to be positive. In some models, we replace year fixed effects with a linear time trend. Given that our model mimics difference-in-difference setups, we cluster the standard errors by country (Bertrand, Duflo, and Mullainathan, 2004). Since the use of fixed effects leads to biases in nonlinear models, we estimate the parameters with least squares (Greene, 2002). To ensure that the results are not driven by this choice, we also report the estimates from a probit model. Finally, we estimate similar models (replacing the dependent variable appropriately) when we examine whether the effect of troops operates by creating a moral hazard problem.

4.3 Results

The main results are reported in Table 3. Model 1 is a simple OLS estimation with country fixed effects. Model 2 includes country and time fixed effects, and Model 3 also includes GDP per capita to control for different income levels. In Model 4 we include all control variables and country fixed effects, whereby in Model 5 we also additionally include time fixed effects. Model 6 is estimated with a probit model, and thus does not contain any fixed effect (to avoid biases), but instead uses a linear time trend. In Models 7 to 10 we replicate these findings, but here we restrict the sample to non-OECD countries. The signaling effect of troops is more relevant for relatively poorer countries.

The results are striking. We find that a one percent increase in troops raises the likelihood of a financial crisis by 3 up to 7%. Given the relative rarity of financial crises, the magnitude of the effect can be regarded as strong. Furthermore, the coefficients on our U.S. troop variables are statistically significant in all specifications and robust to both unit and time fixed effects, as well as to the inclusion of a range of control variables. Strikingly, even including additional covariates and controlling for policy similarity with the U.S. (Model 4/5), the coefficient on our U.S. troop deployments variable remains statistically significant with a similar size.
Interestingly, the magnitude of the effect remains about the same, even when we restrict the sample to non-OECD countries. Intuitively, we expect the effect to be present for countries that can credibly be affected by an American insurance. Thus, it is important that the results are not driven by outliers from industrialized countries. Rather, the estimates are still of similar size and significance in developing countries.

We subject our results to a battery of robustness tests. First, we change the specification of our main independent variable, the log of troops. We estimate the effect of log of troops per million inhabitants (Table A4) and of the log of cumulative troops (Table A5). The first one normalizes the variable based on the size of the host country, and the second takes into account the history and persistence of U.S. troop presence. In both cases, the results remain qualitatively very similar, though the significance level of our estimates depends on the model specification. We also include additional control variables, such as whether a country is a member of the U.N. Security Council in any given year (Table A21). The findings do not change.

Second, in order to control for sample selection bias, we examine whether the results hold when we use different subsamples. In order to exclude the possibility that our results are driven by events before 1970, we consider the post-1970 period. This way of proceeding avoids periods that were strongly affected by the Cold War and the Bretton Woods system of fixed exchange rates after the Second World War. While our analyses ignore country-years that are engaged in a violent conflict, we nonetheless wanted to ensure that our results were not driven by the early stages of the Cold War. The results, reported in Table A6, show that this is not the case. In addition, we exclude U.S. protectorates (Cuba, Dominican Republic, Honduras, Nicaragua, Panama, and Philippines). U.S. military presence is pronounced in these countries, and our results may thus have been driven by these countries alone. Table A7 shows that this is not the case. Since our theory also applies to protectorates, we show that the results hold when we limit our sample to these special cases (Table A8).

Third, we divide the sample by continent (Tables A9 to A12) to check whether our results might be driven by a specific geographic region. Our results indicate that the results are not
driven by troop deployments to a single geographical region, such as Latin America. In fact, the effect of U.S. troops is positive in all cases, although – and unsurprisingly – less so in Europe. In fact, the sign of the coefficient concerning U.S. troop deployments turns negative. As we stated earlier, the signaling effect of U.S. troops is unlikely to have a strong effect on very large and powerful economies.

Fourth, we divide the sample between countries by income group. In every year, we allocate countries based on their income to one of three groups: low income (lowest quartile), middle income (between P25 and P75), and high income (highest quartile) and run our regressions on each group. Intuitively, we expect that the effect of troops will be highest for the low and middle income groups. This is indeed the case, as shown in Tables A13, A14, and A15.

Fifth, we restrict the sample to countries that have at least one military employee on their soil (Table A18). The results remain identical.

4.4 Moral Hazard

Showing that the presence of U.S. troops increases the risk of financial crisis, we next seek to show that their effect operates through a moral hazard effect. Earlier, we made two conjectures. First, the presence of U.S. troops would lead to expansionary monetary and financial policies. We demonstrate this by looking at the effect of troops on interest rate spreads and on exchange rates. If troops enable governments to expand credit and consumption, we would expect U.S. troops to have a negative effect on interest rate spreads and to lead to an appreciation of the real exchange rate. The latter, given the way the variable is specified, leads us to expect a positive effect of troops.

Our second conjecture is that U.S. troops would increase the likelihood of implementing risky policies. As stated earlier, we focus on two important policies. First, we consider deposit insurances. Governments that believe that they have the backing of the U.S. are more likely to offer deposit insurance, because they expect support if things go awry. Second, we examine capital controls; the cost of letting hot money run in and out of the economy is mitigated by the reassurance from the U.S. We report the results of these predictions in Table 4.
The results confirm our expectations. We find that a one percent increase in troops reduces the interest rate spread by 0.8 to 1.2%. The estimates are less clear concerning the exchange rate, although we find evidence that troops increase the exchange rate by about 6.6 basis points. At any rate, both findings together make it clear that we can rule out reverse causality in our main findings: U.S. troops have a positive effect on the economy.

Regarding policy, we also find that the likelihood of adopting a deposit insurance increases by 3 to 4% for every percentage increase in American troops. Finally, the same increase in troops leads to an increase of capital openness by 0.04 to 0.18 points (on a scale that ranges from -2 to 2). These results are all statistically significant and are robust to the control variables we listed earlier as well as both country and year fixed effects.

5 Conclusion

The international moral hazard ‘fairy,’ often invoked but rarely seen, has been the cornerstone of opposition to bailouts of all sorts. In theory, I.M.F. interventions may create incentives to engage in adverse economic policy making and arbitrating financial market governance. In practice, studies have so far mostly failed to isolate the presence of moral hazard coming from international financial rescues.

We claim that this lack of clear cut evidence is partially due to poor measurement of moral hazard. Explicitly concentrating on the support by the real lender of last resort, namely the U.S., we find that moral hazard significantly contributes to financial instability. Using U.S. military personnel as a proxy for political support to local hosts, we find that an increase of U.S. troops by one percent increase the risk of a financial crisis by about 3 to 7%. Furthermore, we show that countries that host more U.S. troops are more likely to implement a deposit insurance scheme, to liberalize capital flows, and to conduct an aggressive monetary policy. All these empirical results are robust to numerous tests and are unlikely to be driven by an omitted variable or a selection bias.
From a policy perspective, the question remains how to best address the issue of moral hazard in international financial markets. As we have outlined earlier, the presence of U.S. troops reassures both domestic policymakers and financial institutions that their investments are safe. In fact, our results let us conclude that it is the U.S. ‘Seal of Approval,’ signaled through U.S. troop deployments, that allows for over-borrowing and thus lends dynamics for the build-up of macro-financial vulnerabilities. According to our view, there exist few options to mitigate these effects.

From a theoretical angle, the key challenge faced by the U.S. is to credibly promise not to bail out ‘hazardous’ governments and investors. In doing so, the U.S. faces a time inconsistency problem: if its interests are aligned with the foreign country or its creditors, then it will have to intervene. In order to contain borrower moral hazard, the U.S. already tried to establish a credible no-bailout policy stance such as in the case of Russia in 2000 and Argentina in 2002, which triggered substantial turbulence in international financial markets.

Another solution would be to impose tough reforms *ex post* on countries and financial institutions that have been bailed out. To some degree, the U.S. and the I.M.F. attempted to do so in the past. Governments in East Asia (which implicitly believed that their close military ties to the U.S. would save them) were incensed when the I.M.F. imposed demanding structural adjustment programs. These experiences have motivated a policy shift towards rapidly accumulating foreign reserves in these economies. Although this policy shift likely made these countries financially more resilient and better equipped to deal with the outbreak of a financial crisis, it has also contributed to the rise of global imbalances during the 2000’s.

Against this background, strengthening the monitoring and surveillance mandate of the I.M.F. combined with a better coordination between the U.S. administration and the international financial community might represent the only feasible option. From an international governance perspective, this policy option might be preferable to a disengagement of U.S. presence abroad. In this respect, we must note that the net effect of U.S. presence cannot be inferred from our results. U.S. troops have other side-benefits which may or may not exceed the cost of financial instability. We simply note that U.S. foreign policy might be intertwined
with international financial instability. In this paper, we explored one way in which this may occur, namely the creation of moral hazard. From an academic perspective, there are undoubtedly other such side-effects concerning international financial relations, which hopefully will lead to exciting future research.

Paradoxically, a potential weakening of the United States’ primacy in international financial markets and institutions might even worsen the moral hazard problem (Copelovitch, 2014). The recent inception of the ‘BRICS Bank’ is likely to allow financial institutions and especially sovereign borrowers to choose between competing lenders of last resort. As lending and bailout decisions closely follow foreign policy preferences of key shareholders, governments will likely have more power to exploit their geo-strategic position and thus have fewer incentives to pursue prudent macroeconomic policies. For these reasons, we believe that future approaches towards analyzing moral hazard in international financial markets need to account for these shifts in the global financial architecture.

References


Figure 1: Troops deployment 1950-2012. The data includes all troops stationed abroad, including military personnel in embassies. The data includes troops deployed in war zones (e.g., Vietnam, Iraq, Afghanistan).
on the number of U.S. troops it hosts in a given year.

Figure 2: Maps of US troops (log), 1960-2010. Each country is allocated to one quartile based

### Bailout Expectations: Troops (log)

<table>
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<tr>
<th></th>
<th>IMF Loan</th>
<th>Δ GDP per Capita (t to t-1)</th>
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<tr>
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<td>(3)</td>
</tr>
<tr>
<td>OLS</td>
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<td>FE</td>
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Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 1: Outcomes are listed at the top of each column. Unit of analysis is a country-year. All explanatory variables are lagged by one year, except when otherwise stated. For Columns (4) to (6): the dependent variable is the first difference of GDP per capita at time $t$ and $t-1$, conditional on a crisis occurring at $t-1$. This is why the independent variable is lagged by two years (i.e. it is measured at $t-2$).
### Summary Statistics

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Table 2: Summary statistics of the variables used in the main estimates.
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<td>GDP Growth (%)</td>
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</table>

Robust standard errors in parentheses

* \(p < 0.10\), ** \(p < 0.05\), *** \(p < 0.01\)

Table 3: Likelihood of a financial crisis in a country-year depending on the number of US troops (log) stationed in a country since 1960. All explanatory variables are lagged by one year.
## Moral Hazard: Troops (log)

<table>
<thead>
<tr>
<th></th>
<th>Interest Rate Spread</th>
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<th>Exchange Rate</th>
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<th>Deposit Insurance</th>
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<th>Capital Openness</th>
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<tr>
<td></td>
<td>(1) OLS</td>
<td>(2) FE</td>
<td>(3) OLS</td>
<td>(4) FE</td>
<td>(5) OLS</td>
<td>(6) FE</td>
<td>(7) OLS</td>
<td>(8) FE</td>
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<td>US Troops (log)</td>
<td>-1.18***</td>
<td>-0.82**</td>
<td>-6.85</td>
<td>7.22**</td>
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<td></td>
<td>(0.20)</td>
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<td>(0.01)</td>
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<tr>
<td>GDP per Capita (USD)</td>
<td>-0.00***</td>
<td>0.01***</td>
<td>-0.00**</td>
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<tr>
<td></td>
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<tr>
<td>GDP Growth (%)</td>
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<td>-1.72***</td>
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<td>0.01**</td>
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<td>FDI Inflows (% of GDP)</td>
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<td>0.00**</td>
<td>0.01***</td>
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<td>(0.54)</td>
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<tr>
<td>Service Sector (% of GDP)</td>
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<td>(12.33)</td>
<td>(0.08)</td>
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<td>-0.00</td>
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<td>-0.48***</td>
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<td>(0.06)</td>
<td>(0.06)</td>
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<tr>
<td>Constant</td>
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<td>30.78***</td>
<td>169.62***</td>
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</tbody>
</table>

Notes: Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4: Outcomes are listed at the top of each column. Unit of analysis is a country-year. All explanatory variables are lagged by one year.