

## Commercial Imperialism? Political Influence and Trade During the Cold War<sup>†</sup>

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*We provide evidence that increased political influence, arising from CIA interventions during the Cold War, was used to create a larger foreign market for American products. Following CIA interventions, imports from the US increased dramatically, while total exports to the US were unaffected. The surge in imports was concentrated in industries in which the US had a comparative disadvantage, not a comparative advantage. Our analysis is able to rule out decreased trade costs, changing political ideology, and an increase in US loans and grants as alternative explanations. We provide evidence that the increased imports arose through direct purchases of American products by foreign governments. (JEL D72, F14, F54, N42, N72)*

History provides us with many examples of the use of political power to promote trade and other national interests, the starkest being the unequal treaties imposed by Western powers on China and Japan during the nineteenth and early twentieth centuries (Findlay and O'Rourke 2007). However, the general question of whether power is an important determinant of international trade, particularly in the more recent past, is difficult to examine empirically because shifts in power relations between governments are often the result of decisions that are made behind the veil of government secrecy.

In this paper, we surmount this problem by relying on the use of recently declassified CIA documents to generate a country- and year-specific measure of the influence of the US government over foreign countries. We identify instances where US covert services engaged in interventions that installed and/or supported political leaders in

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other countries. Our interpretation is that the US government had greater influence over foreign leaders that were installed and supported by the CIA. Examining the relationship between US influence and annual bilateral trade, we find that US influence raised the share of total imports that the intervened country purchased from the US. We find no change in the total value of goods imported from the world. Instead, increased US influence caused a shift from products produced in other countries and toward US products. Despite the robust finding of increased imports from the US, we find no evidence that interventions caused an increase in exports to the US.

These findings are consistent with US political influence being used to create a larger market for US products in the intervened country. Although we are unable to identify the exact impetus behind the increase in US exports, it most likely arose from US firms that stood to gain from increased overseas sales, and through standard political economy mechanisms, were able to lobby the US government.<sup>1</sup>

We provide evidence that the increased imports of US products arose through direct government purchases. We find that the effect of successful interventions on the purchase of US products is increasing in the government's share of GDP. For the countries in the sample with the smallest government share, we find that the effect of interventions on US imports is close to zero. This suggests that essentially all of the effect can be explained by government purchases of US products. We also examine heterogeneous effects across different industries and find larger impacts in industries in which governments tend to be important purchasers and importers. We also test for other mechanisms, such as changing tariffs or FDI policies, but find no evidence that these played an important role.

We recognize that there are many plausible alternative interpretations for these findings. In addition to the political-influence explanation, there are three leading alternative interpretations. The first is that successful interventions decreased bilateral trading costs between the US and the intervened country, and this caused an asymmetric increase in trade flows. The second is that the newly installed and/or supported leaders were ideologically more aligned with Western capitalist countries. This caused the intervened countries to import more from all Western countries, including the US. The third explanation is that following a successful intervention, US foreign aid increased, which caused an increase in the purchase of US products.

We test for the trade-costs explanation by examining the effects of CIA interventions on imports from the US in different industries. We show that the increase in imports from the US was greatest for goods which the US had a comparative disadvantage in producing. That is, the new goods that were shipped from the US to the intervened country were products that US firms were less competitive in producing. This pattern is inconsistent with decreasing trade costs being the source of increased imports. Standard models of international trade do not predict greater specialization in comparative disadvantage industries. Instead, integration should cause each country to expand production and exports in industries in which they have a comparative advantage. The finding is consistent, however, with US influence being

<sup>1</sup>In theory, it is possible that following a CIA intervention, the intervened-country gains influence over the US. This would be the case if a CIA intervention signals a greater US stake in the survival of the new regime. While this is very plausible, our findings of an asymmetric impact on US imports but not US exports, combined with the greater increase in US imports in low comparative advantage products (described later), are most consistent with interventions resulting in greater *net* influence of the US over the intervened country, rather than vice versa.

used to create a larger market for products that firms would otherwise have difficulty selling internationally.<sup>2</sup>

We then turn to the political ideology explanation and test whether the increase in imports from the US arose because the newly installed regimes were more pro-Western and pro-capitalist than the previous regimes, and therefore imported more from all Western countries, including the US. Examining the effects of successful interventions on imports from all countries (not just from the US), we find that US interventions did not cause an increase in imports from countries that were ideologically similar to the US.

Last, we turn to the increased US loans and grants explanation, testing whether US economic aid, military aid, or Export-Import Bank loans increased following a successful intervention. We find that interventions led to an increase in economic aid, military aid, and Export-Import Bank loans, but that these can only account for, at most, 16 percent of the total impact of CIA interventions on imports from the US.

Although our baseline estimating equations control for country-specific time-invariant factors (with country fixed effects) and time-specific country-invariant factors (with time-period fixed effects), it is possible that the estimates are biased by omitted factors that simultaneously vary by time and country. For example, successful CIA interventions may have been more likely following a temporary decline in imports from the US. This form of selection will result in inflated estimates of the effect of US influence on imports from the US. We undertake a number of strategies to control for this, including the use of pre-trends, pre-intervention fixed effects, and controls for observable characteristics. The results remain robust.

Our analysis of the impacts of CIA interventions links our study to others that also empirically examine the history of CIA activities during the Cold War. Dube, Kaplan, and Naidu (2011) examine the stock prices of US companies in Iran, Guatemala, Cuba, and Chile before and after the CIA authorized plans for covert coups. They find that the stock returns of companies that were both connected to the CIA and stood to gain from the coups increased immediately after the authorizations. The authors argue that these findings provide evidence that the top-secret plans were leaked to investors. The focus of our analysis nicely complements the emphasis of Dube, Kaplan, and Naidu (2011). Since the authors are interested in the effects of top-secret information flows (and not of the interventions themselves), they do not include the period of the actual intervention in their analysis. In contrast, our analysis looks at the consequences of the interventions after they are actually carried out. Also related is Berger et al. (2010), who use lower frequency data at five year intervals to examine the effect of interventions on democracy. They find that CIA and KGB interventions have a negative effect on subsequent democracy.

Our analysis also extends theoretical studies examining the interplay between political influence and international trade. The hypothesis that influence and power play a role in international trade dates back to at least Hirschman (1945). More recently, the theoretical contribution of Antràs and Padró-i-Miquel (2011) examines the welfare impacts when political influence can affect trade and trade policies. Our findings also complement existing studies that attempt to empirically estimate the

<sup>2</sup> As discussed, the US government's desire to increase the overseas sale of these products likely arose through firms' lobbying within the US.

effects of political influence on trade flows. An example is Yeats' (1990) analysis, showing that among African countries, former colonies pay a 20–30 percent premium on the price of imported steel when importing from their former colonizer.<sup>3</sup>

Finally, our findings also contribute to a large literature in political science examining how political economy factors affect trade. Existing studies, in particular Mansfield, Milner, and Rosendorff (2000, 2002) and Aidt and Gassebner (2010), examine the effects of political regime type (i.e., democratic versus non-democratic regimes) on trade flows.<sup>4</sup> In contrast to the findings about the extent of democracy in a regime, our findings show the importance of US influence over foreign regimes arising from CIA interventions.<sup>5</sup>

The next section of the paper describes the data and their sources and Section II derives our estimating equations. Section III reports our baseline estimates showing that successful CIA interventions coincide with increased imports of US goods, no increase in exports to the US, and no increase in total trade. In Section IV, we provide evidence that the increased imports from the US likely arose through direct government purchases by the newly installed regime. In Section V, we test for alternative explanations and show that our findings cannot be explained by decreased trade costs, changing political ideology, or an increase in US loans and grants. Section VI concludes.

### I. Data on CIA Interventions

As a source of variation in US influence over a country, we rely on episodes where the CIA successfully intervened in foreign countries to either install a new leader or to provide support to an existing leader to help maintain the power of the regime. To identify these episodes, we rely on studies that document the history of the Cold War, typically based on recently declassified documents. Using these sources, we construct an annual dataset of interventions successfully undertaken by the CIA. We also construct analogous measures for successful Soviet KGB interventions, which we use as a control in the analysis. The most heavily used sources include Blum (2003), Weiner (2007), Westad (2005), Yergin (1991), and the Library of Congress' *Country Studies Series* for the CIA interventions, and Andrew and Mitrokhin (1999, 2005) for KGB interventions. Full details of the data construction and sources are reported in the online Appendix.

We restrict our analysis to the Cold War period, 1947–1989, because CIA documents for the post Cold War period largely remain subject to government secrecy. This is the case, in part, because only classified CIA documents older than 25 years fall under the Freedom of Information Act, but also because nearly all documents

<sup>3</sup> Also related are studies that provide evidence for power and influence playing a role in other international settings. For example, Dreher and Jensen (2007) show that IMF conditionality is correlated with whether countries vote in-line with the US in the UN General Assembly. Similarly, Kilby (2009) shows that the World Bank's structural adjustment conditions are less stringent for countries whose voting in the UN is more aligned with the US. Kuziemko and Werker (2006) show that when countries have a seat on the UN security council they receive more foreign aid from the US.

<sup>4</sup> Also see Verdier (1998), Russett and Oneal (2001), Frye and Mansfield (2003), Kono (2006), and Mansfield, Milner, and Pevehouse (2008).

<sup>5</sup> One can interpret our measure of covert CIA interventions as a measure of US "client states" or "puppet leaders," which are well-established subjects of analysis in the qualitative political science literature (e.g., Sylvan and Majeski 2009). Therefore, an alternative interpretation of our analysis is of the effects of US influence on client states and puppet leaders on trade flows.

from the Cold War period—even those younger than 25 years—are now publicly available and have been extensively studied and synthesized by Cold War historians. Once we move beyond 1989 our coding of interventions is based on much less information and therefore is significantly less certain.<sup>6</sup>

Our baseline measure of successful CIA interventions is an indicator variable that equals one, in a country and year, if the CIA either installed a foreign leader or provided covert support for the regime once in power. We label this variable  $USinfluence_{t,c}$ . The activities used by the CIA to install and help maintain the power of specific regimes were many and varied. They included the creation and dissemination of (often false) propaganda, usually through radio, television, newspapers, and pamphlets. They also included covert political operations, which typically consisted of the provision of funds and expertise for political campaigns. More invasive tactics included the destruction of physical infrastructure and capital, as well as covert paramilitary operations, that included the supply of arms and military equipment, direct involvement in insurgency and counterinsurgency operations, and the coordination of coups and assassinations (Johnson 1989, 1992).<sup>7</sup>

There are many instances in which the CIA set out to remove an existing leader and install a new leader in power. The CIA-organized coups in Iran in 1953, Guatemala in 1954, and Chile in 1973 are the most well-known examples of such cases. For these interventions, the indicator variable  $USinfluence_{t,c}$  takes on the value of one. In other cases, the CIA began to provide support for leaders currently in power. In these cases, the CIA did not engage in activities to install the leader into power, but once in power, at some point, the CIA began to engage in activities to help maintain the power of the regime. Typically, these were covert counterinsurgency operations undertaken by the CIA. We also code as one these cases in which the leader maintains power with the help of the CIA.<sup>8</sup> As a robustness check, we disaggregate our baseline indicator variable, distinguishing between intervention episodes that installed and then supported a leader and episodes that propped up existing leaders. We find that both types of interventions have quantitatively similar impacts.

As a concrete illustration of the construction of our variable, we use the history of the CIA in Chile. CIA involvement in Chile first occurred in the 1964 Presidential election, when the CIA provided covert funding and support for the Christian Democratic Party candidate Eduardo Frei Montalva. Eduardo Frei won the election and continued to receive CIA support while he was in power. In the 1970 election, Salvador Allende, a candidate from a coalition of leftist parties, was elected, and remained in power until the famous CIA orchestrated coup of 1973. After the coup, Augusto Pinochet took power and was backed by the CIA until 1988. Since our indicator for successful CIA interventions,  $USinfluence_{t,c}$ , equals one in all years

<sup>6</sup> An additional benefit of examining only the Cold War era is that there is greater comparability over time, so that our coefficient estimates are likely more stable across the years of our sample. This is less likely to be true once we pool the Cold War and the post-Cold War periods.

<sup>7</sup> Our analysis does not distinguish between different types of intervention episodes. It is possible that the impact of CIA interventions on trade is heterogeneous, depending on specific characteristics of an intervention. Our analysis does not examine this potential heterogeneity, but instead simply examines the average effect across all interventions.

<sup>8</sup> A good example of this is the CIA's involvement in Haiti. Paul Magloire, François "Papa Doc" Duvalier, and Jean-Claude "Baby Doc" Duvalier were not installed by the CIA, but were reliant on CIA support to help maintain their power.



in which a leader is installed or supported by the CIA, for Chile the variable equals one from 1964 to 1970 when Eduardo Frei was in power. It equals zero in 1971 and 1972, the years when Salvador Allende was in office (since he was not installed or supported by the CIA). It then equals one from 1973 to 1988, the years when Augusto Pinochet, who was installed and supported by the CIA, was in power.<sup>9</sup>

Our empirical analysis examines a sample of 166 countries, which includes all countries for which necessary data are available, except the US and the Soviet Union.<sup>10</sup> Among the 166 countries, 51 were subject to at least one CIA intervention between 1947 and 1989.<sup>11</sup> In an average year between 1947 and 1989, 25 countries were experiencing a CIA intervention. Among the group of countries that experienced an intervention between 1947 and 1989, the typical country experienced 21 years of interventions.

Examining the total number of successful CIA interventions in each year, we find that there is a steady increase after 1947 until the 1970s, after which the number falls until 1989.<sup>12</sup> This pattern is consistent with the known history of the CIA. Between 1953 and 1961 covert action increased significantly, with attention focused on political action, particularly support to political figures and political parties. The 1960s witnessed a continued presence of CIA covert activities, although there was a shift toward greater paramilitary activities. The period from 1964 to 1967 is known to have been the high point of CIA covert activities, with the post-1967 slow-down brought about, in part, by the 1967 *Ramparts* magazine article that exposed the CIA's funding of national student groups and other private organizations (Leary 1984). Consistent with history, our data show a leveling off of covert interventions in the late 1960s until the mid-1970s, after which the number falls.<sup>13</sup>

The map shown in Figure 1 reports for each country the fraction of years between 1947 and 1989 for which there was a CIA intervention.<sup>14</sup> The cross-country distribution of interventions is consistent with the descriptive history of CIA activities during the Cold War. The CIA intervened most heavily in Latin America, but also in a few European countries—namely, Italy and Greece—as well as in a number of countries in Africa, Asia, and the Middle East.

The map also helps to illustrate exactly what our intervention variable captures and what it does not capture. For example, our intervention variable is zero for Angola throughout the period. This is so despite the heavy and well-known involvement of the CIA in Angola's civil war, where they provided covert support for the

<sup>9</sup> A potential source of imprecision arises from the fact that our data are measured at annual frequencies, while in reality CIA activities occurred in continuous time. This results in some imprecision when coding  $USinfluence_{t,c}$ . For the case of Chile, since Salvador Allende won the election on September 4, 1970, it is unclear whether we should code  $USinfluence_{t,c}$  as one or zero for 1970. In constructing our measure we code onset and offset years as being an intervention year. Therefore, since 1970 is an offset year of the CIA's support of Eduardo Frei, it is coded as one. We have checked that none of our results depend on this decision. Choosing instead to code onset- and offset-intervention years as zero yields results that are virtually identical to what we report here.

<sup>10</sup> Our panel is unbalanced, since countries do not enter the sample until they gain independence. Countries that split or merge are treated as new countries in the dataset. A description of how exactly we deal with these cases is provided in the online Appendix.

<sup>11</sup> Similarly, 25 countries were subject to at least one successful KGB intervention.

<sup>12</sup> See Figure A1 of the online Appendix for details.

<sup>13</sup> The slight lag in the decline after 1967 results from the persistence of ongoing intervention episodes, since newly installed or newly supported leaders were often supported by the CIA for their remaining tenure.

<sup>14</sup> For countries that did not gain independence until after 1947, we report the fraction of years from independence to 1989 for which there was a CIA intervention.

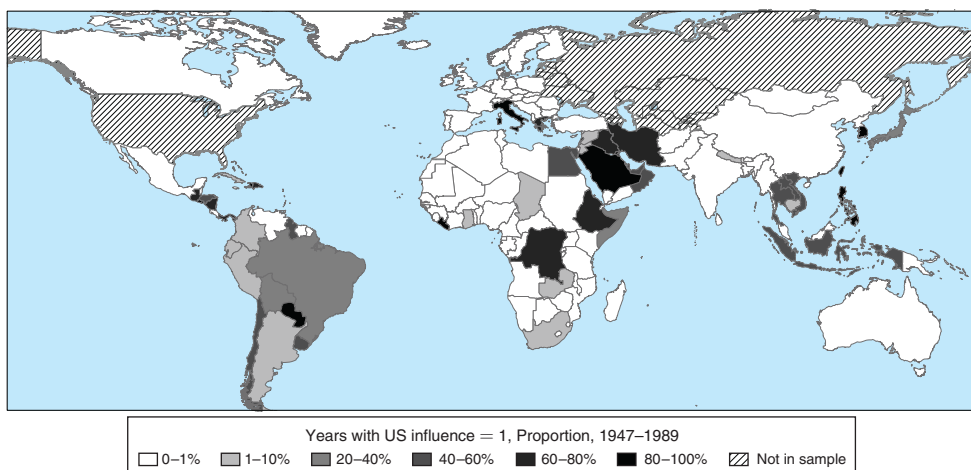


FIGURE 1. MAP SHOWING THE FRACTION OF YEARS BETWEEN 1947 AND 1989 WITH A CIA INTERVENTION

anticommunist group Union for the Total Independence of Angola (UNITA) (e.g., Weissman 1979). However, the group was never successful at gaining power from the Movimento Popular de Libertação de Angola (MPLA). Because the US-backed UNITA forces never gained control of the government, our variable is not coded as one for Angola, despite clear involvement by the CIA in the country. The example illustrates that our intervention measure is not a measure of all CIA meddling or activities in a country. Rather, it is an indicator of CIA activities that were successful at either installing a new leader or in maintaining the power of an existing leader. Therefore, it should be kept in mind that throughout the paper, when we refer to “CIA interventions,” we are referring specifically to interventions by the CIA that were successful at installing or maintaining the power of specific leaders.

Using CIA covert activities to measure changes in US influence over foreign countries has a number of particularly attractive characteristics. First, because these interventions were covert at the time, they were largely unaffected by US public opinion and the opinion of other countries, which reduces one source of endogeneity in our measure.<sup>15</sup> Further, because the interventions affect the leader in power, they are significant and potentially have an important impact on US government influence over the regime.

Our analysis also relies on trade data from the Correlates of War (COW) Trade Dataset, Barbieri, Keshk, and Pollins (2008), which reports annual aggregate bilateral trade flows (measured in millions of nominal US dollars).<sup>16</sup> All other data from our analysis are described as they are used.

<sup>15</sup> The findings from Dube, Kaplan, and Naidu (2011) suggest a potentially important caveat here. They show that the stock prices of multinational corporations that stood to gain from the coups responded after top secret authorizations were made. In fact, stock prices responded more to these authorizations than to the actual coups themselves. These findings suggest that while the general public was uninformed about covert CIA actions at the time, this may not have been true for a politically connected subset of the population.

<sup>16</sup> For the post WWII period, the data are originally from the International Monetary Fund’s *Direction of Trade Statistics*. Exploiting the fact that all transactions are potentially recorded by both importing and exporting countries, Barbieri, Keshk, and Pollins impute missing flows by using, for example, the exporter’s trade statistics if data on imports are missing from the importer’s accounts. Because importing countries typically keep more precise

## II. Estimating Equations

Our estimating equations are based on the gravity model of international trade, which has become the conventional framework for estimating the determinants of trade flows. The gravity model can be derived formally from a number of theoretical environments. Consider, for example, the setting from Anderson and van Wincoop (2003).<sup>17</sup> Here, trade between country  $c$  and  $e$  in year  $t$  is given by

$$(1) \quad m_{t,c,e} = \frac{Y_{t,c} Y_{t,e}}{Y_t^W} \left[ \frac{\tau_{t,c,e}}{P_{t,c} P_{t,e}} \right]^{1-\sigma},$$

where  $m_{t,c,e}$  denotes imports into country  $c$  from exporter  $e$  in year  $t$ ,  $Y_{t,c}$  is total GDP of importing country  $c$  in year  $t$ ,  $Y_{t,e}$  is total GDP of exporting country  $e$  in year  $t$ , and  $Y_t^W$  is world GDP in year  $t$ . The parameter  $\sigma$  is the elasticity of substitution between goods,  $\tau_{t,c,e}$  measures bilateral trade related costs when shipping goods from country  $e$  to  $c$ , and  $P_{t,c}$  and  $P_{t,e}$  are multilateral resistance terms for countries  $c$  and  $e$ , which are complex non-linear functions of the full set of bilateral cost terms  $\{\tau_{t,c,e}\}$ .<sup>18</sup>

Taking natural logs and rearranging gives

$$(2) \quad \ln \frac{m_{t,c,e}}{Y_{t,c} Y_{t,e}} = -\ln Y_t^W + (1 - \sigma) \ln \tau_{t,c,e} - (1 - \sigma) [\ln P_{t,c} + \ln P_{t,e}].$$

Estimating equation (2) faces the challenge of accounting for the importer and exporter multilateral resistance terms,  $P_{t,c}$  and  $P_{t,e}$ .

Our analysis uses the estimation method proposed by Baier and Bergstrand (2009), where the multilateral resistance terms are approximated using a first-order log-linear Taylor series expansion. Baier and Bergstrand characterize the resulting approximation terms and show that the technique generates estimates that are virtually identical to the nonlinear estimation of the full system of equations proposed by Anderson and van Wincoop (2003). With the additional assumption of symmetry, the multilateral resistance terms  $[\ln P_{t,c} + \ln P_{t,e}]$  are given by<sup>19</sup>

$$(3) \quad \ln P_{t,c} + \ln P_{t,e} = \sum_{i=1}^N \theta_{t,i} \ln \tau_{t,c,i} + \sum_{j=1}^N \theta_{t,j} \ln \tau_{t,j,e} - \sum_{k=1}^N \sum_{m=1}^N \theta_{t,k} \theta_{t,m} \ln \tau_{t,k,m},$$

where  $\theta_{t,i} \equiv Y_{t,i}/Y_t^W$ .<sup>20</sup>

records of shipments (because of the existence of tariffs) than exporting countries, the dataset uses importing country accounts when both sources exist. A full discussion is provided in Barbieri, Keshk, and Pollins (2008, 2009). In particular, see Table 1 of Barbieri, Keshk, and Pollins (2009).

<sup>17</sup> Alternative foundations are provided by Eaton and Kortum (2002) and Chaney (2008).

<sup>18</sup> See equation (12) of Anderson and van Wincoop (2003) for the derivation and a general discussion.

<sup>19</sup> See, in particular, Section III and Appendix A of Baier and Bergstrand (2009).

<sup>20</sup> An alternative is to use equal weights, rather than GDP weights, in the construction of the approximation terms, i.e.,  $\theta_{t,i} = 1/N$  where  $N$  is the number of countries. The results are qualitatively identical if this is done.



We assume that bilateral trade costs are given by

$$(4) \quad \tau_{t,c,e} \equiv e^{\mu_1 \ln dist_{c,e}} + \mu_2 I_{c,e}^{lang} + \mu_3 I_{c,e}^{border} + \mu_4 I_{t,c,e}^{gatt} + \mu_5 I_{t,c,e}^{rta},$$

where  $\ln dist_{c,e}$  is the natural log of the distance between country  $e$  and  $c$ ,  $I_{c,e}^{lang}$  is an indicator variable that equals one if the two countries share a common language,  $I_{c,e}^{border}$  is an indicator for the two countries sharing a border,  $I_{t,c,e}^{gatt}$  is an indicator that equals one if both countries are GATT participants in year  $t$ , and  $I_{t,c,e}^{rta}$  equals one if both countries belong to a regional trade agreement in year  $t$ .<sup>21</sup>

Substituting equation (4) into (3) gives

$$(5) \quad \ln P_{t,c} + \ln P_{t,e} = \mu_1 X_{c,e}^{dist} + \mu_2 X_{c,e}^{lang} + \mu_3 X_{c,e}^{border} + \mu_4 X_{t,c,e}^{gatt} + \mu_5 X_{t,c,e}^{rta},$$

where

$$\begin{aligned} X_{c,e}^{dist} &\equiv \sum_{i=1}^N \theta_{t,i} \ln dist_{c,i} + \sum_{j=1}^N \theta_{t,j} \ln dist_{j,e} - \sum_{k=1}^N \sum_{m=1}^N \theta_{t,k} \theta_{t,m} \ln dist_{k,m} \\ X_{c,e}^l &\equiv \sum_{i=1}^N \theta_{t,i} I_{c,i}^l + \sum_{j=1}^N \theta_{t,j} I_{j,e}^l - \sum_{k=1}^N \sum_{m=1}^N \theta_{t,k} \theta_{t,m} I_{k,m}^l \quad \text{for } l = lang, border \\ X_{t,c,e}^l &\equiv \sum_{i=1}^N \theta_{t,i} I_{t,c,i}^l + \sum_{j=1}^N \theta_{t,j} I_{t,j,e}^l - \sum_{k=1}^N \sum_{m=1}^N \theta_{t,k} \theta_{t,m} I_{t,k,m}^l \quad \text{for } l = gatt, rta. \end{aligned}$$

We can then use the observable variables given in equations (4) and (5) to control for trade costs  $\tau_{t,c,e}$  and the multilateral resistance terms  $[\ln P_{t,c} + \ln P_{t,e}]$  that appear in equation (2).<sup>22</sup>

The primary impact of interest is how increased US influence, through CIA interventions, affected trade with the US. Therefore, our baseline estimating equation examines the impact of a CIA intervention in country  $c$  on country  $c$ 's trade with the US.<sup>23</sup> First, consider country  $c$ 's imports from the US, which we denote  $m_{t,c}^{US}$ . This can be expressed as

$$m_{t,c}^{US} = \frac{Y_{t,c} Y_t^{US}}{Y_t^W} \left[ \frac{\tau_{t,c}^{US}}{P_{t,c} P_t^{US}} \right]^{1-\sigma},$$

<sup>21</sup> Distances are calculated manually as the great circle distance between the centroid of each country. Data on trading partners with common language, with contiguous borders, and belonging to a regional trade agreement are from Head, Mayer, and Ries (2010). Data on GATT participation are from Tomz, Goldstein, and Rivers (2007).

<sup>22</sup> Among the five determinants of trade costs, there is particular concern about the endogeneity of regional trade agreements (see Baier and Bergstrand 2007). The estimates reported below are completely robust to the omission of this determinant of bilateral trade costs. As well, the results are also similar if we omit GATT participation as a determinant.

<sup>23</sup> An alternative estimation strategy is to examine bilateral trade between all countries and examine how CIA interventions differentially impacted a country's trade with the US (relative to its trade with all other countries). As we report in Section VB, this generates estimates that are very similar to our baseline strategy. A disadvantage of a full bilateral analysis is that, even with clustered standard errors, one runs the risk of generating downward-biased standard errors (see Bertrand, Duflo, and Mullainathan 2004; Erikson, Pinto, and Rader 2009). Our baseline strategy has only  $N \times T$  observations rather than the  $N(N - 1)T$  observations in the bilateral sample (where  $N$  is the number of countries and  $T$  is the number of time periods).

where  $Y_t^{US}$  denotes US total income,  $P_t^{US}$  denotes the multilateral resistance term for the US, and  $\tau_{t,c}^{US}$  is the trade friction between the US and country  $c$ . Taking natural logs and rearranging gives

$$(6) \quad \ln \frac{m_{t,c}^{US}}{Y_{t,c}} = \ln \frac{Y_t^{US}}{Y_t^W} + (1 - \sigma) \ln \tau_{t,c}^{US} - (1 - \sigma)[\ln P_t^{US} + \ln P_{t,c}].$$

Our analysis is interested in identifying the reduced-form impact of US influence on a country's trade with the US. Because it is possible that some of the mechanisms underlying this relationship lie outside of the standard gravity model of international trade, we estimate equation (6) and include CIA interventions as an additional determinant of trade flows, thus estimating the reduced-form relationship between CIA interventions and imports from the US:

$$(7) \quad \ln \frac{m_{t,c}^{US}}{Y_{t,c}} = \alpha_t + \alpha_c + \beta USinfluence_{t,c} + \phi \ln \tau_{t,c}^{US} - \phi [\ln P_t^{US} + \ln P_{t,c}] + \mathbf{X}_{t,c} \Gamma + \varepsilon_{t,c}.$$

The dependent variable,  $\ln \frac{m_{t,c}^{US}}{Y_{t,c}}$ , is the natural log of imports into country  $c$  from the US normalized by country  $c$ 's total GDP.<sup>24</sup> Our primary coefficient of interest is  $\beta$ , which captures the average reduced-form impact of CIA interventions on the countries that experience an intervention.<sup>25</sup>

The first terms in equation (6),  $\ln \frac{Y_t^{US}}{Y_t^W}$ , are absorbed by the year fixed effects  $\alpha_t$  in equation (7). Trade costs,  $\ln \tau_{t,c}^{US}$ , are controlled for with the observables given in equation (4) and the multilateral resistance terms,  $[P_{t,c} + P_t^{US}]$ , are controlled using the observable terms given in equation (5). Guided by the theory, in equation (7), the coefficients for  $\ln \tau_{t,c}^{US}$  and  $[P_{t,c} + P_t^{US}]$  are constrained to have the same coefficients but with opposite signs.

Equation (7) also includes country fixed effects,  $\alpha_c$ , which capture time-invariant country characteristics that may be correlated with both trade with the US and CIA interventions. We also control for a vector of time-varying control variables  $\mathbf{X}_{t,c}$ , which includes the natural log of per capita income and an indicator for Soviet/KGB interventions, measured in the same manner as CIA interventions. Motivated by recent studies showing that leaders matter (e.g., Jones and Olken 2005, 2009), we control for an indicator variable that equals one if there is a change in leadership, as well as a measure of the tenure of the current leader. Our final control variable is motivated by the findings from Berger et al. (2010), showing that successful CIA interventions adversely impacted democracy. We control for an indicator variable that equals one if an observation is a democracy, as defined by Cheibub, Gandhi, and Vreeland (2010).<sup>26</sup>

<sup>24</sup> Trade and income are both measured in millions of nominal US dollars.

<sup>25</sup> Because we use an indicator variable that captures the existence of all interventions, without distinguishing between intensity or type, our estimate does not identify heterogeneous impacts which may underlie the average effect. We have tested for temporal and spatial heterogeneity. We find some evidence of heterogeneous impacts. For example, we find that the impact of CIA interventions is greater than average in the 1950s and weaker than average in the 1970s. We also find evidence of a weaker effect among African countries. These results are reported in the online Appendix.

<sup>26</sup> Using the Polity measure of democracy yields virtually identical estimates to what we report here. Unlike the Polity measure, which is based on subjective perceptions about the extent of democracy, the Cheibub, Gandhi, and Vreeland (2010) measure is based on objective criteria about the extent to which government positions are filled by contested elections (see e.g., Alvarez et al. 1996).

In auxiliary regressions, we also examine the effect of CIA interventions on exports to the US. The estimating equation for exports is derived in an analogous manner as equation (7) and is given by

$$(8) \ln \frac{x_{t,c}^{US}}{Y_{t,c}} = \alpha_t + \alpha_c + \beta USinfluence_{t,c} + \phi \ln \tau_{t,c}^{US} - \phi [\ln P_t^{US} + \ln P_{t,c}] + \mathbf{X}_{t,c} \Gamma + \varepsilon_{t,c},$$

where  $c$  now indexes exporters and  $x_{t,c}^{US}$  denotes the values of exports from country  $c$  to the US.

### III. Baseline Estimation Results

We now turn to our estimation results, which are reported in Table 1. Column 1 reports estimates of equation (7) without controlling for the multilateral resistance terms. The equation does, however, include country fixed effects and year fixed effects. We find that the coefficient on the US intervention measure,  $USinfluence_{t,c}$ , is positive and statistically significant. The estimated coefficient of 0.283 implies that in intervention years a country's trade with the US is 28.3 percent greater than in non-intervention years. This is a sizable impact.

In column 2, we do not control for country fixed effects but do control for countries' multilateral resistance terms using the Baier and Bergstrand (2009) approximation method described in the previous section. The estimated impact is much larger with a coefficient of 0.776. In column 3, we include both the Baier and Bergstrand multilateral resistance terms and country fixed effects. The estimated coefficient is 0.293. The relative magnitudes of the coefficients from columns 1–3 show the importance of controlling for country fixed effects. When these are not included in the table, the estimated impact of CIA interventions are over twice as large. This suggests the existence of time-invariant country characteristics that if not properly taken into account generate an upward bias in our coefficients of interest. As well, once country fixed effects are accounted for, additionally controlling for the Baier and Bergstrand multilateral resistance terms has no noticeable impact on our estimate of interest  $\beta$ . This most likely reflects the fact that a country's multilateral resistance term typically does not change drastically from one year to the next. Therefore, most of the variation in the term is in the cross section and is captured to a large extent by the country fixed effects. Throughout the rest of the analysis, we control for both country fixed effects and the Baier and Bergstrand multilateral resistance terms.<sup>27</sup>

To gain a better understanding of the source of the increased imports from the US, we examine whether aggregate imports also increased following interventions. US imports may have risen either because of trade creation (in which case

<sup>27</sup> An alternative to having country fixed effects is to estimate the equations in first differences. With this strategy, the impact of US influence is identified from the differences between (i) the year before the beginning of an intervention episode and the first year (onset) of the intervention episode, and (ii) the last year (offset) of an intervention episode and the following year, which is the first non-intervention year. In all other years the first-difference is equal to zero. Because our data are measured annually, the onset and offset years are only partial intervention periods, and as a result, first-difference estimates, unlike the fixed effects estimates, are identified solely from comparisons of non-intervention periods to partial-intervention periods. We, therefore, expect first-differenced estimates to yield estimates that are biased toward zero, and do not use this estimation strategy. Consistent with the nature of this bias, we find that the point estimates we obtain from first differencing are smaller. For example, for the specification from column 3 of Table 1, the point estimate is 0.085 and the standard error is 0.059, which is statistically significant at the 15 percent level, but not the 10 percent level.

TABLE 1—THE EFFECTS OF US INTERVENTIONS ON TRADE WITH THE US AND THE REST OF THE WORLD

	In normalized imports from the US			In normalized imports from the world	In normalized exports to the US	In normalized exports to the world
	(1)	(2)	(3)	(4)	(5)	(6)
<i>US influence</i>	0.283** (0.110)	0.776*** (0.143)	0.293*** (0.109)	-0.009 (0.045)	0.058 (0.122)	0.000 (0.052)
<i>Control variables</i>						
In per capita income	0.352** (0.148)	0.327*** (0.068)	0.296** (0.148)	0.129 (0.111)	1.234*** (0.239)	0.647*** (0.134)
Soviet intervention control	-1.129** (0.456)	-1.434*** (0.307)	-1.067** (0.430)	-0.080 (0.102)	-0.682** (0.307)	-0.082 (0.100)
Leader turnover indicator	0.008 (0.037)	-0.089* (0.051)	0.001 (0.037)	0.026 (0.018)	0.028 (0.039)	0.037* (0.022)
Leader tenure	0.003 (0.008)	-0.013 (0.009)	0.003 (0.008)	0.005** (0.003)	0.013** (0.007)	0.006* (0.004)
Democracy indicator	0.112 (0.075)	0.159 (0.142)	0.121* (0.073)	0.069 (0.053)	0.065 (0.094)	0.082 (0.058)
<i>Trade cost/B&amp;B MR controls</i>						
In Distance		-0.309*** (0.065)	-0.277*** (0.065)	-0.127*** (0.026)	-0.214*** (0.079)	-0.143*** (0.029)
Contiguous border indicator		1.476*** (0.408)	2.952* (1.709)	-0.274 (0.516)	1.965 (2.648)	-0.104 (0.415)
Common language indicator		0.425* (0.241)	1.430 (1.204)	-0.847** (0.343)	3.676*** (1.280)	0.145 (0.355)
GATT participant indicator		0.033 (0.507)	0.057 (0.549)	-0.075 (0.055)	0.365 (0.561)	-0.086 (0.063)
Regional trade agreement indicator		1.475** (0.672)	-1.216** (0.532)	-1.200*** (0.205)	-1.283 (0.882)	-1.126*** (0.266)
Country fixed effects	Yes	No	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
$R^2$	0.828	0.839	0.836	0.952	0.824	0.947
Observations	4,149	4,149	4,149	4,149	3,922	3,922

*Notes:* The unit of observation is a country  $c$  in year  $t$ , where  $t$  ranges from 1947 to 1989. The dependent variable in columns 1–3 is the natural log of imports from the US divided by total GDP. In column 4, the dependent variable is the natural log of imports from the world divided by the product of the country's total GDP and all other countries' total GDP (see Appendix A for details). In column 5, the dependent variable is the natural log of exports to the US divided by total GDP. In column 6, the dependent variable is the natural log of exports to the world divided by the product of the country's total GDP and the sum of all other countries' total GDP. All regressions include year fixed effects, a Soviet intervention control, In per capita income, an indicator for leader turnover, current leader tenure, an indicator for GATT participation, an indicator for a preferential trade agreement with the US, and a democracy indicator. Columns 1 and 3–6 include country fixed effects. Columns 2–6 include controls for trade costs and the Baier and Bergstrand (2009) multilateral resistance terms. These are a function of the natural log of bilateral distance, an indicator variable for a common language, an indicator variable for a shared border, an indicator for both trading partners being GATT participants, and an indicator for the trading partners being part of a regional trade agreement. Coefficients are reported with Newey-West standard errors with a maximum lag of 40 reported in brackets.

\*\*\* Significant at the 1 percent level.

\*\* Significant at the 5 percent level.

\* Significant at the 10 percent level.

aggregate imports would also rise), or because of trade diversion (in which case aggregate imports would stay the same).<sup>28</sup> The estimates for total imports, reported in column 4, show that the impact of interventions on aggregate imports is not statistically different from zero. Further, this is the result of a small coefficient that is precisely estimated and not because of large standard errors. This suggests that the increased share of imports from the US arose from a shift away from imports from other countries and toward imports from the US. We confirm this finding in our bilateral regression analysis reported in Section VB, where we explicitly estimate the trade-diversion impact of CIA interventions.

We next ask whether intervened countries also experienced an increase in their exports to the US. Column 5 reports estimates of equation (8). The results show that, unlike US imports, exports to the US were not affected by CIA interventions. In column 6, for completeness, we report estimates of the impact of US interventions on aggregate exports.<sup>29</sup> We find that interventions had no effect on aggregate exports.

Table 1 also reports the coefficient estimates for all additional control variables. These are generally as expected. Soviet interventions tend to decrease trade with the US and countries with greater per capita income tend to import and export more from all countries, including the US. Consistent with the Linder hypothesis, richer countries trade more with the US. We find no evidence that leader turnover or leader tenure systematically affect imports from the US. Among the trade cost variables, bilateral distance significantly reduces trade, while the coefficients for the other trade cost variables are less robust, a fact most likely explained by collinearity with the country fixed effects. To conserve on space, in the remaining tables of the paper, we suppress the coefficient estimates of the control variables. These are available upon request.

Although our estimating equation controls for country-specific time-invariant factors and time-specific country-invariant factors that could bias our estimates of interest, there remains the concern that our coefficient of interest  $\beta$  may be biased due to factors that vary simultaneously by country and time period. The primary concern is that there may have been selection in the targeting of CIA interventions and, in particular, that interventions were more common when a country had recently experienced a decline in its imports of US products. This is an example of the well-known Ashenfelter dip.

We undertake a number of strategies to reduce any potential bias that may arise from the endogeneity of interventions. We control for five year pre-trends in the dependent variable (i.e.,  $\ln \frac{m_{t-1,c}^{US}}{Y_{t-1,c}} - \ln \frac{m_{t-6,c}^{US}}{Y_{t-6,c}}$ ), which capture potential pre-intervention “dips” in imports. We also control for an indicator variable that equals one if the observation (country  $c$  in period  $t$ ) is between one and five years prior to the onset of an intervention episode. With either strategy, we obtain estimates of  $\beta$  that are similar to our baseline estimate (see columns 1 and 2 of Appendix Table A1).<sup>30</sup>

<sup>28</sup> The estimating equation for total imports is analogous to equation (7) for US imports, although the multilateral resistance terms, and therefore the Baier and Bergstrand approximation terms, differ slightly. See Appendix A for full details.

<sup>29</sup> See Appendix A for details about the estimating equation for total exports.

<sup>30</sup> This robustness is consistent with historical accounts that emphasize the primarily ideological motivation—namely the fear of Communism—behind CIA interventions (e.g., Westad 2005, p. 111; Blum 2003, p. 13). Although

We also check that our results are robust to controlling for potentially important observable factors, like the nature of a country's foreign relations with the US and economic conditions in the foreign country (columns 3 and 4 of Appendix Table A1). The foreign relations variables include three indicator variables that identify instances in which either the foreign country or the US threatens to use force, displays force, or uses force; an indicator variable that equals one if there are US sanctions against exporting to the country; and an indicator variable that equals one if the country has an alliance with the US. The economic condition variables, which we include in addition to our baseline control of per capita income, are the one-year average inflation rate (between period  $t - 1$  and  $t$ ) and the real exchange rate.<sup>31</sup>

We also perform a number of sensitivity tests. We check that our results remain robust when estimating a variant of equation (7) using a Poisson pseudo maximum likelihood estimator, as suggested by Santos Silva and Tenreiro (2006) (column 1 of Appendix Table A2).<sup>32</sup> Motivated by the observed persistence of trade flows, potentially due to hysteresis arising from the fixed costs of exporting, we also check that we obtain similar estimates when we control for a one-year lag of the dependent variable (columns 2–4 of Appendix Table A2).

We distinguish between intervention episodes that began with the CIA installing a new leader and then providing support for the leader and episodes in which the CIA began supporting a pre-existing leader. We disaggregate  $USinfluence_{t,c}$  into two measures: an indicator variable that equals one for interventions of the first type (install and support) and an indicator variable that equals one for interventions of the second type (support only).<sup>33</sup> We find that both types of interventions have very similar impacts (column 5 of Table A2).

The final exercise that we perform examines the timing of movements in imports from the US before and after the beginning of an intervention episode. We estimate the following equation:

$$(9) \quad \ln \frac{m_{t,c}^{US}}{Y_{t,c}} = \alpha_t + \alpha_c + \sum_{j=1}^N \phi_j Pre_{t,c}^j + \sum_{j=1}^N \theta_j Post_{t,c}^j \\ + \phi \ln \tau_{t,c}^{US} - \phi [\ln P_t^{US} + \ln P_{t,c}] + \mathbf{X}_{t,c} \mathbf{\Gamma} + \varepsilon_{t,c},$$

where  $Pre_{t,c}^j$  is an indicator variable that equals one if the observation is  $j$  years prior to the onset of an intervention episode. Similarly,  $Post_{t,c}^j$  equals one if the observation is  $j$  years into an intervention episode (i.e.,  $Post_{t,c}^1$  is the onset year). All other variables are as defined in equation (7).

A comparison of the  $\phi_j$ 's and the  $\theta_j$ 's provides a check for an increase in US imports after the onset of a CIA intervention. We restrict attention to "install and support"

economic considerations did play a role—particularly when the foreign country's movement toward communism or socialism meant nationalizing foreign companies—they do not appear to have been the most important motivation.

<sup>31</sup> The military dispute data are from Maoz (2005), the sanctions data are from Hufbauer et al. (2007), the alliance data are from the COW Alliance Dataset 3.03, and the inflation and exchange rate data are from the Penn World Tables 6.3.

<sup>32</sup> In this specification, the dependent variable is the value of imports from the US, rather than the natural log of imports from the US normalized by total GDP.

<sup>33</sup> In the sample, there are 933 country-year observations with an intervention. Of these, 362 interventions are "install and support" interventions and 571 are "support only" interventions. Of the 51 countries that experienced an intervention, 27 experienced "install and support" interventions, 19 experienced "support only," and five experienced an intervention episode of each type.



interventions, since doing so omits a number of very short interventions, including nine one-year counterinsurgency interventions. These short interventions are inappropriate for the event study analysis. Because we restrict the event study to “install and support” interventions, the set of control variables also includes an indicator variable for “support only” interventions.

The estimation results are reported in Appendix Table A3. Columns 1–4 report estimates of the coefficients of the pre and post indicator variables from equation (9) for ten-, eight-, six-, and four-year event windows i.e., for  $N = 5, 4, 3, 2$ . Also reported are the coefficient estimates for “install and support” intervention periods that are outside of the window of analysis, as well as intervention years for “support only” interventions.

The estimates are consistent with an impact of CIA interventions on imports from the US. During years prior to the beginning of the intervention episode (period  $t - 1$  and earlier), we do not witness an increase in US imports. None of the coefficients are statistically significant. Period  $t$ , the first and partial intervention year, witnesses only a slight insignificant increase in US imports relative to the level in period  $t - 1$ . The coefficient for period  $t$  is positive in three of the four specifications, but not statistically significant. This is most likely due to the fact that this period is only a partial intervention, since the intervention begins at some point during this year. The first full intervention year, labelled period  $t + 1$ , witnesses a sizable increase in imports. The coefficients for period  $t + 1$  range from 0.16 to 0.28 and are statistically significant in two of the four specifications. After this period, the new higher level of US imports is maintained. The coefficients range from 0.18 to 0.30, and are generally significant.

For a small number of observations, it is the case that some of the periods in the pre-intervention window are actually intervention periods and some of the periods in the post-intervention window are not intervention periods.<sup>34</sup> We address this issue by interacting the pre-intervention indicator variables with one minus  $USinfluence_{t,c}$  and the post intervention variables with  $USinfluence_{t,c}$ . This ensures that the pre-intervention indicator variables only take on the value of one when the pre-intervention period is itself not an intervention, and that the post-intervention indicator variables only take on the value of one when the post-intervention period is an intervention. The estimates using this alternative procedure, reported in columns 5–8, are very similar to the baseline estimates.

#### IV. Underlying Mechanisms

Turning to mechanisms, we now provide evidence that much of the increase in imports from the US likely arose through direct government purchases.

Quantitatively speaking, the purchase of goods by governments would be large enough to account for the CIA intervention induced increases in imports from the US observed in the data.<sup>35</sup> In addition, it is well-known that government purchases

<sup>34</sup>Note that we have already minimized this issue by performing the event study on “install and support” interventions only.

<sup>35</sup>As a share of GDP, government purchases have typically been around 20 percent for industrialized nations and 15 percent for developing nations (Baldwin 1970, p. 58; Audet 2002). Removing compensation to employees and focusing only on purchases of goods, the figures become 10.3 and 8.8 percent, respectively (Audet 2002). These

TABLE 2—CAUSAL MECHANISMS

	ln normalized imports US				
	Country-year level			Country-year-industry level	
	(1)	(2)	(3)	(4)	(5)
<i>US influence</i>	0.242** (0.114)	-0.006 (0.167)	0.006 (0.168)	0.245*** (0.081)	0.260*** (0.080)
<i>US influence</i> × <i>Govt share of GDP</i>		1.368*** (0.521)	1.333*** (0.516)		
<i>US influence</i> × $I^{\text{High Govt Purchases}}$				0.176** (0.073)	
<i>US influence</i> × $I^{\text{High Govt Imports}}$					0.141* (0.072)
<i>Govt share of GDP</i>	No	Yes	Yes	No	No
<i>Govt share of GDP</i> × All controls	No	No	Yes	No	No
$R^2$	0.867	0.868	0.868	0.648	0.648
Observations	3,710	3,710	3,710	142,243	142,243

Notes: In columns 1–3, the unit of observation is a country  $c$ , in year  $t$ , where  $t$  ranges from 1947 to 1989. In columns 4 and 5, the unit of observation is a country  $c$ , in year  $t$ , in a 2-digit SITC industry  $i$ , where  $t$  ranges from 1962 to 1989. The dependent variable is the natural log of the imports from the US divided by total GDP. All regressions include year fixed effects, country fixed effects, a Soviet intervention control, ln per capita income, an indicator for leader turnover, current leader tenure, a democracy indicator, as well as Baier and Bergstrand (2009) controls for trade costs and multilateral resistance terms. These are a function of the natural log of bilateral distance, an indicator variable for a common language, an indicator variable for a shared border, an indicator for both trading partners being GATT participants, and an indicator for the trading partners being part of a regional trade agreement. Columns 4 and 5 also include industry fixed effects. Coefficients are reported with Newey-West standard errors in brackets in columns 1–3 and with standard errors clustered at the country-year level in brackets in columns 4 and 5.

\*\*\*Significant at the 1 percent level.

\*\*Significant at the 5 percent level.

\*Significant at the 10 percent level.

are highly discriminatory, with suppliers typically based on criteria other than lowest costs (Baldwin 1970; Lowinger 1976; Audet 2002), and that influence, power, and connections are important factors that affect governments' choice of suppliers (Cingano and Pinotti 2010; Goldman, Rocholl, and So 2008).

We test for the government-procurement channel by examining whether the estimated impact of CIA interventions on US imports is greater in countries where the government controls a greater share of the economy, which we measure using the share of government expenditures in GDP, taken from the Penn World Tables 6.3. Estimation results are reported in columns 1–3 of Table 2. Column 1 reproduces the baseline estimate from column 3 of Table 1, but with a smaller sample size due to missing government expenditure data.<sup>36</sup> Column 2 reports estimates of a specification that allows the

figures can be compared to the predicted intervention-induced increase in imports based on our estimates. The mean of US imports relative to total GDP in the sample is 0.002 or 0.2 percent. (For the observation in the ninetieth percentile the figure is still only 0.060 or 6 percent.) According to the estimate from column 3 of Table 1, interventions increase US imports (as a share of GDP) by 29.3 percent. Therefore, for a country initially at the mean US import-to-GDP ratio, US imports relative to GDP would increase from 0.20 percent to 0.26 percent. For a country at the ninetieth percentile, the increase would be from 6.0 percent to 7.8 percent. Therefore, the predicted increase in imports can be fully accounted for by government purchases, given that the average share of government purchases to GDP is approximately 9–10 percent.

<sup>36</sup>Data on government expenditure share are unavailable for all countries, and are only available from 1950.

effect of CIA interventions to differ depending on the government's share of GDP. As shown, the interaction between  $USinfluence_{t,c}$  and the government expenditure share is positive and statistically significant.

The magnitudes of the estimates suggest significant heterogeneity across observations. To see this, first note that the government expenditure shares for observations at the tenth and nineteenth percentiles are 0.077 (i.e., 7.7 percent) and 0.277. According to the estimates, the effect of CIA interventions on observations between the tenth and nineteenth percentiles range from 0.099 to 0.373.<sup>37</sup> For the mean observation (with government expenditure share equal to 0.172) the estimated impact is 0.223, which is close to the estimate of 0.242 from column 1.<sup>38</sup> The coefficient for  $USinfluence_{t,c}$  provides the estimated impact of US interventions for a hypothetical country with zero government expenditure. Therefore, it can be interpreted as the estimated effect of interventions after shutting down the channel that works through the government. The estimated coefficient is positive, small, and not statistically different from zero, which suggests that direct government purchases may potentially explain nearly all of the effect of CIA interventions on US imports.

In column 3, we test the robustness of the findings from column 2 by interacting all variables, not just  $USinfluence_{t,c}$ , with the government's share of GDP. As shown, the estimates remain robust, and the magnitudes of the coefficients of interest change little.

An alternative strategy is to examine heterogeneity across industries, testing whether US imports are greater in industries in which governments tend to be active purchasers. Utilizing a South Korean 413-industry Input-Output (I-O) table from 2000, we construct measures of the proportion of total output from each industry that is sold to the government and the share of each industry's imports purchased by the government. Because the government-intensity measures for South Korea may be an imperfect measure for the other intervened countries in the sample,<sup>39</sup> we do not rely on the finer variation in the South Korean government purchase intensity measures. Instead, we use the information to create two broad categories, dividing industries into those with above median levels of government purchases (or imports) and those with below median levels. The assumption is that the coarser measure is more likely to be similar for the other intervened countries in the sample.

Using the industry-level measures of government purchase intensity, we estimate a variant of our baseline equation, but allow for differential impacts by industry:

$$(10) \quad \ln \frac{m_{t,c,i}^{US}}{Y_{t,c}} = \alpha_t + \alpha_c + \alpha_i + \beta_1 USinfluence_{t,c} + \beta_2 USinfluence_{t,c} \times I_i^{HighGovt} \\ + \phi \ln \tau_{t,c}^{US} - \phi [\ln P_t^{US} + \ln P_{t,c}] + \mathbf{X}_{t,c} \mathbf{\Gamma} + \varepsilon_{t,c,i},$$

<sup>37</sup> The effects for each percentile are calculated as follows:  $-0.006 + (0.077 \times 1.368) = 0.099$  and  $-0.006 + (0.277 \times 1.368) = 0.373$ .

<sup>38</sup> Calculated as follows:  $-0.006 + (0.172 \times 1.368) = 0.223$ .

<sup>39</sup> In particular, the fact that South Korea is one of the only countries with detailed Input-Output accounts suggests that it may be more developed with a better functioning bureaucracy relative to the other intervened countries in the sample.

where the unit of observation is a year  $t$ , a country  $c$ , and an industry  $i$ . In addition to year fixed effects, country fixed effects, and the full set of covariates, the specification also includes industry fixed effects. As well, the dependent variable is the natural log of imports from the US into country  $c$  in year  $t$  in industry  $i$  (normalized by total GDP). Unlike the aggregate-level COW trade data, the industry level data, which are from the United Nations' Comtrade Database, only begin in 1962. Therefore the sample only includes years between 1962 and 1989.

Estimates of equation (10), reported in columns 4 and 5 of Table 2, show that the impact of CIA interventions is greater in industries for which governments are active consumers and importers. The impact in government-intensive industries is 72 percent greater in column 4, and 54 percent greater in column 5; both differences are statistically significant. Therefore, evidence from industry heterogeneity also suggests that government purchases are an important part of the explanation for the increase in US imports.

We also examine whether there is evidence that US influence was used to liberalize trade or foreign direct investment (FDI) policies, which in turn may have led to increased imports from the US. We find no evidence for either mechanism. Using data from the Bureau of Economic Analysis we examine whether interventions were followed by increases in US FDI in the intervened country. We find no evidence of a positive relationship between interventions and FDI. As well, controlling for US FDI has no impact on the relationship between CIA interventions and imports from the US (see Appendix Table A4, columns 1–4).

We test for the tariff mechanism using information from the *International Customs Journal*, an International Customs Tariff Bureau publication, that reports countries' tariff schedules on a continuous basis. When a country significantly changes its tariff structure, a new "volume" is published for the country. If minor changes to the tariff structure are made, then a "supplement" to the most recent volume is published. Therefore, we use the publication of a new volume as an indication that there was restructuring of the country's tariffs. We find that CIA interventions had no impact on the probability of a change in the tariffs structure. We also find that US interventions did not have a greater impact on US imports after a revision to the intervened-country's tariff schedule (see Appendix Table A4, columns 5 and 6).<sup>40</sup>

## V. Testing Alternative Explanations

### A. Trade Integration Explanation

We now turn to potential alternative explanations for the relationship between CIA interventions and increased US imports. A plausible alternative explanation is that CIA interventions resulted in increased openness between the US and the intervened country, and this increased the country's imports from the US (but not exports to the US). To test for this possibility, we move to the industry level and examine which industries experienced the greatest surge in US imports following

<sup>40</sup>In practice, this is implemented by constructing a variable that equals one for interventions that follow a change in the tariff structure during an intervention episode.

an intervention. If the increase in imports arose because of a decrease in trading frictions, then the increase in shipments from the US should have been in industries in which the US had a comparative advantage. With an increase in openness, countries increasingly export the goods that they have a relative cost advantage in producing and import the goods they have a relative disadvantage in producing. This logic of comparative advantage is central to standard models of international trade ranging from the textbook Ricardian or Heckscher-Ohlin models of trade to more recent models of comparative advantage with firm heterogeneity (e.g., Bernard, Redding, and Schott 2007). Even in models like Dornbusch, Fischer, and Samuelson (1977), where integration results in a wider range of goods that are exported, the new goods that are exported are still comparative advantage goods and not comparative disadvantage goods. Although the new exports within the comparative advantage industries are not the goods for which the countries have the greatest comparative advantage, since these goods were already being exported, they are still comparative advantage industries.

Testing the trade integration explanation requires a measure of US competitiveness across industries and time periods. For this we use Balassa's (1965) measure of revealed comparative advantage (RCA). The measure, which captures the degree of specialization of a country in a particular industry, is given by

$$RCA_{t,c,i} = \frac{x_{t,c,i}}{\sum_c x_{t,c,i}} \bigg/ \frac{\sum_i x_{t,c,i}}{\sum_i \sum_c x_{t,c,i}},$$

where  $x_{t,c,i}$  denotes the aggregate exports of country  $c$  in a 2, 3, or 4-digit Standard International Trade Classification (SITC) industry  $i$  in year  $t$ . The RCA measure is a ratio of two ratios. The first ratio, the numerator, is country  $c$ 's share of world exports *in industry  $i$* . The second ratio, the denominator, is country  $c$ 's share of world exports *in all industries*. Thus, RCA compares a country's share of global exports in industry  $i$  to its share across all industries. If the ratio is above one, then the country captures a greater share of global exports in industry  $i$  than it does on average, which is taken as an indication that the country has a comparative advantage in producing in industry  $i$ . If the ratio is less than one, then the country captures less of the world export share in industry  $i$  than it does on average.<sup>41</sup>

Examining our constructed industry-specific RCA measures for the US in each year of the sample, we find the measures are consistent with intuition. In general, the US had low relative export shares in low-end manufacturing industries like beverages, footwear, and textiles, and high export shares in high-end industries like transport equipment, scientific equipment, chemicals, and firearms. For the interested reader, we report the US RCA measures at the SITC 2-digit level for two years, 1962 and 1989, in the online Appendix.

<sup>41</sup> One may be concerned that RCA is an imprecise measure of comparative advantage for sectors, like agriculture, that have sizable export subsidies. Omitting agriculture from the analysis yields estimates that are qualitatively identical to what we report here. Further details are provided in the online Appendix.

Using the constructed RCA measures, we test whether following an intervention, the increase in imports from the US was greatest in industries in which the US had a comparative advantage. The estimating equation is

$$\begin{aligned}
 (11) \quad \ln \frac{m_{t,c,i}^{US}}{Y_{t,c}} = & \alpha_t + \alpha_c + \alpha_i + \beta_1 USinfluence_{t,c} \\
 & + \beta_2 USinfluence_{t,c} \times USRCA_{t,i} \\
 & + \beta_3 USinfluence_{t,c} \times ImporterRCA_{t,c,i} \\
 & + \beta_4 USRCA_{t,i} + \beta_5 ImporterRCA_{t,c,i} \\
 & + \phi \ln \tau_{t,c}^{US} - \phi [\ln P_t^{US} + \ln P_{t,c}] + \mathbf{X}_{t,c} \boldsymbol{\Gamma} + \varepsilon_{t,c,i}.
 \end{aligned}$$

As in equation (10),  $t$  denotes years,  $c$  countries, and  $i$  industries; the dependent variable is the natural log of imports from the US into country  $c$  in year  $t$  in industry  $i$  (normalized by total GDP); and the specification includes year fixed effects, country fixed effects, industry fixed effects, and the full set of covariates.

In equation (11), we allow the effect of an intervention to differ across industries depending on the extent to which the importing country has a comparative advantage in industry  $i$  and, most importantly, depending on the extent to which the US has a comparative advantage in industry  $i$ . The variables  $ImporterRCA_{t,c,i}$  and  $USRCA_{t,i}$  measure importer and US comparative advantage in the production of good  $i$  in year  $t$ .<sup>42</sup> If the increase in imports is from a decrease in transaction-costs, then we expect  $\beta_2 > 0$ . The increase in US imports should have been greater in industries in which the US had a greater comparative advantage. If the increase in trade did not arise because of comparative advantage, then we no longer expect  $\beta_2 > 0$ . Instead, it is likely that the US pushed to sell less competitive products that firms would have difficulty selling otherwise. If this was the case then we expect  $\beta_2 \leq 0$ . Therefore, the sign of  $\beta_2$  provides a test of the integration and influence explanations.

Estimates of equation (11) are reported in columns 1–3 of Table 3. We report standard errors clustered at the country-year level.<sup>43</sup> In all specifications, the estimated coefficients for  $USinfluence_{t,c} \times USRCA_{t,c}$  are negative and statistically significant, indicating that interventions increased imports more in industries in which the US had a comparative *dis*advantage, not comparative advantage. This finding is in contrast to what is expected if the increase in trade were from increased integration with the US.<sup>44</sup> See the online Appendix for details. Therefore, CIA interventions had a non-negative effect on the purchase of US products in nearly every

<sup>42</sup> To allow an easy interpretation of the magnitudes of the estimated effects, we have normalized  $USRCA_{t,i}$  and  $ImporterRCA_{t,c,i}$  to lie between zero and one by subtracting the minimum value of the variable and then dividing by the maximum value.

<sup>43</sup> Clustering produces standard errors that are larger in magnitude than Newey-West standard errors. Therefore, to be as conservative as possible, we report the clustered standard errors.

<sup>44</sup> The total effect of  $USinfluence_{t,c}$  on imports from the US is given by  $\beta_1 + \beta_2 USRCA_{t,i} + \beta_3 ImporterRCA_{t,c,i}$ . Examining this, we find that for nearly all observations (countries, years, and industries), the total effect of  $USinfluence_{t,c}$  is greater than or equal to zero. This is also confirmed when we estimate equation (7) industry-by-industry.



TABLE 3—TESTING THE TRADE COSTS EXPLANATION USING REVEALED COMPARATIVE ADVANTAGE

	In normalized imports from the US					
	World market RCA			Developing country market RCA		
	2-digit industries (1)	3-digit industries (2)	4-digit industries (3)	2-digit industries (4)	3-digit industries (5)	4-digit industries (6)
<i>US influence</i>	0.524*** (0.107)	0.447*** (0.093)	0.391*** (0.088)	0.532*** (0.107)	0.465*** (0.091)	0.390*** (0.085)
<i>US influence</i> × <i>US RCA</i>	-1.202** (0.490)	-1.496** (0.632)	-1.511** (0.590)	-1.601** (0.622)	-1.426*** (0.520)	-1.290*** (0.438)
<i>US RCA</i>	2.279*** (0.259)	4.808*** (0.213)	4.103*** (0.182)	3.004*** (0.313)	3.494*** (0.263)	2.383*** (0.321)
$R^2$	0.668	0.644	0.638	0.668	0.628	0.637
Observations	131,895	330,358	553,842	131,895	330,358	553,842

*Notes:* The unit of observation is a country  $c$  in year  $t$  in a 2-, 3-, or 4-digit SITC industry  $i$ , where  $t$  ranges from 1962 to 1989. The dependent variable is the natural log of imports from the US normalized by total GDP. All regressions include year fixed effects, country fixed effects, industry fixed effects, Baier and Bergstrand multilateral resistance terms, a Soviet intervention control, importer RCA, importer RCA interacted with *US influence*, ln per capita income, an indicator for leader turnover, current leader tenure, a democracy indicator, as well as Baier and Bergstrand (2009) controls for trade costs and multilateral resistance terms. These are a function of the natural log of bilateral distance, an indicator variable for a common language, an indicator variable for a shared border, an indicator for both trading partners being GATT participants, and an indicator for the trading partners being part of a regional trade agreement. Coefficients are reported with standard errors clustered at the country-year level in brackets.

\*\*\*Significant at the 1 percent level.

\*\*Significant at the 5 percent level.

\*Significant at the 10 percent level.

industry, and the effects were greatest in industries in which the US was globally least competitive.

A potential criticism of the RCA measure is that it does not distinguish between a country's exports to developed countries (DCs) and its exports to less developed countries (LDCs). The two groups of countries may represent different segmented markets. Since the market size of LDCs is much smaller than of DCs, when the US serves the LDC market, its share of total world exports may be low, and therefore its measure of RCA may also be low. If interventions decreased bilateral trade costs between the US and the intervened LDCs, then this may have caused the US to specialize more in products that serve the LDC market and, as a result, imports from the US increased most in industries with low measures of RCA.

According to this explanation, the test fails because we are incorrectly measuring RCA. Rather than measuring RCA using exports to the whole world, we should measure RCA using exports to LDCs only. We check for this possibility by constructing an alternative measure of RCA that is calculated using only the share of exports to LDCs, rather than the share of exports globally.<sup>45</sup> Estimates using the alternative RCA measure are reported in columns 4–6 of Table 3. As shown, the results are nearly identical using the alternative RCA measure.

<sup>45</sup> We define the LDC market to be countries other than Australia, Austria, Belgium, Canada, Switzerland, East and West Germany, Denmark, Great Britain, Ireland, Italy, France, Finland, Japan, Luxembourg, Norway, the Netherlands, New Zealand, Portugal, Spain, and Sweden.

Overall, the results provide evidence against the hypothesis that the increase in US imports following an intervention was the result of increased integration with the US.

### B. Political Ideology Explanation

In light of existing evidence that countries with more similar political ideologies trade more (e.g., Dixon and Moon 1993), it is possible that the increase in imports from the US can be explained by a change in the ideology of the intervened country following an intervention. According to this explanation, the increase in US imports arose not because of US influence, but because the new regime has an ideology that is more aligned with Western countries, including the US.

Testing this hypothesis requires that we examine whether imports from countries with an ideology similar to the US also increased following CIA interventions. Our current estimating equations, because they only examine a country's imports from the US, cannot be used for this purpose. Therefore, we estimate a regression that examines each country's imports from all exporters, not just the US. The estimating equation, derived from equation (2) in Section II, is given by

$$(12) \quad \ln \frac{m_{t,c,e}}{Y_{t,c}Y_{t,e}} = \alpha_t + \alpha_{c,e} + \beta_1 USinfluence_{t,c} + \beta_2 USinfluence_{t,c} \times I_e^{US} \\ + \phi \ln \tau_{t,c,e} - \phi [\ln P_{t,c} + \ln P_{t,e}] + \mathbf{X}_{t,c} \Gamma + \mathbf{X}_{t,e} \Omega + \varepsilon_{t,c,e},$$

where  $t$  indexes years,  $c$  indexes importers, and  $e$  indexes exporters. The dependent variable is the natural log of imports into country  $c$  from exporting country  $e$  in year  $t$  divided by the product of the total GDP of countries  $c$  and  $e$ . Equation (12) includes time period fixed effects  $\alpha_t$ , and country-pair fixed effects  $\alpha_{c,e}$ , as well as the same vector of importer covariates as in equation (7),  $\mathbf{X}_{t,c}$ . Also included are the same covariates, but measured for exporters,  $\mathbf{X}_{t,e}$ .

As in equation (7), our variable of interest is  $USinfluence_{t,c}$ , which equals one if the importing country  $c$  experienced a CIA intervention in year  $t$ . Because we now include all country-pairs in the sample, we allow the effect of interventions on imports to differ depending on whether the exporter is American or not. In practice, this is done by also including  $USinfluence_{t,c} \times I_e^{US}$  in the estimating equation, where  $I_e^{US}$  is an indicator variable that equals one if the exporter is the US. The coefficient,  $\beta_2$ , provides a test of whether the impact of CIA interventions on imports from the US ( $\beta_1 + \beta_2$ ) is statistically different from its impact on imports from other countries ( $\beta_1$ ).

The estimate of equation (12), reported in column 1 of Table 4, yields results that are qualitatively identical to the baseline findings. According to the estimates of  $\beta_1$  and  $\beta_2$ , interventions decreased imports from non-US countries by 4.5 percent and increased imports from the US by 25.4 percent, which is close to the estimate of 29.3 percent from equation (7) reported in column 3 of Table 1. The estimated negative impact on non-US exporters is also consistent with the finding from Table 1 that the increase in US imports arose through trade diversion and not trade creation. The

TABLE 4—TESTING THE POLITICAL IDEOLOGY EXPLANATION

	In normalized bilateral imports				
	(1)	(2)	(3)	(4)	(5)
<i>US influence</i>	−0.045*	0.308***	−0.062**	−0.056*	−0.061*
	(0.024)	(0.079)	(0.028)	(0.030)	(0.031)
<i>US influence</i> × <i>US exporter</i>	0.300***	0.407***	0.231**	0.274**	0.265**
	(0.111)	(0.112)	(0.115)	(0.113)	(0.113)
<i>US influence</i> × <i>US alignment of exporter, V<sup>US</sup></i>		−0.440***			
		(0.091)			
<i>US influence</i> × <i>NATO member exporter</i>			0.083*		
			(0.045)		
<i>US influence</i> × <i>OECD member exporter</i>				0.037	
				(0.044)	
<i>US influence</i> × <i>Western European exporter</i>					0.050
					(0.043)
<i>R</i> <sup>2</sup>	0.792	0.792	0.792	0.792	0.792
Observations	236,384	217,460	236,384	236,384	236,384
	Calculated effect of <i>US influence</i> on imports from different exporters				
<i>US influence</i> on imports from US	0.254**	0.276**	0.251**	0.254**	0.254**
	(0.109)	(0.108)	(0.109)	(0.109)	(0.109)
<i>US influence</i> on imports from avg. exporter	−0.045*	−0.015	−0.046*	−0.046*	−0.046*
	(0.024)	(0.026)	(0.024)	(0.024)	(0.024)

*Notes:* The unit of observation is a country-pair in year  $t$ , where  $t$  ranges from 1947 to 1989. The dependent variable is the natural log of imports into country  $c$  from country  $e$  in year  $t$  normalized by the product of total GDP of country  $c$  and of country  $e$ . All regressions include year fixed effects, country-pair fixed effects, ln importer per capita income, ln exporter per capita income, a Soviet intervention control (and the same interactions as for the CIA intervention variable), an indicator for importer leader turnover, an indicator for exporter leader turnover, importer current leader tenure, exporter current leader tenure, an importer democracy indicator, and an exporter democracy indicator. All specifications also include Baier and Bergstrand (2009) controls for trade costs and multilateral resistance terms. These are a function of the natural log of bilateral distance, an indicator variable for a shared border, an indicator variable for a common language, an indicator for both trading partners being participants of GATT, and an indicator for both being part of a regional trade agreement. The specifications always also control for the components of the interaction term. Coefficients are reported with Newey-West standard errors in brackets.

\*\*\*Significant at the 1 percent level.

\*\*Significant at the 5 percent level.

\*Significant at the 10 percent level.

magnitudes of  $\beta_1$  and  $\beta_2$  suggest that the increase in imports from the US is roughly offset by the decrease in imports from other countries.<sup>46</sup>

We next test whether the differential impact of CIA interventions on imports from the US is robust to controlling for the ideology of exporters. We use US ideology as a reference point and construct a measure of similarity to the US using voting data from the UN General Assembly. Define  $d_{i,c}$  to be the sum of the vote distance between country  $c$  and the US for all votes in year  $t$ , where a vote in opposition to the US is given a distance of one, and a vote with the US is given a distance of zero.<sup>47</sup>

<sup>46</sup> To see this, first note that for the average observation, the share of total imports that are from the US is 18.9 percent. If we let  $m^o$  denote a country's initial level of total imports, then the predicted intervention-induced increase in imports from the increase in US trade is given by  $0.254 \times 0.189 \times m^o = 0.048m^o$ . The decrease in imports from non-US exporters is given by  $0.045 \times (1 - 0.189) \times m^o = 0.037m^o$ .

<sup>47</sup> See Gartzke (2006) for details. The measure we use ignores abstentions. An alternative is to code a value of two for votes against the US, a value of one for abstentions, and zero for votes with the US. Using this alternative

Also define  $d_t^{max}$  to be the maximum sum of vote distances possible in year  $t$ . We then construct the following measure of country  $c$ 's voting similarity with the US in year  $t$ :

$$V_{t,c}^{US} \equiv 1 - \frac{d_{t,c}}{d_t^{max}}.$$

The measure ranges from 0 to 1, and is increasing in the country's vote similarity with the US.<sup>48</sup>

Using  $V_{t,c}^{US}$  we can test whether US interventions caused imports from countries that were ideologically similar to the US to also increase, and whether the differential impact of CIA interventions on imports from the US is robust to controlling for differential impacts based on ideology. This is done by altering equation (12) to allow the impact of CIA interventions on imports to differ systematically depending on the political ideology of the exporter:

$$\begin{aligned} (13) \quad \ln \frac{m_{t,c,e}}{Y_{t,c}Y_{t,e}} &= \alpha_t + \alpha_{c,e} + \beta_1 USinfluence_{t,c} \\ &+ \beta_2 USinfluence_{t,c} \times I_e^{US} + \beta_3 USinfluence_{t,c} \times V_{t,e}^{US} \\ &+ \beta_4 V_{t,e}^{US} + \phi \ln \tau_{t,c,e} - \phi [P_{t,c} + P_{t,e}] \\ &+ \mathbf{X}_{t,c} \mathbf{\Gamma} + \mathbf{X}_{t,e} \mathbf{\Omega} + \varepsilon_{t,c,e}. \end{aligned}$$

The added interaction term,  $USinfluence_{t,c} \times V_{t,e}^{US}$ , controls for the possibility that exports from countries that were ideologically similar to the US also increased following CIA interventions. If  $\beta_2$ , the coefficient for  $USinfluence_{t,c} \times I_e^{US}$ , becomes insignificant with the addition of this control, this is evidence for the political alignment explanation. We are also interested in the sign of  $\beta_3$ , the coefficient for  $USinfluence_{t,c} \times V_{t,e}^{US}$ . If the ideology explanation is correct then we expect the coefficient to be positive.

Estimation results are reported in column 2 of Table 4. The estimate of  $\beta_2$  remains robust to the inclusion of the new interaction term. The coefficient remains positive and significant, suggesting the existence of a greater impact of CIA intervention on imports from the US even after allowing for heterogeneity based on exporters' political ideology. The bottom panel of the table reports the estimated impact of CIA interventions on imports from the US and on imports from a country with a value of  $V_{t,e}^{US}$  equal to the sample average. The calculated impact for the US is very similar to the baseline impact from column 1. As well, the impact for an "average" exporter is negative (consistent with trade diversion), although the figure is not statistically different from zero.

coding yields qualitatively identical results to what we report here.

<sup>48</sup> One concern is that voting similarity may not accurately reflect similarity in political ideology. We check this possibility by examining the correlation between a country's voting alignment with the US and a measure of left, center or right political alignment from Keefer (2005). The political alignment data are only available from 1975. However, coding left, center, and right alignments as 1, 2, and 3, respectively, we find a strong positive correlation between the two measures. Regressing US vote similarity on political alignment yields a standardized beta coefficient of 0.29 and a  $t$ -statistic of 10.55.

Columns 3–5 of Table 4 report results using alternative measures of exporters' alignment with the US. Rather than using UN voting data, we also measure  $V_{t,e}^{US}$  using indicator variables that equal one if: (i) exporter  $e$  was a NATO member, (ii) exporter  $e$  was among the original OECD members (from 1961), or (iii) exporter  $e$  is from Western Europe (or is the USA).<sup>49</sup> In all three specifications, the estimated differential impact of CIA interventions on imports from the US remains positive and statistically significant. Further, the implied impact on US imports (reported in the bottom panel of the table) remains very stable across the three specifications. The implied impact of CIA interventions on the average non-US exporter is negative and statistically significant in each specification. Further, the magnitude is very similar to the baseline magnitude reported in column 1 of the table. As well, we find that as in column 2, there is no statistically significant differential impact of CIA interventions based on a country's political alignment with the US. The one exception is for NATO membership, where we estimate a positive and significant differential impact. However, according to the magnitudes of the coefficient estimates, the impact of CIA interventions on imports from NATO members is still zero (with a coefficient of 0.021 (i.e.,  $-0.062 + 0.083$ ) and standard error of 0.037).

### C. US Loans and Grants Explanation

If interventions led to an increase in foreign aid from the US, particularly tied or conditional aid, then this could explain the increase in US imports.<sup>50</sup> To test for this possibility, we examine the value of US economic aid (which includes grants and concessional loans) and military aid (which includes grants, concessional loans, and training) received by each country, and test whether CIA interventions led to an increase in US foreign aid, and whether the changes in aid are able to account for the observed increase in US imports.<sup>51</sup>

In columns 1 and 2 of Table 5, we report estimates of our baseline estimating equation (7) with either military aid or economic aid as the dependent variable.<sup>52</sup> The results show that both forms of aid increased following CIA interventions. In column 3, we examine loans given by the US Export-Import Bank (Ex-Im Bank), an institution with a mandate to provide loans to foreign firms that want but are having trouble obtaining financing from private lenders. The estimate from column 3 shows that CIA interventions also led to an increase in Ex-Im Bank loans, although the magnitude of the impact and statistical significance is lower than for either type of foreign aid.

Columns 5–8 of Table 5 report estimates that test whether the increases in aid and loans are able to account for the increase in US imports following an intervention.

<sup>49</sup> An alternative strategy is to use voting as a measure of ideological similarity, but to examine a more homogenous group of exporters, namely only NATO, OECD, or Western European exporters. For these more homogenous exporters, UN voting arguably better reflects ideological differences between the countries. Undertaking this strategy, we continue to find a differential impact of CIA interventions on imports from the US. These results are reported in the online Appendix.

<sup>50</sup> The fact that US imports increased most in low US RCA industries suggests that if this explanation is correct, then the provision of grants and loans were used to promote US sales in industries in which US firms were less competitive. This would also be an interesting and important finding.

<sup>51</sup> The data are from the US Agency for International Development's (USAID) *US Overseas Loans and Grants, Obligations and Loan Authorizations*.

<sup>52</sup> The aid variables are measured as the natural log of one plus their value. The specifications reported do not include the controls for multilateral resistance terms. The results are qualitatively identical if these terms are included.

TABLE 5—THE ROLE OF US LOANS AND GRANTS

	Military aid (1)	Economic aid (2)	Ex-Im Bank loans (3)	ln normalized imports from the US				
				(4)	(5)	(6)	(7)	(8)
<i>US influence</i>	0.794*** (0.211)	0.802*** (0.242)	0.200 (0.122)	0.293*** (0.109)	0.272** (0.107)	0.252** (0.101)	0.283*** (0.106)	0.246** (0.098)
ln (1 + US military aid)					0.032 (0.031)			-0.012 (0.028)
ln (1 + US economic aid)						0.058** (0.026)		0.064*** (0.023)
ln (1 + Ex-Im Bank loans)							0.049*** (0.014)	0.050*** (0.014)
$R^2$	0.566	0.548	0.409	0.836	0.836	0.838	0.837	0.839
Observations	4,149	4,149	4,149	4,149	4,149	4,149	4,149	4,149

*Notes:* The unit of observation is a country  $c$  in year  $t$ , where  $t$  ranges from 1947 to 1989. In columns 1–3, the dependent variables are the natural log of the measure of aid that is reported in the column heading. In columns 4–8, the dependent variable is the natural log of imports from the US divided by total GDP. All regressions include year fixed effects, country fixed effects, a Soviet intervention control, ln per capita income, an indicator for leader turnover, current leader tenure, and a democracy indicator. Columns 4–8 also include Baier and Bergstrand (2009) controls for trade costs and multilateral resistance terms. These are a function of the natural log of bilateral distance, an indicator variable for a common language, an indicator variable for a shared border, an indicator for both trading partners being GATT participants and an indicator for the trading partners being part of a regional trade agreement. Coefficients are reported with Newey-West standard errors in brackets.

\*\*\*Significant at the 1 percent level.

\*\*Significant at the 5 percent level.

\*Significant at the 10 percent level.

We do this by estimating equation (7) while controlling for military aid, economic aid, and Ex-Im Bank loans. The variables enter one at a time in columns 5–7 and simultaneously in column 8. (Column 4 reports the baseline estimate for comparison.) We find that economic aid enters with positive and significant coefficients, while military aid enters with insignificant coefficients that are very close to zero. This suggests that part of US economic aid was used to import US products, which is unsurprising since US economic aid is often tied to purchases from US producers. The insignificant coefficient for military aid is also unsurprising, since much of military aid is spent on goods exported overseas to support US troops and other personnel, and these goods are not included in the IMF's Direction of Trade statistics (International Monetary Fund 1993). The coefficients for Ex-Im Bank loans are also positive, as expected.

Controlling for the grants and loans variables we observe a modest decline in the estimated coefficients for  $USinfluence_{t,c}$ . The coefficient magnitudes are reduced by at most 16 percent (in column 8). This suggests that although increases in US loans and grants are able to explain some of the effect of interventions on imports from the US, it is a modest proportion of the total. This is consistent with the fact that foreign aid flows are not large enough to account for the observed increase in imports from the US.<sup>53</sup>

<sup>53</sup> The ratio of US total aid to US imports is 0.15 for the median observation in the sample. Therefore, even if an intervention-induced increase in US aid was transformed one-for-one into imports (which in reality is far from true), CIA interventions would need to increase aid by 195 percent to increase imports by the observed 29.3 percent (195 percent  $\times$  0.15 = 29.3 percent). The estimated effects of interventions on US aid found in columns 1–3 of Table 5 are much lower than this, ranging from 20–80 percent.



These results come with the important caveat that the aid measures used in the analysis only include official aid flows and do not include covert aid from the CIA. Therefore, we are unable to rule out the possibility that the impact of CIA interventions are explained by covert aid.

## VI. Conclusions

We have provided evidence that covert CIA interventions increased the influence of the US over foreign governments, and that this was used to increase US exports to the intervened countries. Consistent with the influence mechanism, the increase was greatest in industries in which the US had a comparative *dis*advantage. Our analysis was able to rule out alternative explanations for the increase in imports from the US, including decreased trade costs, changing political ideology and increased US loans and grants.

Our findings contribute to several literatures. First, they complement the existing evidence on the importance of political economy determinants of trade flows by showing that CIA interventions also affect the pattern of trade.<sup>54</sup> As well, by isolating the role of political influence, our findings provide support for existing evidence that influence and power play an important role in international trade.<sup>55</sup> Finally, our findings also add to existing studies that examine, both qualitatively and quantitatively, the history of the CIA using recently declassified documents.<sup>56</sup>

There are a number of natural directions for future research. The first is a more fine-grained examination of the mechanisms underlying our results. Although the macro-level evidence we have presented indicate that government procurement contracts play an important role, we still require a deeper understanding of the precise mechanisms. Most likely, this requires micro-level data that captures the means by which government contracts are assigned to suppliers from the US, and the precise lobbying/bidding process by which low comparative advantage manufacturers are able to gain a disproportionate share of these contracts. The second is to examine additional consequences of CIA interventions. We have examined the effects of a specific type of CIA intervention on one dimension of international trade. However, interventions may have had a host of additional impacts, both at macro and micro levels. For instance, the financial consequences of CIA interventions remain largely unexplored and may constitute a promising area of future research.

<sup>54</sup> See for example Verdier (1998); Mansfield, Milner, and Rosendorff (2000, 2002); Russett and Oneal (2001); Frye and Mansfield (2003); Kono (2006); and Mansfield, Milner, and Pevehouse (2008).

<sup>55</sup> See Yeats (1990); Gowa and Mansfield (1993); Mansfield, Milner, and Rosendorff (2002); Kuziemko and Werker (2006); Dreher and Jensen (2007); and Kilby (2009).

<sup>56</sup> See for example Weiner (2007) and Dube, Kaplan, and Naidu (2011).

## APPENDIX

## A. Derivation of Baier and Bergstrand (2009) MR Terms for Total Trade

Goods market clearing gives  $Y_{t,c} = \sum_{j=1}^N m_{t,c,j}$ , and therefore  $\sum_{j \neq c} m_{t,c,j} = Y_{t,c} - m_{t,c,c}$ .<sup>57</sup> Denote  $\sum_{j \neq c} m_{t,c,j}$ , which is country  $c$ 's total foreign imports (i.e., purchases from other countries), by  $m_{t,c}^W$ . Then,

$$(A1) \quad m_{t,c}^W = Y_{t,c} - m_{t,c,c}.$$

We know from equation (1) that

$$(A2) \quad m_{t,c,c} = \frac{Y_{t,c} Y_{t,c}}{Y_t^W} \left[ \frac{\tau_{t,c,c}}{P_{t,c} P_{t,c}} \right]^{1-\sigma}.$$

Substituting (A2) into (A1) and rearranging gives

$$m_{t,c}^W = \frac{Y_{t,c} \sum_{j \neq c} Y_{t,j}}{Y_t^W} \left[ \frac{\tau_{t,c,c}}{P_{t,c}^2} \right]^{1-\sigma}.$$

The equation we estimate is given by

$$(A3) \quad \ln \frac{m_{t,c}^W}{Y_{t,c} \sum_{j \neq c} Y_{t,j}} = -\ln Y_t^W + (1 - \sigma) \ln \tau_{t,c,c} - 2(1 - \sigma) \ln P_{t,c}.$$

And  $\ln P_{t,c}$  can be approximated using the Baier and Bergstrand (2009) method:

$$(A4) \quad \ln P_{t,c} = \sum_{j=1}^N \theta_{t,j} \ln \tau_{t,c,j} - \frac{1}{2} \sum_{k=1}^N \sum_{m=1}^N \theta_{t,k} \theta_{t,m} \ln \tau_{t,k,m}.$$

Equation (A3) can then be estimated, with  $\ln P_{t,c}$  given by equation (A4) and  $\ln \tau_{t,c,c}$  given by equation (4). The estimating equation for world exports can be derived in the same manner.

<sup>57</sup> We are grateful to Scott Baier for providing the derivation of the Baier and Bergstrand (2009) method for total imports and exports.

## B. Appendix Tables

TABLE A1—CONTROLLING FOR THE SELECTION OF INTERVENTIONS

	ln normalized imports from the US			
	(1)	(2)	(3)	(4)
<i>US influence</i>	0.238** (0.100)	0.363*** (0.123)	0.238*** (0.083)	0.228** (0.115)
Five year pre-trend of dependent variable	0.293*** (0.037)			
Five year pre-onset fixed effect		0.321** (0.161)		
Sanctions			-0.616*** (0.194)	
Alliance with US			0.717** (0.340)	
Threat of force			1.295 (1.681)	
Show of force			-0.358 (0.349)	
Use of force			-0.137 (0.182)	
Exchange rate				0.0003 (0.0002)
Inflation				-0.164 (0.134)
Country fixed effects	Yes	Yes	Yes	Yes
$R^2$	0.868	0.837	0.845	0.867
Observations	3,365	4,149	4,149	3,630

*Notes:* The unit of observation is a country  $c$  in year  $t$ , where  $t$  ranges from 1947 to 1989. The dependent variable is the natural log of the share of imports from the US. All regressions include year fixed effects, country fixed effects, a Soviet intervention control, ln per capita income, an indicator for leader turnover, current leader tenure, a democracy indicator, as well as Baier and Bergstrand (2009) controls for trade costs and multilateral resistance terms. These are a function of the natural log of bilateral distance, an indicator variable for a common language, an indicator variable for a shared border, an indicator for both trading partners being GATT participants, and an indicator for the trading partners being part of a regional trade agreement. Column 1 controls for 5-year pre-trends of the dependent variable (log changes in the dependent variable between periods  $t - 6$  and  $t - 1$ ). Column 2 includes an indicator variable that equals one if period  $t$  is within 5 years prior to the start of an intervention episode. Coefficients are reported with Newey-West standard errors in brackets.

\*\*\* Significant at the 1 percent level.

\*\* Significant at the 5 percent level.

\* Significant at the 10 percent level.

TABLE A2—ADDITIONAL ROBUSTNESS CHECKS

	ln normalized imports from the US				
	Poisson Maximum Likelihood (1)	LDV, no FE (2)	LDV, FE (3)	Bruno (2005) (4)	Alternative influence variables (5)
<i>US influence</i>	0.297*** (0.078)	0.095*** (0.025)	0.105** (0.042)	0.098** (0.041)	
<i>US influence (install and support)</i>					0.302** (0.146)
<i>US influence (support only)</i>					0.282** (0.139)
Lagged dependent variable		0.891*** (0.015)	0.735*** (0.034)		
Country fixed effects	Yes	No	Yes	Yes	Yes
$R^2$		0.921	0.928		0.836
Observations	4,149	3,998	3,998	3,997	4,149

*Notes:* The unit of observation is a country  $c$  in year  $t$ , where  $t$  ranges from 1947 to 1989. The dependent variable is the natural log of the share of imports from the US. All regressions include year fixed effects, country fixed effects, a Soviet intervention control, ln per capita income, an indicator for leader turnover, current leader tenure, a democracy indicator, as well as Baier and Bergstrand (2009) controls for trade costs and multilateral resistance terms. These are a function of the natural log of bilateral distance, an indicator variable for a common language, an indicator variable for a shared border, an indicator for both trading partners being GATT participants, and an indicator for the trading partners being part of a regional trade agreement. Coefficients are reported with Newey-West standard errors in brackets.

\*\*\* Significant at the 1 percent level.

\*\* Significant at the 5 percent level.

\* Significant at the 10 percent level.

TABLE A3—EVENT STUDY ANALYSIS FOR “INSTALL AND SUPPORT” INTERVENTIONS

	In normalized imports from the US							
	Baseline estimates				Post: intervention only; Pre: non-intervention only			
	10-year window (1)	8-year window (2)	6-year window (3)	4-year window (4)	10-year window (5)	8-year window (6)	6-year window (7)	4-year window (8)
<i>US influence (install and support):</i>								
Pre onset:	0.021				0.126			
Period $t - 5$	(0.100)				(0.123)			
Pre onset:	-0.033	-0.062			-0.038	-0.019		
Period $t - 4$	(0.081)	(0.082)			(0.104)	(0.095)		
Pre onset:	-0.003	0.044	0.091		-0.086	-0.034	0.077	
Period $t - 3$	(0.119)	(0.116)	(0.124)		(0.115)	(0.111)	(0.130)	
Pre onset:	0.010	0.049	0.077	0.127	-0.008	0.032	0.059	0.082
Period $t - 2$	(0.127)	(0.128)	(0.122)	(0.137)	(0.139)	(0.137)	(0.130)	(0.130)
Pre onset:	-0.157	-0.135	0.020	0.028	-0.198	-0.177	-0.146	-0.130
Period $t - 1$	(0.217)	(0.214)	(0.237)	(0.233)	(0.234)	(0.230)	(0.232)	(0.232)
<b>Onset year:</b>	<b>-0.044</b>	<b>0.065</b>	<b>0.078</b>	<b>0.090</b>	<b>-0.047</b>	<b>0.061</b>	<b>0.068</b>	<b>0.081</b>
<b>Period <math>t</math></b>	<b>(0.130)</b>	<b>(0.145)</b>	<b>(0.137)</b>	<b>(0.135)</b>	<b>(0.130)</b>	<b>(0.145)</b>	<b>(0.135)</b>	<b>(0.133)</b>
<b>Post onset:</b>	<b>0.162</b>	<b>0.188</b>	<b>0.251*</b>	<b>0.277**</b>	<b>0.160</b>	<b>0.185</b>	<b>0.243*</b>	<b>0.269**</b>
<b>Period <math>t + 1</math></b>	<b>(0.131)</b>	<b>(0.131)</b>	<b>(0.132)</b>	<b>(0.131)</b>	<b>(0.133)</b>	<b>(0.132)</b>	<b>(0.132)</b>	<b>(0.131)</b>
<b>Post onset:</b>	<b>0.224</b>	<b>0.279**</b>	<b>0.298**</b>		<b>0.222</b>	<b>0.276**</b>	<b>0.290**</b>	
<b>Period <math>t + 2</math></b>	<b>(0.139)</b>	<b>(0.139)</b>	<b>(0.136)</b>		<b>(0.141)</b>	<b>(0.140)</b>	<b>(0.137)</b>	
<b>Post onset:</b>	<b>0.183</b>	<b>0.255**</b>			<b>0.182</b>	<b>0.251*</b>		
<b>Period <math>t + 3</math></b>	<b>(0.118)</b>	<b>(0.128)</b>			<b>(0.122)</b>	<b>(0.129)</b>		
<b>Post onset:</b>	<b>0.237**</b>				<b>0.236*</b>			
<b>Period <math>t + 4</math></b>	<b>(0.120)</b>				<b>(0.123)</b>			
Other post onset intervention periods	0.306*	0.322*	0.314**	0.317**	0.303*	0.316*	0.305*	0.307**
	(0.170)	(0.165)	(0.157)	(0.150)	(0.173)	(0.168)	(0.158)	(0.150)
<i>US influence (support only)</i>	0.247	0.229	0.257*	0.265*	0.245	0.228	0.258*	0.265*
	(0.159)	(0.150)	(0.143)	(0.137)	(0.160)	(0.151)	(0.143)	(0.137)
Observations	3,065	3,301	3,540	3,761	3,065	3,301	3,540	3,761

Notes: The unit of observation is a country  $c$  in year  $t$ , where  $t$  ranges from 1947 to 1989. “Onset year: Period  $t$ ” is an indicator variable that equals one in the onset year of a CIA “install and support” intervention episode and zero otherwise. “Other intervention years” is an indicator variable that equals one in non-onset years of an intervention episode and zero otherwise. The variables “Pre onset: Period  $t - 1$ ” to “Pre onset: Period  $t - 5$ ” are indicator variables that equal one if an observation is one to five years prior to an intervention onset. The variables “Post onset: Period  $t + 1$ ” to “Post onset: Period  $t + 4$ ” are indicator variables that equal one if an observation is one to four years after an intervention onset. “Other post onset intervention periods” is an indicator variable that equals one in all other post onset intervention years. “US influence (support only)” is an indicator variable for CIA interventions that support an existing regime. These include nine one-year interventions. All regressions include year fixed effects, country fixed effects, a Soviet intervention control, ln per capita income, an indicator for leader turnover, current leader tenure, a democracy indicator, as well as Baier and Bergstrand (2009) controls for trade costs and multilateral resistance terms. These are a function of the natural log of bilateral distance, an indicator variable for a common language, an indicator variable for a shared border, an indicator for both trading partners being GATT participants, and an indicator for the trading partners being part of a regional trade agreement.

\*\*\*Significant at the 1 percent level.

\*\*Significant at the 5 percent level.

\*Significant at the 10 percent level.

TABLE A4—TESTING FOR FDI AND TARIFF POLICY MECHANISMS

	FDI policy channel				Tariff policy channel	
	Number of foreign affiliates	Foreign affiliate sales	Foreign affiliate employment	ln imports US	Tariff change	ln normalized imports from the US
	(1)	(2)	(3)	(4)	(5)	(6)
<i>US influence</i>	-0.206 (0.190)	-0.062 (0.363)	0.099 (0.123)	0.330*** (0.121)	0.003 (0.024)	0.282** (0.122)
ln (1 + Number of foreign affiliates)				-0.037 (0.045)		
ln (1 + Foreign affiliate sales)				0.021 (0.023)		
ln (1 + Foreign affiliate employment)				0.067* (0.036)		
<i>US influence</i> × <i>Post tariff change</i>						0.028 (0.112)
$R^2$	0.604	0.528	0.423	0.869	0.127	0.833
Observations	2,670	2,670	2,670	2,656	2,793	3,885

*Notes:* The unit of observation is a country  $c$ , in year  $t$ , where  $t$  ranges from 1947 to 1989. In columns 1–3, the dependent variables are measures of US FDI. Each is measured as the natural log of one plus its value. In columns 4 and 6, the dependent variable is the natural log of imports from the US normalized by total GDP. In column 5, the dependent variable is an indicator variable that equals one if a country changes its tariff schedule in the year. All regressions include year fixed effects, country fixed effects, a Soviet intervention control, ln per capita income, an indicator for leader turnover and a democracy indicator. As well, columns 4 and 6 also include the Baier and Bergstrand (2009) controls for trade costs and multilateral resistance terms. These are a function of the natural log of bilateral distance, an indicator variable for a common language, an indicator variable for a shared border, an indicator for both trading partners being GATT participants, and an indicator for the trading partners being part of a regional trade agreement. Coefficients are reported with Newey-West standard errors in brackets.

\*\*\*Significant at the 1 percent level.

\*\*Significant at the 5 percent level.

\*Significant at the 10 percent level.

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