Geopolitical Payoffs*

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Abstract

We estimate and quantify the role of foreign aid in increasing donors' market access. Using newly digitized data on aid flows from countries including the Soviet Union and China during the Cold War period (1962-1989), we find that higher bilateral aid significantly raises exports from the donor to the recipient. This suggests that foreign aid is associated with improved market access for the donor. We quantify the market access benefits of foreign aid using a trade model calibrated to the Cold War period. We find that welfare gains to the donors from improved market access amount to one-third of the cost of disbursement.

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1. Introduction

The (relatively) rules-based world economic order of the post-Cold-War era is breaking down, replaced by a more unvarnished form of great power rivalries. This new environment brings to the fore the many potentially costly actions taken by governments in their relations with other countries, such as political and economic alliances, foreign aid, sanctions, military buildups and strikes, and trade restrictions, to name a few. These developments are generating renewed interest in studying the intersection between the economic and political spheres in international relationships. While this research program is building at a rapid pace, an important gap in our knowledge is the measurement and quantification of either the costs, or the benefits of these ubiquitous "geopolitical" actions.

This paper uses data on international aid and trade flows to measure and quantify the payoffs from geopolitical actions. We use the Cold War period – the preceding historical era of great power rivalry – as a laboratory to study these questions.[1] We assemble a novel dataset of bilateral aid flows covering 1962–1989, combining newly digitized data on Soviet and Chinese aid flows from CIA intelligence archives and other historical records with the OECD Development Assistance Committee (DAC) data for Western donors. The data span 26 donor and more than 100 recipient countries. We merge these aid data with bilateral trade data from CEPII and the IMF Direction of Trade Statistics, resulting in a panel of bilateral aid and trade flows at an annual frequency.

We begin by estimating the impact of aid on the donor country's market access in the recipient country. We find that a plausibly exogenous increase in bilateral aid disbursements causes a statistically significant and economically meaningful increase in exports from the donor country to the recipient. A dollar of disbursed bilateral aid increases contemporaneous exports from the donor to the recipient by 0.46 dollars according to our preferred specification. The effect is persistent: five years after the aid shock, the effect rises to 1.37 dollars. This finding is of course consistent with a body of narrative evidence about the Cold War period, going back to at least Baldwin (1966). The market access motive for aid is also newly relevant. The Trump administration dismantled the United States Agency for International Development (USAID), an agency that had served as the primary vehicle for American development assistance since 1961. As a result, approximately 86 percent of US foreign aid disbursements were terminated. Administration officials were explicit that the remaining aid budget should be "geared towards our national interests" (Rubio, 2025).[2]

To address endogeneity concerns, we construct a shift-share instrument for bilateral aid flows. The instrument combines a predicted bilateral aid share—estimated from a gravity equation for aid flows that exploits plausibly exogenous variation in donor-recipient characteristics including

[1] Gopinath et al. (2025) argue that the current fracturing of the global economy bears a meaningful resemblance to the Cold War era, when the United States, the Soviet Union, and ideologically aligned partner countries competed for economic and political influence over a large set of non-aligned and developing countries, deploying foreign aid, trade preferences, and security commitments as instruments of geopolitical competition.

[2] This transactional agenda is already being put into practice: the Trump administration has explicitly linked the continuation of HIV aid to Zambia to increased US access to the country's mineral resources, a concrete example of aid being deployed to secure commercial access in a recipient country (The New York Times, 2025).

distance, colonial history, income levels, and political ideology—with the total aid budget disbursed by the donor country in a given year. The identifying assumption, following the exogenous-shares interpretation of Goldsmith-Pinkham, Sorkin, and Swift (2020), is that conditional on origin-year, destination-year, and bilateral fixed effects, the predicted shares are as good as randomly assigned. We use a leave-one-out variant of the instrument, which satisfies the exclusion restriction exactly under standard assumptions about measurement error.[3]

We next establish two additional empirical results. First, the market access gain is also accompanied by a reduction in geopolitical distance between the donor and recipient, as measured by alignment in UN General Assembly voting, an effect that persists for up to 5 years after the aid shock. Second, there is suggestive evidence that aid reduces market access of countries from the competing Cold War bloc (Communist vs. Western). Thus, market access gains for the donor are accompanied by reduced market access of geopolitical competitors (beyond the effects operating through multilateral resistance).

The reduced-form empirical findings together paint a consistent picture in which foreign aid serves as a geopolitical instrument that reshapes the pattern of bilateral economic relationships in ways that favor the donor. However, these estimates by themselves cannot be used to quantify the donor's market access benefits. We next calibrate a quantitative multi-country model to the Cold War period production and trade data for 26 donor countries including the USSR and China, and 101 recipient countries. To this model we add directly measured aid flows, and a market access benefit to the donor (lower bilateral export costs) of disbursing aid. We calibrate the parameter governing the market access effect using our econometric estimates.

Our counterfactual exercises simulate an 86% reduction in the foreign aid budgets of the United States and the Soviet Union – matching the proportion of the recent USAID cuts – and trace the welfare consequences for both donors and recipients. Under our preferred values of the trade elasticity, the trade cost increase experienced by the donor with respect to the recipient countries is quite large when aid is canceled: about 20%. The net impact on donor welfare from canceling aid weighs the direct effect of having more resources to consume domestically against the loss of market access.

Our main quantitative finding is that in the 1970s (the middle decade of our sample), canceling aid increases US welfare by 0.12%. This total is composed of a 0.18% direct consumption benefit, and a −0.06% welfare change from deteriorated market access. Thus, aid defrays 33% of its own cost through market access benefits it confers. Part of the reason the market access welfare gains are not larger is that the recipient countries tend to be small in terms of total GDP. The results for the USSR are similar quantitatively. The USSR gains 0.18% from reducing its aid by 86% in the 1970s, decomposed

[3] The OLS bias is ambiguous: donor countries may start giving more aid to trading partners that are about to become more important (upward bias) or to partners with whom the trade relationship is about to deteriorate (downward bias). In addition, aid flows may be measured with error, especially for the USSR and China (downward attenuation bias). Our IV estimates are larger than the OLS estimates, consistent with downward attenuation bias of OLS from measurement error being most important. We perform extensive robustness checks, including alternative aid measures, and variants that lag the instrument shares by one versus three years.

into the 0.28% higher income and a loss of −0.1% from less market access. Once again, about one third of USSR aid paid for itself with market access.

Related literature. This paper contributes to several strands of research. The most directly related is the empirical literature on the effects of foreign aid on trade. There is a body of narrative evidence that donor countries "tie" aid disbursed to recipient countries to increased market access (Baldwin, 1966; Jepma, 1991; Dannehl, 1995; Bach, 2003), but comparatively less formal econometric evidence. Early work by Wagner (2003) uses a gravity model estimated via OLS and finds each dollar of aid generates over a dollar of exports in return, while Nowak-Lehmann et al. (2009) uses time-series techniques to find an export-enhancing effect of bilateral aid for Germany.[4] Our empirical contribution is twofold. First, we construct a novel dataset that incorporates Soviet and Chinese aid flows, which existing studies had been unable to include. This is critical for studying the Cold War, an era of some of the largest and most strategically motivated aid programs in history. Second, we tackle endogeneity using a shift-share instrumental variable on bilateral, time-varying data, allowing us to recover causal estimates of the trade cost reduction associated with foreign aid.

Second, we contribute to the body of work on the interactions between geopolitics and market access. Seminal work by Martin, Mayer, and Thoenig (2008) examines the impact of trade linkages on military conflict.[5] Berger et al. (2013) provide empirical evidence that US covert and overt interventions during the Cold War increased bilateral trade with targeted countries. Dreher and Fuchs (2015) find that political considerations shape China's aid allocation in ways broadly comparable to traditional Western donors, suggesting that the use of aid as an instrument of geopolitical and commercial statecraft is a general feature of donor behavior rather than unique to the United States. Meyer and Wesseler (2026) document that US foreign aid increases geopolitical support for the United States, a finding consistent with one of our empirical results. A related theoretical and empirical literature models colonial empires as political structures designed to appropriate the gains from colonial trade, showing that the value of empire and the pattern of imperialism were shaped by the same commercial motives – market access and trade diversion – that we document empirically for Cold War foreign aid (see, e.g. Bonfatti, 2017; Bonfatti and Coşar, 2022; Bonfatti and Brey, 2024). We explicitly tie foreign aid to trade flows, and quantify the welfare benefit of improved market access to the donor.

Third, this paper connects to the emerging literature on geoeconomics and the fragmentation of the global economy. Gopinath et al. (2025) and Bonadio et al. (2025) document a new "Cold War" in trade patterns following the Russia-Ukraine conflict and escalating US-China tensions, finding that geopolitical blocs are increasingly trading within rather than across ideological lines; while Kleinman, Liu, and Redding (2024) document that countries become more politically aligned when they are more

[4]More broadly related is the body of empirical work on the growth and welfare consequences of foreign aid, that finds mixed results (see, among others, Burnside and Dollar, 2000; Easterly, Levine, and Roodman, 2004; Rajan and Subramanian, 2008, 2007, 2011; Dreher and Langlotz, 2020).

[5]See also Martin, Mayer, and Thoenig (2012), Rohner, Thoenig, and Zilibotti (2013), Mayer, Méjean, and Thoenig (2025, 2026), as well as Thoenig (2024) for a synthesis.

economically aligned. Fan, Wo, and Xiang (2025) develop a method to measure bilateral geopolitical tensions, and quantify their impact on trade. Papers related to great power competition in general equilibrium in the Cold War and the present period include Mattoo, Ruta, and Staiger (2024), Becko and O'Connor (2025), Becko, Grossman, and Helpman (2025), Clayton et al. (2025), Clayton, Maggiori, and Schreger (2025, 2026), and Meyer and Wesseler (2026), among others. In most of this body of work, geopolitical motives or payoffs are exogenously specified features of preferences, rather than of the economic block of the model. Our focus is on empirical measurement and model quantification of these payoffs. We work with the Cold War period to extract lessons relevant to the ongoing era of trade fragmentation and power politics. While the existing literature emphasizes the motives and actions of hegemons, our results are not confined to major powers. We thus show that soft power tools such as foreign aid also allow "middle powers" to expand market access.

The remainder of the paper is organized as follows. Section 2 describes our data, presents summary statistics on Cold War aid flows, and reports the empirical estimates. Section 3 lays out the quantitative trade model. Section 4 describes the calibration and presents the counterfactual analysis. Section 5 concludes. Further details on data, estimation, and quantification are collected in the Appendix.

2. Data and Econometric Estimates

2.1 Data

For estimating the implications of aid for market access, we require panel data on bilateral aid flows and bilateral trade. During the Cold War the Soviet Union was an important geopolitical player and a major source of foreign aid. Data on Soviet and Chinese aid flows are not available from standard sources. Our primary source of information on Cold War era aid by the Soviet Union and China is the CIA Handbook of Economic Statistics (Central Intelligence Agency, 1962–1989) and Carter (1971), digitized by us. Obtaining these data is important for studying the link between foreign aid and market access motives during this period.[6] For all other countries, aid data come from the OECD's DAC2A database (OECD, 2025), which provides bilateral official development assistance (ODA) data to developing countries and territories, as well as multilateral agencies for Development Assistance Committee (DAC) member countries and participant countries.[7] We use the series on overall ODA bilateral disbursements, which contains ODA grant disbursements as well ODA loans disbursed net of interest and loan repayments that have at least a 25 percent grant component. We use this

[6] Historical evidence suggests the Soviet Union often had an explicit market access goal tied to its aid flows, underscoring the importance of including it in the analysis (Carter, 1971; Dannehl, 1995; Bach, 2003).

[7] The DAC is the primary body within the OECD responsible for coordinating and setting standards for development aid among its 34 member countries. Since 1969, it has been considered the main arbiters of what does and does not count as ODA. For more information, see the OECD Development Assistance Committee.

disbursement series because it aligns closely with the OECD's definition of ODA.[8] One limitation of this dataset is that bilateral aid disbursements cannot be disaggregated when they are channeled though the multilateral agencies.[9]

Bilateral trade data come from the CEPII Gravity Database (Conte, Cotterlaz, and Mayer, 2022), which contains bilateral data reported by origin and destination country from UN-Comtrade and the IMF, cleaned to reconcile importer and exporter reports of trade flows. We supplement these trade data with importer and exporter trade flows reported by the IMF's Direction of Trade Statistics. Appendix A.1 provides further detail on our data construction process. In our empirical analysis, we additionally use real GDP data primarily from CEPII (Conte, Cotterlaz, and Mayer, 2022), population data from the Maddison Project (Bolt and Van Zanden, 2023), bilateral geopolitical influence data for the US and the Soviet Union alongside country pairs during the Cold War from Berger et al. (2013), political leader ideology data from Herre (2022), religious data from the World Religion Project (Maoz and Henderson, 2019), and standard dyadic gravity variables from CEPII (Mayer and Zignago, 2011). Appendix Table A.1 contains our full country sample separated by donor and recipient countries. Note that we include Communist bloc countries Hungary and Poland as donors because data are readily available from the OECD DAC database. Communist bloc countries likely had similar strategic motivations of using foreign aid during the Cold War as the Soviet Union. We drop Qatar, the United Arab Emirates and Kuwait, which generally gave aid to other Muslim countries for ideological purposes, which is outside the scope of our analysis.[10] This leaves us with 26 donor countries in total. On the recipient side, we only include bilateral pairs once the recipient country is fully independent since flows from metropolises to colonies are also outside the scope of the paper. This leaves us with 133 recipient countries in total.[11]

Figure 1 illustrates the patterns in total aid flows during the Cold War. The largest donor by far was the US, with aid flows by decade that were two to three times larger than the next largest donor countries. Japan, the USSR, Germany as well as former colonial powers UK and France were also large donors, with flows by decade of between 15 and 61 billion in 2011 USD. The right panel shows shares of total global aid by recipient country and decade. The largest aid shares went to India, Pakistan, Egypt, Indonesia, Israel and Turkey, though with substantial intra-decade variation.

Figure 2 documents the size of the aid disbursements and receipts relative to the size of the donor

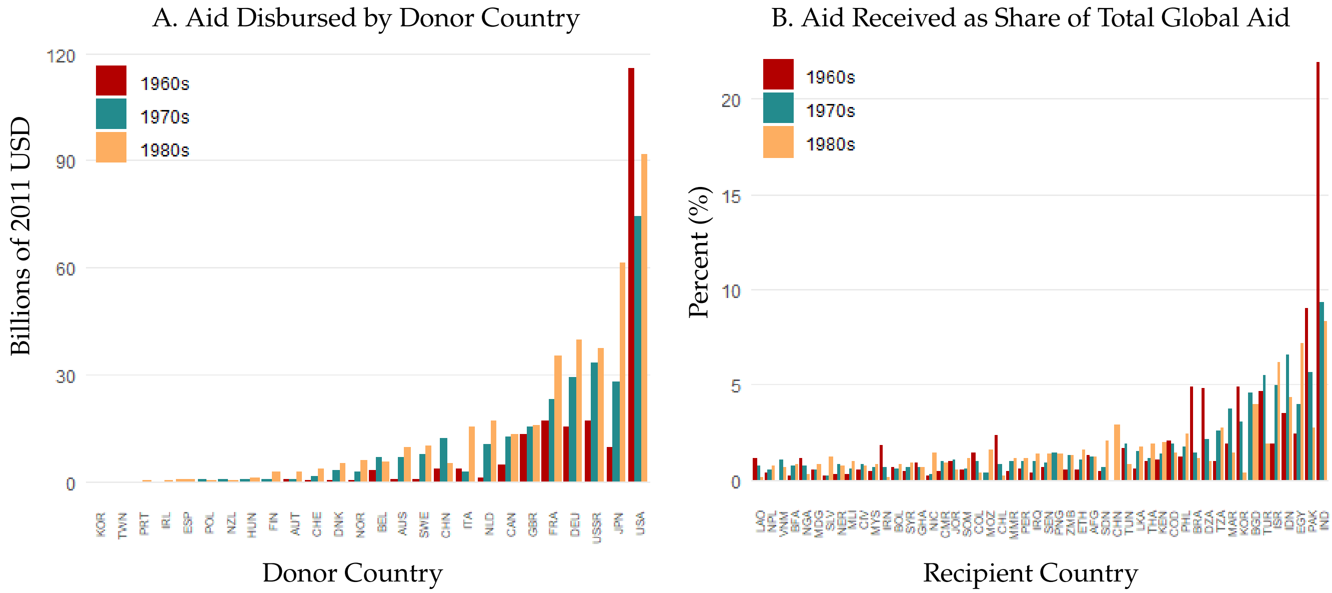
[8] Despite a change in the definition of ODA by the DAC (Hynes and Scott, 2013), the benefits of using their definition is that it captures a multitude of channels in which foreign aid flows likely influences bilateral geopolitical relations and trade flows, such as debt forgiveness, rescheduled interest payments, loans with low interest requirements, etc.

[9] This may be relevant for our analysis because often aid projects are administered jointly with the support of multilateral institutions like the World Bank. Therefore, although the funds are disbursed to the World Bank, the aid funds go to a specific country.

[10] Between 1962-1989 Qatar, the United Arab Emirates, and Kuwait cumulatively disbursed 92.2% of aid to countries classified as predominantly Muslim by Maoz and Henderson (2019).

[11] A small number of countries, such as South Korea, China, and Taiwan, appear as both donors and recipients, and we retain observations in both roles. We drop all observations for Afghanistan between 1979-1989 and Vietnam between 1962-1975, as those were major conflicts that severely disrupted trade, and it is unlikely that donor countries were primarily motivated by international commerce considerations. Finally, we drop bilateral pairs between China and Taiwan due to likely imputation errors where there are positive aid flows between these economies.

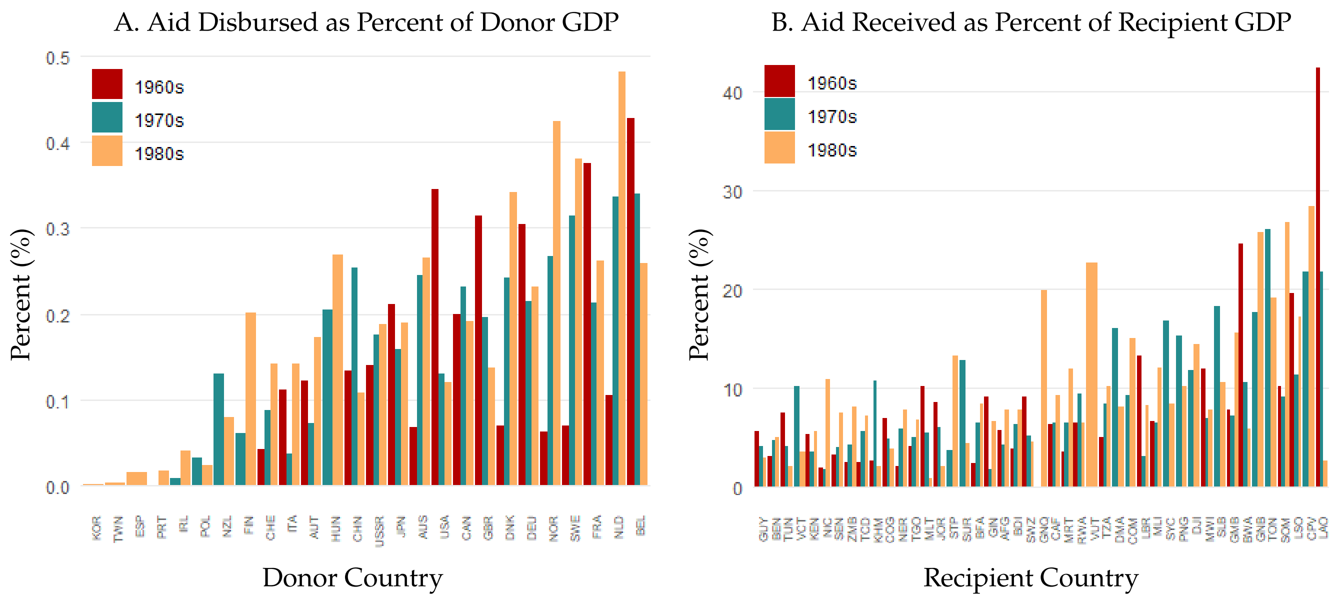
Figure 1: Total Aid Flows during the Cold War (1962-1989)



Notes: The left panel shows cumulative aid disbursed by donor country at the decade level. The right panel shows the cumulative aid received by recipient country as a share of total global aid at the decade level for the 50 countries that received the most aid during the Cold War period. Donor countries are organized by total aid disbursed (least to most) and recipient countries are organized by total aid received (least to most).

and recipient economy, respectively. Overall, aid disbursements relative to donor GDP are orders of magnitude smaller than aid received as a share of recipient GDP. Aid disbursements averaged 0.18% of donor GDP at the decade level, with a standard deviation of 0.12%. On the recipient side, aid receipts averaged 5.09% of the destination countries' GDP at the decade level. The distribution is heavily right-skewed, with a median of 2.32% and a standard deviation of 11.14%. This makes clear there was a small number of highly aid-dependent countries. As Figure 2 shows, aid is relatively more important in poorer and smaller countries. This asymmetry – aid as a very small share of GDP for donors, but economically meaningful for recipients – is precisely what might make foreign aid an attractive instrument of geopolitical influence: at relatively low fiscal cost, donor countries can attempt to meaningfully shape the economic and political trajectory of recipient nations. Appendix Figure A.1 displays a "heat map" of the aid flows by recipient and donor by total amount, while Appendix Figure A.2 displays it as a share of recipient GDP. In the upper-right corner are countries that receive the most aid from the largest donors. Some countries, such as India, Pakistan, Egypt, and Turkey, received substantial aid from both the United States and the Soviet Union. One can also see that the vectors of Soviet and Chinese aid flows are more sparse than those of the US and other major western donors.

Figure 2: Aid as a Percent of GDP during the Cold War (1962-1989)



Notes: The left panel shows cumulative bilateral aid disbursed by donor countries at the decade level as a share of the donor countries' cumulative GDP at the decade level. The share is then multiplied by 100 to get final values into a percent. The right panel shows the cumulative bilateral aid received by recipient countries at the decade level as a share cumulative GDP of the destination country at the decade level for the 45 countries that received the most aid during the Cold War period. The largest five countries are constrained from the graph since they are small island countries (WSM, KIR, TUV, BTN, MDV, WSM) with outlier aid/GDP shares that skew the graph. Donor countries are organized by share of aid disbursed (least to most) and recipient countries are organized by aid shares received (least to most).

2.2 Empirical Specification

To estimate the impact that foreign aid flows have on market access between bilateral partners, we estimate the following regression across time horizons $h = t, \ldots, t+h$:

$$\frac{\text{Trade}_{od,t+h}}{\text{GDP}_{d,t-3}} = \beta^h \left(\frac{\text{Aid}_{od,t}}{\text{GDP}_{d,t-3}}\right) + \gamma \left(\frac{\text{Trade}_{od,t-1}}{\text{GDP}_{d,t-3}}\right) + \delta_{o,t} + \delta_{d,t} + \delta_{od} + \varepsilon_{od,t+h}, \tag{2.1}$$

where o denotes the origin (donor) country, d denotes the destination (recipient) country, and t denotes the year. The dependent variable in equation (2.1) is bilateral trade from origin country o to destination country d at horizon $t+h$, normalized by a three-year moving average of destination-country GDP lagged three years. Specifically, GDP is averaged over years $t-2$, $t-3$, and $t-4$. Following Ramey and Zubairy (2018), we apply the same normalization to the aid regressor and to the lagged trade control. Our coefficient of interest, β^h, therefore captures the impulse response of bilateral aid disbursed in year t to bilateral trade at horizon $t+h$. Normalizing all variables by lagged average destination-country GDP helps ensure that the estimates are not driven by idiosyncratic fluctuations in contemporaneous GDP and places the dependent variable, the aid regressor, and the lagged trade control in comparable units. As a result, β^h can be interpreted as the change in bilateral exports associated with one additional dollar of bilateral aid. The dynamic estimation of

β_h is an important feature of our empirical strategy because it allows us to analyze the evolving role of aid. Bilateral aid flows may mechanically increase trade through contractual obligations that are often attached to official development assistance in the short-run, colloquially known as "tied-aid" (Jepma, 1991). However, aid may also act as a lubricant to improve trade relations with donor countries by extracting trade concessions from recipient country governments, similar to coercive measures governments used during the Cold War (Berger et al., 2013). Both types of market access improvement are interesting and relevant for our purposes.

All specifications include origin-year, destination-year, and origin-destination fixed effects to control for time-varying origin and destination shocks as well as time-invariant bilateral characteristics that may be correlated with bilateral trade flows and bilateral aid disbursements. Following Jordà and Taylor (2025), we also include a lag of the dependent variable to control for any positive autocorrelation of trade flows between country-pairs. An additional advantage of this specification is that we capture all zero entries for aid and trade, which is important because a large fraction of bilateral pairs have zero aid flows (see Figure A.1). In Appendix Table A.6 we alternatively use inverse hyperbolic sine (IHS) transformation for our aid variable, which includes zero aid entries in our sample while approximating logs for non-zero values of our aid variable (Burbidge, Magee, and Robb, 1988). In this alternative specification, we log trade flows since most of the countries in our sample have annual bilateral trade flow data in a given year.

OLS estimates of (2.1) may be biased even conditional on the saturated fixed effects, as aid disbursement between bilateral partners might be correlated with time-varying bilateral unobservables or suffer from reverse causality. Donor countries may give more aid to countries with whom they expect to trade heavily, biasing $\hat{\beta}^h$ upward. Alternatively, donors may disburse more aid to bilateral partners with whom trade relationships are about to deteriorate for omitted reasons, leading $Cov(\text{Aid}_{od,t}, \varepsilon_{od,t+h}) < 0$ and biasing $\hat{\beta}^h$ downward. OLS estimates might also be (downward) biased due to classical measurement error in aid data, which may occur in this context because bilateral aid flows, particularly historical flows, are challenging to accurately measure. Appendix A.2.2 discusses how classical measurement error could bias our OLS estimate $\hat{\beta}^h$ towards zero.

2.3 Instrumental Variable

To recover a causal estimate of β^h, we first use a plausibly exogenous set of bilateral aid predictors during the Cold War era to construct predicted bilateral aid shares for each country pair. We then multiply these bilateral shares by the total amount of aid disbursed by the origin country in a given year (leaving out the disbursement to the recipient country). This procedure constructs the predicted amount of aid given by origin country o to destination country d in year t. We use these predicted flows as instruments for actual aid flows in our empirical estimation.

We obtain our estimated bilateral aid shares by first predicting bilateral aid flows in a manner similar to gravity-based approaches used to estimate bilateral trade flows (Frankel and Romer, 1999;

Do and Levchenko, 2007). We run the following regression:

$$\text{Aid}_{od,t} = \exp\Big(\gamma^o \mathbf{X}_{o,t} + \gamma^d \mathbf{X}_{d,t} + \beta^g \mathbf{X}^g_{od} + \beta^p \mathbf{X}^p_{od} + \beta^{hist} \mathbf{X}^{hist}_{od}\Big) + \nu_{od,t}, \tag{2.2}$$

where $\mathbf{X}_{o,t}$ is a vector of time-varying origin-specific predictors that include (log) GDP per capita and origin population, $\mathbf{X}_{d,t}$ is a vector of time-varying destination-specific predictors including its (log) GDP per capita and its population. These predictors aim to capture patterns such as the tendency of richer countries to donate more aid to all recipients, and countries with lower per capita income being more likely to receive aid from all donors. The vector $\mathbf{X}^g_{od}$ contains standard time-invariant bilateral gravity controls including distance, a common language dummy, a contiguity dummy, and whether or not there ever was a colonial relationship between o and d. Drawing on Rajan and Subramanian (2008, 2011) and Berger et al. (2013), we also include broader political forces in the prediction equation, $\mathbf{X}^p_{od}$, that are especially relevant during the Cold War era. Geopolitical variables include dummy variables aggregated to the decade level denoting whether the destination country had a CIA or KGB intervention within a given decade using data from Berger et al. (2013), as well as the proportion of leaders that were considered left- or right-leaning at the decade level using political leader ideology data from Herre (2022). Finally, we also include interactions between indicator variables for each major colonial power and whether the recipient-donor pair were ever in a colonial relationship, $\mathbf{X}^{hist}_{od}$, to account for certain colonial powers giving relatively more aid to former colonies (see Appendix Table A.2 for the exact specification and prediction regression results).

We then use estimates from equation (2.2) to predict bilateral aid between pairs of countries and construct predicted aid shares at the donor-time level across aid recipient countries. The baseline instrument is created by taking the predicted aid share lagged by three years and multiplying by the log of total aid that the donor country disburses in a given year to all countries, leaving out the bilateral aid between donor and recipient pair. This yields a shift-share instrument that varies at the bilateral-year level:

$$\text{IV}_{od,t} = \hat{\lambda}_{od,t-3} \times \frac{\sum_{j \neq d} \text{Aid}_{oj,t}}{\text{GDP}_{d,t-3}}, \qquad \widehat{\lambda}_{od,t-3} = \frac{\widehat{\text{Aid}}_{od,t-3}}{\sum_d \widehat{\text{Aid}}_{od,t-3}}. \tag{2.3}$$

The goal is to predict bilateral aid flows that arise from standard features such as gravity or income shocks, that are plausibly exogenous to *bilateral and time-varying* market access motives for aid flows (since all second-stage specifications control for country-pair, destination-year and origin-year fixed effects). As these prediction variables are either time-invariant or measured with less error (e.g. log GDP and population), the predicted aid flows likely also suffer from less measurement error than the baseline bilateral aid flows data. Note that the aid prediction equation does not include actual total aid flows by donors or to recipient countries as predictors. Since the prediction equation (2.2) requires an extensive set of covariates for a relatively distant historical period, some aid destination countries drop out from the sample, leaving a total of 106 recipient countries for the IV estimates.

Our final prediction sample covers 95.5% of all aid disbursed during the Cold War era since most of the dropped countries are small island countries (see Appendix A.1).

To summarize, the "zero-th" stage predicts aid shares based on estimating (2.2). We use these predicted shares to construct predicted aid from each donor to each recipient in each year. The first stage regresses actual realized bilateral aid flows on our predicted aid flow instrument, including all the fixed effects in equation (2.1). The results are in Appendix Table A.4. The second stage estimates the impact of aid on trade as in (2.1) using this instrument.

A benefit of our deconstructed shift-share instrument relative to standard shift-share designs is that our identifying variation is at the bilateral-year level rather than at the destination-year level. Standard shift-share instruments would sum the deconstructed instrument across all origin countries to obtain an instrument for total aid received that varies at the destination-year level, due to common data limitations of the dependent variable, which often does not vary bilaterally. Because our aid flow data varies at the bilateral-year level, we can also incorporate the saturated set of fixed effects from equation (2.1). This is important as instrument exogeneity is conditional on controls, and the fixed effects control for origin-year and destination-year shocks that are correlated with predicted bilateral aid flows. The fixed effects also control for time-invariant bilateral effects that might be correlated with predicted bilateral aid flows (such as geographic proximity, for example). In that sense, our approach has more in common with the "interaction diff-in-diffs" pioneered by Rajan and Zingales (1998) than with textbook shift-share designs.

Recent advancements in the shift-share literature stress that standard shift-share designs may be biased if the origin-year shift is correlated with the bilateral shares of the instrument (Borusyak, Hull, and Jaravel, 2021). By controlling for the entire set of fixed effects, we ensure that our instrument is not correlated with the error term due to destination- or origin-year shocks, or time-invariant bilateral effects. Since we take an exogenous-share interpretation of our instrument (Goldsmith-Pinkham, Sorkin, and Swift, 2020), our main identifying assumption is that conditional on our time-invariant bilateral fixed effects and origin/destination-time fixed effects, our bilateral shares are as good as randomly assigned. In other words, conditional on the fixed effects, destination countries with high bilateral predicted shares and destination countries with low bilateral shares would follow similar paths and thus have similar trade flows had they not been treated with aid. Our instrument likely satisfies this assumption because we do not use actual aid flow data to construct the shares, but rather we use the coefficients from our aid prediction equation (2.2) to construct predicted shares.

To satisfy the exogenous-share interpretation of our instrument, Borusyak, Hull, and Jaravel (2025) stress that the instrument must be "tailored" towards the shock, which our instrument likely satisfies since our predicted bilateral aid shares are applied to the total outflow of aid from the origin country (leaving one out). We also follow the authors' advice and lag the predicted aid shares to reduce the likelihood that the predicted aid shares are contemporaneously correlated with bilateral-time varying unobservables, strengthening the exogenous shares interpretation of our instrument. But the authors also acknowledge that the downside of lagging shares is that it reduces the covariance with the treatment, making the first stage weaker and increasing the standard errors. Our main specification is conservative and uses predicted aid shares lagged by three years, but Appendix Table A.7 reports our regression results for equation (2.1) only lagging the shares by one year. Moreover, Appendix Table A.3 provides summary statistics on our predicted weights for the Cold War sample. With a median of 0.05% and the 99th percentile weight being less than 10%, the vast majority of prediction aid shares are small. This is sensible with more than 100 potential recipient countries. We also conduct robustness checks by throwing out outlier weights at the 1st-99th percentile to ensure outliers are not driving our results (see Appendix Table A.8). Since the identifying assumption is that our weights are i.i.d., our results should be robust to these sample restrictions. Appendix Table A.5 further restricts the sample by dropping the great powers of the era (the US, the USSR, and China) from our main specification to ensure they are not driving the results.

Although our main identifying assumption does not require that the shock component of the shift-share be uncorrelated with the structural error term, this likely holds in practice. Most donor countries disburse aid to many recipients within a given year and therefore it is unlikely that the total aid budget is responding to changing unobservable conditions within a single recipient country. Our instrument also follows the "leave-one-out" approach to ensure that origin country's aid budget used for aid prediction is not mechanically responding to the changing circumstances in the recipient country. This ensures the our estimates are not driven by the endogenous response of donor aid budgets to changing bilateral conditions. Appendix A.2 contains further details on identification.

2.4 Empirical results

Fact 1: Aid increases market access for the donor country

Table 1 reports results of estimating (2.1). Columns (1)–(4) present contemporaneous effects ($h = 0$), while columns (5)–(8) report effects five years ahead ($h = 5$). For each horizon we present both the OLS and IV results. We present two sets of standard errors: clustered at the origin-year level (in parentheses) and clustered two-way, by origin-year and country-pair [in brackets]. Borusyak, Hull, and Jaravel (2025) suggests clustering at the shock-level to account for unobserved correlations in error terms across shocks, since all destination countries exposed to the same origin country receive the same shock. But to be fully transparent, we also report our standard errors clustered two-way because there may be serial correlation of the errors within country pairs.

We also present Kleibergen-Paap (KP) F-statistics, Anderson-Rubin (AR) p-values, as well as Anderson-Rubin 90% confidence intervals developed by Andrews (2018) for both sets of standard errors. Generally speaking, KP-F statistics smaller than 10 indicate a weak instrument. When we cluster at the origin-year level as suggested by Borusyak, Hull, and Jaravel (2025), our first stage is always larger than 10 at the $h = 0$ and $h = 5$ horizons, but when we in addition cluster at the country-pair we have a weak instrument problem. Therefore, we follow the recommendation of Andrews,

Table 1: Impact of Aid on Trade Flows

	$h=0$: $\frac{\text{Trade}_{od,t}}{\text{GDP}_{d,t-3}}$				$h=5$: $\frac{\text{Trade}_{od,t+5}}{\text{GDP}_{d,t-3}}$			
	OLS		IV		OLS		IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\left(\frac{\text{Aid}_{od,t}}{\text{GDP}_{d,t-3}}\right)$	0.158	0.130	0.860	0.464	0.026	0.012	1.545	1.367
	(0.077)	(0.074)	(0.119)	(0.121)	(0.025)	(0.025)	(0.314)	(0.302)
	[0.099]	[0.092]	[0.392]	[0.241]	[0.035]	[0.031]	[0.678]	[0.602]
$\left(\frac{\text{Trade}_{od,t-1}}{\text{GDP}_{d,t-3}}\right)$		0.500		0.574		0.256		0.223
		(0.081)		(0.132)		(0.080)		(0.081)
		[0.070]		[0.119]		[0.089]		[0.089]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SE's clustered at origin × year level								
KP-*F*			38.55	37.09			36.53	37.01
AR-*p*			0.00	0.00			0.00	0.00
AR-CI 90%			(0.700, 1.075)	(0.301, 0.665)			(1.076, 2.063)	(0.916, 1.866)
SE's clustered two-way (origin × year & bilateral)								
KP-*F*			3.87	3.72			3.71	3.67
AR-*p*			0.01	0.01			0.00	0.00
AR-CI 90%			[0.447, 3.496]	[0.210, 2.164]			[0.941, . . .]	[0.831, . . .]
Observations	58,565	58,471	51,615	51,534	56,968	56,540	50,224	49,865

Notes: Aid as a share of GDP is constructed by taking bilateral aid in 2011 USD divided by the destination country's GDP in 2011 USD lagged by three years. Trade as a share of GDP is also denominated in 2011 USD divided by destination GDP lagged by three years. The GDP series is a spliced series where the base series is from CEPII and then we forward and backwards splice GDP data from the World Bank and the Maddison Project. For the IV specifications, aid-share is instrumented via a leave-one-out shift-share that takes the total aid disbursed by the origin country (excluding the bilateral pair) divided by the destination country's GDP lagged by three years as the shock. The shares are constructed by using the predicted aid flows from a PPML regression divided by the total predicted aid disbursed by the origin country for a given year to obtain a predicted aid share. The shares are lagged by three years. KP-*F* is the Kleibergen-Paap F-statistic. AR-*p* and AR-CI 90% are p-values and weak-instrument-robust 90% confidence intervals from the Anderson-Rubin test developed by Andrews (2018). Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. AR-CI's are computed by first demeaning all variables by the fixed effects. The constant is suppressed. The upper bounds of the two-way clustered AR-CIs for columns (7) and (8) are unbounded.

Stock, and Sun (2019) and report weak-instrument adjusted p-values and 90% confidence intervals.

Overall, our results show that bilateral aid flows have a significant and economically meaningful impact on bilateral trade flows in the short and medium run. According to our preferred specification at the $h = 0$ horizon (column 4), a one dollar increase in bilateral aid increases trade flows by 0.464 dollars. This result is statistically significant at the less than 1% level under origin-year clustering and at the less than 10% level under two-way clustering. Moreover, this result also holds according to our weak-instrument adjusted metrics; the AR-p values are at around the 1% level and we can safely reject the null that the coefficient is zero using the 90% AR-CI's for both sets of standard errors.

Turning to the medium-run effects, the results at the $h = 5$ horizon indicate that aid has a persistent effect on trade flows. In our preferred specification (column 8), a one dollar increase in bilateral aid increases trade flows by 1.367 dollars five years on. The estimate is statistically significant at the less than 1% level under origin-year clustering and at the less than 5% level under two-way clustering. The coefficient also has AR p-values below the 1% level and the 90% AR confidence intervals exclude zero for both sets of standard errors. Interestingly, across all specifications the IV estimates are significantly larger than the OLS estimates, suggesting that the OLS estimates are downward-biased, likely due to attenuation described in Appendix A.2.2.

We highlight that our results are not driven by foreign aid from the great powers – United States, Soviet Union, and China – but also hold for smaller donors. Appendix Table A.5 runs the same specification as (2.1) but drops the great powers. The impact at $h = 0$ is relatively larger in comparison to our main results (0.611 vs. 0.464), and both the first stage and AR-p values are much stronger in this specification for both sets of standard errors. For instance, the KP-F under two-way clustering at the $h = 0$ horizon is 23.15 and the aid coefficient is statistically significant at the less than 1% level. Moreover, the magnitude of the aid coefficient also grows by $h = 5$: a one dollar increase in foreign aid leads to a 1.819 dollar increase in bilateral trade five years out, which is statistically significant at the less than 1% level for both sets of standard errors and has AR p-values significant at the less than 1% level. The instrument continues to have a strong first stage at $h = 5$ with KP-F of 74.99 and 23.03 for origin-year and two-way clustering, respectively. The results are likely tighter without the great powers in part because we are dropping the donors (USSR and China) for which aid data come from the noisier archival data sources. While our empirical results are consistent with Berger et al. (2013), who find that coercive CIA and KGB interventions during the Cold War also increased bilateral trade, the estimates dropping the US, the USSR, and China suggest that soft power tools such as foreign aid offer a broader set of countries – beyond the Cold War superpowers – a mechanism to expand market access abroad.

Taken together, the short- and medium-run results from our main empirical specification highlight that bilateral aid generates persistent and economically significant increases in bilateral trade up to five years later and the results are not driven by a small subsample of donors.

Robustness and additional exercises. Appendix Table A.6 shows the results when using alternative aid and trade variables, namely log trade and inverse hyperbolic sine (IHS) aid. This specification allows us to approximate an aid-to-trade elasticity from a log-log specification without dropping the zero aid observations. In this specification at the $h = 0$ horizon, a 100% increase in aid flows leads to a $\ln(2) \cdot 0.099 = 6.86\%$ increase in trade flows. The AR-p values are significant around the 1% level and the AR 90% confidence intervals exclude zero for both sets of standard errors. At the $h = 5$ horizon, a 100% increase in aid increases bilateral trade by $\ln(2) \cdot 0.055 = 3.81\%$ five years out. Although the AR-p value is significant around the 1% level and the 90% AR confidence interval excludes zero under origin-year clustering, the result is not robust to two-way clustering.

Appendix Table A.7 reports results when we lag the shares in our shift-share IV by 1 year rather than 3 years. At the $h = 0$ horizon, a dollar increase in bilateral aid increases trade flows by 0.478

dollars. The coefficient has AR-p values significant around the 1% level and AR 90% confidence intervals that safely exclude zero for both sets of standard errors. At the $h = 5$ horizon, a one dollar increase in bilateral aid increases bilateral trade by 1.314 dollars. This result has AR-p values significant at the less than 1% level and AR 90% confidence intervals excluding zero for both sets of standard errors.

Appendix Table A.8 reports the results when trimming our sample to only include bilateral observations that have predicted bilateral aid-share weights between the 1st and 99th percentiles. According to our preferred specification, the coefficient magnitude under the trimmed sample is similar to our baseline specification at the $h = 0$ horizon (0.473 vs. 0.463) and has AR-p values significant at the less than 1% level for both sets of standard errors. At the $h = 5$ horizon, the coefficient for the trimmed sample continues to be similar (1.382 vs. 1.367) and has AR-p values significant at the less than 1% level for both sets of standard errors. Overall, the trimmed sample results show that the coefficients are not driven by sample outliers.

Appendix Table A.9 reports results when using the entire aid disbursed by the origin country as the shock for our instrument (rather than the leave-one-out approach). At the $h = 0$ horizon, a one dollar increase in bilateral aid increases trade flows by 0.44 dollars, with the AR-p values being significant around the 1% level and we can safely reject the null that the coefficient is zero using AR-CI's at the 90% level for both sets of standard errors. In the medium run at the $h = 5$ horizon, a one dollar increase in bilateral aid increases trade flows by 1.3 dollars, with the AR-p value significant at the less than 1% level and we can safely reject the null that the coefficient is zero using AR-CI's at the 90% level for both sets of standard errors.

Appendix A.5 examines whether bilateral aid improves donor-country access to imports originating from recipient countries. In the baseline aid share-of-GDP specification, the point estimates are positive and somewhat larger at the medium-run horizon (see Appendix Table A.15): a one dollar increase in bilateral aid raises donor imports by 0.427 dollars contemporaneously and by 1.75 dollars five years later. However, these results are not robust across all clustering schemes. At the $h = 0$ horizon, the estimate is significant under origin-year clustering, but under two-way clustering the AR-p value rises to 0.13 and the 90% AR confidence interval includes zero. At the $h = 5$ horizon, the estimate is somewhat stronger, with a two-way clustered AR-p value of 0.08, but the result weakens once we move to the alternative IHS-aid log-import specification, where the $h = 5$ coefficient has AR-p values of 0.09 under origin-year clustering and 0.38 under two-way clustering (see Appendix Table A.16). Unlike the export-side market access channel, the evidence that aid systematically increased donor-country imports from recipients is ambiguous.

Finally, Appendix A.6 examines whether aid promotes market access in the post-Cold War period (1990–2019). We begin by rerunning the "zero-th" stage aid prediction equation on data for 1990-2019. We drop the geopolitical variables related to the Cold War, but otherwise the aid prediction equation is unchanged (see Appendix Table A.18 for the estimating equation). The pseudo R^2 from the prediction equation is still quite high at 0.466, indicating that the shares are still relevant and tailored towards the shock. The OLS coefficients for the post-Cold War period are much smaller compared to the Cold War, suggesting that aid is less correlated with bilateral trade flows in the post-Cold War period. Turning to the IV estimates, the result is not significant at the 10% level at either horizon under either clustering scheme. Similarly, the AR-p values are all larger than 0.10 at either horizon under either clustering scheme.

Our results thus suggest that the market-access motive for foreign aid was relevant in the Cold War period, an era in which strategic competition between superpowers dominated geopolitics and donors pursued commercial self-interest through aid, largely unrestrained by multilateral norms. Our finding of null effects during the post-Cold War period align with the timing of specific policies OECD DAC countries adopted to coordinate an institutional push toward untying aid. The OECD/DAC's 2001 Recommendation on Untying Official Development Assistance formalized commitments to remove procurement restrictions on bilateral aid disbursements (OECD DAC, 2001) and the share of tied aid fell from roughly 48% in 1987 to 15% by 2011 (Kim and Kim, 2016).[12] As aid became progressively untied during the contemporary period, one potential channel through which donors used aid to secure market access for its exporters weakened. Yet as the rules-based international order comes under stress and multilateral commitments to untying erode, the conditions that suppressed the market-access motive during the post-Cold War period may themselves unravel. Our Cold War era findings may be more relevant for today's world than the patterns in the 1990-2019 period.

Fact 2: Aid increases geopolitical alignment

To investigate another potential mechanism through which aid increases market access during the Cold War era, we examine the effect aid has on bilateral geopolitical distance by means of the following specification:

$$\text{Geopol. Dist.}_{od,t+h} = \beta^h_{gp}\left(\frac{\text{Aid}_{od,t}}{\text{GDP}_{d,t-3}}\right) + \gamma\text{Geopol. Dist.}_{od,t-1} + \delta_{o,t} + \delta_{d,t} + \delta_{od} + \varepsilon_{od,t+h}. \tag{2.4}$$

where $\text{Geopol. Dist.}_{od,t} = |\text{Ideal Point}_{o,t} - \text{Ideal Point}_{d,t}|$. Our data on geopolitical distance are from Bailey, Strezhnev, and Voeten (2017). The ideal point metric, $\text{Ideal Point}_{o,t}$, is a dynamic measurement of how ideologically aligned a country is with the US-led world order. Positive values mean more alignment with the United States while negative values mean more alignment with the Soviet Union during the Cold war era. The ideal point measure is estimated using a dynamic ordinal spatial item response theory (IRT) model applied to UN General Assembly votes, where each country may vote yes, no, or abstain on each resolution.[13] Although the metric constructs monadic ideal point for

[12] For more details on the OECD DAC untying-aid initiatives and current untying statistics, see here.

[13] The authors use a dynamic ordinal spatial IRT model because it accommodates three vote choices (yea, abstain, nay) rather than a binary probit. The ordinal structure is important because abstentions carry distinct information — they are treated as intermediate signals of disagreement, weaker than a nay vote. Another key feature of the authors' approach is that they identify pairs of identically worded resolutions voted on across multiple sessions and constrain those resolutions to have the same parameters across time, allowing the model to separate genuine shifts in foreign policy preferences from

each country-year, we follow the authors and take the euclidean distance between two countries as the absolute value of the difference of the ideal point measurements to obtain a dyadic measure of geopolitical distance. We also include lagged geopolitical distance within the specification to control for its autocorrelation within bilateral pairs and control for the same fixed effects as in equation (2.1).

There is a growing literature on the role of geopolitics in trade flows, that uses different measures of geopolitical distance (Fan, Wo, and Xiang, 2025; Gopinath et al., 2025; Airaudo et al., 2025). We use the benchmark estimate of geopolitical distance following Bailey, Strezhnev, and Voeten (2017). Moreover, Meyer and Wesseler (2026) empirically show US foreign aid increases geopolitical support for the United States. We build on both strands of this literature by testing whether foreign aid builds bilateral geopolitical support as the mechanism for reducing bilateral trade costs between countries. A negative β^h_{gp} indicates that foreign aid not only lowers bilateral trade costs both through short-run channels, such as tied-aid provision, but also through the formation of durable bilateral relationships, as evidenced by increased voting alignment in the United Nations General Assembly. Because geopolitical distance is measured on a scale without a natural economic interpretation, we report the coefficient in standardized units: the number of standard deviations by which geopolitical distance (one standard deviation = 0.784 at the h=0 horizon and 0.732 at the h=5 horizon) shifts in response to a one standard deviation increase in the aid-to-GDP ratio (one standard deviation = 0.010).

The coefficient on aid as a share of GDP, β^h_{gp}, measures how foreign aid flows impact geopolitical distance between bilateral pairs over time. At the contemporaneous horizon ($h = 0$), our preferred specification (column 4) implies that a one standard deviation increase in aid reduces geopolitical distance by $|-5.296| \cdot 0.010/0.784 = 0.068$ standard deviations. The AR p-values are significant at the less than 5% level and the 90% AR confidence intervals exclude zero for both sets of standard errors. Results at the $h = 5$ horizon tell a similar story. Column 8 implies that a one standard deviation increase in aid reduces geopolitical distance by $|-4.965| \cdot 0.010/0.732 = 0.068$ standard deviations five years out. The AR p-values are also still significant at the 5% level under both clustering schemes and the 90% AR confidence intervals for both standard errors continue to exclude zero.

Our findings remain robust when we instrument using the total aid disbursed by the origin country as the shock on our shift-share (rather than the leave-one-out approach). At the $h = 0$ horizon, column 4 of Appendix Table A.10 shows that a one standard deviation increase in aid reduces geopolitical distance by $|-4.798| \cdot 0.010/0.784 = 0.061$ standard deviations, and the result is robust to both weak instrument tests for both sets of standard errors. At $h = 5$, a one standard deviation increase in aid reduces geopolitical distance by $|-4.582| \cdot 0.010/0.732 = 0.063$ standard deviations. The AR-p value is 0.01 under origin-year clustering with a 90% AR confidence interval excluding zero, and under two-way clustering the AR-p value is 0.04 with AR 90% confidence intervals that continue

changes driven by the evolving composition of the UN's agenda. The direction of the ideal point dimension is anchored to the United States by initializing the polarity of each resolution using the US vote as a reference point, so that countries which systematically vote in alignment with the United States receive higher ideal points while those that oppose US positions receive lower values. All ideal points are normalized to mean zero and standard deviation one. For our specification, we use the voting metric constructed using votes only for formal UN resolutions.

Table 2: Impact of Aid on Geopolitical Distance (Equation 2.4)

	h = 0: Geopol. Dist.$_{od,t}$				h = 5: Geopol. Dist.$_{od,t+5}$			
	OLS		IV		OLS		IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\left(\frac{\text{Aid}_{od,t}}{\text{GDP}_{d,t-3}}\right)$	-1.569	-0.451	-10.842	-5.296	-0.491	-0.372	-5.643	-4.965
	(0.354)	(0.128)	(4.448)	(2.589)	(0.188)	(0.220)	(1.789)	(1.995)
	[.]	[0.153]	[6.723]	[3.319]	[0.236]	[.]	[3.201]	[3.000]
Geopol. Dist.$_{od,t-1}$		0.702		0.705		0.065		0.074
		(0.027)		(0.027)		(0.022)		(0.023)
		[0.027]		[0.027]		[.]		[0.032]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SE's clustered at origin × year level								
KP-F			25.87	24.14			43.08	41.11
AR-p			0.00	0.02			0.00	0.01
AR-CI 90%			(−19.590, −4.894)	(−10.383, −1.837)			(−8.593, −3.254)	(−8.255, −2.302)
SE's clustered two-way (origin × year & bilateral)								
KP-F			3.72	3.95			4.37	4.76
AR-p			0.03	0.04			0.01	0.03
AR-CI 90%			[−58.128, −3.777]	[−24.887, −1.270]			[−23.492, −2.280]	[−18.293, −1.815]
Observations	50,112	48,737	44,790	43,535	50,574	47,621	45,362	42,735

Notes: Geopolitical Distance (Geopol. Dist.) is the absolute value difference in ideal point UN-Voting estimates between origin and destination countries as constructed from Bailey et al. 2017. Aid as a share of GDP is constructed by taking bilateral aid in 2011 USD divided by the destination country's GDP in 2011 USD lagged by three years. The GDP series is a spliced series where the base series is from CEPII and then we forward and backwards splice GDP data from the World Bank and the Maddison Project. For the IV specifications, aid-share is instrumented via a leave-one-out shift-share that takes the total aid disbursed by the origin country (excluding the bilateral pair) divided by the destination country's GDP lagged by three years as the shock. The shares are constructed by using the predicted aid flows from a PPML regression divided by the total predicted aid disbursed by the origin country for a given year to obtain a predicted aid share. The shares are lagged by three years. KP-F is the Kleibergen-Paap F-statistic. AR-p and AR-CI 90% are p-values and weak-instrument-robust 90% confidence intervals from the Anderson-Rubin test developed by Andrews (2018). AR-CI's are computed by first demeaning all variables by the fixed effects. Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. Standard errors reported as [.] indicate that the two-way clustered variance-covariance matrix was non-positive semi-definite, and valid standard errors could not be computed despite applying the Cameron, Gelbach Miller (2011) eigenvalue adjustment. The constant is suppressed.

to exclude zero. Finally, we also run an alternative version of equation (2.4) where we instead use IHS aid and log geopolitical distance to obtain an elasticity measure. At the $h = 0$ horizon, column 4 of Appendix Table A.11 shows that a 100% increase in bilateral aid reduces geopolitical distance by $\ln(2) \cdot |-0.103| = 7.14\%$. The AR-$p$ values are significant around the 1% level and the AR 90% confidence intervals exclude zero for both sets of standard errors. At the $h = 5$ horizon, column 8 of Appendix Table A.11 shows that a 100% increase in bilateral aid reduces geopolitical distance by $\ln(2) \cdot |-0.047| = 3.26\%$. The AR-$p$ values are significant at the less than 10% level and the AR 90% confidence intervals exclude zero for both sets of standard errors.

Taken together, the results highlight that foreign aid generates durable shifts in bilateral geopolitical alignment. This suggests foreign aid in this era could be understood as an investment: by shifting geopolitical alignment at the time of aid disbursements, donor countries reduced the bilateral frictions that govern market access in future periods. Because the Cold War was characterized by active competition between the United States and the Soviet Union, marginal shifts in alignment induced by aid could carry outsized strategic value by "tipping" recipient countries into the great powers' respective spheres of influence.

Fact 3: Aid reduces market access for countries in competing blocs

Having established that foreign aid increases bilateral trade and shifts geopolitical alignment, we now ask whether the market access gains accruing to countries come at the expense of countries from the competing bloc. If foreign aid draws recipient countries more tightly into the donor's geopolitical orbit, it may not only expand trade within that bloc but also raise trade costs with rival geopolitical partners. Equation (2.5) directly tests whether aid serves as a market-access-diversion tool across competing blocs. The dependent variable is the recipient country's total imports from the geopolitical bloc opposite that of donor o: when o is a Communist donor, the outcome is imports originating from Western donors, and when o is a Western donor, the outcome is imports originating from Communist donors:[14]

$$\frac{\text{Trade}_{od,t+h}^{Other-Bloc}}{\text{GDP}_{d,t-3}} = \beta_{oth}^{h}\left(\frac{\text{Aid}_{od,t}}{\text{GDP}_{d,t-3}}\right)+\phi\left(\frac{\text{Aid}_{od,t}^{Other-Bloc}}{\text{GDP}_{d,t-3}}\right)+\gamma\left(\frac{\text{Trade}_{od,t-1}^{Other-Bloc}}{\text{GDP}_{d,t-3}}\right)+\delta_{o,t}+\delta_{d,t}+\delta_{od}+\varepsilon_{od,t+h}. \tag{2.5}$$

The main coefficient of interest, β_{oth}^{h}, captures whether bilateral aid from donor o affects the recipient's imports from rival-bloc suppliers at horizon h. To isolate this effect, the specification also controls for total aid received from the other bloc, $\text{Aid}_{od,t}^{Other\text{-}Bloc}$, which is constructed similarly to the outcome variable, as well as lagged imports from the rival bloc. All variables continue to be normalized by lagged GDP, which places the aid and trade flows in comparable units and fixes the denominator prior to the shock. Our specification also includes all of the same fixed effects and controls as in equation (2.1) and we also follow the same IV strategy highlighted in equation (2.3). It is important to note that bilateral trade cost reductions implied by estimates of equation (2.1) can generate general equilibrium effects that operate through multilateral resistance terms, as documented in the context of border effects (Anderson and van Wincoop, 2003) and tariff reductions (Romalis, 2007). Our specification includes destination-year fixed effects, which absorb all time-varying multilateral resistance forces and thus account for general equilibrium effects of changes in donor-recipient trade costs. Thus, the coefficient on aid in equation (2.5) picks up any effect of aid on countries' trade from the competing bloc over and above the general equilibrium effects. Thus, a negative coefficient on β_{oth}^{h} would suggest that aid reallocates market access away from exporters from the other bloc.

At the contemporaneous horizon, our preferred specification (column 4) in Table 3 implies that bilateral aid has no effect on reducing imports from the competing bloc. The coefficient equals 0.091 at the $h = 0$ horizon with AR-p values of 0.74 and 0.61 under origin-year and two-way clustering, respectively. But turning to the medium-run results at the $h = 5$ horizon, evidence of displacement

[14] We define a Communist donor as: USSR, CHN, HUN, POL and Western donors as: KOR, TWN, PRT, IRL, ESP, NZL, FIN, AUT, CHE, DNK, NOR, BEL, AUS, SWE, ITA, NLD, CAN, GBR, FRA, DEU, JPN, USA.

emerges. In our preferred specification (column 8) of Table 3, the coefficient on bilateral aid equals −1.882, implying that an additional dollar of bilateral aid reduces imports from the competing bloc by roughly 1.88 dollars five years later. The estimate is highly significant under origin-year clustering, with an AR-p value of 0.00 and a 90% AR confidence interval that comfortably excludes zero. The result also remains statistically significant under two-way clustering, with an AR-p value of 0.01 and a 90% AR confidence interval also excluding zero. These estimates suggest that while aid does not contemporaneously reduce imports from rival-bloc exporters, displacement emerges gradually over time. This delayed response is consistent with the idea that aid induces persistent shifts in geopolitical alignment that take time to divert market access away from rival-bloc exporters. These findings are also robust to using the full-shock shift-share IV rather than the leave-one-out specification, with similar magnitudes and inference across both horizons (see Appendix Table A.13).[15] Moreover, in Appendix Table A.14 we construct an alternative specification where we use log trade from the other bloc as the dependent variable and IHS aid as the regressor and find that aid reduces trade from the competing bloc at both the $h = 0$ and $h = 5$ horizon.

Taken together, these results are consistent with aid functioning as a tool of bilateral market capture. The trade costs for donor countries in competing blocs appear to increase as aid recipients become closer aligned to the bilateral donor. These results adds nuance to the market access gains documented in Fact 1, as the market access gains are not purely additive: foreign aid reshapes the competitive landscape within recipient markets, persistently redirecting import demand toward the donor and away from the competing bloc.

[15] Appendix Table A.12 implements equation (2.1), adding a control for all aid coming from the country within the competing bloc. The estimated coefficient on the donor aid is robust, and if anything higher than in the baseline. This suggests that competing bloc aid does not undermine the marginal impact of the donor's aid on donor's own market access.

Table 3: Impact of Aid on Competing Bloc Trade Flows

	$h=0$: $\frac{\text{Trade}^{Other-Bloc}_{od,t}}{\text{GDP}_{d,t-3}}$				$h=5$: $\frac{\text{Trade}^{Other-Bloc}_{od,t+5}}{\text{GDP}_{d,t-3}}$			
	OLS		IV		OLS		IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\left(\frac{\text{Aid}_{od,t}}{\text{GDP}_{d,t-3}}\right)$	−0.011	−0.006	−0.135	0.091	0.003	0.003	−2.075	−1.882
	(0.027)	(0.024)	(0.281)	(0.278)	(0.012)	(0.012)	(0.625)	(0.582)
	[0.033]	[0.026]	[0.255]	[0.185]	[.]	[0.009]	[1.250]	[1.148]
$\left(\frac{\text{Aid}^{Other-Bloc}_{od,t}}{\text{GDP}_{d,t-3}}\right)$	0.069	−0.002	0.520	0.212	0.140	0.118	0.166	0.065
	(0.023)	(0.022)	(0.046)	(0.044)	(0.032)	(0.031)	(0.106)	(0.104)
	[0.023]	[0.014]	[0.066]	[0.051]	[.]	[0.035]	[0.157]	[0.143]
$\left(\frac{\text{Trade}^{Other-Bloc}_{od,t-1}}{\text{GDP}_{d,t-3}}\right)$		0.732		0.763		0.202		0.334
		(0.023)		(0.028)		(0.065)		(0.069)
		[0.039]		[0.053]		[0.106]		[0.126]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SEs clustered at the origin × year level								
KP-F			30.55	30.77			30.33	31.24
AR-p			0.63	0.74			0.00	0.00
AR-CI 90%			(−0.555, 0.285)	(−0.326, 0.551)			(−3.207, −1.239)	(−2.936, −1.103)
SEs clustered two-way (origin × year and bilateral)								
KP-F			3.28	3.30			3.24	3.32
AR-p			0.59	0.61			0.00	0.01
AR-CI 90%			[−1.354, 0.464]	[−0.284, 1.127]			[..., −0.963]	[..., −0.860]
Observations	58,908	58,880	51,894	51,866	57,141	56,983	50,389	50,231

Notes: Aid as a share of GDP is constructed by taking bilateral aid in 2011 USD divided by the destination country's GDP in 2011 USD lagged by three years. Trade as a share of GDP is also denominated in 2011 USD divided by destination GDP lagged by three years. Other-bloc aid is defined based off of the origin country bloc. For instance, if the origin country is a Communist country (USSR, CHN, HUN, POL) then other-bloc aid comprises of all the bilateral aid flows disbursed to the destination country by Western countries (all other countries within the donor sample). The GDP series is a spliced series where the base series is from CEPII and then we forward and backwards splice GDP data from the World Bank and the Maddison Project. For the IV specifications, aid-share is instrumented via a leave-one-out shift-share that takes the total aid disbursed by the origin country (excluding the bilateral pair) divided by the destination country's GDP lagged by three years as the shock. The shares are constructed by using the predicted aid flows from a PPML regression divided by the total predicted aid disbursed by the origin country for a given year to obtain a predicted aid share. The shares are lagged by three years. KP-F is the Kleibergen-Paap F-statistic. AR-p and AR-CI 90% are p-values and weak-instrument-robust 90% confidence intervals from the Anderson-Rubin test developed by Andrews (2018). Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. AR-CI's are computed by first demeaning all variables by the fixed effects. The constant is suppressed.

3. Quantitative Framework

This section incorporates our econometric estimates in a multi-country, multi-sector model of trade and foreign aid and quantifies the welfare impact of aid in donor and recipient countries during the Cold War period. Our multi-country, multi-sector model with domestic input-output linkages builds on Levchenko and Zhang (2016) and Huo, Levchenko, and Pandalai-Nayar (2025). The world economy consists of N countries indexed by o, d and ℓ and J sectors indexed by j and k. Each country d is endowed with L_d workers who supply labor inelastically and a government that taxes households to pay for foreign aid disbursements.

Households. The representative household in country d maximizes utility:

$$\max_{\{F_{dj}\}} \mathcal{F}_d = \prod_{j=1}^{J} F_{dj}^{\zeta_{dj}} \tag{3.1}$$

subject to

$$\sum_{j=1}^{J} P_{dj}^{f} F_{dj} = W_d L_d + \sum_{o} Aid_{od} - T_d + D_d = \mathcal{I}_d, \tag{3.2}$$

where F_{dj} is the sector j final consumption, P_{dj}^{f} is its price, W_d is the wage, T_d is a lump-sum tax, $\sum_o Aid_{od}$ are aid payments received from donor countries $o \in N$, and D_d is the remaining trade deficit. In the outer nest, the consumption bundle $\mathcal{F}_n$ is Cobb-Douglas in $j \in J$, with ζ_{dj} governing sectoral expenditure shares in final consumption. The corresponding consumption price index is:

$$P_d = \prod_{j=1}^{J} \left(\frac{P_{dj}^{f}}{\zeta_{dj}} \right)^{\zeta_{dj}}.$$

Production. Sectoral output in each sector j and country d is an Armington aggregate of sectoral varieties coming from all countries, with a substitution elasticity ε. The sectoral aggregate and the corresponding sectoral price index are given by:

$$Y_{dj}^{f} = \left[\sum_{o} \mu_{o,dj}^{\frac{1}{\varepsilon}} (Y_{o,dj})^{\frac{\varepsilon-1}{\varepsilon}} \right]^{\frac{\varepsilon}{\varepsilon-1}}, \qquad P_{dj}^{f} = \left[\sum_{o} \mu_{o,dj} (\tau_{o,dj} P_{oj})^{1-\varepsilon} \right]^{\frac{1}{1-\varepsilon}},$$

where $\mu_{o,dj}$ is a taste shifter, $\tau_{o,dj}$ is the iceberg trade cost of shipping good j variety from o to d, and P_{oj} is the factory-gate price of sector j variety produced in country o. The non-tradable sector J only aggregates the domestically-produced variety, and thus $Y_{dJ}^{f} = Y_{d,dJ}$ and $P_{dJ}^{f} = P_{dJ}$. In tradable sectors the expenditure share on the country o good in country d sector j is:

$$\pi_{o,dj} = \frac{\mu_{o,dj} (\tau_{o,dj} P_{oj})^{1-\varepsilon}}{\sum_{\ell} \mu_{\ell,dj} (\tau_{\ell,dj} P_{\ell j})^{1-\varepsilon}}.$$

Sectoral varieties are produced with labor L_{dj} and intermediate inputs $\{X_{k,dj}\}$:

$$Y_{dj} = Z_{dj} L_{dj}^{\eta_j} \left(\prod_{k=1}^{J} \left(X_{k,dj} \right)^{\gamma_{k,dj}} \right)^{1-\eta_j}, \quad P_{dj} \propto Z_{dj}^{-1} W_d^{\eta_j} \left(\prod_{k=1}^{J} \left(P_{dk}^{f} \right)^{\gamma_{k,dj}} \right)^{1-\eta_j},$$

where Z_{dj} is TFP, η_j is the share of value added in gross output, and $\gamma_{k,dj}$ is the share of intermediate inputs sector j sourced from sector k in country d. The optimal labor and input usage are:

$$W_d L_{dj} = \eta_j P_{dj} Y_{dj}, \qquad P^f_{dk} X_{k,dj} = (1-\eta_j)\gamma_{k,dj} P_{dj} Y_{dj}. \tag{3.3}$$

Government. The government takes bilateral aid across country-pairs as given, Aid_{od} $\forall d$, and collects lump-sum taxes to balance its budget:

$$T_o = \sum_d Aid_{od}. \tag{3.4}$$

Market clearing. To close the model, we additionally need market clearing conditions in the goods and labor markets. For tradable sectors:

$$P_{dj}Y_{dj} = \sum_o \pi_{d,oj}\left(\zeta_{oj}P_o\mathcal{F}_o + \sum_{k=1}^{J}(1-\eta_k)\,\gamma_{j,ok}\,P_{ok}\,Y_{ok}\right). \tag{3.5}$$

For non-tradable sectors, the market clearing condition is

$$P_{dJ}Y_{dJ} = \zeta_{dJ}\,P_d\,\mathcal{F}_d + \sum_{k=1}^{J}(1-\eta_k)\,\gamma_{J,dk}\,P_{dk}\,Y_{dk}. \tag{3.6}$$

Finally, trade is balanced (up to the deficit) as in (3.2), governments balance their budgets as in (3.4) and labor markets clear in each country

$$\sum_{j=1}^{J} L_{dj} = L_d. \tag{3.7}$$

Equilibrium. Given $\{Aid_{od}, D_d, L_d, Z_{dj}, \tau_{od}\}$, an equilibrium consists of a set of goods and factor prices $\{P_{dj}, W_d\}$, factor allocations $\{L_{dj}\}$, lump sum taxes $\{T_d\}$, and goods allocations $\{Y_{dj}, F_{dj}\}$ such that households maximize utility (3.1), firms maximize profits (3.3), the goods market clears (3.5) and (3.6), the labor market clears (3.7), income equals expenditure (3.2), and governments balance their budgets (3.4). Country trade is balanced up to a vector of trade deficits, D_d, and international trade is balanced at a global level $\sum_n D_n = 0$.

Bilateral aid and iceberg costs. Our empirical analysis highlighted that bilateral aid disbursements during the Cold War increased market access, resulting in more imports from the donor by the recipient country. We model this relationship as a link between bilateral aid and bilateral iceberg trade costs:

$$\tau_{od} = \frac{\tilde{\tau}_{od}}{Aid^{\chi}_{od}}, \tag{3.8}$$

where $\tilde{\tau}_{od}$ are any trade costs not related to aid. The elasticity χ that governs this relationship will be disciplined with the econometric estimates.

4. Quantification

4.1 Calibration

The elasticity of trade costs to aid

The central parameter of interest is the aid-to-trade elasticity χ. Appendix B.1 shows that given a value for ε, χ can be inferred from the gravity coefficient in which log trade is on the left-hand side and log aid is the regressor. In particular, in a static gravity setting, $\chi = \beta/(\varepsilon - 1)$, where β is the coefficient on the regressor in our IHS-aid log trade specification in equation (A.3). We will report quantitative results for χ implied by the $h = 0$ coefficients in Table A.6.

However, our main results in Table 1 show that the impact of aid persists for up to 5 years following disbursement. In order to obtain a more complete picture of the steady state impact of an increase in aid on trade flows, we must estimate the cumulative effects of a one-time increase in foreign aid on cumulative trade flows from period t to $t + h$. We thus follow the approach of Ramey and Zubairy (2018) and estimate the following equation:

$$\sum_{j=0}^{h} \frac{\text{Trade}_{od,t+j}}{\text{GDP}_{d,t-3}} = \beta^{CUM,h} \left(\sum_{j=0}^{h} \frac{\text{Aid}_{od,t+j}}{\text{GDP}_{d,t-3}} \right) + \gamma \left(\frac{\text{Trade}_{od,t-1}}{\text{GDP}_{d,t-3}} \right) + \delta_{o,t} + \delta_{d,t} + \delta_{od} + \varepsilon_{od,t+h}. \tag{4.1}$$

Both the independent and dependent variables are cumulated across the time horizon $j = 0, \ldots, h$. The reasoning behind this approach is that both aid and trade flows may autocorrelated. For instance, increases in aid flows in period $h = 0$ may predict higher aid disbursements in subsequent periods. Specification (4.1) estimates the impact of a cumulative amount of aid on the cumulative change in trade, better approximating the total dynamic impact of aid on trade. The coefficient $\beta^{CUM,h}$ directly recovers the cumulative impulse response function — that is, the total effect on trade at time $t + h$ from a given increase in aid disbursed at t, properly accounting for the fact that aid shocks may themselves trigger subsequent aid flows or reversions. Also following Ramey and Zubairy (2018), we normalize both the LHS and the RHS variables by a 3-year moving average total GDP lagged 3 years (i.e., averaging $\text{GDP}_{d,t-2}$, $\text{GDP}_{d,t-3}$, and $\text{GDP}_{d,t-4}$), rather than estimating in logs.[16] This is because it is not sensible to additively cumulate log values. The coefficient of interest in effect then captures the effect of each dollar of additional aid on the dollar value of trade. The instrument for the aid regressor is constructed in parallel following similar steps, but for predicted aid rather than actual. The instrument for the cumulated regressor in (4.1) is the $h = 0$ predicted aid shock.

[16]We explored alternative normalizations, including contemporaneous GDP and shorter lags, but prefer this formulation because it smooths high-frequency fluctuations in GDP while ensuring that the lagged predicted aid shares are not mechanically correlated with year-to-year changes in the denominator.

Appendix Table A.21 reports the cumulative impulse responses of trade flows at the $h = 3$ horizon and at the $h = 5$ horizon. We find that aid flows increase trade flows by approximately one-to-one in the medium run. Columns 3, 4, 7, and 8 report our results using our standard shift-share instrument. Columns 1, 2, 5, and 6 report results using a "Naive" IV where we use the bilateral aid flows at time t as the instrument to the cumulative aid flows at horizon $h = 3$ and $h = 5$, which essentially acts as the impulse response in order to make the coefficients comparable to the IV estimates. In our preferred specifications (Columns 4 and 8), a one percentage point of GDP increase in bilateral aid flows cumulatively increases bilateral trade by 0.736 percentage points of GDP in 3 years and 0.963 percentage points in five years. Both sets of results have AR-p values significant at the less than 5% level for both sets of standard errors as well as AR 90% confidence intervals that exclude zero.[17]

We use the 5-year horizon to compute χ. Because $\beta^{CUM,5}$ is not an elasticity, we recover the elasticity χ by multiplying $\beta^{CUM,5}$ by the average bilateral aid to trade ratio during the Cold War era (1962-1989):

$$\chi_{od} = \beta^{CUM,5} \times \frac{\text{Aid}_{od}}{\text{Trade}_{od}}. \tag{4.2}$$

An additional motivation for calibrating the elasticity from our cumulative impulse response estimates is that it allows us to move beyond estimating a single pooled elasticity χ and instead recover bilateral elasticities χ_{od} that vary across country pairs. Appendix B.2 documents substantial variation in the ratios of aid-to-trade of the countries receiving aid from the United States during the Cold War; the median ratio is 0.18 and the standard deviation is 1.28. Therefore, it is unlikely that aid reduces trade costs with the same elasticity regardless of the pre-existing trading relationship between donor and recipient. Aid would plausibly have its largest trade-cost reducing effects precisely when formal economic relationships — trade, finance, and diplomatic ties — are thin or absent. On the other hand, when two countries already trade extensively, an increase in aid is unlikely to completely transform the preexisting trade relationships. Using a single χ would then overstate the trade-cost effects of aid for major commercial partners and understate them for countries with thin pre-existing ties. Allowing χ_{od} to vary bilaterally as in (4.2) enables us to capture the heterogeneity that aid has in increasing market access across bilateral partners and produce more credible results in our quantitative exercises.

Appendix B.2 reports the final bilateral elasticities χ_{od} between the United States and the USSR and partner countries. For the US they range from near zero to 7.98 with a median of 0.172. For the

[17] Our results remain robust to using total aid disbursed as the shock rather than the leave-one-out (see Appendix Table A.22) and continue to be stronger when excluding the United States, Soviet Union, and China (see Appendix Table A.23). According to preferred specifications when we drop the great powers, we get more than a one-to-one increase in trade flows; a one percentage point of GDP increase in bilateral aid flows cumulatively increases bilateral trade by 0.894 percentage points of GDP in 3 years and 1.228 percentage points of GDP in five years. These results are all highly significant and have strong first stage KP-F's of over 15. For all specifications, the AR-p values are significant at the less than 1% level and all the AR 90% CI's exclude zero for each set of standard errors. Moreover, our cumulative impulse response results also remain robust to trimming outlier predicted shares (see Appendix Table A.24), with impulse response coefficients ranging from $0.736 - 0.962$ at the $h = 3$ and $h = 5$ horizon, respectively, when we trim at the 1st and 99th percentile, with both coefficients having AR-p values significant at the less than 5% level and AR-90% confidence intervals excluding zero. The magnitude and persistence of the one-to-one effect of aid on trade flows at medium horizons provides empirical support for using our cumulative impulse response estimates to recover the aid-to-trade-cost elasticity.

Soviet Union and its partner countries, the median elasticity is 0.684, considerably higher than for the US, reflecting the weaker trade ties between the Soviet Union and other countries: since recipients imported relatively little from the USSR, even modest aid flows would be expected to translate into larger elasticities. For elasticities larger than 1, we set the elasticity to 1 for our counterfactual exercises.

Our approach to recovering bilateral aid-to-trade-cost elasticities χ_{od} has a parallel to heterogeneous trade elasticities literature (e.g. Novy, 2013; Chen and Novy, 2022; Piveteau and Smagghue, 2023; Head and Mayer, 2026). Novy (2013) shows that replacing the standard CES demand assumption in gravity models with a translog expenditure function generates a variable trade cost elasticity that depends on bilateral import shares – thin bilateral relationships with small import shares are predicted to be significantly more sensitive to trade cost changes than thick relationships with large pre-existing trade volumes.

Other parameters and shares

Table 4 summarizes our model calibration. Aside from χ, the model requires only one more structural parameter, the Armington elasticity. We set $\varepsilon = 2$ following the long-run value estimated by Boehm, Levchenko, and Pandalai-Nayar (2023).

We solve the model in changes starting from the pre-shock equilibrium following Dekle, Eaton, and Kortum (2008). Appendix B.3 states the equilibrium equations in changes. This approach requires several data shares that reflect the pre-shock equilibrium. Appendix B.4 describes in detail our approach to constructing the shares, that we summarize more briefly here. We calibrate our production and expenditure data objects to the years 1970-75 for 26 donor and 101 recipient countries across four sectors (Agriculture, Commodities, Manufacturing, and Nontradables). Although our entire country sample of destination country includes 133 aid recipients during the Cold War, we ultimately exclude 32 countries that do not have consistent sectoral trade flow data. We begin by calibrating sectoral input-output (IO) shares, value-added shares, and final consumption shares from the Long Run WIOD (Woltjer, Gouma, and Timmer, 2021), which contains IO data for 25 countries between 1965-2000. We further supplement the IO data with digitized historical input-output tables from Bartelme and Gorodnichenko (2015) for a broad sample of developing countries during the Cold War period. These tables were initially constructed by the United Nations Industrial Development Organization (UNIDO). We prioritize using historical IO tables around the years 1970-1975 and only use IO tables that pass basic quality checks. After the quality checks, we are left with a geographically representative sample of 25 developing countries. For countries for which we do not have IO data, we use regional aggregates constructed by averaging sectoral input-output shares, value-added shares, and final consumption shares across available countries within each region, normalizing the shares so they sum to one, and imputing accordingly. The regions on which we construct average IO tables are Asia, Eastern Europe, Latin America, Sub-Saharan Africa, the Middle East, and Rest of World.

To construct our final bilateral trade shares across country-sector pairs, we take annual sectoral

Table 4: Calibration

Param.	Value	Description	Moment/Source
Elasticities			
ε	2	Elasticities of subst. varieties	Boehm, Levchenko, and Pandalai-Nayar (2023)
χ_{od}	$\beta^{CUM,5} \cdot \frac{\text{Aid}_{od}}{\text{Trade}_{od}}$	Aid-trade elasticity	Impulse Response Estimates (4.2)
Production			
$\gamma_{k,dj}$		Sectoral IO Shares	Long Run WIOD & Historical IO tables
η_k		VA Share of Gross Output	Long Run WIOD & Historical IO tables
$P_{dj}Y_{dj}$		Sectoral Gross Output	Match Labor Income
Expenditure			
$\{\zeta^{dj}\}$		Final consumption shares	Long Run WIOD & Historical IO tables
$\{\pi_{od,j}\}$		Bilateral Trade Shares	UN-COMTRADE
$\{\text{Aid}_{od}\}$		Bilateral Aid flows	OECD, CIA Handbook, & Carter 1971
$\{W_d L_d\}$		Labor Income	CEPII, World Bank, & Madison
$\{T_d\}$		Taxes	Match Aid Disbursements
$\{I_d\}$		Income	Matches VA net of Aid and Taxes

Notes. The table summarizes the calibrated values used for the quantitative analysis.

trade flow data from UN COMTRADE, aggregate up to our three tradable sectors, deflate all of the series and average across the years 1970-1975. Baseline labor income data comes from our spliced real GDP series sourced from CEPII, World Bank, and Maddison GDP data. Baseline aid flows are constructed from the same real aid series used in our empirical analysis — drawing on OECD DAC data, CIA archival sources, and Carter (1971) — summed over the full Cold War period (1962–1989), and then annualized to capture the full distribution of bilateral aid disbursements across the time horizon. Since all countries run balanced budgets in our model, lump-sum taxes are constructed by matching the total aid disbursed by donor countries. Similarly, since we model aid as a transfer that appears in the country's trade balance condition, income data then match our value-added/labor income data net of aid and taxes. The final data object we must calibrate is baseline sectoral gross output. Accurate historical gross output data are challenging to find for the broad set of countries in our model, so we instead use all of the available data objects to obtain the model-implied value of sectoral output. Specifically, we take the goods market clearing condition, use the calibrated expenditure, trade, and IO shares as well as the value added data, and then take the Leontief inverse of the goods market clearing conditions to obtain the implied values of sectoral gross output that completely eliminate sectoral wedges. But this strategy does not guarantee that the labor market clearing condition holds, so we are left with aggregate deficits within the model. To obtain the final data objects, we then solve the model without any shocks to eliminate aggregate deficits and update the equilibrium values, namely labor income, sectoral gross output, and bilateral trade shares to obtain the final steady state model objects.

4.2 Counterfactuals

The counterfactual exercises first implement the Trump administration's percentage reduction in the United States' foreign aid budget. We apply this contemporary shock to the Cold War period because it provides a setting in which the market access motives of donors were explicit and trade networks were split along geopolitical lines, allowing us to estimate the market access consequences of these aid shocks. To run this counterfactual, we take each country the United States disbursed foreign aid to during the Cold War and shock the model by reducing the amount of foreign aid the countries receive by 86%. We then perform the same exercise to the Soviet Union, reducing their aid budget by 86%. To better understand the role of the market access mechanism, we run our two counterfactuals under different calibrations of our aid-to-trade elasticity by: (i) calibrating $\chi = \chi_{od}$ to match our impulse response from equation (4.1); (ii) fully shutting down the aid-to-trade cost channel by setting $\chi = 0$; and (iii) calibrating a uniform $\chi = 0.099$ to match our estimates from equation (A.3).

Counterfactual 1: 86% Reduction in US Foreign Aid Budget

Table 5 reports the welfare effects of an 86% reduction in the US foreign aid budget across the three parameterizations of the aid-to-trade elasticity. The first 2 lines of the table report the aid to total income ratios of both recipient countries and of the US. In the United States aid only comprises 0.16% of income, while US aid is 0.82% of recipient country income at the mean, and 0.45% at the median. The top panel reports the results under country-specific χ_{od} as calculated on (4.2). The US gains 0.12% from canceling aid. The entire effect comes from consuming the resources that were used for aid: the real wage does not increase.

To better understand these results, we compare them to those without a trade cost effect ($\chi = 0$) in the middle panel. Here, the US welfare increases by 0.18%. The difference between the two panels, −0.06%, is due to the increased trade costs faced by the US in the baseline scenario when aid is canceled. Thus, one-third (0.06/0.18) of the direct real income cost of aid pays for itself with increased market access. The bottom panel ($\chi = 0.099$) reports the results of simply using the coefficient from column 4 of Table 1 to calibrate χ. The US welfare change is similar to the top panel.

Although US real income change remains positive at 0.12% when incorporating the aid-to-trade channel, the 33% reduction relative to $\chi = 0$ implies that governments receive meaningful economic returns by using aid to increase market access. Moreover, policymakers concerned with supporting workers' wages may view aid as a tool for stimulating export demand, and the sign reversal in the US real wage change — from negative with the market access channel to positive under $\chi = 0$ — provides direct evidence of this channel.

The table also reports the summary statistics for the impacts on recipient countries. In our preferred calibration (top panel), recipient country real income falls by 1.88% at the mean and 1.15% at the median. This fall is accompanied by large reductions in import shares of the US, nearly 37% at the mean, and increases in import share of other source countries. Notably, when there is no tradepromoting impact of aid (the $\chi = 0$ panel), recipient countries lose less from aid cancellation (1.15% at the mean, 0.66% at the median). In this case, the only effect is the reduction in transfer income, with consumer market access to US imports remaining the same. When aid lowers trade costs, real consumption in recipient countries falls by more than just the lost transfer. This is especially true when incorporating the intermediate input channel as higher trade costs lead to higher production unit costs throughout the recipient's economy via IO linkages. Moreover, trade costs with the US are especially important because during the Cold War, the United States was often the largest trading partner for many countries receiving US aid, with US import shares averaging 2.1% of sectoral gross output.

The top panel of Figure 3 illustrates the cross-sectional heterogeneity in recipient country welfare losses. It plots the percent change in real income against the log ratio of US aid to imports from the US (left), and the log ratio of US aid to destination real income (right). In both cases, the distribution of welfare losses is heavily right-skewed: the vast majority of recipient countries cluster near zero, experiencing only modest losses that are largely driven by the pure income transfer effect, while a small subset of highly aid-dependent economies suffer losses that are an order of magnitude larger. Appendix Figure B.1 reproduces the same plots but for the uniform aid-to-trad elasticity, $\chi = 0.099$ $\forall od$. The pattern is consistent across both measures of aid intensity and both elasticity specifications, though it is more pronounced under the baseline elasticity specification in Figure 3, where the downward-sloping relationship between aid intensity and welfare losses is steeper and the right tail extends further.

Countries such as Israel (ISR), Cambodia (KHM), Belize (BLZ), Jordan (JOR), and El Salvador (SLV) are consistently among the most adversely affected, with real income losses that dwarf those of the typical recipient. These countries share two features that make them particularly vulnerable: they receive large amounts of US aid relative to both their bilateral trade with the US and their overall income, and they trade a great deal with the US, meaning that the rise in bilateral trade costs when aid is withdrawn affects them to a greater extent. At the other end of the distribution, large emerging economies that receive little US aid relative to their size, and that do not trade much with the US experience losses close to zero, highlighting that the welfare consequences of cutting US aid are highly concentrated among a small number of vulnerable, aid-dependent economies rather than spread evenly across the recipient pool.

Taken together, these results demonstrate that the welfare consequences of cutting US foreign aid extend beyond the direct loss of income transfers. The market access channel — operating through higher bilateral trade costs for both final and intermediate goods — meaningfully amplifies recipient losses and erodes the income gains for the donor itself.

Table 5: Welfare effects — 86% reduction in US Foreign Aid Budget

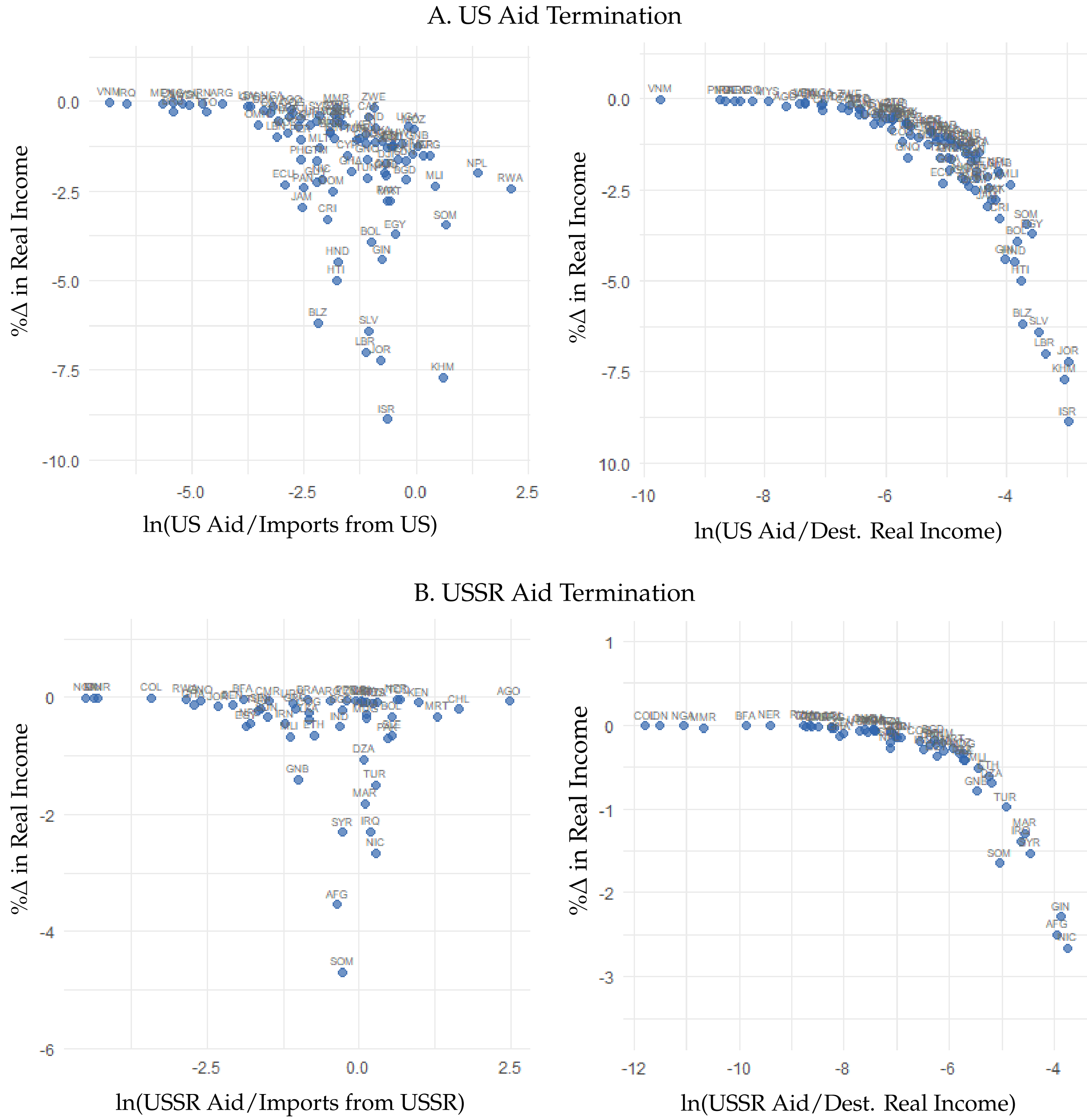
Measure	Mean	Median	Std. Dev.	Min.	Max.
Steady State US AID/Rec. Income (%):	0.82%	0.45%	1.13%	0.00	8.10%
Steady State Total US AID/US Income (%): 0.16%					
	$\chi = \chi_{od}$				
Donor					
% change in US real income: 0.12%					
% change in US real wage: -0.01%					
Recipients					
% change in real income:	-1.88%	-1.15%	2.80%	-22.49%	0.04%
% change in real wage:	-1.07%	-0.61%	1.62%	13.12%	0.04%
% change in import share from US:	-36.76%	-27.85%	28.55%	-88.03%	0.16%
% change in import share from ROW:	0.86%	0.60%	2.22%	-20.49%	8.39%
% change in dom. absorption share:	0.90%	0.34%	1.73%	-0.55%	16.26%
	$\chi = 0$				
Donor					
% change in US real income: 0.18%					
% change in US real wage: 0.04%					
Recipients					
% change in real income:	-1.15%	-0.66%	2.19%	-19.11%	0.03%
% change in real wage:	-0.37%	-0.16%	1.05%	-9.95%	0.12%
% change in import share from US:	-2.58%	-1.82%	2.50%	-25.02%	-0.49%
% change in import share from ROW:	-0.02%	0.75%	2.59%	-23.19%	2.18%
% change in dom. absorption share:	0.33%	0.10%	1.15%	-0.65%	14.65%
	$\chi = 0.099$				
Donor					
% change in US real income: 0.12%					
% change in US real wage: -0.01%					
Recipients					
% change in real income:	-1.65%	-0.92%	2.35%	-19.87%	-0.15%
% change in real wage:	-0.85%	-0.46%	1.24%	-10.66%	0.01%
% change in import share from US:	-17.74%	-17.50%	2.30%	-36.98%	-12.64%
% change in import share from ROW:	0.59%	0.89%	2.82%	-23.05%	6.95%
% change in dom. absorption share:	0.72%	0.37%	1.34%	-0.39%	15.05%
Num. of Recipients			96		

Notes: This table reports the welfare effects in response to a 86% reduction in the US foreign aid budget for the United States and 96 recipient countries in which the US disbursed aid to under different aid-to-trade elasticities. Trade share summary statistics are constructed across sectors. The bilateral trade elasticity is used in accordance with the table in Appendix B.2.

Counterfactual 2: 86% Reduction in USSR Global Foreign Aid Budget

Table 6 reports the welfare effects of an 86% reduction in the USSR foreign aid budget across the three parameterizations of the aid-to-trade elasticity. The results mirror the patterns from the US counterfactual but with several notable differences that reflect the distinct nature of Soviet aid rela-

Figure 3: Welfare Effects- 86% reduction in US and USSR Foreign Aid Budget, $\chi = \chi_{od}$



Note: Figure 3 plots the percent change in real income from steady state in response to an 86% reduction in the US (top row) and USSR (bottom row) aid budget for countries that received foreign aid from the great powers during the Coldwar era, using our calibrated bilateral elasticities. The left panels' x-axes are constructed by taking the log of US (USSR) aid disbursed to the destination country divided by the total bilateral imports of the destination country from the US (USSR) during the Coldwar era. The right panels' x-axes are constructed by taking the log of the US (USSR) aid disbursed by the US (USSR) during the Coldwar era and dividing by the steady state real income of the destination country. Saudi Arabia (SAU) and Laos (LAO) are removed from the US figures since they are outliers and skew the presentation of our results. Guinea (GIN) and Mozambique (MOZ) are dropped from the bottom left chart because there is no reported imports flows between these recipient countries and the USSR during the Cold War period.

tionships. First, the USSR was a smaller donor on the global scale, with Soviet aid only 0.03% of recipient income. The Soviet aid was a larger fraction of its own income at 0.25% (vs. 0.16% for the US). In the baseline calibration (top panel), the USSR gains 0.18% from the aid reduction. Without the market access effect, the gain is 0.28% (middle panel). Thus, the improved market access defrays 36% (0.1/0.28) of the direct income loss of aid. The welfare results are similar with the uniform χ (bottom panel). As with the US, real wages rise with the market access effect, and fall without it, implying that stimulating export demand in partner countries by lowering trade costs impacts domestic workers.

Second, the consequences for recipient countries, while following the same qualitative pattern as the US counterfactual, are considerably smaller in magnitude, reflecting the much lower aid intensity of Soviet recipients. Real income falls by 0.6% at the mean and 0.21% at the median in the recipient countries in our baseline calibration, and by 0.33%/0.08% (mean/median) without the market access benefit. The market access effect appears to have a large impact on Soviet trade, with Soviet market shares falling by 60-70% on average in recipient countries when aid is canceled (though the fall is more muted when χ is not country-specific, bottom panel). The mechanism for the recipient welfare effect of market access is the same as in the US case, but the magnitude is smaller because Soviet aid recipients were less deeply integrated with the USSR through trade than US recipients were with the US. The USSR aid recipient countries' trade shares with the USSR averaged 0.48% of sectoral gross output, compared to US shares of 2.1% for US aid recipients.

The bottom panel of Figure 3 illustrates cross-sectional heterogeneity in welfare losses. As with the US, the distribution is heavily right-skewed: the vast majority of Soviet aid recipients cluster near zero while a small tail of highly aid-dependent economies suffer disproportionately large losses. Countries such as Somalia (SOM), Afghanistan (AFG), Nicaragua (NIC), and Guinea (GIN) are consistently among the most adversely affected, reflecting their deep dependence on Soviet aid relative to both their bilateral trade with the USSR and their overall income. At the other end of the distribution, large economies that received little Soviet aid relative to their size experience losses close to zero.

Overall, the USSR counterfactual reinforces the central message that the welfare consequences of cutting foreign aid extend well beyond the direct income transfers, with the market access channel amplifying recipient losses and eroding donor gains. The key distinction is one of scale — Soviet aid recipients were smaller in number and less deeply integrated with the USSR in trade, producing more muted but qualitatively similar losses.

Spheres of influence

We now examine the cross-sectional variation across recipients in the welfare impact of US vs. Soviet aid. Figure 4 displays a scatterplot of the welfare changes from withdrawing the US aid against the welfare changes from withdrawing Soviet aid. (The two welfare impacts are essentially additive. We ran a third counterfactual in which both the US and Soviet aid are withdrawn simultaneously. The welfare impact of this combined counterfactual all but coincides with the sum of the welfare

Table 6: Welfare effects — 86% reduction in USSR Foreign Aid Budget

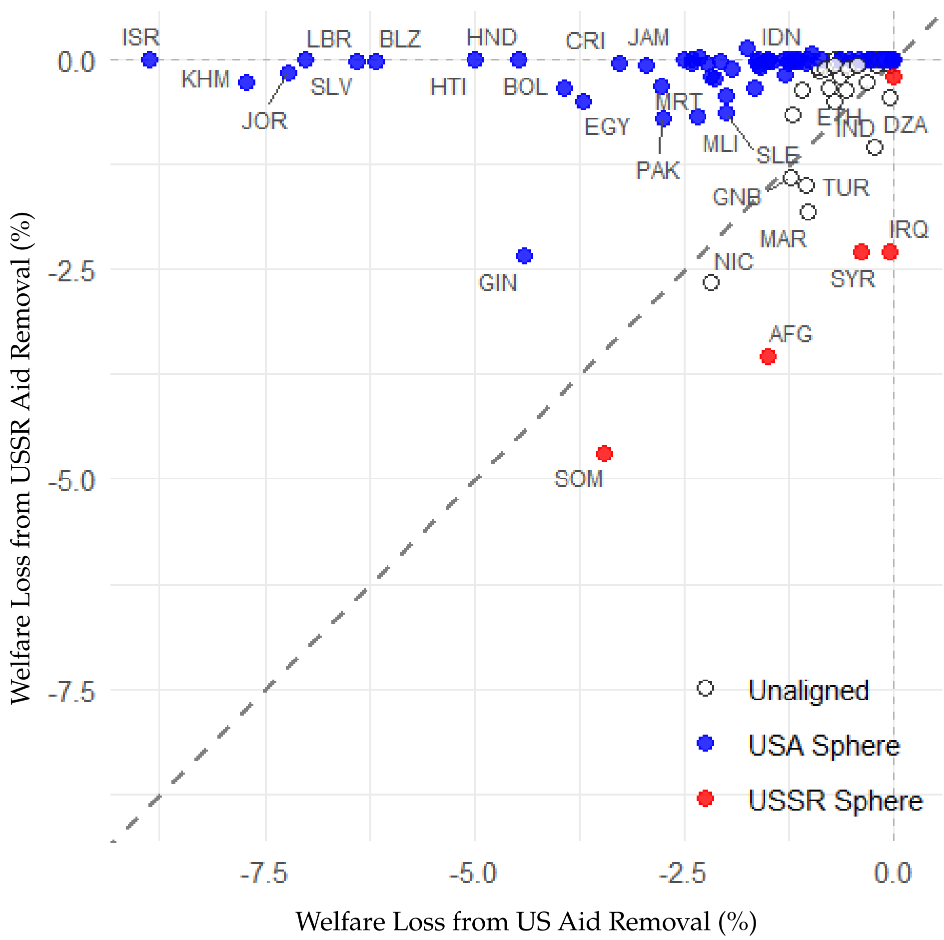
Measure	Mean	Median	Std. Dev.	Min.	Max.
Steady State USSR AID/ Rec. Income (%):	0.03%	0.01%	0.52%	0.00%	2.39%
Steady State Total USSR AID/USSR Income (%): 0.25%					
$\chi = \chi_{od}$					
Donor					
% change in USSR real income: 0.18%					
% change in USSR real wage: -0.04%					
Recipients					
% change in real income:	-0.60%	-0.21%	0.96%	-4.69%	0.00%
% change in real wage:	-0.33%	-0.11%	0.64%	-4.06%	0.00%
% change in import share from USSR:	-58.20%	-73.69%	29.81%	85.09%	0.12%
% change in import share from ROW:	0.45%	0.03%	2.23%	-3.22%	24.71%
% change in dom. absorption share:	0.40%	0.04%	1.81%	-0.01%	21.61%
$\chi = 0$					
Donor					
% change in USSR real income: 0.28%					
% change in USSR real wage: 0.06%					
Recipients					
% change in real income:	-0.33%	-0.08%	0.58%	-2.65%	0.03%
% change in real wage:	-0.10%	-0.02%	0.17%	-0.72%	0.04%
% change in import share from USSR:	-4.24%	-3.96%	0.88%%	-9.88%	-3.22%
% change in import share from ROW:	0.23%	0.05%	0.93%	-6.15%	0.85%
% change in dom. absorption share:	0.08%	0.02%	0.21%	-0.27%	1.37%
$\chi = 0.099$					
Donor					
% change in USSR real income: 0.25%					
% change in USSR real wage: 0.04%					
Recipients					
% change in real income:	-0.41%	-0.14%	0.63%	-2.65%	0.01%
% change in real wage:	-0.16%	-0.07%	0.25%	-1.15%	0.06
% change in import share from USSR:	-19.77%	-19.65%	0.71%	-23.42%	-15.51%
% change in import share from ROW:	-0.23%	0.05%	0.93%	-6.15%	0.85%
% change in dom. absorption share:	0.17%	0.03%	0.50%	-0.02%	4.95%
Num. of Recipients			56		

Notes: This table reports the welfare effects in response to a 86% reduction in the USSR foreign aid budget for the USSR and 56 recipient countries in which the USSR disbursed aid to under different aid-to-trade elasticities. Trade share summary statistics are constructed across sectors. The bilateral trade elasticity is used in accordance with the table in Appendix B.1.

impacts of the US-only and Soviet-only counterfactuals. See Appendix Figure B.3). The hollow dots denote unaligned countries, defined as those that received aid from both superpowers and the welfare impacts of the US and Soviet aid differ by less than 1 percentage point. The blue dots denote countries in the US sphere of influence – those that gained notably more from US than Soviet aid. The red dots denote those in the Soviet sphere of influence.

Some of the biggest recipient countries (either in total dollar amounts or as a share of their GDP, see Figures A.1-A.2) are unaligned. These are, for example, India and Turkey. The major recipients

Figure 4: Welfare Losses from US vs. USSR Aid Removal



Note: Figure 4 plots the real income losses under counterfactual 1 (x-axis) and 2 (y-axis) for countries that received aid during the Cold War era from either great power. We color countries in blue if they are in the US sphere (above the 45 degree line), red if countries are in the Soviet sphere (below the 45 degree line), and black if they are unaligned (the absolute value in the difference of losses across counterfactuals 1 and 2 is less than 1 percent and countries received aid from both the US and USSR). We drop Saudia Arabia (SAU) and Laos (LAO) since they are outliers and skew the presentation of the results.

in the US sphere of influence are Pakistan, Israel, Indonesia, or Egypt. The US is clearly dominant overall: 66 out of 101 recipient countries are classified as in the US sphere by our (albeit arbitrary) metric, compared to only 5 in the Soviet sphere. The remaining 27 are unaligned.

5. Conclusion

It has been widely conjectured that during the last era of great power politics – the Cold War – countries used foreign aid to influence recipient countries. Anecdotal evidence also points to one specific type of influence: market access. This paper estimates and quantifies the market access motive for foreign aid during the Cold War. Econometric estimates show that aid indeed improved the donor's market access in the recipient country. According to our quantification, about one-third of aid disbursed paid for itself with the gains from market access. While our exercise can account for a significant share of the benefits from foreign aid, it is still important to measure and quantify the other two-thirds. This remains a fruitful avenue for future work.

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A. Data and Empirical Results Appendix

A.1 Data

GDP. The final GDP series we use for our empirical analysis is constructed by splicing multiple GDP series together from various sources. We obtain our base series from the CEPII Gravity database (Conte, Cotterlaz, and Mayer, 2022), which is primarily sourced from the World Bank's World Development Indicators (Bank, 2025). CEPII also sources data from Barbieri (2005) which helps extend historical coverage. We elect to use the CEPII series due to its historical coverage. We then obtain additional GDP data from the World Bank and splice forwards and backwards onto the base series to account for any potential missing data from the baseline CEPII series. To forwards splice, we first construct growth rates using the World Bank series. Then, if the base series is missing data in year t, but the growth rate exits from the World Bank series between year $t-1$ and t, as well as data at $t-1$ for the base series, then we use the growth rate to construct data in year t for our spliced series. Since all series are in nominal USD, we use the US GDP deflator found on FRED here to deflate the series before splicing. We follow a similar approach when backwards splicing onto our base series. If the data for our base series is missing in year t, we use the growth rate between year t and $t+1$ from the World Bank series to backwards splice onto our base series. We then follow the same approach using GDP data from the Maddison Project (Bolt and Van Zanden, 2023).

Aid. Our final bilateral aid series is constructed using three main sources. Soviet Union and Chinese aid comes from the Central Intelligence Agency's Handbook of Economic Statistics (Central Intelligence Agency, 1962–1989), which covers bilateral aid flows between the Soviet Union and recipient countries for years 1966-1989, as well as between China and recipient countries for years 1956-1989. For the Soviet Union, we supplant aid data from Carter (1971) to recover bilateral Soviet aid data between 1955-1965.

For all other countries, we obtain aid data from the OECD Official Development Assistance database (OECD, 2023). We pull the official development assistance disbursements series from the database, which covers 28 donor countries and 158 recipient entities between 1960-1989. The donor countries during the Cold War era (1960-1989) are: ARE, AUS, AUT, BEL, CAN, CHE, DEU, DNK, ESP, FIN, FRA, GBR, HUN, IRL, ITA, JPN, KOR, KWT, NLD, NOR, NZL, POL, PRT, QAT, SAU, SWE, TWN, and USA. Saudi Arabia (SAU) does not report bilateral aid data so we discard the country for analysis. Moreover, we exclude all other Middle Eastern countries (ARE, KWT, QAT) from our analysis. Thus, across all three sources, we use data comprising of 26 donor countries. Once we make this restriction and throw out all observations before a country's independence year, we are left with 133 recipient countries. We also exclude all observations for Vietnam between 1955-1975 and Afghanistan between 1979-1989 since these were years in which these countries were in conflict with great power countries and aid disbursed during this time period was likely for military purposes. Finally we exclude all bilateral observations between China and Taiwan for similar reasons. Since these data sources do not impute zeros, we construct our final panel by first creating bilateral observations for a year if within the decade, there exists an instance wherein the donor country disbursed aid to any country and the recipient country received aid from any country. If there is not data for a given bilateral-year pair, then we impute a zero. Finally, we deflate our aid series using the GDP deflator from FRED.

Trade. We construct our final spliced bilateral trade series by following a more nuanced splicing strategy than our GDP series due to inadequate data coverage across primary data sources. We obtain our four bilateral trade series from CEPII's Gravity database (Conte, Cotterlaz, and Mayer, 2022), which comprise of bilateral trade data from UN-Comtrade (United Nations Statistics Division, 2025) and the IMF Direction of Trade Statistics (International Monetary Fund, 2025) reported by the origin and destination country. Our base series is UN-Comtrade reported by the destination country and then the hierarchy of series we use to splice onto our base series is IMF reported by the destination country, UN-Comtrade reported by the origin country, and finally IMF DOTS reported by the destination country.

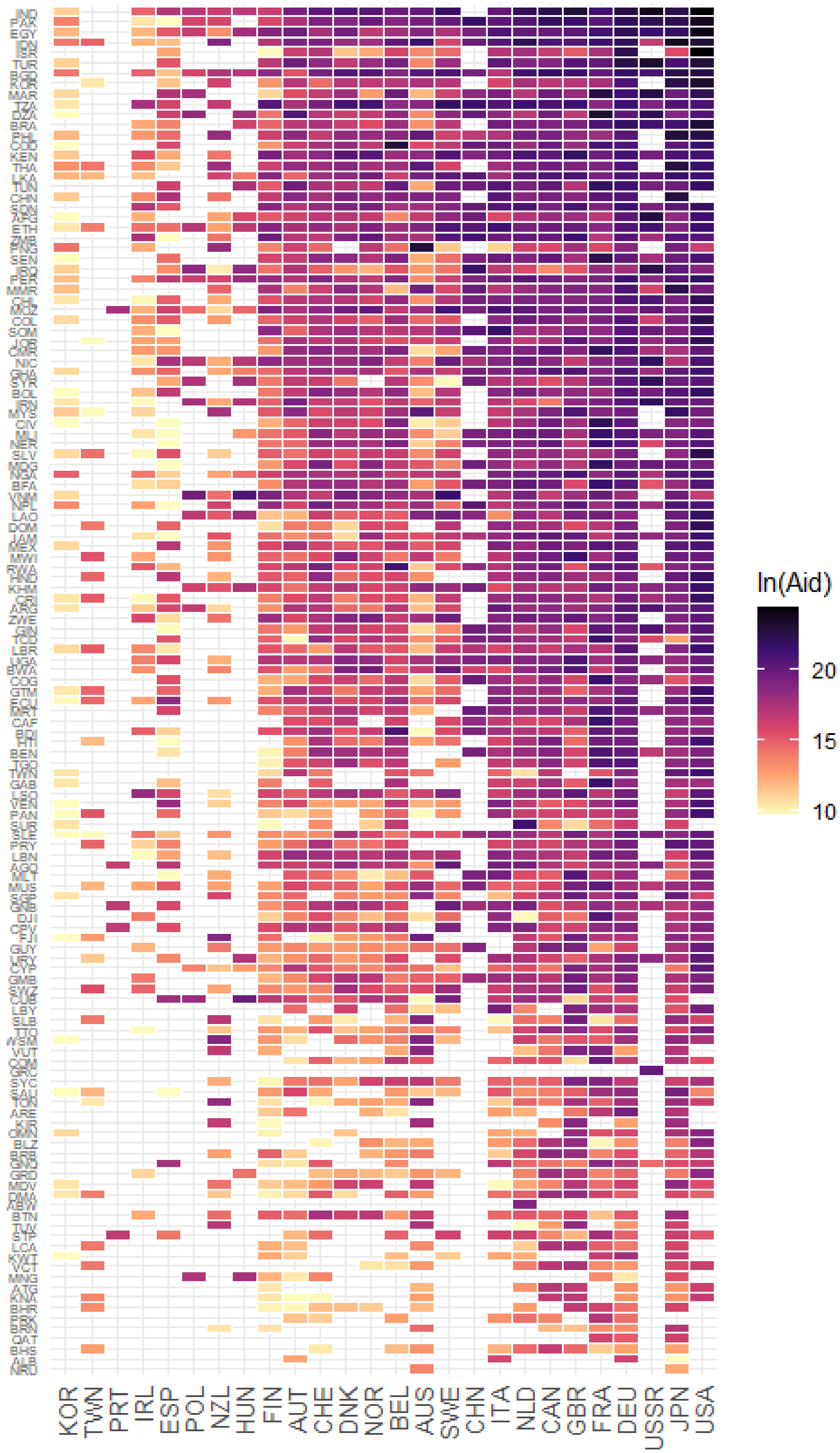
If for a given bilateral pair UN-Comtrade data is completely missing, then we use IMF data reported by the destination country as the base series and then proceed with the same hierarchy outlined above. After our base series is selected, we forward and backwards splice onto the series following the same strategy outlined for GDP. Once we finish forwards and backwards splicing onto the base series for each series (ex- IMF destination country), we collect all unconnected observations from the series we are using to splice and include them within our final spliced series to ensure we do not miss any observations. We impute zeros by proceeding as follows: when a pair is known to have trade activity with any bilateral partner (i.e., at least one observation exists from any source) and the given bilateral-year pair is missing data, we set the missing value to 0. This procedure yields a continuous, internally consistent bilateral trade flow series that attempts to preserve the level of the highest-quality data while using other sources only to splice onto for missing periods. One downside of this data source is that the bilateral trade data across the four series begins in 1962, whereas we have aid data spanning back to 1955, accounting for 455 observations. Yet, aid data between 1955-1961 only comprise of approximately 1.2% of non-zero bilateral aid observations during the Cold War period.

Estimating Equation. When we run our estimating equation (2.1), we lose 27 destination countries and the country iso codes are ABW, ATG, BHS, BLZ, BRN, BTN, COD, DMA, FJI, GRD, GUY, KIR, KNA, LCA, MDV, NRU, PNG, SLB, SOM, SUR, SYC, TON, TUV, VCT, and WSM. Most countries get dropped because we do not have data pertaining to whether the leader was left-leaning or light leaning from Herre (2022) or we cannot obtain annual population estimates from Bolt and Van Zanden (2023). When running the estimating equation to obtain our predicted weights, we also include bilateral aid observations for years 1950-1961 since they are informative of aid allocations during the Cold War era even though we do not have bilateral trade data for these years.

Table A.1: Donor and Recipient Countries

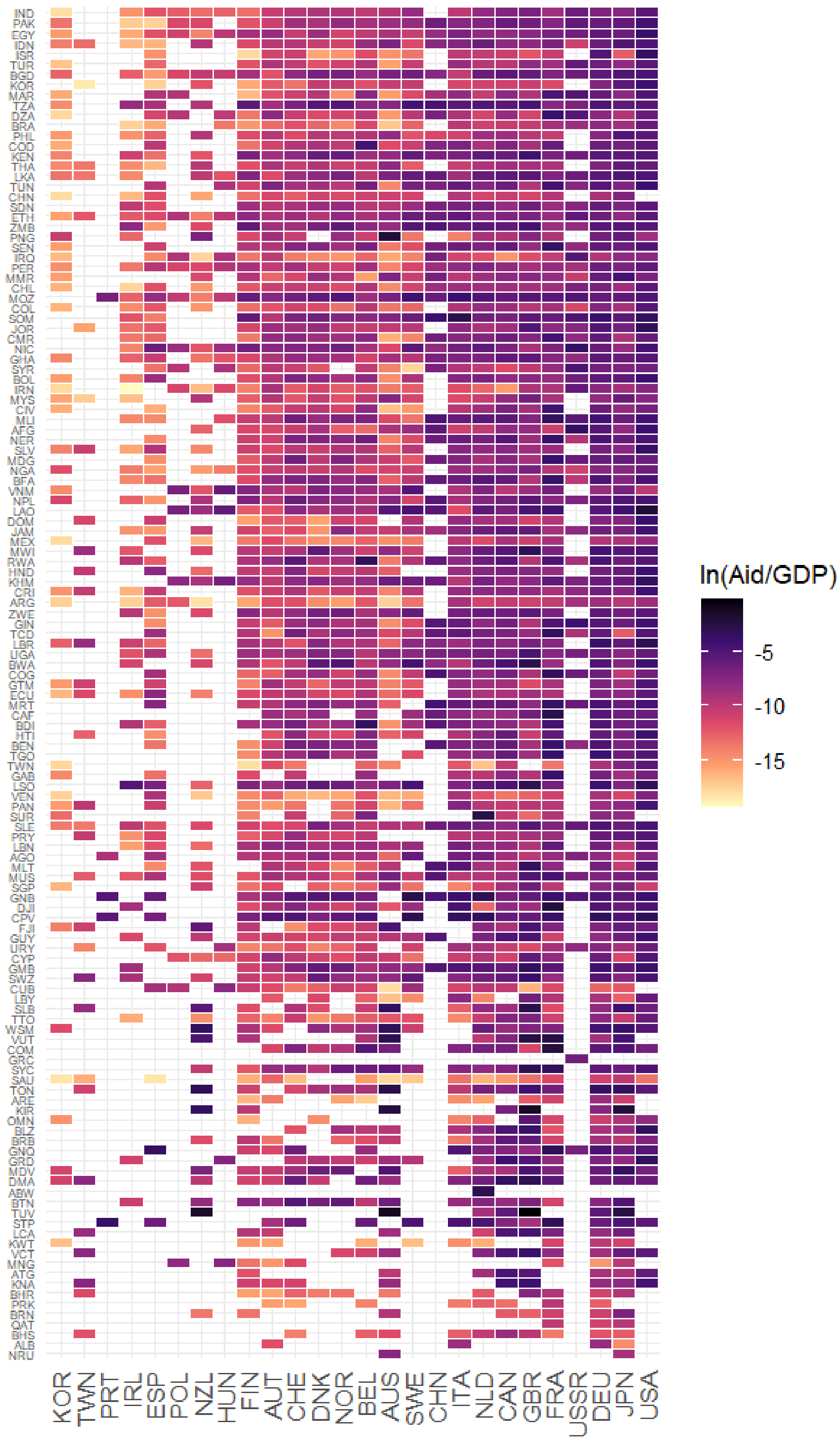
Donors	Recipients			
Australia	Aruba	Afghanistan	Angola	Albania
Austria	United Arab Emirates	Argentina	Antigua and Barbuda	Burundi
Belgium	Benin	Burkina Faso	Bangladesh	Bahrain
Canada	Bahamas	Belize	Bolivia	Brazil
Switzerland	Barbados	Brunei Darussalam	Bhutan	Botswana
China	Central African Rep.	Chile	China	Côte d'Ivoire
Germany	Cameroon	Dem. Rep. of Congo	Rep. of the Congo	Colombia
Denmark	Comoros	Cabo Verde	Costa Rica	Cuba
Spain	Cyprus	Djibouti	Dominica	Dominican Republic
Finland	Algeria	Ecuador	Egypt	Ethiopia
France	Fiji	Gabon	Ghana	Guinea
United Kingdom	Gambia	Guinea-Bissau	Equatorial Guinea	Greece
Hungary	Grenada	Guatemala	Guyana	Honduras
Ireland	Haiti	Indonesia	India	Iran
Italy	Iraq	Israel	Jamaica	Jordan
Japan	Kenya	Cambodia	Kiribati	Saint Kitts and Nevis
South Korea	South Korea	Kuwait	Laos	Lebanon
Netherlands	Liberia	Libya	Saint Lucia	Sri Lanka
Norway	Lesotho	Morocco	Madagascar	Maldives
New Zealand	Mexico	Mali	Malta	Myanmar
Poland	Mongolia	Mozambique	Mauritania	Mauritius
Portugal	Malawi	Malaysia	Niger	Nigeria
Sweden	Nicaragua	Nepal	Nauru	Oman
Taiwan	Pakistan	Panama	Peru	Philippines
United States	Papua New Guinea	North Korea	Paraguay	Qatar
Soviet Union	Rwanda	Saudi Arabia	Sudan	Senegal
	Singapore	Solomon Islands	Sierra Leone	El Salvador
	Somalia	São Tomé & Príncipe	Suriname	Eswatini
	Seychelles	Syria	Chad	Togo
	Thailand	Tonga	Trinidad and Tobago	Tunisia
	Turkey	Tuvalu	Taiwan	Tanzania
	Uganda	Uruguay	Saint Vincent	Venezuela
	Vietnam	Vanuatu	Samoa	Zambia
	Zimbabwe			

Figure A.1: Cumulative Bilateral Aid Disbursed during the Cold War



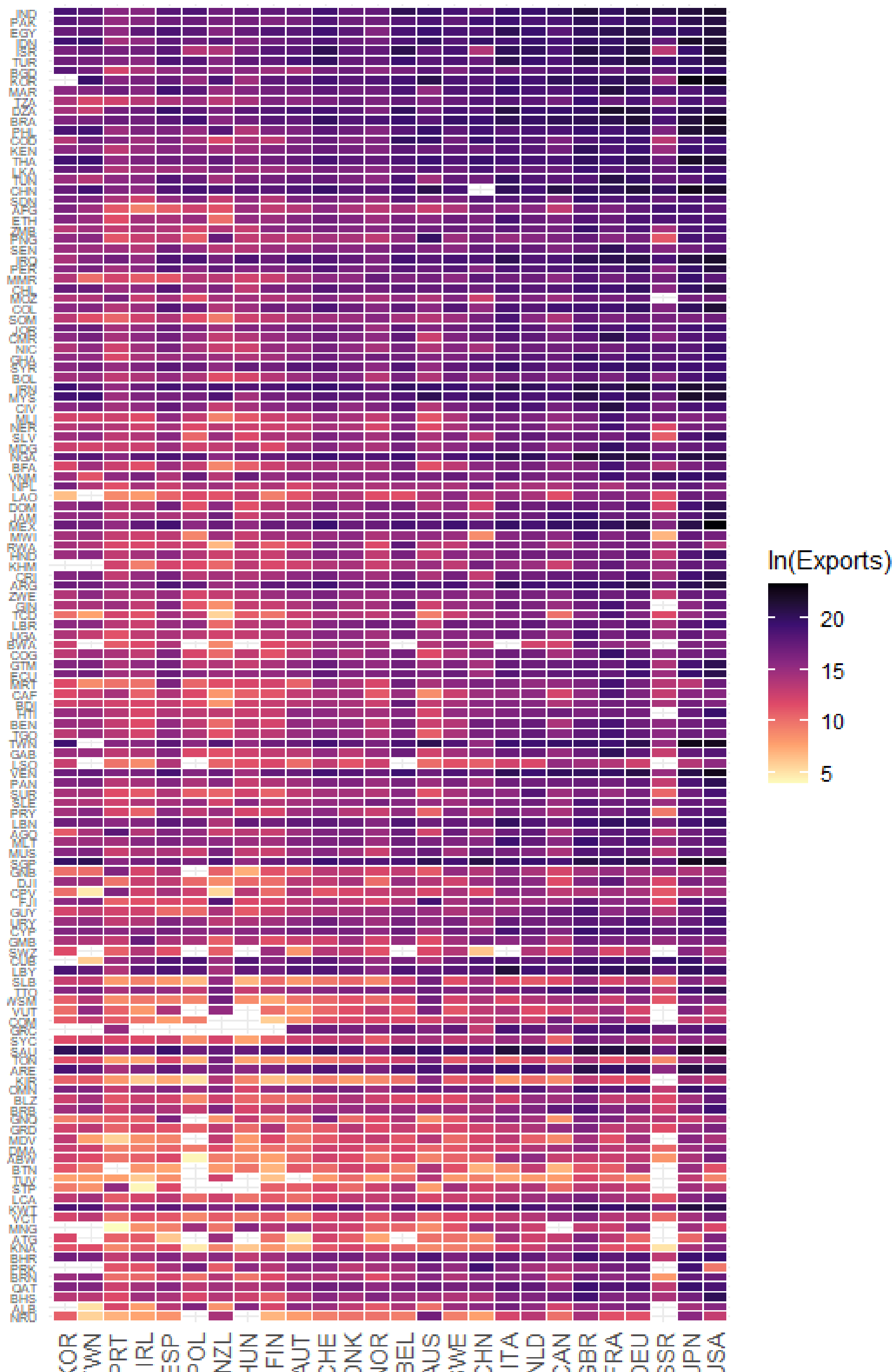
Note: ln(Aid) is the log cumulative aid disbursed between 1962-1989 denominated in 2011 USD. Donor countries are organized by total aid disbursed (least to most) and recipient countries are organized by total aid received (least to most).

Figure A.2: Annualized Aid as a Share of GDP during the Cold War



Note: ln(Aid/GDP) are the log average of annual bilateral aid disbursed divided by the recipient country's GDP log exports from 1962-1989. Origin countries are organized by total aid disbursed (least to most) and destination countries are organized by total aid received (least to most).

Figure A.3: Annual Bilateral Exports during the Cold War



Note: ln(Exports) are the averaged log exports between origin destination pairs from 1962-1989, denominated in 2011 USD. Origin countries are organized by total aid disbursed (least to most) and destination countries are organized by total aid received (least to most).

A.2 Identification

A.2.1 Threats to identification

Our instrument is a deconstructed shift-share where the identifying variation comes from comparing bilateral pairs with different predicted aid shares that are impacted by a change in the total amount of aid disbursed by the donor country. Following Borusyak, Hull, and Jaravel (2025), we take an exogenous shares interpretation of our instrument, where identification requires that the predicted shares be orthogonal to the structural error term, conditional on our fixed effects. The main threat to identification then is time-varying bilateral shocks that impact our predicted aid shares and directly affect bilateral trade flows. Note that as our predicted aid shares are lagged by three periods, and our specification includes lagged bilateral trade as a control, any confounding bilateral shock would have to systematically impact predicted aid shares in period t and the change in bilateral trade from periods $t+2$ to $t+3$, controlling for all impacts on bilateral trade until period $t+2$. Naturally this sets a high bar for a counfounding shock.

One concern with this approach might be that the predicted shares are constructed from a gravity equation that includes time-varying predictors — most notably political ideology and geopolitical influence — that could themselves be direct determinants of bilateral trade in future periods, potentially violating this orthogonality condition (see Appendix A.3 for the prediction equation). However, we argue this concern is limited in practice. The political ideology variables in our prediction equation are measured at the decade level whereas the geopolitical influence variables are time invariant. The level of geopolitical alignment between any bilateral pair is largely determined by these stable structural factors, and is well-absorbed by our bilateral fixed effects. At the annual frequency at which our regressions are estimated, these variables therefore generate no residualized variation in the predicted shares that could be correlated with the structural error. The remaining annual within-variation in the residualized shares is driven primarily by changes in origin and destination GDP per capita and population, which are themselves absorbed by our origin-year and destination-year fixed effects, respectively.

For the orthogonality condition to be violated, it would have to be the case that changes in our lagged predicted shares are serially correlated with future changes in unobservables that directly impact bilateral trade. But considering our bilateral fixed effects and lagged dependent variable already absorbs consistent and time-varying dimensions of geopolitical alignment, it is unlikely that our our lagged predicted aid shares are systematically correlated with innovations in unobservables at the $t+h$ horizon, especially considering the shares are lagged by three years. Moreover, our predicted shares are constructed from coefficients estimated on the full sample before 1990, which also helps alleviate concerns that bilateral time-varying unobserved factors are correlated with our predicted shares.

Another potential violation of our exclusion restriction is the presence of classical measurement error. This then requires an additional assumption that our instrument be uncorrelated with the measurement error, $Cov(\text{IV}_{od,t}, u_{od,t}) = 0$. We view measurement error as the most likely source of bias because aid flow data (ODA) from Donor Assistance Committee (DAC) countries is challenging to measure and the definition of DAC aid has changed over time. According to a report produced by the the former head of the DAC Statistics and Development Finance group at the OECD, "the ODA definition has always reflected a compromise between political expediency and statistical reality. It is based on interpretation and consensuses and therefore allows for flexibility" (Hynes and Scott, 2013). The authors highlight line items in aid reports that do not necessarily lead to the direct transfer of funds from the origin to the destination country, likely leading to over-reporting of bilateral foreign aid flows as countries tried to meet the 0.7% ODA/GNI target set by the UN General Assembly in 1970.

Additional studies have also highlighted the pitfalls of measuring foreign aid flows (Renard and Cassimon, 2001). For instance, for a transaction to be counted as ODA, the grant element must be 25% or more. But what is recorded as an aid flow is not the grant equivalent of the loan, but rather the face value of the loan in the year it was disbursed, and negative entries are reimbursements of principal in the year in which they occur, which further obfuscates the amount of ODA that is disbursed in a given year. In principle, restricting to the ODA grants component would sidestep the face-value loan measurement issue, but this too is insufficient: grants remain subject to the over-reporting concerns noted above, and excluding concessional loans would omit a substantial share of bilateral aid flows and an important channel through which aid impacts bilateral economic relations.

Moreover, measurement issues of true bilateral aid flows likely also plague non-DAC countries like the Soviet Union and China. There is ample evidence that the Soviet Union inflated economic numbers during the Cold War, which led the CIA to construct their own measurements of Soviet Union data. According to a Directorate of Intelligence report on *The Reliability of Soviet Published Statistics*, they state that the, "CIA constructs independent measures of Soviet economic performance largely because aggregates data published by the USSR's Central Statistical Administration are methodologically flawed and subject to manipulation by the leadership for political reasons" (Central Intelligence Agency, 1987). There is also a large body of research showing that China strategically under-reports financial flows to developing countries, and conceals how much aid they transfer bilaterally (Dreher et al., 2022).

Although systematic over(under)-reporting of bilateral aid flows by the origin country is likely absorbed within the origin-year fixed effect, these factors may lead to an increase in the variance in the measurement error of bilateral flows, which biases our OLS estimates towards zero. This is not problematic for our predicted aid shares because although aid may be measured with classical measurement error, aid flows are not used as independent variables in the prediction equation. Since measurement error within the dependent variable does not impact the estimation of OLS coefficients, then our prediction shares are unaffected. Further, the variables used in the prediction regression are likely measured with less error and certainly not subject to the concerns discussed here. But the shift component may still exhibit classical measurement error since it comprises the sum of all bilateral aid flows across destination countries.

As we show in Appendix A.2.2, for our shift-share instrument this contamination enters only through the own-pair term. Therefore, the leave-one-out instrument fully satisfies the exclusion restriction, $Cov(\text{IV}_{od,t}, u_{od,t}) = 0$, under the assumption of no dyadic interdependence in the measurement-error structure, $Cov(u_{od',t}, u_{od,t}) = 0$ for $(d' \neq d)$. But it might be the case that the total amount of foreign aid disbursed by the origin country may be measured with less measurement error. Since the total shock averages over all the bilateral idiosyncratic error terms, the aggregate shock's measurement error variance may be smaller. Within Appendix Table A.9, we also report results using the total sum of foreign aid disbursed by the origin country as a share of GDP as the shock within our shift-share instrument.

A.2.2 Measurement error in aid

In this subsection we discuss the potential determinants of the measurement bias of aid flows and put some structure on the directional bias of our OLS estimates. Suppose the true model is:

$$\ln(\text{Trade})_{od,t+h} = \beta^h \cdot \text{Aid}_{od,t} + \delta_{o,t} + \delta_{d,t} + \delta_{od} + \varepsilon_{od,t+h},$$

but we do not observe true $\text{Aid}_{od,t}$. Due to misreporting we instead observe:

$$\widetilde{\text{Aid}}_{od,t} = \text{Aid}_{od,t} + u_{od,t},$$

where $u_{od,t}$ is the misreporting error, which can be positive (over-reporting) or negative (under-reporting) depending on the donor. After rearranging we substitute back into the true model to obtain the regression we actually estimate:

$$\ln(\text{Trade})_{od,t+h} = \beta^h \widetilde{\text{Aid}}_{od,t} + \delta_{o,t} + \delta_{d,t} + \delta_{od} + \eta_{od,t+h},$$

where the composite error $\eta_{od,t+h} = -\beta^h u_{od,t} + \varepsilon_{od,t+h}$ contains the misreporting term. After we partial out the fixed effects, the OLS estimator in the limit is:

$$\text{plim}\ \hat{\beta}^{OLS} = \frac{Cov\left(\widetilde{\text{Aid}}_{od,t},\ \ln(\text{Trade})_{od,t+h}\right)}{Var\left(\widetilde{\text{Aid}}_{od,t}\right)} = \frac{Cov\left(\widetilde{\text{Aid}}_{od,t},\ \beta^h \widetilde{\text{Aid}}_{od,t} + \eta_{od,t+h}\right)}{Var\left(\widetilde{\text{Aid}}_{od,t}\right)} = \beta^h + \frac{Cov\left(\widetilde{\text{Aid}}_{od,t},\ \eta_{od,t+h}\right)}{Var\left(\widetilde{\text{Aid}}_{od,t}\right)}$$

We can further substitute in for the numerator of the bias term by expanding the covariance:

$$Cov\left(\widetilde{\text{Aid}}_{od,t},\ u_{od,t}\right) = Cov\left(\text{Aid}_{od,t} + u_{od,t},\ u_{od,t}\right) = Cov\left(\text{Aid}_{od,t},\ u_{od,t}\right) + Var(u_{od,t}).$$

So the full bias expression is:

$$\text{plim}\ \hat{\beta}^{OLS} - \beta^h = \frac{-\beta^h \cdot \left[Cov\left(\text{Aid}_{od,t},\ u_{od,t}\right) + Var(u_{od,t})\right]}{Var\left(\widetilde{\text{Aid}}_{od,t}\right)} \tag{A.1}$$

Classical Measurement Error

In the classical measurement error case, the error is orthogonal to aid, so the covariance between aid and the error term is zero. Then the OLS coefficient will be biased downward. We can see this by rearranging equation (A.1):

$$\text{plim}\ \hat{\beta}^{OLS} - \beta^h = \frac{-\beta^h \cdot Var(u_{od,t})}{Var\left(\widetilde{\text{Aid}}_{od,t}\right)} < 0.$$

Leave one out IV with Classical Measurement Error

Suppose the measurement error in the bilateral aid flow from donor o to recipient d in year t is independent of the measurement error in any other bilateral aid flow from the same donor:

$$Cov\left(u_{od,t},\ u_{od',t}\right) = 0 \quad \forall\ d' \neq d.$$

This assumption requires that misreporting in one bilateral aid flow is unrelated to misreporting in any other bilateral aid flow from the same donor. Under this assumption, the leave-one-out version of our shift-share instrument fully satisfies the exclusion restriction. For simplicity, we just assume that the shift-share shock is the sum of bilateral aid and the leave-one-out instrument excludes the own pair from the shock:

$$\text{IV}_{od,t} = \hat{\lambda}_{od,t-3} \times \left(\sum_{d' \neq d} \widetilde{\text{Aid}}_{od',t} \right),$$

where $\hat{\lambda}_{od,t-3}$ is the predicted aid share and is therefore a predetermined constant. Since $\hat{\lambda}_{od,t-3}$ is fixed, we can write:

$$Cov\left(\text{IV}_{od,t},\, u_{od,t}\right) = \hat{\lambda}_{od,t-3} \cdot Cov\left(\sum_{d' \neq d} \widetilde{\text{Aid}}_{od',t},\, u_{od,t} \right).$$

Expanding $\widetilde{\text{Aid}}_{od',t} = \text{Aid}_{od',t} + u_{od',t}$:

$$Cov\left(\sum_{d' \neq d} \widetilde{\text{Aid}}_{od',t},\, u_{od,t} \right) = Cov\left(\sum_{d' \neq d} \text{Aid}_{od',t},\, u_{od,t} \right) + Cov\left(\sum_{d' \neq d} u_{od',t},\, u_{od,t} \right).$$

The first term is zero under the assumption that true aid flows to other recipients are uncorrelated with the measurement error in the od pair. The second term is:

$$Cov\left(\sum_{d' \neq d} u_{od',t},\, u_{od,t} \right) = \sum_{d' \neq d} Cov\left(u_{od',t},\, u_{od,t}\right) = 0,$$

where the final equality follows directly from the initial assumption that there is no dyadic interdependence within the error structure. Therefore, the leave-one-out instrument is completely uncorrelated with the bilateral measurement error, satisfying the exclusion restriction.

Bounding Measurement Error Bias in the Standard Shift-Share IV

Now consider the standard shift-share instrument:

$$\text{IV}_{od,t} = \hat{\lambda}_{od,t-3} \times \sum_{d'} \widetilde{\text{Aid}}_{od',t},$$

where the shock is total observed aid disbursed by origin o in year t, summing over all destinations. The exclusion restriction requires $Cov(\text{IV}_{od,t}, u_{od,t}) = 0$. Since $\hat{\lambda}_{od,t-3}$ is a predetermined constant, we can expand:

$$Cov(\text{IV}_{od,t},\, u_{od,t}) = \hat{\lambda}_{od,t-3} \cdot \left[Cov\left(\widetilde{\text{Aid}}_{od,t},\, u_{od,t}\right) + Cov\left(\sum_{d' \neq d} \widetilde{\text{Aid}}_{od',t},\, u_{od,t} \right) \right].$$

Under our assumption of no dyadic interdependence, the second term is zero since errors are independent across bilateral pairs. Under the assumption of classical measurement error, the first term is:

$$Cov\left(\widetilde{\text{Aid}}_{od,t},\, u_{od,t}\right) = Cov\left(\text{Aid}_{od,t} + u_{od,t},\, u_{od,t}\right) = Cov\left(\text{Aid}_{od,t},\, u_{od,t}\right) + Var\left(u_{od,t}\right) = Var\left(u_{od,t}\right).$$

So the standard instrument is contaminated through the own-pair term in the shock. The IV probability limit is:

$$\text{plim}\, \hat{\beta}^{IV} = \beta^{h} + \frac{Cov(\text{IV}_{od,t},\, \eta_{od,t+h})}{Cov(\text{IV}_{od,t},\, \widetilde{\text{Aid}}_{od,t})}.$$

The numerator of the bias term is:

$$Cov(\text{IV}_{od,t},\ \eta_{od,t+h}) = -\beta^h \cdot \hat{\lambda}_{od,t-3} \cdot Var(u_{od,t}).$$

The denominator expands as:

$$Cov(\text{IV}_{od,t},\ \widetilde{\text{Aid}}_{od,t}) = \hat{\lambda}_{od,t-3} \cdot \left[Var\left(\widetilde{\text{Aid}}_{od,t}\right) + Cov\left(\sum_{d' \neq d} \widetilde{\text{Aid}}_{od',t},\ \widetilde{\text{Aid}}_{od,t}\right)\right],$$

where $Var\left(\widetilde{\text{Aid}}_{od,t}\right) = Var\left(\text{Aid}_{od,t}\right) + Var(u_{od,t})$. The $\hat{\lambda}_{od,t-3}$ cancels, giving:

$$\text{plim}\ \hat{\beta}^{IV} - \beta^h = \frac{-\beta^h \cdot Var(u_{od,t})}{Var\left(\text{Aid}_{od,t}\right) + Var(u_{od,t}) + Cov\left(\sum_{d' \neq d} \widetilde{\text{Aid}}_{od',t},\ \widetilde{\text{Aid}}_{od,t}\right)}. \tag{A.2}$$

The cross-pair covariance term in the denominator of equation (A.2) reflects the strength of the first stage of the leave-one out IV design: a larger positive covariance means total donor disbursements are a stronger predictor of the bilateral flow, which corresponds to greater instrument relevance. Since this term is non-negative, it only makes the denominator larger relative to the numerator, pushing the bias toward zero. Moreover, the variance of bilateral aid also pushes the bias towards zero.

A.3 Additional Results

Aid Prediction Estimating Equation

Table A.2 reports the results from our PPML prediction equation (2.2):

Table A.2: PPML Gravity Regression: Determinants of Bilateral Aid Flows during Cold War Period

	Real Aid	
	Coef.	SE
Geography		
ln(Distance)	−0.433	(0.061)
Common Language	0.824	(0.071)
Contiguity	−0.422	(0.298)
Ever Colony	0.269	(0.140)
Economic Fundamentals		
ln(GDP p.c.) Origin	0.646	(0.087)
ln(Population) Origin	0.920	(0.035)
ln(GDP p.c.) Destination	−0.102	(0.029)
ln(Population) Destination	0.537	(0.020)
Geopolitical Influence		
US Influence (Decade)	−0.162	(0.104)
USSR Influence (Decade)	−0.006	(0.097)
US Influence × US	0.144	(0.074)
US Influence × Western	0.052	(0.068)
USSR Influence × USSR	0.395	(0.205)
Political Ideology		
Prop. Left (Decade)	0.425	(0.141)
Prop. Right (Decade)	−0.230	(0.373)
Right × US	1.095	(0.410)
Right × Western	0.885	(0.383)
Left × USSR	0.545	(0.233)
Religion		
Protestant	0.230	(0.253)
Catholic	−0.692	(0.095)
Colonial Relationships		
PRT Colony × PRT	−0.647	(0.964)
GBR Colony × GBR	0.194	(0.191)
USA Colony × USA	−0.543	(0.261)
ESP Colony × ESP	−1.330	(0.543)
NLD Colony × NLD	2.159	(0.193)
FRA Colony × FRA	1.049	(0.158)
BEL Colony × BEL	2.934	(0.189)
ITA Colony × ITA	−0.266	(0.301)
JPN Colony × JPN	0.023	(0.353)
Observations	63,378	
Pseudo R^2	0.515	

Notes. PPML regression of real bilateral aid flows on gravity and political controls between 1962-1989. SE's clustered at the iso-year level.

Table A.3: Predicted Cold War Aid Shares

	Percentiles									
	p1	p10	p25	p50	p75	p90	p99	Mean	Std. dev.	Obs.
$\widehat{\lambda}_{od}$	0.0006	0.0016	0.0030	0.0059	0.0112	0.0224	0.0972	0.0107	0.0187	63,378

Notes: Summary statistics for the predicted bilateral aid share from the Cold War period PPML gravity regression from equation (2.2), which is used to construct the shift-share instrument.

First Stage Results

Table A.4 reports the first stage results of Table 1.

Table A.4: First Stage Results of Equation 2.1

	$h = 0$		$h = 5$	
	(1)	(2)	(3)	(4)
$\hat{\lambda}_{od,t-3} \times \frac{\sum_{j \neq d} \text{Aid}_{oj,t}}{\text{GDP}_{d,t-3}}$	0.285	0.269	0.287	0.280
	(0.046)	(0.044)	(0.048)	(0.046)
	[0.145]	[0.139]	[0.149]	[0.146]
$\left(\frac{\text{Trade}_{od,t-1}}{\text{GDP}_{d,t-3}}\right)$		0.086		0.079
		(0.020)		(0.019)
		[0.031]		[0.030]
Origin × Year FE	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓
SE's clustered at origin × year level				
N of Clusters	556	554	551	539
SE's clustered two-way (origin × year & bilateral)				
N of Clusters	2,737	2,737	2,710	2,707
Adj. R^2	0.495	0.504	0.519	0.529
Observations	51,615	51,534	50,224	49,865

Notes: Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way are reported in brackets [·]. The constant is suppressed.

A.4 Robustness

Drop Great Powers (USA, USSR, & CHN)

Table A.5 reports results from equation (2.1) using the leave-one-out instrument from equation (2.3): $\text{IV}_{od,t} = \hat{\lambda}_{od,t-3} \times \frac{\sum_{j \neq d} \text{Aid}_{oj,t}}{\text{GDP}_{d,t-3}}$, but drops the United States, the Soviet Union and China when running the final estimating equation.

Table A.5: Impact of Aid on Trade Flows: Leaving out Great Powers

	$h = 0$: $\frac{\text{Trade}_{od,t}}{\text{GDP}_{d,t-3}}$				$h = 5$: $\frac{\text{Trade}_{od,t+5}}{\text{GDP}_{d,t-3}}$			
	OLS		IV		OLS		IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\left(\frac{\text{Aid}_{od,t}}{\text{GDP}_{d,t-3}}\right)$	0.161	0.141	1.027	0.611	0.003	−0.009	2.017	1.819
	(0.091)	(0.089)	(0.137)	(0.143)	(0.025)	(0.025)	(0.359)	(0.357)
	[0.118]	[0.112]	[0.221]	[0.181]	[0.031]	[0.028]	[0.597]	[0.575]
$\left(\frac{\text{Trade}_{od,t-1}}{\text{GDP}_{d,t-3}}\right)$		0.458		0.521		0.268		0.249
		(0.098)		(0.153)		(0.072)		(0.098)
		[0.082]		[0.133]		[0.081]		[0.102]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SE's clustered at origin × year level								
KP-*F*			76.84	75.59			76.24	74.99
AR-*p*			0.00	0.00			0.00	0.00
AR-CI 90%			(0.823, 1.232)	(0.397, 0.825)			(1.539, 2.608)	(1.343, 2.407)
SE's clustered two-way (origin × year & bilateral)								
KP-*F*			24.10	23.15			23.99	23.03
AR-*p*			0.00	0.00			0.00	0.00
AR-CI 90%			[0.724, 1.438]	[0.333, 0.919]			[1.198, 3.126]	[1.031, 2.885]
Observations	50,737	50,735	44,635	44,635	50,200	50,159	44,087	44,069

Notes: Aid as a share of GDP is constructed by taking bilateral aid in 2011 USD divided by the destination country's GDP in 2011 USD lagged by three years. Trade as a share of GDP is also denominated in 2011 USD divided by destination GDP lagged by three years. The GDP series is a spliced series where the base series is from CEPII and then we forward and backwards splice GDP data from the World Bank and the Maddison Project. For the IV specifications, aid-share is instrumented via a leave-one-out shift-share that takes the total aid disbursed by the origin country (excluding the bilateral pair) divided by the destination country's GDP lagged by three years as the shock. The shares are constructed by using the predicted aid flows from a PPML regression divided by the total predicted aid disbursed by the origin country for a given year to obtain a predicted aid share. The shares are lagged by three years. For consistency, the prediction weights are constructed using all countries and then we drop USA, USSR, and CHN when we run our final regressions. KP-*F* is the Kleibergen-Paap F-statistic. AR-*p* and AR-CI 90% are p-values and weak-instrument-robust 90% confidence intervals from the Anderson-Rubin test developed by Andrews (2018). Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. AR-CI's are computed by first demeaning all variables by the fixed effects. The constant is suppressed.

Response of Log Trade on IHS Aid

In Table A.6 we change equation (2.1) by using log trade as the dependent variable and IHS aid as the regressor:

$$\ln(\text{Trade})_{od,t+h} = \beta^h \widehat{\text{asinh}(\text{Aid}_{od,t})} + \gamma \ln(\text{Trade})_{od,t-1} + \delta_{o,t} + \delta_{d,t} + \delta_{od} + \varepsilon_{od,t+h}, \quad \text{(A.3)}$$

where $\widehat{\text{asinh}(\text{Aid}_{od,t})}$ is instrumented using the following instrument: $\text{IV}_{od,t} = \widehat{\lambda}_{od,t-3} \times \ln\left(\sum_{j\neq d} \text{Aid}_{oj,t}\right)$.

Table A.6: Impact of Aid on Trade Flows: IHS Aid and Log Trade

	$h=0$: $\ln(\text{Trade}_{od,t})$				$h=5$: $\ln(\text{Trade}_{od,t+5})$			
	OLS		IV		OLS		IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\text{asinh}(\text{Aid}_{od,t})$	0.012	0.007	0.264	0.099	0.008	0.008	0.086	0.055
	(0.001)	(0.001)	(0.070)	(0.033)	(0.001)	(0.001)	(0.030)	(0.022)
	[0.002]	[0.001]	[0.092]	[0.039]	[0.001]	[0.001]	[0.045]	[0.044]
$\ln(\text{Trade}_{od,t-1})$		0.491		0.494		0.035		0.030
		(0.010)		(0.012)		(0.010)		(0.012)
		[0.012]		[0.016]		[0.012]		[0.015]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SE's clustered at origin × year level								
KP-*F*			14.74	13.76			19.28	15.21
AR-*p*			0.00	0.00			0.00	0.01
AR-CI 90%			(0.192, 0.435)	(0.060, 0.174)			(0.046, 0.146)	(0.025, 0.099)
SE's clustered two-way (origin × year & bilateral)								
KP-*F*			5.08	5.09			6.95	5.56
AR-*p*			0.00	0.01			0.06	0.30
AR-CI 90%			[0.167, 0.658]	[0.051, 0.241]			[0.018, 0.198]	[−0.047, 0.137]
Observations	64,942	60,583	48,219	47,497	67,330	58,851	47,821	46,313

Notes: Aid and trade variables are denominated in 2011 USD. IHS (asinh) stands for inverse hyperbolic sine. For the IV specifications, IHS aid is instrumented via a shift-share; the shares for the shift-share are constructed by using the predicted aid flows from a PPML regression divided by the total predicted aid disbursed by the origin country for a given year to obtain a predicted aid share. The shares are lagged by three years. The shift takes the total log aid disbursed by the origin country after subtracting out any bilateral aid disbursed by the aid partner for a given year as the shock. KP-F is the Kleibergen-Paap F-statistic. AR-*p* is the p-value from the Anderson-Rubin test developed by Andrews (2018). AR-CI's are computed by first demeaning all variables by the fixed effects. Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. The constant is suppressed.

Shift-share Weights Lagged by One Year

Table A.7 reports results from equation (2.1), using the instrument from equation (2.3): $\text{IV}_{od,t} = \hat{\lambda}_{od,t-1} \times \frac{\sum_{j \neq d} \text{Aid}_{oj,t}}{\text{GDP}_{d,t-3}}$, but only lagging the weights by a year.

Table A.7: Impact of Aid on Trade Flows: One Year Lagged Weights

	$h=0$: $\frac{\text{Trade}_{od,t}}{\text{GDP}_{d,t-3}}$				$h=5$: $\frac{\text{Trade}_{od,t+5}}{\text{GDP}_{d,t-3}}$			
	OLS		IV		OLS		IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\left(\frac{\text{Aid}_{od,t}}{\text{GDP}_{d,t-3}}\right)$	0.158	0.130	0.851	0.478	0.026	0.012	1.481	1.314
	(0.077)	(0.074)	(0.123)	(0.123)	(0.025)	(0.025)	(0.309)	(0.298)
	[0.099]	[0.092]	[0.387]	[0.241]	[0.035]	[0.031]	[0.645]	[0.573]
$\left(\frac{\text{Trade}_{od,t-1}}{\text{GDP}_{d,t-3}}\right)$		0.500		0.574		0.256		0.228
		(0.081)		(0.131)		(0.080)		(0.081)
		[0.070]		[0.118]		[0.089]		[0.089]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SE's clustered at origin × year level								
KP-F			36.43	35.31			35.03	35.67
AR-p			0.00	0.00			0.00	0.00
AR-CI 90%			(0.685, 1.074)	(0.314, 0.681)			(1.018, 1.992)	(0.869, 1.806)
SE's clustered two-way (origin × year & bilateral)								
KP-F			3.84	3.70			3.69	3.65
AR-p			0.01	0.01			0.00	0.00
AR-CI 90%			[0.443, 3.451]	[0.224, 2.219]			[0.907, . . .)	[0.804, . . .)
Observations	58,565	58,471	51,656	51,574	56,968	56,540	50,268	49,905

Notes: Aid as a share of GDP is constructed by taking bilateral aid in 2011 USD divided by the destination country's GDP in 2011 USD lagged by three years. Trade as a share of GDP is also denominated in 2011 USD divided by destination GDP lagged by three years. The GDP series is a spliced series where the base series is from CEPII and then we forward and backwards splice GDP data from the World Bank and the Maddison Project. For the IV specifications, aid-share is instrumented via a leave-one-out shift-share that takes the total aid disbursed by the origin country (excluding the bilateral pair) divided by the destination country's GDP lagged by three years as the shock. The shares are constructed by using the predicted aid flows from a PPML regression divided by the total predicted aid disbursed by the origin country for a given year to obtain a predicted aid share. The shares are lagged by one year. KP-F is the Kleibergen-Paap F-statistic. AR-p and AR-CI 90% are p-values and weak-instrument-robust 90% confidence intervals from the Anderson-Rubin test developed by Andrews (2018). Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. AR-CI's are computed by first demeaning all variables by the fixed effects. The constant is suppressed. The upper bounds of the two-way clustered AR-CIs for columns (7) and (8) are unbounded.

Trimming Outlier Prediction Weights

Table A.8 reports results for the main empirical specification (2.1) as well as trimming prediction weights at the p1-p99 cutoff.

Table A.8: Impact of Aid on Trade Flows: Trimming Outlier Weights

	$h=0$: $\frac{\text{Trade}_{od,t}}{\text{GDP}_{d,t-3}}$				$h=5$: $\frac{\text{Trade}_{od,t+5}}{\text{GDP}_{d,t-3}}$			
	IV: Full		IV: p1–p99		IV: Full		IV: p1–p99	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\left(\frac{\text{Aid}_{od,t}}{\text{GDP}_{d,t-3}}\right)$	0.860	0.464	0.901	0.473	1.545	1.367	1.577	1.382
	(0.119)	(0.121)	(0.135)	(0.128)	(0.314)	(0.302)	(0.327)	(0.314)
	[0.392]	[0.241]	[0.435]	[0.260]	[0.678]	[0.602]	[0.734]	[0.644]
$\left(\frac{\text{Trade}_{od,t-1}}{\text{GDP}_{d,t-3}}\right)$		0.574		0.578		0.223		0.226
		(0.132)		(0.132)		(0.081)		(0.082)
		[0.119]		[0.120]		[0.089]		[0.090]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SE's clustered at origin × year level								
KP-F	38.55	37.09	34.76	33.30	36.53	37.01	33.00	33.46
AR-p	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AR-CI 90%	(0.700, 1.075)	(0.301, 0.665)	(0.720, 1.146)	(0.302, 0.684)	(1.076, 2.063)	(0.916, 1.866)	(1.140, 2.117)	(0.913, 1.900)
SE's clustered two-way (origin × year & bilateral)								
KP-F	3.87	3.72	3.64	3.50	3.71	3.67	3.51	3.48
AR-p	0.01	0.01	0.01	0.02	0.00	0.00	0.00	0.00
AR-CI 90%	[0.447, 3.496]	[0.210, 2.164]	[0.443, 4.319]	[0.199, ...)	[0.941, ...)	[0.831, ...)	[0.924, ...)	[0.809, ...)
Observations	51,615	51,534	50,678	50,600	50,224	49,865	49,287	48,952

Notes: Aid as a share of GDP is constructed by taking bilateral aid in 2011 USD divided by the destination country's GDP in 2011 USD lagged by three years. Trade as a share of GDP is also denominated in 2011 USD divided by destination GDP lagged by three years. The GDP series is a spliced series where the base series is from CEPII and then we forward and backwards splice GDP data from the World Bank and the Maddison Project. For the IV specifications, aid-share is instrumented via a leave-one-out shift-share that takes the total aid disbursed by the origin country (excluding the bilateral pair) divided by the destination country's GDP lagged by three years as the shock. The shares are constructed by using the predicted aid flows from a PPML regression divided by the total predicted aid disbursed by the origin country for a given year to obtain a predicted aid share. The shares are lagged by three years. Columns (1), (2), (5), and (6) use the full sample; columns (3), (4), (7), and (8) restrict to pairs with predicted aid share between p1 and p99. KP-F is the Kleibergen-Paap F-statistic. AR-p is the p-value from the Anderson-Rubin test developed by Andrews (2018). AR-CI's are computed by first demeaning all variables by the fixed effects. Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. The constant is suppressed. The upper bounds of the two-way clustered AR-CIs for columns (4)–(8) are unbounded.

Total Aid Shock IV

Table A.9 reports results from equation (2.1), but uses the total aid disbursed by the origin country as the shock for the instrument: $\text{IV}_{od,t} = \hat{\lambda}_{od,t-3} \times \frac{\sum_j \text{Aid}_{oj,t}}{\text{GDP}_{d,t-3}}$.

Table A.9: Impact of Aid on Trade Flows: Full Shock IV

	$h = 0$: $\frac{\text{Trade}_{od,t}}{\text{GDP}_{d,t-3}}$				$h = 5$: $\frac{\text{Trade}_{od,t+5}}{\text{GDP}_{d,t-3}}$			
	OLS		IV		OLS		IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\left(\frac{\text{Aid}_{od,t}}{\text{GDP}_{d,t-3}}\right)$	0.158	0.130	0.819	0.440	0.026	0.012	1.460	1.300
	(0.077)	(0.074)	(0.108)	(0.112)	(0.025)	(0.025)	(0.283)	(0.275)
	[0.099]	[0.092]	[0.354]	[0.218]	[0.035]	[0.031]	[0.609]	[0.547]
$\left(\frac{\text{Trade}_{od,t-1}}{\text{GDP}_{d,t-3}}\right)$		0.500		0.576		0.256		0.229
		(0.081)		(0.132)		(0.080)		(0.081)
		[0.070]		[0.119]		[0.089]		[0.089]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SE's clustered at origin × year level								
KP-*F*			43.47	42.00			40.82	40.79
AR-*p*			0.00	0.00			0.00	0.00
AR-CI 90%			(0.673, 0.998)	(0.289, 0.626)			(1.037, 1.929)	(0.888, 1.755)
SE's clustered two-way (origin × year & bilateral)								
KP-*F*			4.22	4.08			4.05	3.96
AR-*p*			0.01	0.01			0.00	0.00
AR-CI 90%			[0.446, 2.798]	[0.210, 1.694]			[0.918, 5.648]	[0.813, 5.330]
Observations	58,565	58,471	51,615	51,534	56,968	56,540	50,224	49,865

Notes: Aid as a share of GDP is constructed by taking bilateral aid in 2011 USD divided by the destination country's GDP in 2011 USD lagged by three years. Trade as a share of GDP is also denominated in 2011 USD divided by destination GDP lagged by three years. The GDP series is a spliced series where the base series is from CEPII and then we forward and backwards splice GDP data from the World Bank and the Maddison Project. For the IV specifications, aid-share is instrumented via a shift-share that takes the total aid disbursed by the origin country divided by the destination country's GDP lagged by three years as the shock. The shares are constructed by using the predicted aid flows from a PPML regression divided by the total predicted aid disbursed by the origin country for a given year to obtain a predicted aid share. The shares are lagged by three years. KP-*F* is the Kleibergen-Paap F-statistic. AR-*p* and AR-CI 90% are p-values and weak-instrument-robust 90% confidence intervals from the Anderson-Rubin test developed by Andrews (2018). Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. AR-CI's are computed by first demeaning all variables by the fixed effects. The constant is suppressed.

Geopolitical Distance using Total Aid Shock IV

Table A.10 reports results from equation (2.4), but uses the total aid disbursed by the origin country as the shock for the instrument: $\text{IV}_{od,t} = \hat{\lambda}_{od,t-3} \times \frac{\sum_{jd} \text{Aid}_{oj,t}}{\text{GDP}_{d,t-3}}$.

Table A.10: Impact of Aid on Geopolitical Distance: Full Shock IV

	$h=0$: Geopol. Dist.$_{od,t}$				$h=5$: Geopol. Dist.$_{od,t+5}$			
	OLS		IV		OLS		IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\left(\frac{\text{Aid}_{od,t}}{\text{GDP}_{d,t-3}}\right)$	-1.569	-0.451	-10.029	-4.798	-0.491	-0.372	-5.218	-4.582
	(0.354)	(0.128)	(3.998)	(2.310)	(0.188)	(0.220)	(1.609)	(1.803)
	[.]	[0.153]	[6.009]	[2.922]	[0.236]	[.]	[2.856]	[2.686]
Geopol. Dist.$_{od,t-1}$		0.702		0.705		0.065		0.074
		(0.027)		(0.027)		(0.022)		(0.023)
		[0.027]		[0.027]		[.]		[0.032]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SE's clustered at origin × year level								
KP-F			29.37	27.66			49.04	46.52
AR-p			0.00	0.02			0.00	0.01
AR-CI 90%			(−17.261, −4.683)	(−8.973, −1.712)			(−7.872, −3.069)	(−7.555, −1.892)
SE's clustered two-way (origin × year & bilateral)								
KP-F			4.03	4.29			4.81	5.24
AR-p			0.03	0.04			0.01	0.03
AR-CI 90%			[−45.493, −3.713]	[−19.210, −1.254]			[−18.837, −2.217]	[−15.214, −1.328]
Observations	50,112	48,737	44,790	43,535	50,574	47,621	45,362	42,735

Notes: Geopolitical Distance (Geopol. Dist.) is the absolute value difference in ideal point UN-Voting estimates between origin and destination countries as constructed from Bailey et al. 2017. Aid as a share of GDP is constructed by taking bilateral aid in 2011 USD divided by the destination country's GDP in 2011 USD lagged by three years. The GDP series is a spliced series where the base series is from CEPII and then we forward and backwards splice GDP data from the World Bank and the Maddison Project. For the IV specifications, aid-share is instrumented via a shift-share that takes the total aid disbursed by the origin country divided by the destination country's GDP lagged by three years as the shock. The shares are constructed by using the predicted aid flows from a PPML regression divided by the total predicted aid disbursed by the origin country for a given year to obtain a predicted aid share. The shares are lagged by three years. KP-F is the Kleibergen-Paap F-statistic. AR-p and AR-CI 90% are p-values and weak-instrument-robust 90% confidence intervals from the Anderson-Rubin test developed by Andrews (2018). AR-CI's are computed by first demeaning all variables by the fixed effects. Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. Standard errors reported as [.] indicate that the two-way clustered variance-covariance matrix was non-positive semi-definite, and valid standard errors could not be computed despite applying the Cameron, Gelbach Miller (2011) eigenvalue adjustment. The constant is suppressed.

Response of Log Geopolitical Distance on IHS Aid

In Table A.11 we change equation (2.4) by using log geopolitical distance as the dependent variable and IHS aid as the regressor:

$$\ln(\text{Geopol. Dist.})_{od,t+h} = \beta_{IV}^{h} \widehat{\text{asinh}(\text{Aid}_{od,t})} + \gamma \ln(\text{Geopol. Dist.})_{od,t-1} + \delta_{o,t} + \delta_{d,t} + \delta_{od} + \varepsilon_{od,t+h},$$

where $\widehat{\text{asinh}(\text{Aid}_{od,t})}$ is instrumented using the following instrument: $\text{IV}_{od,t} = \widehat{\lambda}_{od,t-3} \times \ln\left(\sum_{j\neq d} \text{Aid}_{oj,t}\right)$.

Table A.11: Impact of Aid on Geopolitical Distance: IHS Aid and Log Geopolitical Dist.

	$h=0$: $\ln\left(\text{Geopol. Dist.}_{od,t}\right)$				$h=5$: $\ln\left(\text{Geopol. Dist.}_{od,t+5}\right)$			
	OLS		IV		OLS		IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\text{asinh}(\text{Aid}_{od,t})$	-0.001	-0.001	-0.161	-0.103	0.001	0.001	-0.048	-0.047
	(0.001)	(0.000)	(0.060)	(0.045)	(0.000)	(0.000)	(0.022)	(0.021)
	[0.001]	[0.000]	[0.069]	[0.054]	[0.001]	[0.001]	[0.034]	[0.028]
$\ln\left(\text{Geopol. Dist.}_{od,t-1}\right)$		0.383		0.395		0.021		0.003
		(0.030)		(0.035)		(0.021)		(0.026)
		[0.031]		[0.037]		[0.021]		[0.027]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SE's clustered at origin × year level								
KP-*F*			9.13	7.14			12.43	9.77
AR-*p*			0.00	0.00			0.01	0.00
AR-CI 90%			(−0.336, −0.100)	(−0.254, −0.057)			(−0.098, −0.021)	(−0.100, −0.023)
SE's clustered two-way (origin × year & bilateral)								
KP-*F*			3.17	2.39			5.09	3.61
AR-*p*			0.01	0.01			0.16	0.08
AR-CI 90%			[..., −0.089]	[..., −0.055]			[−0.156, 0.005]	[−0.214, −0.008]
Observations	60,466	56,248	44,285	42,994	61,678	55,235	45,083	42,447

Notes: Aid is denominated in 2011 USD. IHS (asinh) stands for inverse hyperbolic sine. Geopolitical Distance (Geopol. Dist.) is the absolute value difference in ideal point UN-Voting estimates between origin and destination countries as constructed from Bailey et al. 2017. For the IV specifications, IHS aid is instrumented via a shift-share; the shares for the shift-share are constructed by using the predicted aid flows from a PPML regression divided by the total predicted aid disbursed by the origin country for a given year to obtain a predicted aid share. The shares are lagged by three years. The shift takes the total log aid disbursed by the origin country after subtracting out any bilateral aid disbursed by the aid partner for a given year as the shock. KP-F is the Kleibergen-Paap F-statistic. AR-*p* and AR-CI 90% are p-values and weak-instrument-robust 90% confidence intervals from the Anderson-Rubin test developed by Andrews (2018). AR-CI's are computed by first demeaning all variables by the fixed effects. Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. The lower bounds for the AR-CI intervals under two-way clustering for columns (3) and (4) are unbounded from below. The constant is suppressed.

Controlling for Competing Bloc Aid

Equation (A.4) augments our main estimating equation (2.1) by also controlling for the sum of bilateral aid flows coming from the competing bloc of countries (Communist vs. Western) relative to the aid-disbursing country:

$$\frac{\text{Trade}_{od,t+h}}{\text{GDP}_{d,t-3}} = \beta^h \left(\frac{\text{Aid}_{od,t}}{\text{GDP}_{d,t-3}}\right) + \phi \left(\frac{\text{Aid}_{od,t}^{Other-Bloc}}{\text{GDP}_{d,t-3}}\right) + \gamma \left(\frac{\text{Trade}_{od,t-1}}{\text{GDP}_{d,t-3}}\right) + \delta_{o,t} + \delta_{d,t} + \delta_{od} + \varepsilon_{od,t+h}, \tag{A.4}$$

Other-bloc aid flows is constructed by taking the recipient country's total aid flows from the geopolitical bloc opposite that of donor o: when o is a Communist donor (USSR, CHN, HUN, and POL), the control is total aid flows from Western countries (KOR, TWN, PRT, IRL, ESP, NZL, FIN, AUT, CHE, DNK, NOR, BEL, AUS, SWE, ITA, NLD, CAN, GBR, FRA, DEU, JPN, USA), and when o is a Western donor, the control is aid flows to the recipient country from Communist countries. The other-bloc aid flow control is then normalized by lagged GDP, which places all variables in comparable units. Intuitively, we want to ensure that our instrumented aid flow is robust to controlling for the aid inflows coming from donor countries from the competing bloc (Communist vs. Western) within our estimated sample. If the coefficient β^h is larger in equation (A.4) relative to our baseline specification, then this would suggest that the baseline estimate understates the true bilateral market access effect of aid due to competition across blocs. If the instrumented aid flow is positively correlated with competing donors' aid—since donor blocs may have competed over the same pool of recipients and may have also been responding to unobserved time-varying shocks in the error term—and other-bloc aid is negatively correlated with bilateral trade due to a competing market access channel, then omitting the control induces a downward bias in the IV estimate.

Including $\text{Aid}_{od,t}^{Other-Bloc}$ partials out this competitive dynamic, isolating the pure bilateral market access channel. It is important to highlight that other-bloc aid flows are an endogenous regressor—aid disbursed by other donors to destination d is likely correlated with unobserved determinants of bilateral trade between origin country o and destination country d. We include it not to identify the causal effect of other-bloc aid on trade, but rather to partial out a time-varying competitive channel that would otherwise may bias β^h. We therefore do not interpret the coefficient ϕ causally. It is important to note that controlling for aid from donors in the same bloc as donor o would be redundant in our specification: for each destination-year, same-bloc aid is mechanically equal to total aid received by destination d in year t minus aid from the competing bloc, and total destination-year aid is absorbed by the destination × year fixed effects. If same-bloc aid is defined excluding donor o's own bilateral flow, it is additionally just the residual of total destination-year aid after netting out both bilateral aid and other-bloc aid, so it is perfectly collinear with the existing aid regressors and the destination × year fixed effects.

Table A.12 presents results from equation (A.4). Consistent with the bias argument outlined above, the IV estimates of β^h are larger here than in our baseline specification at both the $h = 0$ and $h = 5$ horizon, suggesting that omitting the competitive channel does indeed induce a downward bias in the baseline estimates. For instance, at $h = 0$ the IV estimate in column (4) is 0.496 relative to a value of 0.464 at the $h = 0$ horizon in our baseline results in Table A.6. The estimate is significant at the less than 1% level under origin-year clustering and at the less than 10% level under two-way clustering. Moreover, the AR-p values are once again significant at the less than 5% level and the 90% AR CI's continue to exlcude zero for both sets of standard errors. The persistence of positive and significant effects after controlling for other-bloc aid flows strengthens our interpretation that the bilateral aid-trade relationship reflects a genuine market access channel rather than a spurious correlation driven by donor bloc competition over recipients.

Table A.12: Impact of Aid on Trade Flows: Control for Competing Bloc Aid

	$h=0$: $\frac{\text{Trade}_{od,t}}{\text{GDP}_{d,t-3}}$				$h=5$: $\frac{\text{Trade}_{od,t+5}}{\text{GDP}_{d,t-3}}$			
	OLS		IV		OLS		IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\left(\frac{\text{Aid}_{od,t}}{\text{GDP}_{d,t-3}}\right)$	0.160	0.132	0.920	0.496	0.022	0.008	1.648	1.465
	(0.079)	(0.076)	(0.136)	(0.134)	(0.025)	(0.025)	(0.350)	(0.339)
	[0.101]	[0.094]	[0.445]	[0.274]	[0.035]	[0.030]	[0.766]	[0.691]
$\left(\frac{\text{Aid}_{od,t}^{Other-Bloc}}{\text{GDP}_{d,t-3}}\right)$	0.005	0.006	0.079	0.040	−0.017	−0.016	0.143	0.129
	(0.006)	(0.006)	(0.025)	(0.021)	(0.007)	(0.007)	(0.049)	(0.048)
	[0.005]	[0.005]	[0.050]	[0.032]	[0.010]	[0.010]	[0.076]	[0.073]
$\left(\frac{\text{Trade}_{od,t-1}}{\text{GDP}_{d,t-3}}\right)$		0.500		0.572		0.256		0.217
		(0.081)		(0.132)		(0.080)		(0.081)
		[0.071]		[0.119]		[0.089]		[0.089]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SE's clustered at origin × year level								
KP-*F*			33.23	31.69			32.16	32.14
AR-*p*			0.00	0.00			0.00	0.00
AR-CI 90%			(0.738, 1.166)	(0.317, 0.718)			(1.180, 2.227)	(1.011, 2.026)
SE's clustered two-way (origin × year & bilateral)								
KP-*F*			3.40	3.23			3.34	3.25
AR-*p*			0.01	0.02			0.00	0.00
AR-CI 90%			[0.451, ...]	[0.208, ...]			[0.966, ...]	[0.850, ...]
Observations	58,565	58,471	51,615	51,534	56,968	56,540	50,224	49,865

Notes: Aid as a share of GDP is constructed by taking bilateral aid in 2011 USD divided by the destination country's GDP in 2011 USD lagged by three years. Trade as a share of GDP is also denominated in 2011 USD divided by destination GDP lagged by three years. Other-bloc aid is defined based off of the origin country bloc. For instance, if the origin country is a Communist country (USSR, CHN, HUN, POL) then other-bloc aid comprises of all the bilateral aid flows disbursed to the destination country by Western countries (all other countries within the donor sample). The GDP series is a spliced series where the base series is from CEPII and then we forward and backwards splice GDP data from the World Bank and the Maddison Project. For the IV specifications, aid-share is instrumented via a leave-one-out shift-share that takes the total aid disbursed by the origin country (excluding the bilateral pair) divided by the destination country's GDP lagged by three years as the shock. The shares are constructed by using the predicted aid flows from a PPML regression divided by the total predicted aid disbursed by the origin country for a given year to obtain a predicted aid share. The shares are lagged by three years. KP-*F* is the Kleibergen-Paap F-statistic. AR-*p* and AR-CI 90% are p-values and weak-instrument-robust 90% confidence intervals from the Anderson-Rubin test developed by Andrews (2018). Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. AR-CI's are computed by first demeaning all variables by the fixed effects. The upper bounds of the two-way clustered AR-CIs for columns (3), (4), (7), and (8) are unbounded. The constant is suppressed.

Competing Blocs: Full Shock IV

Table A.13 reports results from equation (2.5), but uses the total aid disbursed by the origin country as the shock for the instrument: $\text{IV}_{od,t} = \hat{\lambda}_{od,t-3} \times \frac{\sum_{jd} \text{Aid}_{oj,t}}{\text{GDP}_{d,t-3}}$.

Table A.13: Impact of Aid on Competing Bloc Trade Flows: Full Shock IV

	$h=0$: $\frac{\text{Trade}^{Other-Bloc}_{od,t}}{\text{GDP}_{d,t-3}}$				$h=5$: $\frac{\text{Trade}^{Other-Bloc}_{od,t+5}}{\text{GDP}_{d,t-3}}$			
	OLS		IV		OLS		IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\left(\frac{\text{Aid}_{od,t}}{\text{GDP}_{d,t-3}}\right)$	−0.011	−0.006	−0.110	0.087	0.003	0.003	−1.865	−1.712
	(0.027)	(0.024)	(0.253)	(0.250)	(0.012)	(0.012)	(0.542)	(0.515)
	[0.033]	[0.026]	[0.228]	[0.167]	[.]	[0.009]	[1.074]	[1.008]
$\left(\frac{\text{Aid}^{Other-Bloc}_{od,t}}{\text{GDP}_{d,t-3}}\right)$	0.069	−0.002	0.523	0.212	0.140	0.118	0.190	0.085
	(0.023)	(0.022)	(0.044)	(0.043)	(0.032)	(0.031)	(0.098)	(0.098)
	[0.023]	[0.014]	[0.065]	[0.050]	[.]	[0.035]	[0.143]	[0.132]
$\left(\frac{\text{Trade}^{Other-Bloc}_{od,t-1}}{\text{GDP}_{d,t-3}}\right)$		0.732		0.763		0.202		0.334
		(0.023)		(0.028)		(0.065)		(0.069)
		[0.039]		[0.053]		[0.106]		[0.126]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SEs clustered at the origin × year level								
KP-F			35.36	35.57			34.93	35.31
AR-p			0.67	0.73			0.00	0.00
AR-CI 90%			(−0.489, 0.269)	(−0.288, 0.501)			(−2.845, −1.140)	(−2.643, −1.023)
SEs clustered two-way (origin × year and bilateral)								
KP-F			3.66	3.67			3.61	3.64
AR-p			0.63	0.59			0.00	0.01
AR-CI 90%			[−0.904, 0.426]	[−0.225, 0.805]			[. . . , −0.909]	[. . . , −0.814]
Observations	58,908	58,880	51,894	51,866	57,141	56,983	50,389	50,231

Notes: Aid as a share of GDP is constructed by taking bilateral aid in 2011 USD divided by the destination country's GDP in 2011 USD lagged by three years. Trade as a share of GDP is also denominated in 2011 USD divided by destination GDP lagged by three years. Other-bloc aid is defined based off of the origin country bloc. For instance, if the origin country is a Communist country (USSR, CHN, HUN, POL) then other-bloc aid comprises of all the bilateral aid flows disbursed to the destination country by Western countries (all other countries within the donor sample). Other-bloc trade is constructed similarly. The GDP series is a spliced series where the base series is from CEPII and then we forward and backwards splice GDP data from the World Bank and the Maddison Project. For the IV specifications, aid-share is instrumented via a shift-share that takes the total aid disbursed by the origin country divided by the destination country's GDP lagged by three years as the shock. The shares are constructed by using the predicted aid flows from a PPML regression divided by the total predicted aid disbursed by the origin country for a given year to obtain a predicted aid share. The shares are lagged by three years. KP-F is the Kleibergen-Paap F-statistic. AR-p and AR-CI 90% are p-values and weak-instrument-robust 90% confidence intervals from the Anderson-Rubin test developed by Andrews (2018). Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. AR-CI's are computed by first demeaning all variables by the fixed effects. The constant is suppressed.

Competing Blocs: IHS Aid and Log Competing Bloc Trade

In Table A.14 we change equation (2.5) by using log trade from the other bloc as the dependent variable and IHS aid as the regressor:

$$\ln(\text{Trade})_{od,t+h}^{Other-Bloc} = \beta_{oth}^{h}\widehat{\text{asinh}(\text{Aid}_{od,t})} + \phi \text{asinh}(\text{Aid})_{od,t}^{Other-Bloc} + \gamma \ln(\text{Trade})_{od,t-1}^{Other-Bloc} + \delta_{o,t} + \delta_{d,t} + \delta_{od} + \varepsilon_{od,t+h},$$

where $\widehat{\text{asinh}(\text{Aid}_{od,t})}$ is instrumented using the following instrument: $\text{IV}_{od,t} = \widehat{\lambda}_{od,t-3} \times \ln\left(\sum_{j\neq d} \text{Aid}_{oj,t}\right)$.

Table A.14: Impact of Aid on Competing Bloc Trade: IHS Aid and Log Trade

	$h=0$: $\ln(\text{Trade})_{od,t}^{Other-Bloc}$				$h=5$: $\ln(\text{Trade})_{od,t+5}^{Other-Bloc}$			
	OLS		IV		OLS		IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\text{asinh}(\text{Aid}_{od,t})$	0.000	-0.000	-0.201	-0.060	-0.001	-0.000	-0.063	-0.066
	(0.000)	(0.000)	(0.065)	(0.022)	(0.000)	(0.000)	(0.019)	(0.022)
	[0.001]	[0.000]	[0.092]	[0.026]	[0.001]	[0.001]	[0.030]	[0.034]
$\text{asinh}(\text{Aid})_{od,t}^{Other\text{-}Bloc}$	0.012	0.005	-0.065	-0.019	0.000	-0.001	-0.026	-0.029
	(0.002)	(0.001)	(0.027)	(0.009)	(0.002)	(0.002)	(0.008)	(0.009)
	[0.003]	[0.001]	[0.036]	[0.011]	[0.002]	[0.002]	[0.012]	[0.013]
$\ln(\text{Trade}_{od,t-1})$		0.600		0.649		0.103		0.130
		(0.018)		(0.022)		(0.022)		(0.032)
		[0.022]		[0.026]		[0.030]		[0.044]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SE's clustered at origin × year level								
KP-*F*			13.34	13.84			23.87	17.71
AR-*p*			0.00	0.00			0.00	0.00
AR-CI 90%			(−0.371, −0.134)	(−0.110, −0.034)			(−0.101, −0.040)	(−0.112, −0.040)
SE's clustered two-way (origin × year & bilateral)								
KP-*F*			5.88	6.71			10.28	7.91
AR-*p*			0.00	0.00			0.05	0.06
AR-CI 90%			[−0.549, −0.105]	[−0.142, −0.028]			[−0.123, −0.017]	[−0.145, −0.014]
Observations	65,705	61,357	48,716	47,940	68,657	59,686	48,506	46,802

Notes: Aid and trade variables are denominated in 2011 USD. Other-bloc aid is defined based off of the origin country bloc. For instance, if the origin country is a Communist country (USSR, CHN, HUN, POL) then other-bloc aid comprises of all the bilateral aid flows disbursed to the destination country by Western countries (all other countries within the donor sample). Other-bloc trade is constructed similarly. IHS (asinh) stands for inverse hyperbolic sine. For the IV specifications, IHS aid is instrumented via a shift-share that takes the total log aid disbursed by the origin country after subtracting out any bilateral aid disbursed by the aid partner for a given year as the shock. The shares for the shift-share are constructed by using the predicted aid flows from a PPML regression divided by the total predicted aid disbursed by the origin country for a given year, to obtain a predicted aid share. The shares are lagged by three years. KP-F is the Kleibergen-Paap F-statistic. AR-*p* is the p-value from the Anderson-Rubin test developed by Andrews (2018). Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. The constant is suppressed.

A.5 Does Aid Increase Donor Imports?

Having established that foreign aid increases bilateral trade and shifts geopolitical alignment, we also investigate whether bilateral aid improves donor country access to imports originating from recipient countries. Equation (A.5) does this by regressing the bilateral aid as a share of the recipient countries' GDP on the imports aid disbursing country o obtains from recipient country d as a share of the recipient countries' GDP:

$$\frac{\text{Trade}_{do,t+h}}{\text{GDP}_{d,t-3}} = \beta_{im}^{h}\left(\frac{\text{Aid}_{od,t}}{\text{GDP}_{d,t-3}}\right) + \gamma\left(\frac{\text{Trade}_{do,t-1}}{\text{GDP}_{d,t-3}}\right) + \delta_{o,t} + \delta_{d,t} + \delta_{od} + \varepsilon_{od,t+h}. \tag{A.5}$$

Therefore, β_{im}^{h} captures the dollar effect of bilateral aid on donor-country imports from the recipient at horizon h, where both aid and imports are normalized by the same predetermined measure of recipient GDP. Within the post-Cold War era, there has been evidence of great powers using aid as a strategic tool to facilitate access to recipient-country resources (Harchaoui, Maseland, and Watkinson, 2021; The New York Times, 2025). Although this channel has not, to our knowledge, been empirically studied directly in the Cold War era, this channel may be operative since donors may have tried to secure greater access to raw materials, like commodities, produced by recipient countries that are integral to the production processes of industrial economies. Our specification also includes all of the same fixed effects and controls as in equation (2.1) and we also follow the same IV strategy highlighted in equation (2.3).

Overall, the results in Table A.15 suggest that aid had an ambiguous effect on increasing donor imports. Although the coefficients are similar in magnitude relative to our main specification, the results are generally not robust to two-way clustering. We also construct alternative specifications using IHS aid and log imports (see Table A.16) as well as construct the cumulative impulse response of aid on imports following Ramey and Zubairy (2018) (see Table A.17) and the coefficients are not precisely estimated. At the $h = 0$ horizon, our preferred specification (column 4) indicates that a one dollar increase in bilateral aid raises donor-country imports from the recipient by 0.427 dollars. Although the estimate is statistically significant at the 5% level under origin-year clustering, under two-way clustering the AR-p value is 0.13 and the AR 90% confidence interval includes zero. Moreover, when turning to the alternative specification using IHS aid and log imports (see Table A.16), the result is insignificant under both sets of standard errors, with AR-p values of 0.43 and 0.65, respectively.

Turning to the medium-run effects, the results are slightly stronger but still not robust to alternative specifications. In our preferred specification (column 8 of Table A.15) , a one dollar increase in bilateral aid increases donor-country imports by 1.750 dollars five years later. This estimate is statistically significant at the 1% level under origin-year clustering. Under two-way clustering the result has an AR-p value of 0.08 and AR 90% confidence intervals excluding zero. But when we change the estimating equation to instead use IHS aid and log imports, the coefficient has an AR-p value of 0.09 under origin-year clustering and 0.38 under two-way clustering at the $h = 5$ horizon. Finally, when analyzing the results from the cumulative impulse response specification in Table A.17 the result continues to have AR-p values above 0.1 at the $h = 3$ and $h = 5$ horizon.

Taken together, these results suggest that the evidence for bilateral aid increasing donor-country imports from recipients is, at best, ambiguous — effects are not robust across clustering schemes or functional forms, making it difficult to draw firm conclusions about this channel.

Donor Imports: Aid/GDP and Imports/GDP

In Table A.15 we estimate equation (A.5) using the shift-share from equation (2.3): $\text{IV}_{od,t} = \hat{\lambda}_{od,t-3} \times \frac{\sum_{j \neq d} \text{Aid}_{oj,t}}{\text{GDP}_{d,t-3}}$.

Table A.15: Impact of Aid on Imports

	$h=0$: $\frac{\text{Trade}_{do,t}}{\text{GDP}_{d,t-3}}$				$h=5$: $\frac{\text{Trade}_{do,t+5}}{\text{GDP}_{d,t-3}}$			
	OLS		IV		OLS		IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\left(\frac{\text{Aid}_{od,t}}{\text{GDP}_{d,t-3}}\right)$	0.021	0.002	1.169	0.427	0.047	0.040	2.086	1.750
	(0.009)	(0.006)	(0.342)	(0.186)	(0.017)	(0.016)	(0.619)	(0.562)
	[.]	[0.008]	[0.837]	[0.331]	[0.028]	[0.026]	[1.340]	[1.178]
$\left(\frac{\text{Trade}_{do,t-1}}{\text{GDP}_{d,t-3}}\right)$		0.806		0.857		0.325		0.336
		(0.064)		(0.080)		(0.111)		(0.138)
		[0.040]		[0.036]		[0.091]		[0.119]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SE's clustered at origin × year level								
KP-F			38.37	38.12			36.53	38.25
AR-p			0.00	0.01			0.00	0.00
AR-CI 90%			(0.711, 1.789)	(0.177, 0.764)			(1.258, 3.206)	(0.997, 2.768)
SE's clustered two-way (origin × year & bilateral)								
KP-F			3.85	3.81			3.72	3.77
AR-p			0.13	0.13			0.07	0.08
AR-CI 90%			[0.016, 5.442]	[−0.030, 2.280]			[0.459, 10.436]	[0.320, 8.710]
Observations	58,560	58,467	51,613	51,532	56,980	56,536	50,236	49,861

Notes: Aid as a share of GDP is constructed by taking bilateral aid in 2011 USD divided by the destination country's GDP in 2011 USD lagged by three years. Trade is the bilateral imports of the aid disbursing countries from the aid recipient country. Imports as a share of GDP is also denominated in 2011 USD divided by destination GDP lagged by three years. The GDP series is a spliced series where the base series is from CEPII and then we forward and backwards splice GDP data from the World Bank and the Maddison Project. For the IV specifications, aid-share is instrumented via a leave-one-out shift-share that takes the total aid disbursed by the origin country (excluding the bilateral pair) divided by the destination country's GDP lagged by three years as the shock. The shares are constructed by using the predicted aid flows from a PPML regression divided by the total predicted aid disbursed by the origin country for a given year to obtain a predicted aid share. The shares are lagged by three years. KP-F is the Kleibergen-Paap F-statistic. AR-p and AR-CI 90% are p-values and weak-instrument-robust 90% confidence intervals from the Anderson-Rubin test developed by Andrews (2018). Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. AR-CI's are computed by first demeaning all variables by the fixed effects. Standard errors reported as [.] indicate that the two-way clustered variance-covariance matrix was non-positive semi-definite, and valid standard errors could not be computed despite applying the Cameron, Gelbach Miller (2011) eigenvalue adjustment. The constant is suppressed.

Donor Imports: IHS Aid and Log Trade

In Table A.16 we change equation (2.1) by using log imports of the aid disbursing country o originating from the aid recipient country d, $\ln(\text{Trade})_{do,t+h}$, as the dependent variable and IHS aid, $\text{asinh}(\text{Aid}_{od,t})$, as the regressor:

$$\ln(\text{Trade})_{do,t+h} = \beta^h \widehat{\text{asinh}(\text{Aid}_{od,t})} + \gamma \ln(\text{Trade})_{do,t-1} + \delta_{o,t} + \delta_{d,t} + \delta_{od} + \varepsilon_{od,t+h},$$

where $\widehat{\text{asinh}(\text{Aid}_{od,t})}$ is instrumented using the following instrument: $\text{IV}_{od,t} = \widehat{\lambda}_{od,t-3} \times \ln\left(\sum_{j \neq d} \text{Aid}_{oj,t}\right)$.

Table A.16: Impact of Aid on Donor Import Flows

	$h = 0$: $\ln(\text{Trade}_{do,t})$				$h = 5$: $\ln(\text{Trade}_{do,t+5})$			
	OLS		IV		OLS		IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\text{asinh}(\text{Aid}_{od,t})$	0.006	0.002	0.069	0.019	0.004	0.003	0.109	0.055
	(0.001)	(0.001)	(0.040)	(0.029)	(0.001)	(0.001)	(0.047)	(0.033)
	[.]	[0.001]	[0.070]	[0.041]	[0.002]	[0.002]	[0.064]	[0.061]
$\ln(\text{Trade}_{do,t-1})$		0.469		0.474		0.040		0.049
		(0.010)		(0.011)		(0.010)		(0.012)
		[0.011]		[0.013]		[0.012]		[0.014]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SE's clustered at origin × year level								
KP-*F*			14.88	14.22			18.03	14.91
AR-*p*			0.09	0.54			0.01	0.09
AR-CI 90%			(0.009, 0.142)	(−0.030, 0.062)			(0.047, 0.200)	(0.006, 0.115)
SE's clustered two-way (origin × year & bilateral)								
KP-*F*			5.10	5.28			6.40	5.70
AR-*p*			0.36	0.65			0.04	0.38
AR-CI 90%			[−0.083, 0.221]	[−0.070, 0.108]			[0.031, 0.311]	[−0.058, 0.198]
Observations	57,724	52,525	44,449	42,867	61,457	51,257	44,855	41,937

Notes: Aid and trade variables are denominated in 2011 USD. Trade is the bilateral imports of the aid disbursing countries from the aid recipient country. IHS (asinh) stands for inverse hyperbolic sine. For the IV specifications, IHS aid is instrumented via a shift-share; the shares for the shift-share are constructed by using the predicted aid flows from a PPML regression divided by the total predicted aid disbursed by the origin country for a given year to obtain a predicted aid share. The shares are lagged by three years. The shift takes the total log aid disbursed by the origin country after subtracting out any bilateral aid disbursed by the aid partner for a given year as the shock. KP-F is the Kleibergen-Paap F-statistic. AR-*p* is the p-value from the Anderson-Rubin test developed by Andrews (2018). AR-CI's are computed by first demeaning all variables by the fixed effects. Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. The constant is suppressed.

Donor Imports: Cumulative Impulse Response

In Table A.17, we change equation (4.1) by using the cumulative imports of the aid disbursing country o originating from the aid recipient country d as the dependent variable:

$$\sum_{j=0}^{h} \frac{\text{Trade}_{do,t+j}}{\text{GDP}_{d,t-3}} = \beta^{CUM,h} \left(\sum_{j=0}^{h} \frac{\text{Aid}_{od,t+j}}{\text{GDP}_{d,t-3}} \right) + \gamma \left(\frac{\text{Trade}_{do,t-1}}{\text{GDP}_{d,t-3}} \right) + \delta_{o,t} + \delta_{d,t} + \delta_{od} + \varepsilon_{od,t+h}.$$

Table A.17: Cumulative Impulse Response of Bilateral Imports/GDP to Aid/GDP

	$h=3$: $\sum_{j=0}^{3}(\text{Trade}_{do,t+j}/\text{GDP}_{d,t-3})$				$h=5$: $\sum_{j=0}^{5}(\text{Trade}_{do,t+j}/\text{GDP}_{d,t-3})$			
	Naive IV		IV		Naive IV		IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\sum_{j=0}^{h}(\text{Aid}_{od,t+j}/\text{GDP}_{d,t-3})$	0.113	0.054	1.371	0.715	0.239	0.149	1.667	1.061
	(0.045)	(0.032)	(0.436)	(0.326)	(0.109)	(0.082)	(0.535)	(0.437)
	[0.051]	[0.040]	[1.052]	[0.620]	[0.097]	[0.081]	[1.249]	[0.863]
$(\text{Trade}_{do,t-1}/\text{GDP}_{d,t-3})$		2.737		3.042		3.479		3.837
		(0.211)		(0.256)		(0.372)		(0.477)
		[0.230]		[0.178]		[0.283]		[0.296]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SE's clustered at origin × year level								
KP-F			41.84	41.69			36.16	36.05
AR-p			0.00	0.01			0.00	0.00
AR-CI 90%			(0.787, 2.160)	(0.279, 1.307)			(0.951, 2.637)	(0.476, 1.852)
SE's clustered two-way (origin × year & bilateral)								
KP-F			3.66	3.63			3.34	3.31
AR-p			0.16	0.19			0.13	0.15
AR-CI 90%			[−0.077, 7.247]	[−0.138, 4.379]			[−0.052, ...)	[−0.127, ...)
Observations	57,360	57,270	50,581	50,503	56,569	56,479	49,896	49,818

Notes: The dependent variable is the cumulative bilateral imports scaled by the destination countries' GDP over the indicated horizon. Imports is the bilateral imports of the aid disbursing countries from the aid recipient country. The independent variable is the cumulative aid disbursed scaled by the destination countries' GDP over the indicated horizon. All variables are scaled by the destination countries' GDP, which is a moving average between years $t-2, t-3$, and $t-4$. Naive IV columns instrument cumulative Aid/GDP using contemporaneous Aid/GDP. For the shift-share IV specifications (columns (3), (4), (7), (8)), cumulative Aid/GDP is instrumented via a shift-share that uses predicted bilateral aid shares lagged by three years as the share. The shift is the total origin-country aid after subtracting out any bilateral aid disbursed by the aid partner for a given year as the shock. KP-F is the Kleibergen-Paap F-statistic. AR-p and AR-CI 90% are p-values and weak-instrument-robust 90% confidence intervals from the Anderson-Rubin test developed by Andrews (2018). AR-CI's are computed by first demeaning all variables by the fixed effects. Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. The upper bounds of the two-way clustered AR-CIs for columns (7) and (8) are unbounded. The constant is suppressed.

A.6 Contemporary Period (1990-2019): Negligible Impact Aid has on Trade

Table A.19 reports results following our main estimating equation (2.1), but between 1990-2019 for the 26 donor countries in our Cold War sample. Table A.20 reports the results using IHS aid as the regressor and log trade as the outcome variable. In order to construct our predicted shares regression, we run the same PPML regression but drop all geopolitical variables related to the Cold War within the prediction equation, which is reported in Table A.18 below:

Table A.18: PPML Gravity Regression: Determinants of Bilateral Aid Flows During Contemporary Period (1990-2019)

	Real Aid	
	Coef.	SE
Geography		
ln(Distance)	−0.421***	(0.045)
Common Language	0.036	(0.064)
Contiguity	0.098	(0.519)
Ever Colony	0.023	(0.252)
Economic Fundamentals		
ln(GDP p.c.) Origin	0.951***	(0.078)
ln(Population) Origin	0.972***	(0.031)
ln(GDP p.c.) Destination	−0.232***	(0.034)
ln(Population) Destination	0.425***	(0.015)
Religion		
Protestant	−1.323***	(0.244)
Catholic	−0.279***	(0.095)
Colonial Relationships		
PRT Colony × PRT	3.069***	(0.330)
GBR Colony × GBR	0.928***	(0.292)
USA Colony × USA	−0.310	(0.285)
ESP Colony × ESP	1.575***	(0.302)
NLD Colony × NLD	1.303***	(0.309)
FRA Colony × FRA	1.411***	(0.286)
BEL Colony × BEL	2.640***	(0.402)
ITA Colony × ITA	−1.229***	(0.454)
JPN Colony × JPN	−2.981***	(0.501)
Constant	−12.184***	(0.839)
Observations	88,766	
Pseudo R^2	0.466	

Notes. PPML regression of real bilateral aid flows on gravity and political controls between 1990-2019. Standard errors clustered at the origin–year level (740 clusters). *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

Contemporary Period: Aid/GDP and Trade/GDP

In Table A.19 we estimate equation (2.1) for the contemporary period (1990-2019) using the shift-share from equation (2.3): $\text{IV}_{od,t} = \hat{\lambda}_{od,t-3} \times \frac{\sum_{j \neq d} \text{Aid}_{oj,t}}{\text{GDP}_{d,t-3}}$.

Table A.19: Impact of Aid on Trade Flows: Contemporary Period (1990–2019)

	$h=0$: $\frac{\text{Trade}_{od,t}}{\text{GDP}_{d,t-3}}$				$h=5$: $\frac{\text{Trade}_{od,t+5}}{\text{GDP}_{d,t-3}}$			
	OLS		IV		OLS		IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\left(\frac{\text{Aid}_{od,t}}{\text{GDP}_{d,t-3}}\right)$	0.039	0.021	12.211	6.704	0.330	0.330	1.125	1.439
	(0.055)	(0.047)	(5.654)	(4.820)	(0.233)	(0.232)	(1.700)	(1.773)
	[0.070]	[0.056]	[13.896]	[7.818]	[0.397]	[0.396]	[3.739]	[3.829]
$\left(\frac{\text{Trade}_{od,t-1}}{\text{GDP}_{d,t-3}}\right)$		0.382		0.351		0.002		−0.015
		(0.126)		(0.149)		(0.023)		(0.018)
		[0.037]		[0.023]		[0.027]		[0.006]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SEs clustered at the origin × year level								
KP-F			17.89	17.95			15.55	15.66
AR-p			0.01	0.12			0.51	0.42
AR-CI 90%			(5.468, 24.350)	(0.188, 16.286)			(−1.697, 3.948)	(−1.224, 4.381)
SEs clustered two-way (origin × year and bilateral)								
KP-F			11.65	11.76			6.52	6.59
AR-p			0.30	0.31			0.76	0.70
AR-CI 90%			[−4.732, 47.227]	[−2.829, 26.404]			[−5.859, 9.324]	[−5.092, 10.457]
Observations	102,694	102,694	77,615	77,615	81,757	81,757	60,275	60,275

Notes: Aid as a share of GDP is constructed by taking bilateral aid in 2011 USD divided by the destination country's GDP in 2011 USD lagged by three years. Trade as a share of GDP is also denominated in 2011 USD divided by destination GDP lagged by three years. The GDP series is a spliced series where the base series is from CEPII and then we forward and backwards splice GDP data from the World Bank and the Maddison Project. For the IV specifications, aid-share is instrumented via a leave-one-out shift-share that takes the total aid disbursed by the origin country (excluding the bilateral pair) divided by the destination country's GDP lagged by three years as the shock. The shares are constructed by using the predicted aid flows from a PPML regression divided by the total predicted aid disbursed by the origin country for a given year to obtain a predicted aid share. The shares are lagged by three years. KP-F is the Kleibergen-Paap F-statistic. AR-p and AR-CI 90% are p-values and weak-instrument-robust 90% confidence intervals from the Anderson-Rubin test developed by Andrews (2018). Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. AR-CI's are computed by first demeaning all variables by the fixed effects. The constant is suppressed.

Contemporary Period: IHS Aid and Log Trade

In Table A.20 we change equation (2.1) by using log trade as the dependent variable and IHS aid as the regressor, but only run the specification for the contemporary period (1990-2019):

$$\ln(\text{Trade})_{od,t+h} = \beta^h \widehat{\text{asinh}(\text{Aid}_{od,t})} + \gamma \ln(\text{Trade})_{od,t-1} + \delta_{o,t} + \delta_{d,t} + \delta_{od} + \varepsilon_{od,t+h},$$

where $\widehat{\text{asinh}(\text{Aid}_{od,t})}$ is instrumented using the following instrument: $\text{IV}_{od,t} = \widehat{\lambda}_{od,t-3} \times \ln\left(\sum_{j\neq d} \text{Aid}_{oj,t}\right)$.

Table A.20: Impact of Aid on Trade Flows: Contemporary Period (1990-2019), IHS Aid and Log Trade

	$h=0$: $\ln(\text{Trade}_{od,t})$				$h=5$: $\ln(\text{Trade}_{od,t+5})$			
	OLS		IV		OLS		IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\text{asinh}(\text{Aid}_{od,t})$	0.004	0.002	0.147	0.075	0.000	0.001	-0.134	-0.202
	(0.001)	(0.001)	(0.091)	(0.056)	(0.001)	(0.001)	(0.388)	(0.585)
	[0.001]	[0.001]	[0.193]	[0.096]	[0.001]	[0.001]	[0.683]	[1.049]
$\ln(\text{Trade}_{od,t-1})$		0.504		0.505		0.064		0.022
		(0.007)		(0.010)		(0.009)		(0.015)
		[0.010]		[0.012]		[0.012]		[0.023]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SE's clustered at origin × year level								
KP-*F*			5.11	4.92			0.25	0.18
AR-*p*			0.04	0.12			0.58	0.47
AR-CI 90%			(0.039, 0.485)	(0.008, 0.274)			(..., ...)	(..., ...)
SE's clustered two-way (origin × year & bilateral)								
KP-*F*			0.83	0.79			0.08	0.06
AR-*p*			0.28	0.27			0.72	0.64
AR-CI 90%			[..., ...]	[..., ...]			[..., ...]	[..., ...]
Observations	103,896	101,800	75,170	74,838	84,399	81,409	58,869	58,433

Notes: Aid and trade variables are denominated in 2011 USD. IHS (asinh) stands for inverse hyperbolic sine. For the IV specifications, IHS aid is instrumented via a shift-share that takes the total log aid disbursed by the origin country after subtracting out any bilateral aid disbursed by the aid partner for a given year as the shock. The shares for the shift-share are constructed by using the predicted aid flows from a PPML regression divided by the total predicted aid disbursed by the origin country for a given year to obtain a predicted aid share. The shares are lagged by three years. KP-F is the Kleibergen-Paap F-statistic. AR-*p* is the p-value from the Anderson-Rubin test developed by Andrews (2018). Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. AR-CIs reported as (..., ...) are completely unbounded. The constant is suppressed.

A.7 Cumulative Impulse Response

Within the next set of specifications, we follow the approach of Ramey and Zubairy (2018) and estimate the following equation (4.1):

$$\sum_{j=0}^{h} \frac{\text{Trade}_{od,t+j}}{\text{GDP}_{d,t-3}} = \beta^{CUM,h} \left(\sum_{j=0}^{h} \frac{\text{Aid}_{od,t+j}}{\text{GDP}_{d,t-3}} \right) + \gamma \left(\frac{\text{Trade}_{od,t-1}}{\text{GDP}_{d,t-3}} \right) + \delta_{o,t} + \delta_{d,t} + \delta_{od} + \varepsilon_{od,t+h}.$$

Both the independent and dependent variables are cumulated across the time horizon $j = 0, ..., h$, while the denominator remains fixed for comparability. Table A.21 reports results from equation (4.1) using the leave-one-out instrument from equation (2.3): $\text{IV}_{od,t} = \hat{\lambda}_{od,t-3} \times \frac{\sum_{j \neq d} \text{Aid}_{oj,t}}{\text{GDP}_{d,t-3}}$.

Table A.21: Cumulative Impulse Response of Aid on Trade (Equation 4.1)

	$h=3$: $\sum_{j=0}^{3}(\text{Trade}_{od,t+j}/\text{GDP}_{d,t-3})$				$h=5$: $\sum_{j=0}^{5}(\text{Trade}_{od,t+j}/\text{GDP}_{d,t-3})$			
	Naive IV		IV		Naive IV		IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\sum_{j=0}^{h}(\text{Aid}_{od,t+j}/\text{GDP}_{d,t-3})$	0.331	0.249	1.052	0.736	0.455	0.331	1.273	0.963
	(0.138)	(0.119)	(0.113)	(0.122)	(0.204)	(0.156)	(0.143)	(0.138)
	[0.076]	[0.069]	[0.463]	[0.345]	[0.106]	[0.091]	[0.564]	[0.436]
$(\text{Trade}_{od,t-1}/\text{GDP}_{d,t-3})$		1.579		1.845		2.036		2.421
		(0.266)		(0.435)		(0.360)		(0.573)
		[0.288]		[0.465]		[0.402]		[0.626]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SE's clustered at origin × year level								
KP-F			41.96	41.24			36.22	35.54
AR-p			0.00	0.00			0.00	0.00
AR-CI 90%			(0.883, 1.238)	(0.553, 0.919)			(1.082, 1.510)	(0.756, 1.191)
SE's clustered two-way (origin × year & bilateral)								
KP-F			3.67	3.57			3.34	3.25
AR-p			0.0	0.02			0.00	0.01
AR-CI 90%			[0.564, 4.392]	[0.317, 3.226]			[0.679, ...)	[0.504, ...)
Observations	57,363	57,274	50,581	50,503	56,571	56,485	49,895	49,820

Notes: The dependent variable is the cumulative bilateral trade scaled by the destination countries' GDP over the indicated horizon. The independent variable is the cumulative aid disbursed scaled by the destination countries' GDP over the indicated horizon. All variables are scaled by the destination countries' GDP, which is a moving average between years $t-2, t-3$, and $t-4$. Naive IV columns instrument cumulative Aid/GDP using contemporaneous Aid/GDP. For the shift-share IV specifications (columns (3), (4), (7), (8)), cumulative Aid/GDP is instrumented via a shift-share that uses predicted bilateral aid shares lagged by three years as the share. The shift is the total origin-country aid after subtracting out any bilateral aid disbursed by the aid partner for a given year as the shock. KP-F is the Kleibergen-Paap F-statistic. AR-p and AR-CI 90% are p-values and weak-instrument-robust 90% confidence intervals from the Anderson-Rubin test developed by Andrews (2018). AR-CI's are computed by first demeaning all variables by the fixed effects. Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. The upper bounds of the two-way clustered AR-CIs for columns (7) and (8) are unbounded. The constant is suppressed.

Cumulative Impulse Response using Full Aid Shock IV

Table A.22 reports results from equation (4.1), but uses the full aid shock for the instrument: $IV_{od,t} = \hat{\lambda}_{od,t-3} \times \frac{\sum_j Aid_{oj,t}}{GDP_{d,t-3}}$.

Table A.22: Cumulative Impulse Response of Trade on Aid (Equation 4.1): Full Shock IV

	$h = 3$: $\sum_{j=0}^{3}(Trade_{od,t+j}/GDP_{d,t-3})$				$h = 5$: $\sum_{j=0}^{5}(Trade_{od,t+j}/GDP_{d,t-3})$			
	Naive IV		IV		Naive IV		IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\sum_{j=0}^{h}(Aid_{od,t+j}/GDP_{d,t-3})$	0.331	0.249	1.031	0.719	0.455	0.331	1.250	0.943
	(0.138)	(0.119)	(0.108)	(0.118)	(0.204)	(0.156)	(0.137)	(0.133)
	[0.076]	[0.069]	[0.442]	[0.329]	[0.106]	[0.091]	[0.541]	[0.417]
$(Trade_{od,t-1}/GDP_{d,t-3})$		1.579		1.850		2.036		2.428
		(0.266)		(0.436)		(0.360)		(0.574)
		[0.288]		[0.465]		[0.402]		[0.626]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SE's clustered at origin × year level								
KP-F			44.64	43.85			38.40	37.67
AR-p			0.00	0.00			0.00	0.00
AR-CI 90%			(0.869, 1.210)	(0.543, 0.896)			(1.066, 1.477)	(0.744, 1.163)
SE's clustered two-way (origin × year & bilateral)								
KP-F			3.83	3.74			3.48	3.40
AR-p			0.01	0.02			0.00	0.00
AR-CI 90%			[0.566, 3.930]	[0.320, 2.877]			[0.681, ...]	[0.505, ...]
Observations	57,363	57,274	50,581	50,503	56,571	56,485	49,895	49,820

Notes: The dependent variable is the cumulative bilateral trade scaled by the destination countries' GDP over the indicated horizon. The independent variable is the cumulative aid disbursed scaled by the destination countries' GDP over the indicated horizon. All variables are scaled by the destination countries' GDP, which is a moving average between years $t-2, t-3$, and $t-4$. Naive IV columns instrument cumulative Aid/GDP using contemporaneous Aid/GDP. For the shift-share IV specifications (columns (3), (4), (7), (8)), cumulative Aid/GDP is instrumented via a shift-share that uses predicted bilateral aid shares lagged by three years as the share. The shift is the total origin-country aid as the shock. KP-F is the Kleibergen-Paap F-statistic. AR-p and AR-CI 90% are p-values and weak-instrument-robust 90% confidence intervals from the Anderson-Rubin test developed by Andrews (2018). AR-CI's are computed by first demeaning all variables by the fixed effects. Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. The upper bounds of the two-way clustered AR-CIs for columns (7) and (8) are unbounded. The constant is suppressed.

Cumulative Impulse Response dropping Great Powers (USA, USSR, CHN)

Table A.23 reports results from (4.1), but drops the United States, the Soviet Union, and China when running the final estimating equation.

Table A.23: Cumulative Impulse Response of Trade on Aid (Equation 4.1): Dropping Great Powers

	$h=3$: $\sum_{j=0}^{3}(\text{Trade}_{od,t+j}/\text{GDP}_{d,t-3})$				$h=5$: $\sum_{j=0}^{5}(\text{Trade}_{od,t+j}/\text{GDP}_{d,t-3})$			
	Naive IV		IV		Naive IV		IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\sum_{j=0}^{h}(\text{Aid}_{od,t+j}/\text{GDP}_{d,t-3})$	0.363	0.281	1.277	0.894	0.576	0.413	1.582	1.228
	(0.211)	(0.181)	(0.163)	(0.179)	(0.455)	(0.334)	(0.197)	(0.205)
	[0.109]	[0.095]	[0.292]	[0.258]	[0.128]	[0.111]	[0.383]	[0.341]
$(\text{Trade}_{od,t-1}/\text{GDP}_{d,t-3})$		1.602		1.818		2.112		2.404
		(0.349)		(0.542)		(0.471)		(0.713)
		[0.366]		[0.570]		[0.501]		[0.762]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SE's clustered at origin × year level								
KP-F			67.10	65.28			80.41	77.85
AR-p			0.00	0.00			0.00	0.00
AR-CI 90%			(1.060, 1.545)	(0.627, 1.189)			(1.319, 1.907)	(0.955, 1.565)
SE's clustered two-way (origin × year & bilateral)								
KP-F			20.24	19.30			21.23	20.31
AR-p			0.00	0.00			0.00	0.00
AR-CI 90%			[0.877, 1.819]	[0.498, 1.373]			[1.056, 2.293]	[0.760, 1.862]
Observations	50,385	50,385	44,291	44,291	50,159	50,159	44,069	44,069

Notes: The dependent variable is the cumulative bilateral trade scaled by the destination countries' GDP over the indicated horizon. The independent variable is the cumulative aid disbursed scaled by the destination countries' GDP over the indicated horizon. All variables are scaled by the destination countries' GDP, which is a moving average between years $t-2$, $t-3$, and $t-4$. Naive IV columns instrument cumulative Aid/GDP using contemporaneous Aid/GDP. For the shift-share IV specifications (columns (3), (4), (7), (8)), cumulative Aid/GDP is instrumented via a shift-share that uses predicted bilateral aid shares lagged by three years as the share. The shift is the total origin-country aid after subtracting out any bilateral aid disbursed by the aid partner for a given year as the shock. For consistency, the prediction weights are constructed using all countries and then we drop USA, USSR, and CHN when we run our final regressions. KP-F is the Kleibergen-Paap F-statistic. AR-p and AR-CI 90% are p-values and weak-instrument-robust 90% confidence intervals from the Anderson-Rubin test developed by Andrews (2018). AR-CI's are computed by first demeaning all variables by the fixed effects. Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. The constant is suppressed.

Trimming Predicted Outliers for Cumulative Impulse Response

Table A.24 reports report results for the cumulative impulse response (4.1) trimming prediction weights at the p1-p99 level using the leave-one-out instrument.

Table A.24: Cumulative Impulse Response of Trade on Aid (Equation 4.1): Trimming Outlier Weights

	$h=3$: $\sum_{j=0}^{3}(\text{Trade}_{od,t+j}/\text{GDP}_{d,t-3})$				$h=5$: $\sum_{j=0}^{5}(\text{Trade}_{od,t+j}/\text{GDP}_{d,t-3})$			
	IV: no trim		IV: p1–p99		IV: no trim		IV: p1–p99	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\sum_{j=0}^{h}(\text{Aid}_{od,t+j}/\text{GDP}_{d,t-3})$	1.052	0.736	1.077	0.736	1.273	0.963	1.304	0.962
	(0.113)	(0.122)	(0.120)	(0.126)	(0.143)	(0.138)	(0.151)	(0.142)
	[0.463]	[0.345]	[0.499]	[0.363]	[0.564]	[0.436]	[0.608]	[0.456]
$(\text{Trade}_{od,t-1}/\text{GDP}_{d,t-3})$		1.845		1.875		2.421		2.471
		(0.435)		(0.439)		(0.573)		(0.579)
		[0.465]		[0.470]		[0.626]		[0.632]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SE's clustered at origin × year level								
KP-F	41.96	41.24	41.58	41.14	36.22	35.54	36.56	36.16
AR-p	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AR-CI 90%	(0.883, 1.238)	(0.553, 0.919)	(0.898, 1.275)	(0.547, 0.924)	(1.082, 1.510)	(0.756, 1.191)	(1.078, 1.554)	(0.750, 1.197)
SE's clustered two-way (origin × year & bilateral)								
KP-F	3.67	3.57	3.64	3.59	3.34	3.25	3.32	3.28
AR-p	0.01	0.02	0.01	0.02	0.00	0.01	0.00	0.01
AR-CI 90%	[0.564, 4.392]	[0.317, 3.226]	[0.552, 4.751]	[0.295, 3.350]	[0.679, ...]	[0.504, ...]	[0.665, ...]	[0.482, ...]
Observations	50,581	50,503	49,657	49,582	49,895	49,820	48,981	48,909

Notes: The dependent variable is the cumulative bilateral trade scaled by the destination countries' GDP over the indicated horizon. The independent variable is the cumulative aid disbursed scaled by the destination countries' GDP over the indicated horizon. All variables are scaled by the destination countries' GDP, which is a moving average between years $t-2$, $t-3$, and $t-4$. For the shift-share IV specifications, cumulative Aid/GDP is instrumented via a leave-one-out shift-share that uses predicted bilateral aid shares lagged by three years as the share. The shift is the total origin-country aid after subtracting out any bilateral aid disbursed by the aid partner for a given year as the shock. Columns (1), (2), (5), and (6) use the full sample; columns (3), (4), (7), and (8) restrict to pairs with predicted aid share between p1–p99. KP-F is the Kleibergen-Paap F-statistic. AR-p and AR-CI 90% are p-values and weak-instrument-robust 90% confidence intervals from the Anderson-Rubin test developed by Andrews (2018). AR-CI's are computed by first demeaning all variables by the fixed effects. Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. All regressions absorb origin×year, destination×year, and bilateral fixed effects. The constant is suppressed. The upper bound for the AR-CI 90% intervals for columns (5), (6), (7) and (8) are unbounded for standard errors clustered two-way.

Competing Blocs: Cumulative Impulse Response of IHS Aid on Competing Bloc Trade

In Table A.25, we change equation (4.1) by using the cumulative trade flows to destination country d originating from countries in the other bloc from the aid disbursing country o as the dependent variable and similarly control for the cumulative sum of other bloc aid:

$$\sum_{j=0}^{h} \frac{\text{Trade}_{od,t+j}^{Other-Bloc}}{\text{GDP}_{d,t-3}} = \beta^{CUM,h}\left(\sum_{j=0}^{h} \frac{\text{Aid}_{od,t+j}}{\text{GDP}_{d,t-3}}\right) + \phi\left(\sum_{j=0}^{h} \frac{\text{Aid}_{od,t+j}^{Other-Bloc}}{\text{GDP}_{d,t-3}}\right) + \gamma\left(\frac{\text{Trade}_{od,t-1}^{Other-Bloc}}{\text{GDP}_{d,t-3}}\right) + \delta_{o,t} + \delta_{d,t} + \delta_{od} + \varepsilon_{od,t+h}.$$

Table A.25: Cumulative Impulse Response of Bilateral Competing Bloc Trade/GDP to Aid/GDP

	$h=3$: $\sum_{j=0}^{3}(\text{Trade}_{od,t+j}^{Other-Bloc}/\text{GDP}_{d,t-3})$				$h=5$: $\sum_{j=0}^{5}(\text{Trade}_{od,t+j}^{Other-Bloc}/\text{GDP}_{d,t-3})$			
	Naive IV		IV		Naive IV		IV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\sum_{j=0}^{h}(\text{Aid}_{od,t+j}/\text{GDP}_{d,t-3})$	−0.055	−0.031	−0.662	−0.470	−0.053	−0.022	−1.031	−0.826
	(0.053)	(0.039)	(0.237)	(0.223)	(0.084)	(0.064)	(0.333)	(0.309)
	[0.047]	[0.039]	[0.415]	[0.331]	[0.081]	[0.066]	[0.635]	[0.546]
$\sum_{j=0}^{h}(\text{Aid}_{od,t+j}^{Other-Bloc}/\text{GDP}_{d,t-3})$	0.394	0.277	0.601	0.375	0.538	0.414	0.528	0.352
	(0.040)	(0.044)	(0.047)	(0.057)	(0.084)	(0.086)	(0.048)	(0.064)
	[0.067]	[0.057]	[0.090]	[0.090]	[0.117]	[0.116]	[0.116]	[0.121]
$(\text{Trade}_{od,t-1}^{Other-Bloc}/\text{GDP}_{d,t-3})$		2.214		2.318		2.559		2.928
		(0.131)		(0.136)		(0.219)		(0.251)
		[0.222]		[0.266]		[0.397]		[0.486]
Origin × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Destination × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Bilateral FE	✓	✓	✓	✓	✓	✓	✓	✓
SE's clustered at origin × year level								
KP-F			36.92	36.94			32.61	32.53
AR-p			0.00	0.02			0.00	0.00
AR-CI 90%			(−1.091, −0.345)	(−0.839, −0.171)			(−1.634, −0.585)	(−1.385, −0.413)
SE's clustered two-way (origin × year & bilateral)								
KP-F			3.41	3.41			3.14	3.13
AR-p			0.02	0.04			0.01	0.03
AR-CI 90%			[..., −0.225]	[..., −0.121]			[..., −0.363]	[..., −0.251]
Observations	57,768	57,740	50,914	50,886	57,011	56,983	50,259	50,231

Notes: The dependent variable is the cumulative bilateral other-bloc trade scaled by the destination countries' GDP over the indicated horizon. Other-bloc aid is defined based off of the origin country bloc. For instance, if the origin country is a Communist country (USSR, CHN, HUN, POL) then other-bloc aid comprises of all the bilateral aid flows disbursed to the destination country by Western countries (all other countries within the donor sample). Other-bloc trade is constructed similarly. The independent variable is the cumulative aid disbursed scaled by the destination countries' GDP over the indicated horizon. All variables are scaled by the destination countries' GDP, which is a moving average between years $t-2, t-3$, and $t-4$. Naive IV columns instrument cumulative Aid/GDP using contemporaneous Aid/GDP. For the shift-share IV specifications (columns (3), (4), (7), (8)), cumulative Aid/GDP is instrumented via a shift-share that uses predicted bilateral aid shares lagged by three years as the share. The shift is the total origin-country aid after subtracting out any bilateral aid disbursed by the aid partner for a given year as the shock. KP-F is the Kleibergen-Paap F-statistic. AR-p and AR-CI 90% are p-values and weak-instrument-robust 90% confidence intervals from the Anderson-Rubin test developed by Andrews (2018). AR-CI's are computed by first demeaning all variables by the fixed effects. Standard errors clustered at the origin-year level are reported in parentheses (·); standard errors clustered two-way at the origin-year and bilateral level are reported in brackets [·]. The lower bounds of the two-way clustered AR-CIs for columns (3), (4), (7), and (8) are unbounded. The constant is suppressed.

B. Model and Quantification Appendix

B.1 Inferring χ from Gravity Coefficient

We begin with the sectoral trade share from the model and substitute the aid-augmented bilateral cost $\tau_{od} = \tilde{\tau}_{od}/Aid_{od}^{\chi}$:

$$\pi_{o,dj} = \mu_{o,dj} \left(\frac{\tilde{\tau}_{o,dj}\, P_{oj}}{Aid_{od}^{\chi} \cdot P_{dj}^{f}} \right)^{1-\varepsilon}.$$

Bilateral trade flows in sector j are $T_{od,j} = \pi_{o,dj} \cdot P_{dj}^{f} Y_{dj}$, so:

$$T_{od,j} = \mu_{o,dj} \cdot \tilde{\tau}_{o,dj}^{1-\varepsilon} \cdot P_{oj}^{1-\varepsilon} \cdot \left(P_{dj}^{f}\right)^{\varepsilon} \cdot Y_{dj} \cdot Aid_{od}^{\chi(\varepsilon-1)}.$$

We then sum across sectors j to obtain aggregate bilateral trade flows:

$$Trade_{od} = \sum_{j} T_{od,j} = Aid_{od}^{\chi(\varepsilon-1)} \sum_{j} \mu_{o,dj} \cdot \tilde{\tau}_{o,dj}^{1-\varepsilon} \cdot P_{oj}^{1-\varepsilon} \cdot \left(P_{dj}^{f}\right)^{\varepsilon} \cdot Y_{dj}.$$

The summation collects all origin-specific, destination-specific, and bilateral structural terms. By taking logs and incorporating origin × year fixed effects we control for all origin-year-specific terms such as factory gate-prices, destination × year fixed effects controls for destination final prices, and bilateral fixed effects controls for time-invariant bilateral demand shifters:

$$\ln\left(Trade_{od,t}\right) = \chi(\varepsilon - 1) \ln\left(Aid_{od,t}\right) + \delta_{o,t} + \delta_{d,t} + \delta_{od} + \varepsilon_{od,t}.$$

This maps directly into our estimating equation, with the reduced-form coefficient matching our impulse response function $\hat{\beta} = \chi(\varepsilon - 1)$. Since our model is static, we use a long-run estimate of the trade elasticity that matches the ten-year horizon from Boehm, Levchenko, and Pandalai-Nayar (2023) and calibrate $\varepsilon = 2$ so $\hat{\beta} = \chi$.

B.2 Bilateral Aid-Trade Ratios for US and USSR Recipients

Table B.1 summarizes the aid-trade ratios and computes bilateral elasticities from our five-year impulse response estimates using the coefficient from column (8) in Table A.21 for all countries that the have positive aid and trade flows with the United States during the Cold War era. Table B.2 summarizes the aid-trade ratios and computes bilateral elasticities from our five-year impulse response estimates using the coefficient from column (8) in Table A.21 for all countries that the have positive aid and trade flows with the Soviet Union during the Cold War era.

Table B.1: Bilateral Elasticity by Recipient Country (Donor: USA, 1962–1989)

Rec.	Aid ($B)	Trade ($B)	Ratio	Elas.	Rec.	Aid ($B)	Trade ($B)	Ratio	Elas.
RWA	0.34	0.04	8.286	7.979	HND	2.65	14.91	0.178	0.171
LAO	3.02	0.55	5.459	5.257	HTI	1.56	9.02	0.173	0.167
NPL	1.17	0.30	3.949	3.803	MMR	0.30	1.75	0.173	0.167
SOM	1.42	0.74	1.925	1.854	MDG	0.31	1.93	0.162	0.156
KHM	2.37	1.29	1.836	1.768	STP	0.00	0.02	0.160	0.154
MLI	0.83	0.54	1.539	1.482	IDN	9.27	58.38	0.159	0.153
AFG	1.65	1.21	1.369	1.318	DOM	3.69	23.58	0.157	0.151
NER	0.85	0.73	1.164	1.121	MUS	0.10	0.71	0.146	0.141
GNB	0.09	0.09	1.029	0.991	BEN	0.18	1.23	0.145	0.140
MOZ	0.60	0.63	0.961	0.925	CRI	2.81	20.25	0.139	0.133
BFA	0.87	0.96	0.913	0.880	NIC	1.20	9.74	0.124	0.119
UGA	0.38	0.44	0.854	0.823	SYR	0.73	6.26	0.117	0.113
BGD	6.81	8.61	0.791	0.762	MLT	0.26	2.22	0.115	0.111
SDN	2.94	3.73	0.787	0.758	BLZ	0.13	1.14	0.112	0.107
MWI	0.41	0.56	0.733	0.706	URY	0.53	4.74	0.111	0.107
TZA	1.25	1.86	0.673	0.648	GTM	2.28	20.67	0.110	0.106
EGY	28.40	45.24	0.628	0.604	GUY	0.40	3.72	0.109	0.105
ETH	1.98	3.32	0.597	0.575	CHL	4.13	43.45	0.095	0.092
TCD	0.37	0.64	0.584	0.563	PAN	1.62	20.07	0.081	0.078
BDI	0.17	0.29	0.582	0.560	JAM	2.03	25.50	0.080	0.077
MRT	0.44	0.80	0.551	0.531	PHL	5.51	71.09	0.078	0.075
PAK	19.97	38.09	0.524	0.505	FJI	0.07	0.85	0.077	0.074
ISR	35.85	68.42	0.524	0.505	PER	3.05	40.15	0.076	0.073
SEN	1.22	2.34	0.521	0.502	COL	4.66	64.07	0.073	0.070
GMB	0.19	0.37	0.512	0.493	COG	0.06	0.97	0.065	0.062
DJI	0.07	0.14	0.511	0.492	AGO	0.11	1.73	0.061	0.059
SLE	0.52	1.05	0.490	0.472	BRA	9.86	167.54	0.059	0.057
GIN	0.78	1.65	0.473	0.456	KOR	12.50	217.07	0.058	0.055
LKA	2.13	4.55	0.468	0.451	ECU	1.36	24.87	0.054	0.052
JOR	4.39	9.72	0.451	0.435	THA	2.48	53.02	0.047	0.045
IND	38.60	95.52	0.404	0.389	LBN	0.55	12.37	0.045	0.043
TGO	0.28	0.70	0.402	0.387	NGA	1.71	41.79	0.041	0.039
ZWE	0.62	1.60	0.389	0.375	CIV	0.20	5.15	0.039	0.038
BOL	3.22	8.79	0.366	0.352	DZA	0.94	28.30	0.033	0.032
SLV	4.88	14.00	0.349	0.336	OMN	0.13	4.36	0.030	0.029
CAF	0.07	0.21	0.344	0.331	GAB	0.06	2.39	0.025	0.024
GNQ	0.01	0.04	0.339	0.327	LBY	0.28	11.92	0.024	0.023
TUN	3.01	8.95	0.336	0.324	ARG	0.74	56.42	0.013	0.013
KEN	1.59	4.84	0.328	0.316	TTO	0.25	25.89	0.009	0.009
COD	2.49	7.63	0.326	0.314	IRN	0.41	48.42	0.009	0.008
LBR	2.02	6.22	0.325	0.313	VEN	1.17	181.76	0.006	0.006
MAR	3.93	13.88	0.283	0.272	MYS	0.31	57.45	0.005	0.005
TUR	9.68	36.36	0.266	0.256	PNG	0.01	2.77	0.004	0.004
GHA	1.64	6.96	0.236	0.227	BRB	0.03	6.39	0.004	0.004
CYP	0.56	2.61	0.215	0.207	MEX	1.28	369.38	0.003	0.003
PRY	0.50	2.56	0.196	0.188	IRQ	0.14	92.10	0.002	0.002
ZMB	0.87	4.83	0.180	0.174	VNM	0.01	12.26	0.001	0.001
CMR	0.60	3.33	0.179	0.173	SAU	0.00	151.93	0.000	0.000

Note: Elasticity χ_{od} = (Aid/Trade) $\times \beta^{CUM,5}$, where $\hat{\beta}^{CUM,5} = 0.963$. Aid and trade denominated in 2011 USD.

Table B.2: Bilateral Elasticity by Recipient Country (Donor: USSR, 1962–1989)

Rec.	**Aid ($B)**	**Trade ($B)**	**Ratio**	**Elas.**	**Rec.**	**Aid ($B)**	**Trade ($B)**	**Ratio**	**Elas.**
AGO	0.14	0.01	12.081	11.634	AFG	2.96	4.24	0.697	0.671
CHL	1.05	0.20	5.182	4.990	ARG	0.93	1.49	0.628	0.605
MRT	0.08	0.02	3.641	3.506	ETH	1.56	3.23	0.483	0.465
KEN	0.25	0.09	2.708	2.608	LKA	0.52	1.18	0.443	0.426
TCD	0.01	0.00	1.979	1.906	COG	0.07	0.15	0.437	0.421
NER	0.01	0.00	1.886	1.817	BRA	1.64	3.79	0.433	0.417
SLE	0.15	0.09	1.729	1.665	GNB	0.04	0.10	0.372	0.358
BOL	0.28	0.16	1.715	1.652	GRC	0.46	1.32	0.352	0.339
PAK	4.22	2.60	1.623	1.563	URY	0.10	0.28	0.336	0.323
TZA	0.17	0.13	1.344	1.294	MLI	0.19	0.57	0.323	0.311
NIC	3.29	2.47	1.329	1.280	IRN	3.66	12.39	0.295	0.284
TUR	11.98	9.14	1.310	1.261	CMR	0.04	0.19	0.228	0.219
MUS	0.02	0.02	1.273	1.226	SDN	0.22	0.97	0.222	0.214
IRQ	5.15	4.26	1.210	1.165	SEN	0.05	0.24	0.198	0.191
MDG	0.37	0.32	1.146	1.104	TUN	0.22	1.18	0.189	0.182
KHM	0.11	0.09	1.140	1.098	NPL	0.06	0.35	0.168	0.161
UGA	0.11	0.10	1.133	1.091	EGY	2.03	12.89	0.157	0.151
MAR	6.22	5.55	1.120	1.079	BFA	0.00	0.03	0.150	0.144
DZA	4.32	3.97	1.087	1.046	BEN	0.02	0.14	0.125	0.121
JAM	0.09	0.08	1.065	1.025	JOR	0.08	0.79	0.099	0.095
CRI	0.05	0.04	1.029	0.991	GNQ	0.00	0.03	0.074	0.071
ZMB	0.05	0.05	0.953	0.918	GHA	0.07	1.08	0.066	0.063
PER	0.13	0.16	0.814	0.784	RWA	0.00	0.07	0.058	0.056
BGD	1.13	1.48	0.765	0.737	COL	0.01	0.31	0.032	0.031
SYR	3.73	4.88	0.764	0.736	MMR	0.01	0.60	0.014	0.013
SOM	0.36	0.48	0.754	0.727	IDN	0.02	1.31	0.013	0.012
IND	23.56	32.52	0.724	0.698	NGA	0.03	2.75	0.011	0.011

Note: Elasticity χ_{od} = (Aid/Trade) $\times \hat{\beta}^{CUM,5}$, where $\hat{\beta}^{CUM,5} = 0.963$. Aid and trade denominated in 2011 USD.

B.3 Hat Algebra

We follow Dekle, Eaton, and Kortum (2008) and solve the model in changes. We denote by a $'$ (a prime) a value of a variable post-shock. The pre-shock ("steady state") value of the variable is written without a prime. Denote by $\hat{}$ a gross proportional change between the post-shock value and the pre-shock value: $\forall x,\ \hat{x} = \frac{x'}{x}$. Then the exact hat equilibrium is defined as:

Market Clearing Conditions

The goods market clearing for tradables is:

$$\hat{P}_{dj}\,\hat{Y}_{dj}\,P_{dj}\,Y_{dj} = \sum_{o}\hat{\pi}_{d,oj}\,\pi_{d,oj}\left[\zeta_{oj}\,\hat{P}_o\,\hat{\mathcal{F}}_o\,P_o\,\mathcal{F}_o \;+\; \sum_{k=1}^{J}(1-\eta_k)\,\gamma_{j,ok}\,\hat{P}_{ok}\,\hat{Y}_{ok}\,P_{ok}\,Y_{ok}\right].$$

Services market clearing is:

$$\hat{P}_{dJ}\hat{Y}_{dJ}P_{dJ}Y_{dJ} = \zeta_{dJ}\,\hat{P}_d\,\hat{\mathcal{F}}_d\,P_d\,\mathcal{F}_d + \sum_{k=1}^{J}(1-\eta_k)\,\gamma_{J,dk}\,\hat{P}_{dk}\,\hat{Y}_{dk}P_{dk}\,Y_{dk}.$$

Labor market clearing is:

$$\hat{\mathcal{I}}_d\,\mathcal{I}_d = \hat{P}_d\,\hat{\mathcal{F}}_d\,P_d\mathcal{F}_d \iff \hat{W}_d\hat{L}_d\,W_dL_d \;+\; \sum_{o}\widehat{Aid}_{od}\,Aid_{od} \;-\; \hat{T}_d\,T_d \;+\; \hat{D}_d\,D_d = \sum_{j=1}^{J}\eta_j\,\hat{P}_{dj}\hat{Y}_{dj}\,P_{dj}Y_{dj}.$$

Prices and price indices

Changes in consumer prices are given by:

$$\widehat{P}_d = \prod_{j=1}^{J}(\widehat{P}_{dj})^{\zeta_{dj}}.$$

Changes in producer prices are given by:

$$\hat{P}_{dj} = \hat{Z}_{dj}^{-1}\hat{W}_d^{\eta_j}\left(\prod_{k=1}^{J}\left(\hat{P}^f_{dk}\right)^{\gamma_{k,dj}}\right)^{1-\eta_j}, \quad \hat{P}^f_{dj} = \left[\sum_{o}\pi_{o,dj}\hat{\mu}_{o,dj}(\hat{\tau}_{o,dj}\,\hat{P}_{oj})^{1-\varepsilon}\right]^{\frac{1}{1-\varepsilon}}, \hat{P}^f_{dJ} = \hat{P}_{dJ}$$

Trade Flows

Sectoral trade flows are given by:

$$\hat{\pi}_{o,dj} = \frac{\hat{\mu}_{o,dj}(\hat{\tau}_{o,dj}\hat{P}_{oj})^{1-\varepsilon}}{\sum_{\ell}\pi_{l,dj}\hat{\mu}_{\ell,dj}(\hat{\tau}_{\ell,dj}\hat{P}_{\ell j})^{1-\varepsilon}}.$$

Government

Government budget and bilateral tradecosts are:

$$\hat{T}_o = \sum_{d}\lambda_{od}\widehat{Aid}_{od}, \qquad \hat{\tau}_{od} = \frac{\hat{\tilde{\tau}}_{od}}{\left(\widehat{Aid}_{od}\right)^{\chi}}$$

where $\lambda_{od} = \frac{Aid_{od}}{\sum_d Aid_{od}}$.

B.4 Calibration

To obtain our final sectoral trade shares, we begin by using origin and destination trade data from UNCOMTRADE at the SITC-1 level for the years 1970-1975. We use the following concordance to map SITC-1 sectors to our three tradable sectors: animal and vegetable oils and fats, animal and vegetable oils and fats are mapped to agriculture; beverages and tobacco, manufactured goods, machinery and transport, chemicals, and miscellaneous manufactured goods are mapped to manufacturing; mineral fuels and lubricants and related materials, crude materials and inedible except fuels, and commodities and transactions not classified according to kind are mapped to commodities. When the origin country reported bilateral trade flow data, we use the origin country's value. If the destination country reports bilateral trade flow data, but the origin country does not, then we take the destination country's value but multiply by a correction factor. The correction factor is the median ratio between the origin and destination country's reported trade flow for all countries that reported bilateral trade flow data between 1970-1975.

The most challenging model object for us to calibrate without consistent gross output data is domestic absorption, which is then used to pin down the domestic trade share as well as all other bilateral trade shares. We begin by computing a synthetic version of gross output (GO) that is consistent with our trade flow data. Within the Long-Run WIOD and the Historic IO tables, countries report sectoral gross output and sectoral exports data. Since we are averaging across different time horizons and the Historic IO tables come from different years, we elect to take the ratio of GO/exports and multiply by our total sectoral exports data from UNCOMTRADE to obtain a synthetic measure of GO. We then obtain our final value for sectoral domestic absorption by subtracting our synthetic version of GO by sectoral exports. One issue with this approach is that we only have IO tables for select countries, so we supplement our data by using sectoral value added data from United Nations System of National Accounts (UN-SNA). To obtain our alternative synthetic value of gross output, we begin by averaging the sectoral UN-SNA value added data across 1970-1975 and then divide by our constructed sectoral value-added shares (using regional aggregates) to obtain gross output. We obtain our final value of sectoral domestic absorption by subtracting our synthetic sectoral GO by sectoral exports. In a few cases, domestic absorption is negative, which is likely attributed to the fact that we are using data from various datasets. In these instances, we take the regional sectoral average of GO/exports ratio, multiply the ratio by the countries' sectoral exports to obtain the synthetic gross output, and then finally obtain our final value for domestic absorption by subtracting our synthetic GO by exports. Once we have a value of domestic absorption for all country-sector pairs that is internally consistent with our UN-COMTRADE trade data, we then finally compute bilateral sectoral trade shares.

The Long-Run WIOD has historic IO data for: AUS, AUT, BEL, BRA, CAN, CHN, DEU, DNK, ESP, FIN, FRA, GBR, GRC, HKG, IND, IRL, ITA, JPN, KOR, MEX, NLD, PRT, SWE, TWN, USA. For data from the Long-Run WIOD, we group sectors AtB into Agriculture, sectors C and E into Commodities, sector D into manufacturing, and sectors F, G, H, I, J, K, LtQ into services. The countries we use historic IO tables are: ARG, CHL, CIV, COG, CSK, ECU, FJI, GHA, GTM, HTI, ISR, MAR, MDG, PER, PHL, PNG, POL, RWA, SGP, THA, TUR, TZA, URY, YUG, ZMB. We do not report here how we partition each historic IO table into our aggregate sectors since the tables all have different sectoral breakdowns, but to give a general overview, we try as closely as possible to match our sectoral mapping of SITC-1 sectors to our main tradable sectors, while also aligning with how we map the Long-Run WIOD's sectors to our aggregate sectors. We include public/government services within the services aggregate. Below Table B.3 reports summary statistics on our main objects for our calibration.

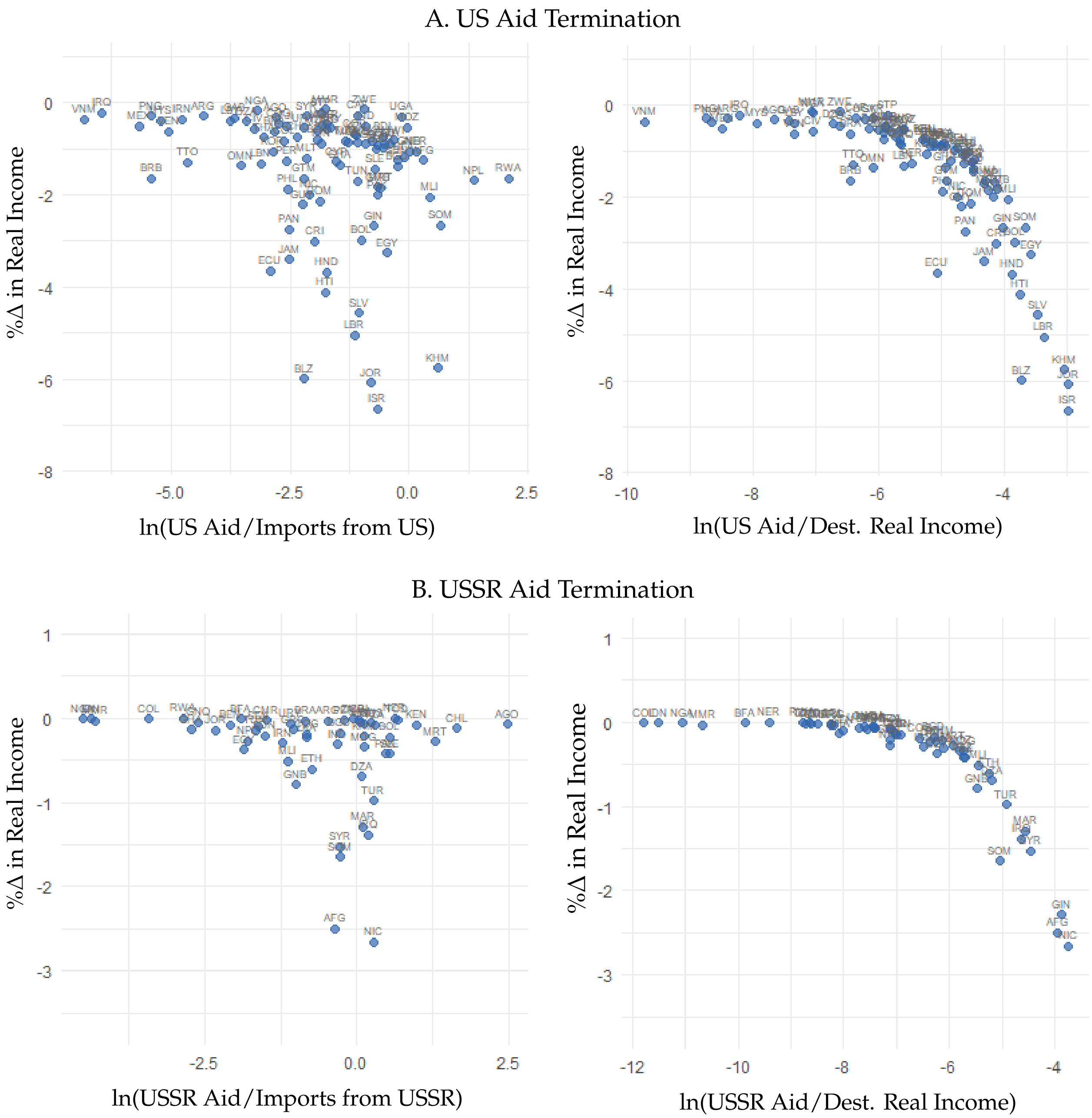
Table B.3: Summary Statistics of Model Calibration

Measure	Mean	Median	Std. Dev.	Min.	Max.
Consumption Shares					
Agriculture	0.1579	0.1429	0.0846	0.0079	0.3492
Commodities	0.0420	0.0350	0.0469	0.0001	0.3919
Manufacturing	0.3390	0.3379	0.0833	0.0784	0.5816
Services	0.4612	0.4430	0.1194	0.1934	0.7734
Equilibrium Domestic Trade Shares					
Agriculture	0.8568	0.9201	0.1881	0.0509	0.9997
Commodities	0.7531	0.8539	0.2572	0.0027	0.9964
Manufacturing	0.6862	0.7210	0.2212	0.0169	0.9961
Services	1.0000	1.0000	0.0000	1.0000	1.0000
Value Added Shares					
Agriculture	0.6741	0.6663	0.1148	0.4366	0.8412
Commodities	0.6079	0.5943	0.0440	0.5495	0.6717
Manufacturing	0.3566	0.3488	0.0430	0.3094	0.4157
Services	0.6298	0.6281	0.0315	0.5595	0.6737
Own IO Shares					
Agriculture	0.3263	0.2610	0.1569	0.0107	0.8579
Commodities	0.1955	0.1708	0.1333	0.0013	0.7095
Manufacturing	0.4221	0.4229	0.1074	0.0047	0.6489
Services	0.5140	0.5314	0.0968	0.2804	0.8194
Num. of Countries			127		

Notes: This table reports the summary statistics of the main model objects used for our analysis. Since we first solve our model to balance trade across countries, we report the equilibrium domestic trade shares. Commodities comprises of Mining+Utilities.

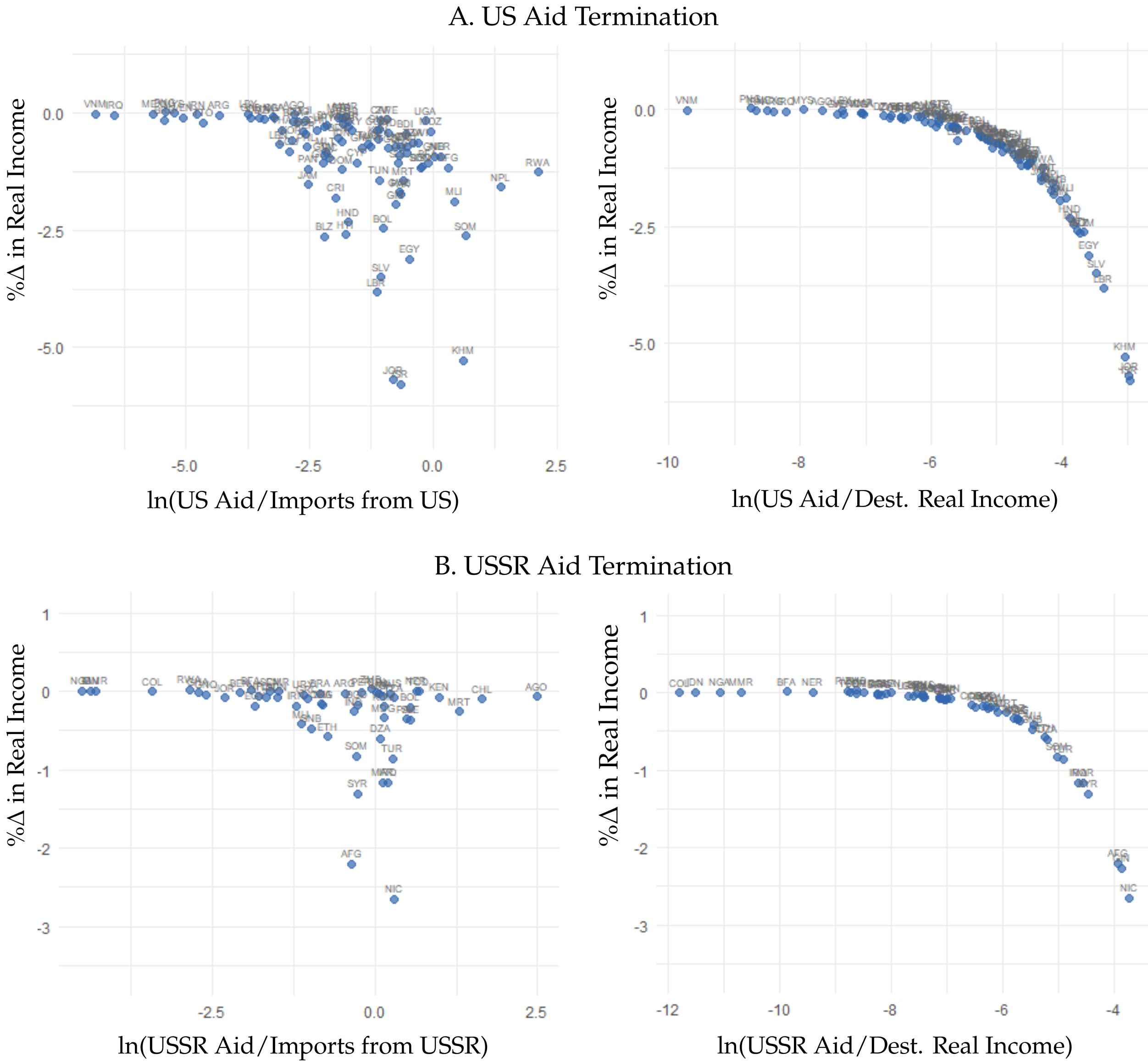
B.5 Additional Figures from Counterfactuals

Figure B.1: Welfare Effects- 86% reduction in US and USSR Foreign Aid Budget, χ = 0.099



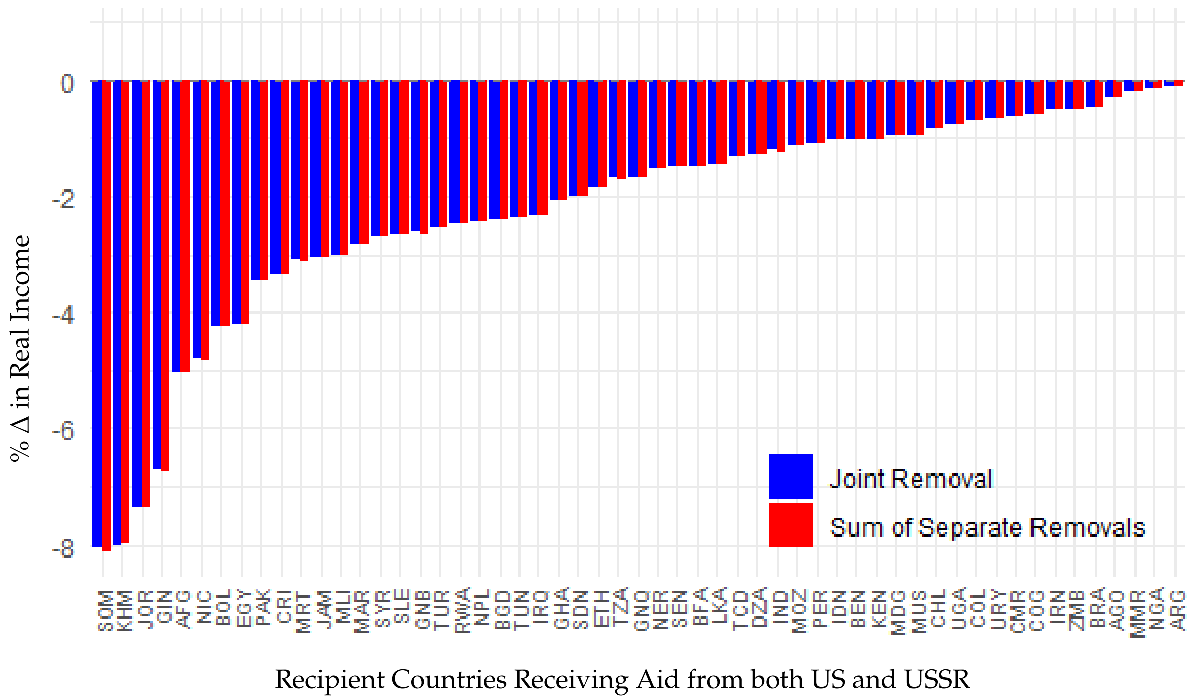
Note: Figure B.1 plots the percent change in real income from steady state in response to an 86% reduction in the US (top row) and USSR (bottom row) aid budget for countries that received foreign aid from the great powers during the Coldwar era, where χ=0.099. The left panels' x-axes are constructed by taking the log of US (USSR) aid disbursed to the destination country divided by the total bilateral imports of the destination country from the US (USSR) during the Coldwar era. The right panels' x-axes are constructed by taking the log of the US (USSR) aid disbursed by the US (USSR) during the Coldwar era and dividing by the steady state real income of the destination country. Saudi Arabia (SAU) and Laos (LAO) are removed from the US figures since they are outliers and skew the presentation of our results. Guinea (GIN) and Mozambique (MOZ) are discarded from the bottom left chart because there is no reported imports flows between these recipient countries and the USSR during the Cold War period.

Figure B.2: Welfare Effects- 86% reduction in US and USSR Foreign Aid Budget, χ = 0



Note: Figure B.2 plots the percent change in real income from steady state in response to an 86% reduction in the US (top row) and USSR (bottom row) aid budget for countries that received foreign aid from the great powers during the Coldwar era, where χ=0. The left panels' x-axes are constructed by taking the log of US (USSR) aid disbursed to the destination country divided by the total bilateral imports of the destination country from the US (USSR) during the Coldwar era. The right panels' x-axes are constructed by taking the log of the US (USSR) aid disbursed by the US (USSR) during the Coldwar era and dividing by the steady state real income of the destination country. Saudi Arabia (SAU) and Laos (LAO) are removed from the US figures since they are outliers and skew the presentation of our results. Guinea (GIN) and Mozambique (MOZ) are discarded from the bottom left chart because there is no reported imports flows between these recipient countries and the USSR during the Cold War period.

Figure B.3: Sum of Separate vs. Joint Aid Removals



Note: Figure B.3 plots the sum of the percent change in real income from steady state in counterfactuals 1 and 2 versus against the real income losses when we run both shocks simultaneously (run counter factuals 1 and 2 jointly). Since the bars in the joint removal versus sum of separate removals are nearly identical, this indicates that the aid shocks are quasi-additive.