# Supplemental appendix for: "US Disaster Aid and Bilateral Trade Growth"

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March 16, 2015

This appendix present the results of additional models intended to demonstrate the robustness of my findings, as well as to present summary statistics of the variables used in my study. First, Tables A1 and A2 present models in which I include all country years (not only those following the first disaster). In Table A1, I include a dichotomous variable for disaster onset. In Table A2, I include my trade-based disaster severity variable, coding it as 0 for all years prior to the first disaster. Results look quite similar in these models, which otherwise replicate Models 1 and 3. I contend that the more inclusive models presented in Tables A1 and A2 could be problematic, however, given that zero aid could occur both before and after a disaster.[1]

[Tables A1 and A2 about here]

Next, I present models in which the dependent variables are total multilateral trade, and total imports, respectively, for the disaster victim. The results of these models suggest that US disaster aid does not affect multilateral trade. Taken together with the results of my main models, these results suggest that US disaster aid specifically promotes bilateral trade above recipient trade with third parties. Accordingly, these results suggest support for the causal mechanisms linking disaster aid to improved affinity, or perhaps to expedient repair of infrastructure linking donor and recipient. While disaster aid might have some positive impact on multilateral trade, it is possible that there is also high variance in this impact, explaining the lack of significance of the disaster aid coefficients. Notably, the coefficients for disaster severity demonstrate, as expected, that more severe disasters harm trade growth more. It is likely that trade recovers naturally over time; my results suggest only that US disaster aid has no clear association with this process.

[Table A3 about here]

Table A4 presents an ECM variant of the Heckman selection model I use to examine possibly reversed causation, wherein preexisting trade could affect the likelihood that aid is granted (or the dollar value of aid committed). Again, results look consistent in these models, although they should be taken with a grain of salt. The Heckman specification includes only observations with non-zero aid commitment in the second equation, thus the ECM could be missing important information with which to estimate short- and long-run impact of aid because all years with zero aid commitment are dropped from the analysis.

[Table A4 about here]

Next, Table A5 includes all three equations estimated in the main paper (the decision to allocate aid, dollar value of aid, and growth in trade) in simultaneous equations models. To do so, I use the CMP package

[1] I also tried interacting aid commitment with disaster onset, as well as with severity, in models including all country-years. In these models, the impact of disaster aid appears not to be conditional on the presence of a disaster, as indicated by the lack of significant interaction terms. However, these models are limited given that the impact of aid given the absence of a disaster is grouping together observations after a disaster as well as those prior to the first disaster–when no disaster aid was possible.

in Stata 12 (Roodman, 2011). The CMP package generally fits recursive simultaneous equations models using seemingly unrelated regression. Accordingly, correlations between the residuals across equations are accounted for in the estimates in each model. CMP models also allow for a Heckman selection process, which I include between the first and second equations; however, it is flexible enough that I can then re-include all observations with zero aid in the third equation. It is important to note that finding useful instruments for each equation's dependent variable is difficult. Accordingly, I must assume identification of the model using its functional form. Ultimately, the CMP models should therefore be taken only as supplemental evidence in support of hypothesis 1.

[Table A5 about here]

Next, I present the conditional coefficients for the immediate impact of US disaster aid (Figure A1) as well as the long-run multiplier (Figure A2), taken from Model 2, examining all bilateral trade (left plot); and Model 4, examining imports from the US (right plot). Figure A1 shows that the immediate impact of aid appears relatively constant regardless of the severity of the most recent disaster. Both for all bilateral trade, and specifically for imports from the US, the conditional coefficients for aid are signifiant distinct from zero at all levels of disaster severity, yet appear flat. While the relatively wide confidence bounds imply that there is not an interaction here, I also test to see if the conditional coefficient in the case where disaster severity is equal to 0 is significantly different from the conditional coefficient in the case where disaster severity is equal to its mean plus 1 standard deviation. This test shows that these two conditional coefficients for the immediate impact of aid are not statistically distinguishable in both models ($p \leq 0.389$ from Model 2, and $p \leq 0.654$ from Model 4).

Similarly, Figure A2 illustrates that the long-run multiplier also does not vary depending on the severity of the most recent disaster.[2] Although the LRMs are significantly different from zero at all levels of disaster severity, I once again fail to reject the hypothesis that the LRM at the lowest value of disaster severity is equal to the LRM at the higher value of disaster severity (specifically, 0 vs. the mean plus 1 standard deviation; $p \leq 0.399$ and $p \leq 0.158$, respectively, for Models 2 and 4). Although I cannot reject the null hypothesis that the LRM is flat over the range of disaster severity, it is interesting to note that the conditional LRM lines slope in opposite directions. For all trade, the line representing the marginal effect of aid slopes downward, suggesting that the long-run marginal effect of aid becomes weaker for more severe disasters. However, for imports from the US, the line slopes upward, suggesting that the long-run marginal effect of aid becomes stronger as the disaster leading to that aid becomes more severe.

[Figures A1 and A2 about here]

Finally, Tables A6 and A7 present additional information on my variables. Table A6 presents presents summary statistics for all variables used (both level and change, where appropriate). Table A7 provides information on US aid commitment by recipient state.

[Tables A6 and A7 about here]

[2] Figure A2 was plotted using predictions from the Bewley transformation.

Table A1: Models including all country-years, using disaster occurrence variable

| | US imports + exports | | Imports from US | |
|---|---|---|---|---|
| | Coefficient | Robust SE | Coefficient | Robust SE |
| ln Dyadic trade$_t$ | -0.251*** | (0.047) | -0.263*** | (0.036) |
| $\Delta$ ln Disaster aid commitment | 0.006*** | (0.002) | 0.008*** | (0.003) |
| ln Disaster aid commitment$_t$ | 0.009*** | (0.003) | 0.011*** | (0.004) |
| $\Delta$ Disaster | -0.046 | (0.048) | -0.007 | (0.062) |
| Disaster$_t$ | 0.034 | (0.041) | 0.049 | (0.076) |
| $\Delta$ ln GDP | 1.689*** | (0.559) | 1.408** | (0.563) |
| ln GDP$_t$ | 0.339*** | (0.079) | 0.341*** | (0.075) |
| $\Delta$ ln US GDP | 0.192 | (0.751) | -1.056 | (0.669) |
| ln US GDP$_t$ | -0.357*** | (0.109) | -0.032 | (0.096) |
| $\Delta$ ln population | 2.635* | (1.365) | 4.181** | (1.921) |
| ln population$_t$ | -0.097** | (0.048) | -0.075 | (0.054) |
| $\Delta$ Combined polity score | 0.003 | (0.005) | -0.014 | (0.015) |
| Combined polity score$_t$ | 0.010** | (0.005) | 0.012*** | (0.004) |
| $\Delta$ UN voting similarity | 0.134 | (0.120) | -0.295 | (0.264) |
| UN voting similarity$_t$ | 0.247*** | (0.089) | 0.236** | (0.093) |
| $\Delta$ Land ratio | -1.346*** | (0.496) | -1.412** | (0.604) |
| Land ratio$_t$ | -0.193*** | (0.073) | -0.182* | (0.095) |
| $\Delta$ Labor ratio | 21.859 | (19.971) | 14.019 | (18.468) |
| Labor ratio$_t$ | 0.023 | (0.132) | -0.076 | (0.139) |
| $\Delta$ Capital ratio | -0.218 | (1.840) | -0.478 | (1.950) |
| Capital ratio$_t$ | -0.151 | (0.218) | -0.002 | (0.247) |
| ln Distance | -0.052*** | (0.020) | -0.068*** | (0.024) |
| Constant | 9.042*** | (2.997) | -0.919 | (2.889) |
| Observations | 4,673 | | 4,691 | |
| $R^2$ | 0.151 | | 0.164 | |
| F | 18.310*** | | 15.449*** | |

DV = $\Delta$ trade from year $t$ to year $t+1$
*** $p \leq 0.01$, ** $p \leq 0.05$, * $p \leq 0.1$, two-tailed tests
Standard errors clustered on the state

Table A2: Models including all country-years, using disaster severity variable

| | US imports + exports | | Imports from US | |
|---|---|---|---|---|
| | Coefficient | Robust SE | Coefficient | Robust SE |
| ln Dyadic trade$_t$ | -0.270*** | (0.052) | -0.271*** | (0.044) |
| $\Delta$ ln Disaster aid commitment | 0.004* | (0.002) | 0.006** | (0.002) |
| ln Disaster aid commitment$_t$ | 0.006** | (0.003) | 0.007** | (0.003) |
| $\Delta$ Disaster severity | -1.859*** | (0.265) | -1.771*** | (0.217) |
| Disaster severity$_t$ | -1.265*** | (0.420) | -1.114*** | (0.346) |
| $\Delta$ ln GDP | 1.368** | (0.579) | 1.116** | (0.553) |
| ln GDP$_t$ | 0.321*** | (0.075) | 0.323*** | (0.076) |
| $\Delta$ ln US GDP | -0.335 | (0.806) | -1.095 | (0.677) |
| ln US GDP$_t$ | -0.287** | (0.116) | 0.060 | (0.108) |
| $\Delta$ ln population | 3.201** | (1.443) | 4.725** | (1.973) |
| ln population$_t$ | -0.071 | (0.047) | -0.052 | (0.052) |
| $\Delta$ Combined polity score | 0.007 | (0.006) | -0.010 | (0.014) |
| Combined polity score$_t$ | 0.010** | (0.005) | 0.013*** | (0.004) |
| $\Delta$ UN voting similarity | 0.155 | (0.112) | -0.240 | (0.268) |
| UN voting similarity$_t$ | 0.214*** | (0.080) | 0.173** | (0.079) |
| $\Delta$ Land ratio | -1.436** | (0.596) | -1.338** | (0.598) |
| Land ratio$_t$ | -0.201*** | (0.073) | -0.170* | (0.089) |
| $\Delta$ Labor ratio | 23.603 | (19.638) | 13.434 | (16.690) |
| Labor ratio$_t$ | 0.037 | (0.135) | -0.078 | (0.140) |
| $\Delta$ Capital ratio | -0.218 | (1.918) | -0.359 | (1.869) |
| Capital ratio$_t$ | -0.067 | (0.227) | -0.012 | (0.236) |
| ln Distance | -0.058*** | (0.020) | -0.070*** | (0.023) |
| Constant | 7.715** | (3.365) | -3.153 | (3.175) |
| Observations | 4,673 | | 4,691 | |
| $R^2$ | 0.189 | | 0.198 | |
| F | 14.523*** | | 22.561*** | |

DV = $\Delta$ trade from year $t$ to year $t+1$
*** $p \leq 0.01$, ** $p \leq 0.05$, * $p \leq 0.1$, two-tailed tests
Standard errors clustered on the state

Table A3: DV is all trade, all imports (multilateral variables)

| | Total imports + exports | | Total imports | |
|---|---|---|---|---|
| | Coefficient | Robust SE | Coefficient | Robust SE |
| | DV= Disaster aid issued (dichotomous) | | | |
| ln Multilateral trade$_t$ | -0.064*** | (0.008) | -0.081*** | (0.009) |
| $\Delta$ ln Disaster aid commitment | -0.001 | (0.001) | 0.001 | (0.001) |
| ln Disaster aid commitment$_t$ | 0.000 | (0.001) | 0.002 | (0.001) |
| $\Delta$ Disaster severity | -0.297*** | (0.039) | -0.302*** | (0.045) |
| Disaster severity$_t$ | -0.140*** | (0.031) | -0.143*** | (0.028) |
| $\Delta$ ln GDP | 0.655*** | (0.135) | 0.528*** | (0.137) |
| ln GDP$_t$ | 0.072*** | (0.011) | 0.079*** | (0.013) |
| $\Delta$ ln US GDP | 0.893*** | (0.145) | 0.485** | (0.179) |
| ln US GDP$_t$ | 0.180*** | (0.019) | 0.186*** | (0.020) |
| $\Delta$ ln population | 0.505 | (0.305) | 0.421 | (0.378) |
| ln population$_t$ | -0.022** | (0.008) | -0.021* | (0.009) |
| $\Delta$ Combined polity score | -0.002 | (0.002) | -0.002 | (0.002) |
| Combined polity score$_t$ | -0.000 | (0.001) | 0.000 | (0.001) |
| $\Delta$ UN voting similarity | 0.025 | (0.037) | 0.006 | (0.039) |
| UN voting similarity$_t$ | 0.060*** | (0.017) | 0.063** | (0.020) |
| $\Delta$ ln Land ratio | -0.361* | (0.177) | -0.284 | (0.179) |
| ln Land ratio$_t$ | -0.010 | (0.009) | 0.005 | (0.010) |
| $\Delta$ ln Labor ratio | 0.474 | (2.530) | 1.379 | (2.971) |
| ln Labor ratio$_t$ | 0.034* | (0.015) | 0.030 | (0.020) |
| $\Delta$ ln Capital ratio | 1.493* | (0.576) | 1.172 | (0.644) |
| ln Capital ratio$_t$ | 0.018 | (0.035) | 0.056 | (0.045) |
| $\Delta$ Disaster aid percentage | -0.002 | (0.048) | -0.013 | (0.048) |
| Disaster aid percentage$_t$ | 0.063 | (0.033) | 0.013 | (0.037) |
| Years since disaster | 0.001 | (0.001) | 0.000 | (0.001) |
| ln Distance | 0.001 | (0.003) | 0.000 | (0.003) |
| Constant | -5.448*** | (0.571) | -5.456*** | (0.606) |
| Observations | 3,895 | | 3,895 | |
| $R^2$ | 0.249 | | 0.183 | |
| F | 36.571 | | 22.677 | |

*** $p \leq 0.01$, ** $p \leq 0.05$, * $p \leq 0.1$, two-tailed tests
standard errors clustered on the state

Table A4: ECM version of Heckman selection model

| | US imports + exports | | Imports from US | |
|---|---|---|---|---|
| | Coefficient | Robust SE | Coefficient | Robust SE |
| | DV= Disaster aid issued (dichotomous) | | | |
| ln Trade$_{t-1}$ | -0.056** | (0.025) | 0.008 | (0.031) |
| ln Deaths | 0.043*** | (0.016) | 0.042*** | (0.016) |
| Disaster severity | -0.530** | (0.208) | -0.587*** | (0.174) |
| Combined polity score$_{t-1}$ | 0.048*** | (0.008) | 0.048*** | (0.008) |
| ln GDP per capita$_{t-1}$ | -0.018 | (0.067) | -0.103 | (0.074) |
| ln Population$_{t-1}$ | 0.057 | (0.050) | -0.003 | (0.052) |
| UN voting similarity$_{t-1}$ | -2.060*** | (0.289) | -2.115*** | (0.288) |
| US budget deficit/GDP$_{t-1}$ | -0.182*** | (0.018) | -0.188*** | (0.018) |
| ln Total US bilateral aid$_{t-1}$ | 0.076*** | (0.012) | 0.072*** | (0.012) |
| ln Distance | 0.009 | (0.065) | 0.033 | (0.063) |
| Constant | -1.554 | (1.022) | -1.784* | (0.956) |
| | DV= ln Disaster aid commitment in dollars | | | |
| ln Disaster aid commitment$_{t-1}$ | -0.846*** | (0.013) | -0.847*** | (0.013) |
| $\Delta$ ln Trade | 0.114 | (0.215) | 0.085 | (0.183) |
| ln Trade$_{t-1}$ | 0.017 | (0.092) | -0.003 | (0.092) |
| $\Delta$ ln Deaths | 0.023 | (0.039) | 0.026 | (0.039) |
| ln Deaths$_{t-1}$ | 0.069 | (0.064) | 0.074 | (0.063) |
| $\Delta$ Disaster severity | -0.342 | (0.580) | -0.314 | (0.525) |
| Disaster severity$_{t-1}$ | -0.631 | (0.719) | -1.094 | (0.722) |
| $\Delta$ Combined polity score | -0.021 | (0.031) | -0.019 | (0.031) |
| Combined polity score$_{t-1}$ | -0.043* | (0.022) | -0.045** | (0.022) |
| $\Delta$ UN voting similarity | 1.199* | (0.623) | 1.140* | (0.614) |
| UN voting similarity$_{t-1}$ | 1.510** | (0.697) | 1.584** | (0.714) |
| $\Delta$ ln GDP per capita | 0.151 | (0.833) | 0.172 | (0.824) |
| ln GDP per capita$_{t-1}$ | -0.582*** | (0.175) | -0.554*** | (0.172) |
| $\Delta$ ln Total US bilateral aid | 0.175** | (0.075) | 0.178** | (0.075) |
| ln Total US bilateral aid$_{t-1}$ | 0.147** | (0.058) | 0.145** | (0.058) |
| ln Distance | 0.101 | (0.113) | 0.096 | (0.118) |
| Constant | 14.061*** | (2.196) | 14.482*** | (2.190) |
| Rho | 0.032 | (0.143) | -0.010 | (0.149) |
| Observations | 4,211 | | 4,218 | |
| $\chi^2$ | 5741*** | | 5938*** | |
| Log likelihood | -3498.35 | | -3498.64 | |

*** $p \leq 0.01$, ** $p \leq 0.05$, * $p \leq 0.1$, two-tailed tests
standard errors clustered on the state
$\Delta$ indicates change from year t-1 to year t

Table A5: Three-equation model using CMP package

| | US imports + exports | | Imports from US | |
|---|---|---|---|---|
| | Coefficient | Robust SE | Coefficient | Robust SE |
| | DV= Disaster aid issued (dichotomous)$_t$ | | | |
| Trade$_{t-1}$ | 0.063 | (0.091) | 0.121 | (0.074) |
| ln Deaths | 0.037** | (0.015) | 0.031** | (0.015) |
| Disaster severity | -0.938** | (0.394) | -0.982*** | (0.314) |
| Combined polity score$_{t-1}$ | 0.046*** | (0.008) | 0.043*** | (0.008) |
| UN voting similarity$_{t-1}$ | -1.937*** | (0.285) | -1.941*** | (0.278) |
| ln Population$_{t-1}$ | -0.048 | (0.089) | -0.082 | (0.071) |
| ln GDP per capita$_{t-1}$ | -0.189 | (0.146) | -0.254** | (0.116) |
| US budget deficit/GDP$_{t-1}$ | -0.168*** | (0.023) | -0.169*** | (0.022) |
| ln Total US bilateral aid$_{t-1}$ | 0.073*** | (0.012) | 0.072*** | (0.012) |
| ln Distance | 0.036 | (0.058) | 0.053 | (0.057) |
| Constant | -1.771** | (0.900) | -2.083** | (0.874) |
| | DV= Amount of aid issued$_t$ | | | |
| Trade$_{t-1}$ | 0.316 | (0.173) | 0.340** | (0.149) |
| ln Deaths | -0.010 | (0.050) | -0.018 | (0.050) |
| Disaster severity | -2.333*** | (0.606) | -1.805*** | (0.541) |
| Combined polity score$_{t-1}$ | 0.024 | (0.027) | 0.021 | (0.024) |
| UN voting similarity$_{t-1}$ | -1.150 | (0.818) | -1.190 | (0.767) |
| ln GDP per capita$_{t-1}$ | -1.130*** | (0.257) | -1.141*** | (0.220) |
| ln Total US bilateral aid$_{t-1}$ | 0.198*** | (0.039) | 0.191*** | (0.038) |
| ln Distance | 0.001 | (0.190) | -0.047 | (0.219) |
| Constant | 11.278** | (3.596) | 11.739*** | (3.512) |
| | DV= Trade$_{t+1}$ | | | |
| ln Dyadic trade$_t$ | -0.245*** | (0.052) | -0.322*** | (0.046) |
| $\Delta$ ln Disaster aid commitment | 0.008*** | (0.003) | 0.011*** | (0.003) |
| ln Disaster aid commitment$_t$ | 0.056 | (0.037) | 0.070*** | (0.034) |
| $\Delta$ Disaster severity | -1.801*** | (0.278) | -1.954*** | (0.233) |
| Disaster severity$_t$ | -1.203*** | (0.441) | -1.371*** | (0.352) |
| $\Delta$ ln GDP | 0.592 | (0.492) | 0.378 | (0.367) |
| ln GDP$_t$ | 0.348*** | (0.076) | 0.451*** | (0.076) |
| $\Delta$ ln US GDP | 0.381 | (0.578) | -0.180 | (0.554) |
| ln US GDP$_t$ | -0.450*** | (0.146) | -0.343*** | (0.114) |
| $\Delta$ ln population | 2.571 | (1.835) | 3.870* | (2.013) |
| ln population$_t$ | -0.189*** | (0.069) | -0.221*** | (0.066) |
| $\Delta$ Combined polity score | 0.008 | (0.007) | -0.003 | (0.015) |
| Combined polity score$_t$ | -0.002 | (0.007) | 0.001 | (0.006) |
| $\Delta$ UN voting similarity | 0.288* | (0.165) | 0.096 | (0.193) |
| UN voting similarity$_t$ | 0.536** | (0.288) | 0.573** | (0.268) |
| $\Delta$ ln Land ratio | -1.130** | (0.560) | -1.181** | (0.579) |
| ln Land ratio$_t$ | -0.147** | (0.057) | -0.206*** | (0.069) |
| $\Delta$ ln Labor ratio | 13.966 | (12.589) | 9.922 | (12.925) |
| ln Labor ratio$_t$ | 0.156 | (0.104) | 0.071 | (0.109) |
| $\Delta$ ln Capital ratio | 1.588 | (1.751) | 1.631 | (1.377) |
| ln Capital ratio$_t$ | -0.003 | (0.268) | 0.021 | (0.303) |
| $\Delta$ Disaster aid percentage | 0.233 | (0.181) | 0.184 | (0.148) |
| Disaster aid percentage$_t$ | 1.425*** | (0.349) | 1.279*** | (0.286) |
| Years since disaster | 0.004 | (0.009) | 0.001 | (0.009) |
| ln Distance | -0.060*** | (0.019) | -0.083*** | (0.023) |
| Constant | 12.380*** | (4.393) | 8.394** | (3.414) |
| Rho: issue/amount | -1.205*** | (0.401) | -1.204*** | (0.319) |
| Rho: issue/trade | -0.487** | (0.232) | -0.520*** | (0.195) |
| Rho: amount/trade | 0.484*** | (0.180) | 0.500*** | (0.154) |
| Observations | 4,290 | | 4,307 | |

*** $p \leq 0.01$, ** $p \leq 0.05$, * $p \leq 0.1$, two-tailed tests
Standard errors clustered on the state

Table A6: Summary Statistics

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| $\Delta$ ln Dyadic trade | 5031 | 0.018 | 1.420 | -18.987 | 19.663 |
| ln Dyadic trade$_t$ | 5215 | 20.799 | 3.344 | 0 | 27.616 |
| $\Delta$ ln Imports from US | 5036 | 0.055 | 1.530 | -18.510 | 18.765 |
| ln Imports from US$_t$ | 5219 | 19.526 | 3.294 | 0 | 26.185 |
| $\Delta$ ln Disaster aid commitment | 5049 | 0.242 | 4.471 | -17.846 | 19.830 |
| ln Disaster aid commitment$_t$ | 5233 | 2.989 | 5.956 | 0 | 21.410 |
| $\Delta$ Disaster severity (all trade) | 5049 | 0.003 | 0.156 | -1.000 | 1.000 |
| Disaster severity (all trade)$_t$ | 5230 | 0.095 | 0.183 | 0 | 1.000 |
| $\Delta$ Disaster severity (imports) | 5114 | 0.002 | 0.175 | -1.000 | 1.000 |
| Disaster severity (imports)$_t$ | 5139 | 0.099 | 0.193 | 0 | 1.000 |
| $\Delta$ ln GDP | 5019 | 0.028 | 0.082 | -1.114 | 0.710 |
| ln GDP$_t$ | 5196 | 24.253 | 2.158 | 18.828 | 30.060 |
| $\Delta$ ln US GDP | 5263 | 0.020 | 0.026 | -0.046 | 0.078 |
| ln US GDP$_t$ | 5447 | 29.971 | 0.239 | 29.467 | 30.307 |
| $\Delta$ ln population | 5077 | 0.017 | 0.015 | -0.173 | 0.179 |
| ln population$_t$ | 5254 | 8.854 | 1.862 | 2.879 | 14.101 |
| $\Delta$ Combined polity score | 4685 | 0.168 | 1.772 | -15.000 | 16.000 |
| Combined polity score$_t$ | 4852 | 1.493 | 7.275 | -10.000 | 10.000 |
| $\Delta$ UN voting similarity | 5051 | -0.013 | 0.138 | -1.212 | 1.100 |
| UN voting similarity$_t$ | 5267 | -0.278 | 0.325 | -1.000 | 1.000 |
| $\Delta$ ln Land ratio | 4857 | 0.002 | 0.019 | -0.412 | 0.216 |
| ln Land ratio$_t$ | 5036 | 0.498 | 0.360 | 0 | 1.530 |
| $\Delta$ ln Labor ratio | 5077 | 0.000 | 0.001 | -0.006 | 0.017 |
| ln Labor ratio$_t$ | 5254 | 0.092 | 0.207 | 0 | 1.723 |
| $\Delta$ ln Capital ratio | 5019 | 0.001 | 0.014 | -0.216 | 0.142 |
| ln Capital ratio$_t$ | 5196 | 0.203 | 0.211 | 0.005 | 1.404 |
| $\Delta$ Disaster aid proportion | 5021 | 0.002 | 0.102 | -0.693 | 0.693 |
| Disaster aid proportion | 5212 | 0.033 | 0.116 | 0 | 0.693 |
| Years since disaster | 5447 | 1.318 | 2.604 | 0 | 37.000 |
| ln Distance | 5447 | 8.384 | 1.018 | 0 | 9.155 |
| ln deaths | 5447 | 2.490 | 2.555 | 0 | 13.321 |
| ln US budget deficit$_{t-1}$ | 5406 | 2.573 | 2.048 | -1.863 | 8.798 |

Table A7: Total aid commitment (1973-2008 combined)

| Country | Tot aid | Country | Tot aid | Country | Tot aid |
|---|---|---|---|---|---|
| Bahamas | 825,568 | Niger | 64,700,424 | Turkmenistan | 604,607 |
| Cuba | 3,014,609 | Ivory Coast | 69,936,512 | Tajikistan | 75,776,056 |
| Haiti | 119,913,088 | Guinea | 100,279,728 | Kyrgyzstan | 5,825,567 |
| Dominican Rep. | 32,084,320 | Burkina Faso | 7,002,544 | Uzbekistan | 25,173,030 |
| Jamaica | 24,914,806 | Liberia | 349,405,184 | Kazakhstan | 1,946,023 |
| Barbados | 2,414,826 | Sierra Leone | 231,131,104 | China | 16,615,890 |
| Dominica | 59,762 | Ghana | 35,154,884 | Mongolia | 1,664,315 |
| Grenada | 4,268,193 | Togo | 462,994 | Taiwan | 86,867 |
| St. Lucia | 18,417 | Cameroon | 11,701,479 | North Korea | 510,255,200 |
| Mexico | 4,110,374 | Nigeria | 287,936 | India | 55,068,680 |
| Belize | 835,744 | Gabon | 124,924 | Bhutan | 316,526 |
| Guatemala | 53,920,720 | C. African Rep. | 38,515,068 | Pakistan | 422,385,824 |
| Honduras | 138,758,912 | Chad | 406,002,496 | Bangladesh | 107,335,000 |
| El Salvador | 274,876,608 | Congo | 27,480,628 | Myanmar | 94,277,288 |
| Nicaragua | 236,877,872 | D. Rep. Congo | 656,017,344 | Sri Lanka | 191,830,768 |
| Costa Rica | 15,612,522 | Uganda | 460,792,736 | Maldives | 4,180,738 |
| Panama | 49,920,452 | Kenya | 552,371,136 | Nepal | 85,971,208 |
| Colombia | 163,799,424 | Tanzania | 231,804,688 | Thailand | 102,741,272 |
| Venezuela | 3,481,605 | Burundi | 257,514,544 | Cambodia | 315,251,616 |
| Guyana | 11,892,507 | Rwanda | 90,257,512 | Laos | 1,874,849 |
| Suriname | 265,393 | Somalia | 696,253,504 | Vietnam | 34,321,740 |
| Ecuador | 62,777,692 | Djibouti | 18,267,004 | Malaysia | 841,157 |
| Peru | 325,869,312 | Ethiopia | 2,673,860,096 | Philippines | 161,325,664 |
| Brazil | 1,952,861 | Eritrea | 330,134,464 | Indonesia | 180,958,416 |
| Bolivia | 15,240,990 | Angola | 467,191,744 | Papua New Guinea | 202,936 |
| Paraguay | 582,467 | Mozambique | 34,129,000 | Vanuatu | 50,973 |
| Chile | 90,411 | Zambia | 51,423,392 | Solomon Islands | 80,683 |
| Argentina | 1,005,871 | Zimbabwe | 351,466,336 | Fiji | 152,399 |
| Uruguay | 106,368 | Malawi | 24,918,406 | Marshall Islands | 759,811 |
| Poland | 5,123,465 | South Africa | 5,909,562 | Palau | 650,742 |
| Hungary | 122,970 | Namibia | 842,677 | Samoa | 18,562 |
| Czech Republic | 203,481 | Lesotho | 16,973,058 | | |
| Slovakia | 59,497 | Botswana | 1,530,721 | | |
| Albania | 28,863,806 | Swaziland | 412,449 | | |
| Macedonia | 10,730,473 | Madagascar | 34,454,376 | | |
| Croatia | 25,512,234 | Comoros | 106,601 | | |
| Yugoslavia | 759,911,616 | Mauritius | 12,769,186 | | |
| Bosnia and Herz. | 108,224,768 | Seychelles | 165,518 | | |
| Cyprus | 168,102,304 | Morocco | 53,060,400 | | |
| Moldova | 11,298,890 | Algeria | 18,832,076 | | |
| Romania | 3,610,328 | Tunisia | 8,542,738 | | |
| Russia | 33,769,804 | Sudan | 3,526,678,272 | | |
| Ukraine | 5,401,902 | Iran | 11,755,796 | | |
| Belarus | 1,110,282 | Turkey | 24,218,636 | | |
| Armenia | 19,838,690 | Iraq | 1,867,280,384 | | |
| Georgia | 118,981,888 | Egypt | 802,849,664 | | |
| Azerbaijan | 60,454,800 | Syria | 73,061,648 | | |
| Sao Tome and Principe | 14,250 | Lebanon | 339,572,544 | | |
| Guinea-Bissau | 3,611,766 | Jordan | 20,390,006 | | |
| Gambia | 3,437,954 | Israel | 9 500,060,992 | | |
| Mali | 16,067,476 | Kuwait | 14,279 | | |
| Senegal | 45,534,800 | Qatar | 83,871 | | |
| Benin | 3,842,025 | Oman | 70,600 | | |
| Mauritania | 53,546,908 | Afghanistan | 1,431,032,576 | | |

# References

Roodman, David. 2011. "Fitting Fully Observed Recursive Mixed-process Models with CMP." *Stata Journal* 11(2):159–206.

Figure A1: Conditional immediate impact coefficient, from Models 2 and 4

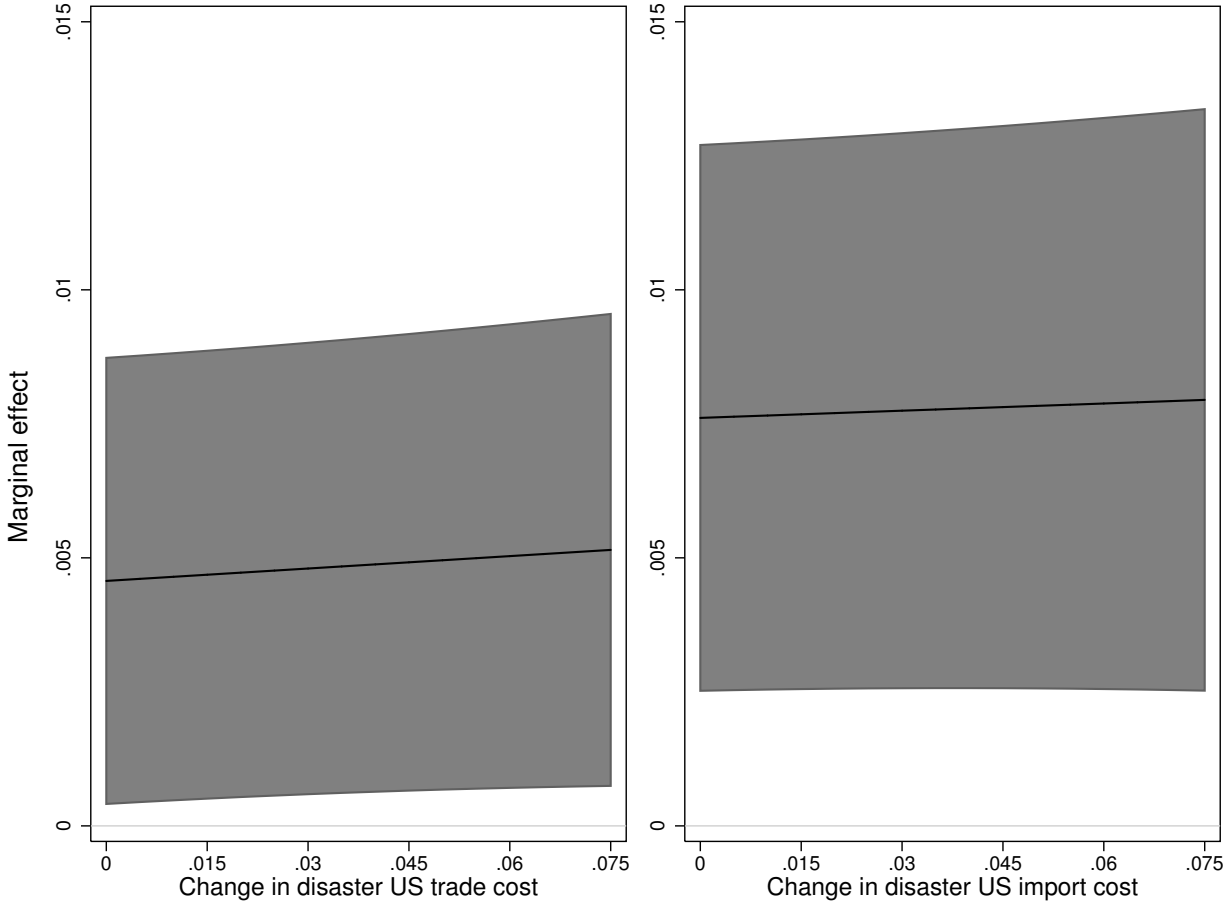
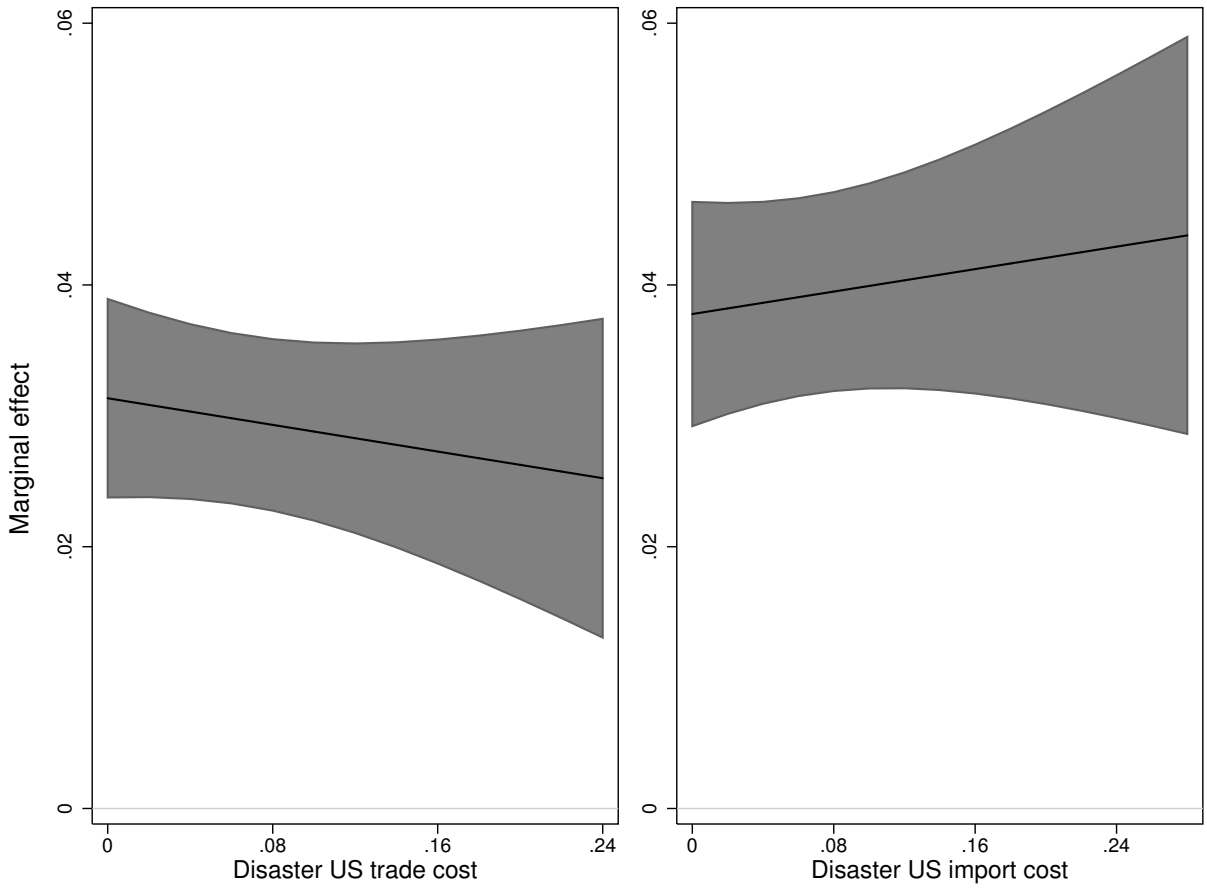
Figure A2: Conditional long-run multipliers, from Models 2 and 4