CIA Interventions, Tariff Changes, and Trade During the Cold War: A Variation and New Results

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LINK TO ABSTRACT

An *American Economic Review* article by Daniel Berger, William Easterly, Nathan Nunn, and Shanker Satyanath (hereafter "BENS") provides evidence of CIA interventions affecting trade flows (BENS 2013). As the authors underline, history offers many examples of the use of political power to promote trade and other national interests. However, the question of whether political power is an important determinant of international trade is difficult to examine empirically, because the shifts in power relations between governments are often the result of decisions that are made behind the veil of government secrecy.

BENS put remarkable research effort into overcoming the problem. Using recently declassified CIA documents, they constructed a country- and year-specific measure of the influence of the U.S. government over foreign countries. The gravity model of international trade is then employed to estimate the reduced-form relationship between successful CIA interventions and imports from the United States.

Their results revealed that successful CIA interventions were followed by a large increase in the imports from the United States. Further investigation found that imports from other (non-U.S.) countries did not increase following successful CIA interventions, but rather that the U.S. influence caused a shift toward U.S. products. The results suggest also that the increase in the imports from the U.S. can be explained by direct government purchases of U.S. products, while other mechanisms such as changing tariffs and FDI policies did not have an important effect. Finally, the empirical investigation showed: that the increase in imports was largest in industries in which the U.S. had a comparative disadvantage; that

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successful interventions were not followed by increase in imports from countries that were ideologically similar to the U.S.; and that the increases in economic aid, military aid, and loans cannot explain the detected increase in the imports from the United States.

This paper offers additional evidence on the matters investigated by BENS. I check their results for robustness by using an alternative data source and an alternative way for constructing countries' nominal GDP figures, which are used to obtain the dependent variable. I find evidence affirming a positive relationship between CIA interventions and imports from the U.S., as well as evidence affirming most of the other results reported by BENS. However, my estimates indicate there is an alternative explanation of the positive relationship between CIA interventions and imports from the U.S.: The detected increase in imports from the U.S. can be explained by changes in tariffs, which are unrelated to the CIA interventions.

Alternative construction of the dependent variable

The results presented in BENS's study are obtained by estimating the following benchmark model (2013, 872, equation 7), and different specifications of the gravity model

$$\ln \frac{m_{t,c}^{US}}{Y_{t,c}} = \alpha_t + \alpha_c + \beta U.S.\ influence_{t,c} + \varphi \ln \tau_{t,c}^{US} - \varphi \left[\ln P_t^{US} + \ln P_{t,c}\right] + X_{t,c}\Gamma + \varepsilon_{t,c} \quad (1),$$

where the dependent variable, $\ln \frac{m_{t,c}^{US}}{Y_{t,c}}$, is the natural logarithm of imports into country c from the U.S. normalized by country c's total GDP. The year and country fixed effects are represented by a_t and a_c, respectively. The main variable of interest is *U.S. influence*$_{t,c}$, which measures the influence of the U.S. government over foreign countries. The measure is constructed as an indicator variable that equals one, in a country and year, if the CIA either installed a foreign leader or provided covert support for the regime once in power. Bilateral trade costs and multilateral resistance terms, controlled by using a number of the observable terms, are denoted by $\ln \tau_{t,c}^{US}$ and $\left[\ln P_t^{US} + \ln P_{t,c}\right]$, respectively.[2] A vector of time-varying control variables, $X_{t,c}$, includes: the natural logarithm of per capita income; an

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2. For details see derivation of the model in BENS (2013, 870–872).

indicator for KGB interventions; an indicator variable that equals one if there is a change in leadership; a measure of the tenure of the current leader; and an indicator variable that equals one if an observation is a democracy.

Since the CIA documents for the post-Cold War period are still largely classified, BENS restricted their analysis to the 1947–1989 period. The dependent variable is constructed by using Katherine Barbieri et al.'s (2008) Correlates of War Trade Dataset, which reports annual bilateral trade flows measured in nominal U.S. dollars. Data on imports from the U.S. in nominal U.S. dollars for each country, $m_{t,c}^{US}$, are normalized by country's total GDP, $Y_{t,c}$.

In choosing the source for total GDP, BENS decided to use data from Angus Maddison (2003). Maddison used a PPP-based exchange rate (Geary-Khamis PPP converter) to convert countries' GDP figures in national currencies into real U.S. dollars (measured in 1990) as follows.

$$\text{GDP in 1990 International dollars} = \frac{\text{GDP in national currency}}{\text{Geary-Khamis PPP converter}} \tag{2}$$

Maddison calls this GDP in 1990 international dollars, where one international dollar is equal to one U.S. dollar in 1990. To match the trade data, which are in nominal U.S. dollars, BENS used the U.S. Consumer Price Index to convert the real GDP figures (GDP in 1990 international dollars) reported by Maddison to GDP in nominal U.S. dollars.

These GDP data are than employed together with the data on imports from the U.S. in nominal U.S. dollars to construct the dependent variable. As a result, in BENS's dependent variable, $\ln \frac{m_{t,c}^{US}}{Y_{t,c}}$, the numerator is in 'ordinary' nominal U.S. dollars, while the denominator is in PPP-adjusted U.S. dollars.

To avoid having a numerator which is not PPP-adjusted and a denominator which *is* PPP-adjusted, I apply an alternative approach to calculate the nominal GDP in U.S. dollars. I use the approach applied by the IMF and World Bank. In their databases, nominal GDP figures in U.S. dollars are based upon nominal GDP in national currency converted to U.S. dollars using market exchange rates. Accordingly, I employ the widely used PWT 8.0 data (Feenstra et al. 2013) on the exchange rate and on nominal GDP in national currency to calculate the country-year data on nominal GDP in U.S. dollars as follows.[3]

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3. In particular, I use variables *v_gdp* (GDP at current national prices) and *xr2* (Exchange rate, National currency/USD, market+estimated) provided in the PWT 8.0's National Account data file which are available at annual frequency from 1950 to 2011.

$$\text{Nominal GDP in U.S. dollars} = \frac{\text{Nominal GDP in national currency}}{\text{National currency/U.S. dollar exchange rate}} \qquad (3)$$

These data on nominal GDP in U.S. dollars are then employed to construct the above described dependent variable and to check BENS's findings.[4]

Results

Main results are reported in Table 1. Results reported in column 1 correspond to the results of BENS's benchmark model (BENS 2013, Table 1, column 3). Just as in BENS's study, my results show that the coefficients on the main variable of interest, *U.S. influence*, are positive and statistically significant at the conventional levels of statistical significance. The coefficient on *U.S. influence* shows that a country's imports from the U.S. in intervention years were on average 32 percent larger than in non-intervention years (compared to 29 percent in the original study). Coefficients on other variables are in line with the original estimates, although they are, in general, smaller and less significant.

The coefficients on the *U.S. influence* and most of the other variables remain consistent with the original estimates in the majority of other specifications. To preserve space here, I report those results in a separate document (**link to download**).

The results of my investigation support the main findings of BENS. An important discrepancy in the results is, however, detected in the empirical estimates that aim to explain why successful CIA interventions are related to the increase in imports of U.S. products. Namely, BENS provide evidence that the detected trade effect can be explained by increased government purchases of U.S. products. Then they provide a number of additional results which, among other things, show that the detected trade effect cannot be explained with alternative economic mechanisms, such as changing tariffs or FDI policies. But I find that when the alternative GDP data are used to test the robustness of the BENS findings, an economic explanation based on tariff changes cannot be dismissed.

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4. These data are also used to construct all the other variables employed in the BENS's study in construction of which the data on nominal GDP in US dollars are employed, as well as to construct the new Baier and Bergstrand (2009) multilateral resistance terms.

TABLE 1. The effects of U.S. interventions on imports from the U.S.

	ln normalized imports from the U.S.		Tariff change	ln normalized imports from the U.S.
	(1)	(2)	(3)	(4)
U.S. influence	0.321*** (0.126)	0.196 (0.121)	0.008 (0.025)	0.062 (0.190)
U.S. influence × Post tariff change		0.155** (0.076)		
U.S. influence × Govt share of GDP				1.432** (0.571)
Control variables				
ln per capita income	0.303** (0.153)	0.351** (0.176)	0.099** (0.030)	0.293** (0.146)
Soviet intervention control	−0.334 (0.218)	−0.243 (0.215)	−0.028 (0.040)	−0.343 (0.219)
Leader turnover indicator	−0.007 (0.031)	−0.014 (0.034)	−0.048*** (0.019)	−0.009 (0.031)
Leader tenure	0.006 (0.006)	0.005 (0.006)	−0.001 (0.001)	0.005 (0.006)
Democracy indicator	0.028 (0.068)	0.032 (0.070)	0.014 (0.021)	0.034 (0.067)
Govt share of GDP				−0.908 (0.679)
Trade cost/B&B MR controls				
ln Distance	−0.229*** (0.080)	−0.251*** (0.082)	−0.006 (0.019)	−0.243*** (0.081)
Contiguous border indicator	0.080 (0.913)	−0.022 (0.886)	0.046 (0.353)	0.111 (0.861)
Common language indicator	0.841 (0.600)	1.075* (0.599)	−0.109 (0.160)	0.927* (0.570)
GATT participation indicator	−0.978 (0.734)	−0.890 (0.731)	0.006 (0.146)	−0.968 (0.733)
Regional Trade agreement indicator	−0.066 (0.280)	−0.001 (0.262)	−0.866*** (0.201)	−0.066 (0.281)
Country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Observations	3,677	3,454	2,793	3,638

Note: *, **, and *** indicate the 10-, 5- and 1-percent significance levels. Standard errors are in parentheses.

In particular, in contrast to the results reported in BENS's Table A4, my estimates in column 2 (Table 1) show that where the variable for tariff change (*U.S. influence × Post tariff change*) is introduced into the model, it appears to be statistically significant. Here the size of this coefficient is more than five times larger than in BENS's estimate (the coefficient in BENS is 0.028). At the same time, the size of coefficient on the *U.S. influence* variable now declines substantially (64

percent) compared to the benchmark estimates in column 1, while in BENS the size of this coefficient remains almost the same. Most importantly, in contrast to the results reported in BENS, the coefficient on *U.S. influence* becomes statistically insignificant. These results suggest that the effect of CIA interventions on the imports from the U.S. become statistically insignificant after controlling for interventions that follow a change in the tariff structure during an intervention period.

At the same time, the small and insignificant coefficient on the *U.S. influence* reported in column 3 confirms the original BENS finding (2013, Table A4, column 5) that the CIA interventions had no impact on the probability of a change in the tariffs structure. Accordingly, the results presented in columns 2 and 3 suggest that when the alternative GDP data are used to test the BENS findings, economic explanation of the increase in imports from the U.S. cannot be ruled out.

It should be stressed that my results do not suggest that BENS's explanation, which relates the increased imports to direct purchases of U.S. products by foreign governments, is incorrect. The estimates of the model that allows the effect of successful CIA interventions to differ depending on the government's share of GDP in column 4 are consistent with BENS's results (2013, Table 2, column 2). In particular, the results reported in column 4 show that when the interaction variable between *U.S. influence* and government expenditure share (*U.S. influence × Govt share of GDP*) enters the model, the size of the coefficient on the *U.S. influence* variable becomes insignificant as in BENS. The coefficient on the *U.S. influence × Govt share of GDP* is also positive and statistically significant as in the original research.

To summarize, the results here presented do not suggest that the political economy explanation advocated by BENS is necessarily incorrect. But I do find that empirical evidence drawn from the alternative data is also consistent with an economic explanation.

Conclusion

This study offers a test of BENS's findings by using alternative data for nominal GDP in U.S. dollars to construct the main dependent variable, *ln normalised imports from the U.S.*, and other variables in construction of which the data on nominal GDP in U.S. dollars are used.

The results confirm most of the findings reported in BENS. In particular, the estimated coefficients on the main variable of interest, *U.S. influence*, appear to be significantly positive, confirming that successful CIA interventions are related to the increase in imports from the United States. The results also confirm BENS's

finding according to which this positive relationship may be a result of the use of political power by the U.S. to promote trade.

However, the results also indicate that the detected increase in imports from the U.S. can be related to changes in the tariffs that were undertaken by intervened-into countries. At the same time, I find no evidence that CIA interventions had an impact on the probability of a change in the tariffs. Overall, this study does not support political influence of U.S. on the intervened-into countries as the *only* explanation of the detected trade effect.

Appendix

Available for download are **tables giving replication results**, as well as a large file (90 MB) containing **all data and code used for this research**.

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Bruno Ćorić is an assistant professor at Split University, Croatia. He received his Ph.D. in 2009 from Staffordshire University in the United Kingdom. His research focuses on business cycles, economic growth, and monetary policy. His articles have appeared in the *Oxford Bulletin of Economics*, *International Review of Economics and Finance*, *Applied Economics*, and other scholarly outlets. He is also the co-author of a textbook on macroeconomic theory and policy. His email address is bcoric@efst.hr.

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