Civil War in a Globalized World: Diplomacy and Trade

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Preliminary Version

Abstract

We consider the impact of diplomatic intervention in civil wars on international trade. We ask whether interveners influence countries trade decisions or affect transaction costs. Using a large data set on the 1948-2005 period, we show two striking results: (i) a diplomatic intervention has a positive effect on trade for the country where the civil war has occurred (target country) and (ii) the intervener bilateral trade with the target country does not increase more than trade between the target country and the other countries. These results support the transaction cost explanation. We argue that intervention induces an enhancement of trade-promoting capital in the target country and show that diplomatic intervention has a positive effect on the institutional quality in the target country.

Keywords: Civil War, Trade, Third Party Intervention, Trade Costs.

JEL : F50, F10, O11

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1 Introduction

"[...] Somalia today seems to have a substantial "business bourgeoisie", which may be a more suitable base for the reconstruction effort than an army of technocrats in some loosely organized future government. The serious policy question therefore relates to finding ways in which this group can usefully be encouraged to play an even wider role in returning Somalia to normality."

February 1993, an United States Agency for International Development consultant.

A third of countries worldwide has experienced a civil conflict since the end of the World War II. Civil war dramatically alters infrastructures, human capital and institutions. Civil war has also a deep and persistent negative effect on international trade, up to (at least) twenty years after the end of the conflict (Martin et al., 2008a). The end of war stands for a new starting point to build a peaceful society through the rebuilding of infrastructures, human capital and institutions. This great challenge faced by the country has to be analyzed in considering the role of all parts invested in the rebuilding. Understanding the role and the consequence of third party intervention in civil war is an important aspect of the problem.

We exploit a new dataset on diplomatic intervention in civil war to examine the effect of intervention on trade over the post World War II period (1948-2005). The context of civil war is of particular interest because civil war is a period of great political instability and the effect of diplomacy on local politics is potentially large. We find that third party diplomatic intervention increases trade despite the global persistent decrease of trade observed in post-conflict countries. The positive effect of diplomatic intervention on trade has two main possible explanations. The first one is that after the intervention, the intervener and the target country may introduce some formal trade preferences. The intervener may use intervention to exercise some power and influence to promote bilateral trade. This explanation would be supported if trade between the intervener and the target country would grow more than trade between the target country and the other countries of the world. The second one is that intervention may decrease transaction costs thought an enhancement of some trade-promoting capital such as institutions, infrastructure rebuilding, trust,... This explanation would be strengthened if the increase of trade with the intervener is the same as the increase of trade with all the other countries.

To our knowledge, there are very few studies dealing with the effect of third party intervention on international trade. Thanks to the recent declassification of Cold War CIA and KGB documents, Easterly et al. (2008) estimate the effect of CIA interventions on the level of democracy according to the intervener is a democracy or a dictatorship. The closest paper to the present study is Easterly et al. (2009). They focus on the US pattern of trade after a CIA intervention. They show that the share of imports from the US to the target country increases but find no effect on exportation from the target country toward
the US. They argue that the increase in the imports of the target country reflects a trade diversion and is
due to an increase in power and influence arising from CIA intervention. The authors claim that these
effects do not come from a decrease in transaction costs. Our conclusions differ, despite our purpose is
quite close, our data and methodology differ in many aspects. First, there are numerous interveners in
our database including the U.S. and the target of diplomatic interventions are only countries involved in
civil war. Secondly, we focus on diplomatic intervention which by nature differs from CIA intervention.
Third, our empirical strategy is different because we estimate gravity equations whereas they estimate
trade ratios.

Our main results state that (i) a diplomatic intervention has a positive effect on global trade for the
country where the civil war has occurred and (ii) the intervener bilateral trade with the target country does
not increase more than trade between the target country and the other countries. We use the database of
Regan (2002) where diplomatic intervention is either mediation or a forum. Mediation is a non-coercive,
nonviolent, and, ultimately, non-binding form of intervention. The definition of mediation used to build
this database is the one by Bercovich and Wille (1991). They define mediation as “a process of conflict
management where disputants seek the assistance of, or accept an offer of help from, an individual, group,
state, or organization to settle their conflict or resolve their differences without resorting to physical force
or invoking the authority of the law”. An international forum is a formally organized meeting of the
representatives from several countries, where the outcome is also non-binding.

Our conclusions on the effect of diplomatic intervention on trade reinforce the idea of an enhance-
ment of trade-promoting capital after a diplomatic intervention. A strand of the political science literature
contributes to the understanding of the roots of conflict (Fearon and Laitin, 2003; Collier and Hoeffler,
2004) and a new growing strand focuses on the effect of civil war (Martin et al., 2008a) and aftermath
of civil war (Fosu and Collier, 2005; Chen et al., 2007). Among other consequences, institutions are
dramatically affected by civil war. Civil conflict induces a disorganization or total collapse of national
institutions. In reviewing the recent literature on the role of institutions for growth, Blattman and Miguel
(2009) write that “the social and institutional legacies of conflict are arguably the most important but least
understood of all war impacts”. In the last part of the paper, we argue that institutions are a channel for
the positive effect of diplomatic intervention on trade. With an event-study analysis, we show that after a
civil war, target countries have a higher institutional level than countries which have not experienced an
intervention. This suggests that interveners affect the institutional quality in the target country.

The remainder of our paper is structured as follows. Section 2 describes data on diplomatic inter-
vention and trade. Section 3 explains the estimation procedure. Section 4 presents our empirical results
regarding the effect of diplomatic intervention. Section 5 focuses on the endogeneity issues. Section 6 is
dedicated to the institutional channel and Section 7 concludes.

2 Data on diplomatic intervention and trade

We compute our diplomatic intervention variable using data from Regan (2002) on third party intervention in civil war. We consider only “positive” diplomatic interventions as mediations and international forums. We rule out “negative” interventions as recalls of ambassadors or offers to mediate that were not accepted by all parties together. In our sample, 98% of the diplomatic interventions are initiated by the third party and 2% are requested by at least one of the party in war. From 1948 to 2005, 119 diplomatic interventions in civil wars have occurred. Figure 1 contains the world maps with countries which experienced an intervention (black areas). Not surprisingly, less developed countries (e.g. African countries) where civil wars are frequent, are often the targets of diplomatic interventions. Figure 2 represent countries which intervened in a civil conflict (all grey areas). The countries with the most developed economies intervene frequently. The United States are at the top of this list with 26 diplomatic interventions in our sample.

Figure 1: Target countries

For civil war, we use the Correlates Of War data by Gleditsch (2004) completed by Regan (2002) to take civil war with less than 1,000 deaths per year into account.¹

For the usual gravity variables we use various sources. We use IMF DOTS data augmented by

¹The dataset contained in Regan (2002) records all the interventions in conflicts with more than 200 deaths per year.
Martin et al. (2008b) for aggregated trade variables. The Regional Trade Agreements data comes from Vicard (2009), the Currency Union data from Jose de Sousa and GDP from World Bank (World Development Indicator) completed by Barbieri (2002).

3 Specification and estimation procedure

In order to estimate the effect of diplomatic intervention on trade, we use the formulation of the gravity equation. The presentation of Head and Ries (2009) help us to explain why we choose to use the estimation procedure proposed in Baier and Bergstrand (2009). The vast majority of empirical and theoretical formulations of the gravity equation can be summarized in the following equation for the value of $X_{ijt}$, the exports from country $i$ to country $j$ at time $t$:

$$X_{ijt} = G_t M_{it}^{exp} M_{jt}^{imp} \phi_{ijt}$$  (1)

Different theoretical foundations can be found in the literature (Anderson and van Wincoop, 2004; Eaton and Kortum, 2002; Chaney, 2008). $M_{it}$ and $M_{jt}$ represents the respective individual attributes of the exporter $i$ and of the importer $j$ at time $t$, $G_t$ is a year specific factor and $\phi_{ijt}$ represents bilateral determinants. We specify the log of the bilateral term $\phi_{ijt}$ as:

$$\ln \phi_{ijt} = \delta D_{ijt} + \varepsilon_{ijt},$$  (2)

Figure 2: Interveners
where $D_{ijt}$ represents the observed bilateral trade cost determinants and $u_{ijt}$ the unobserved ones. Taking the logarithm of equation (1) and substituting (2) into the new equation and defining $\rho_t = \ln G_t$, we obtain:
\[
\ln X_{ijt} = \ln M_{it}^{exp} + \ln M_{jt}^{imp} + \delta D_{ijt} + \rho_t + \varepsilon_{ijt}
\]
(3)

In the standard gravity equation, $M_{it}^{exp}$ and $M_{jt}^{imp}$ are specified as being the respective GDPs of the two countries, $GDP_{it}$ and $GDP_{jt}$. Doing this, the standard gravity equation omits the "multilateral resistance terms" (Anderson and van Wincoop, 2003; Feenstra, 2004). The majority of applications of the gravity equation concentrates on the variations of bilateral trade, that is $D_{ijt}$ and use fixed effects for each exporter-year and importer-year in order to eliminate the two monadic determinants in (3).

In this paper, our objective is different, as we concentrate on both monadic and dyadic determinants. Our objective is to determine whether a diplomatic intervention induces a change in trade between the intervener and the target country and whether this induces a change in trade between the target country and all its trading partner. The first effect can be captured by a dyadic dummy variable, $INT_{ijt}^{bil}$ which is 1 only if one of the two countries $i$ and $j$ intervened in the other country at time $t$. The second effect can only be captured by monadic dummies, $INT_{X}^{G}G_{it}$ and $INT_{M}^{G}G_{jt}$ which are 1 only if $i$ and $j$ was the target of an intervention at time $t$, respectively. In the rest of the paper, we will use lags of these dummies and when we are not interested in distinguishing exports and imports, the monadic effects will be aggregated into a single variable $INT_{ijt}^{G} = INT_{X}^{G}G_{it} + INT_{M}^{G}G_{jt}$. This dummy variable is 1 if either $i$ or $j$ experienced an intervention at time $t$.

At our knowledge, the only theoretically grounded method available to respond to our objective is the one proposed in Baier and Bergstrand (2009). Indeed, this method allows to estimate bilateral trade for a large number of countries over a long period without eliminating the monadic determinants. They use Taylor expansions around symmetric trade costs to derive a linear econometrically implementable equation. Following their notations, $T_{ijt}$ is the bilateral trade cost, $\sigma$ is the elasticity of substitution of consumers’ preferences and the equation of interest is:
\[
\ln (X_{ijt}) = \beta_0 t + \ln (GDP_{it}) + \ln (GDP_{jt}) - (\sigma - 1) \ln T_{ijt} - (\sigma - 1) MRT_{ijt} + \rho_t + \varepsilon_{ijt}
\]
(4)

where, $\beta_0 t = - \ln (Y^W_t)$ and the MR terms are defined as follows:
\[
MRT_{ijt} = \sum_{k=1}^{N} \theta_k \ln T_{jkt} + \sum_{m=1}^{N} \theta_m \ln T_{mit} - \sum_{k=1}^{N} \sum_{m=1}^{N} \theta_k \theta_m \ln T_{kmt}
\]
(5)

The multilateral resistance term, $MRT_{ijt}$, is an exogenous variable allowing to take into account multilateral price effects in the estimation.
4 The effect of diplomatic intervention on trade

In this section, we show our main results. We first focus on the effect of diplomatic intervention on the target country trade flows without distinguishing between imports and exports. After making some robustness checks, we separately estimate the effect on imports and exports.

4.1 The effect of diplomatic intervention on global trade

We use the methodology from Baier and Bergstrand (2009) described in the previous section. We specify the trade barrier term of equation (4) in order to take into account the global effect of diplomatic intervention:

\[ T_{ijt} = \exp \left( -\tilde{\beta}_G \text{INT}^G_{ijt} - \tilde{\beta}_{bil} \text{INT}^bil_{ijt} - \tilde{\beta}_C \text{CONTROL}_{ijt} + \mu_{ij} \right), \]

where \( \mu_{ij} \) is a country pair fixed effect and \( \text{INT}^G_{ijt} \) and \( \text{INT}^bil_{ijt} \) are two vector of lagged dummies (from \( t-k \) to \( t \)). The component \( \text{INT}^G_{ijt-d} \) is 1 only if country \( i \) or \( j \) experienced an intervention at time \( t-d \). It measures a global effect of intervention, i.e. the effect of interventions on trade for all the partners of the target country. \( \text{INT}^bil_{ijt} \) is also a vector of lagged dummies. Its component \( \text{INT}^bil_{ijt-d} \) is 1 only if \( j \) intervened in \( i \) or \( i \) intervened in \( j \) at time \( t-d \). It measures the bilateral effect of intervention on the trade intensity between the intervener and the target country. \( \text{CONTROL}_{ijt} \) is a vector of control variables. It includes \( RTA_{ijt} \), a dummy set to 1 if countries \( i \) and \( j \) are in a common membership in a Regional Trade Agreements at time \( t \) and \( CU_{ijt} \), a dummy set to 1 if countries \( i \) and \( j \) are members of a common Currency Union at time \( t \). It also includes a vector of lagged dummies indicating the end of war in country \( j \) or \( i \) \( (\text{EndWar}_{ijt} = (\text{EndWar}_{ijt-k}, ..., \text{EndWar}_{ijt})). \) \( \text{EndWar}_{ijt-k} \) is a dummy and is set to 1 only if country \( i \) or country \( j \) stepped out of war \( k \) years before time \( t \). Substituting this specification into (4) and adding time indices, we write our main equation of interest:

\[
\ln (X_{ijt}) = \beta_0 + \ln (GDP_t) + \ln (GDP_j) + \beta_G \text{INT}^G_{ijt} + \beta_{bil} \text{INT}^bil_{ijt} + \beta_C \text{CONTROL}_{ijt} + \beta_{MR} \text{MR}_{ijt} + \mu_{ij} + \rho_t + \epsilon_{ijt} \]

where \( \beta_0 = -\ln (Y^W_t) \), \( \beta_I = (1-\sigma)\tilde{\beta}_I \) for \( I = G, bil, C \). The term \( \text{MR}_{ijt} \) comprises the multilateral terms for all the explanatory variables (excepted the GDPs). \(^3\) \( \mu_{ij} \) is a dyadic fixed effect, \( \rho_t \) a time dummy, and \( \epsilon_{ijt} \) is the random error term. The "MR" terms are all defined in the same way as formula (5).

\(^3\)Formally, \( \beta_{MR} \text{MR}_{ijt} = +\beta_G \text{MRINT}^G_{ijt} + \beta_{bil} \text{MRINT}^bil_{ijt} + \beta_C \text{MRCONTROL}_{ijt} \)
Our main specification includes 442,810 observations (dyads) from 1963 to 2005 and 11,054 diplomatic interventions (2.5%), that is 119 different diplomatic interventions (for a complete list, see Table 3 in Appendix). We choose to study the persistence of the effect of intervention over a large time scale and we use lagged dummies up to 15 years. This explains why our regression runs from 1963 and not from 1948. Our regression contains a large number of lagged variables (from 1 to $k = 15$ years). For ease of reading, we present our results with graphics rather than with tables. All the estimated coefficients for the usual variables of gravity equation are very similar to the findings of the literature. The coefficients are smoothed using one year window around the year of interest.

![Graph showing the impact of diplomatic intervention and civil war on trade](image)

**Figure 3:** The impact of diplomatic intervention and civil war on trade

Figure 3 shows (with the black squares) the effect of the end of civil war on trade (imports + exports) with a 10% confidence interval. The effect is persistent over 15 years after the end of the conflict and

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Our main regression contains 79 variables and all multilateral resistance terms joined. In consequence, we have 158 variables without taking into account time dummies. All the corresponding tables are available upon request.

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4Our main regression contains 79 variables and all multilateral resistance terms joined. In consequence, we have 158 variables without taking into account time dummies. All the corresponding tables are available upon request.
trade is still 15% lower than its natural level. The line with black circles is the effect of diplomatic intervention on the global trade of the target countries \( \hat{\beta}_G \). The effect of diplomatic intervention is large and persistent up to 15 years after the civil war. The coefficient involves near from 20% increase in trade from its natural level. This shows that diplomatic intervention (at least partially) compensates for the negative effect of the end of conflict.

We do not plot the effect of intervention on bilateral trade (between targets and interveners) because none of the estimated coefficients in the vector \( \hat{\beta}_{bil} \) is significant during 15 years. It turns out that diplomatic intervention does not induce any privileged trading relationship between the interveners and the target country. In other words, trade between the interveners and the target country does not grow more than trade between the target country and its other partners. This result support the transaction costs reduction effect of diplomatic intervention whereas it does not support the use of bilateral influence of the interveners.

### 4.2 Robustness checks

In this section, we ask whether our results regarding diplomatic interventions are robust to other control variables. We control if our results are conducted by other types of intervention (economic or military) or by Non Governmental Organizations (NGO). We also check the robustness of our result to the introduction of the level of development of the interveners and to the introduction of the intensity of the conflict.

To answer these questions, we add three vectors of lagged dummies to our main equation (6), \( NGO_{ijt} \), \( Eco_{ijt} \) and \( Mil_{ijt} \). The vector \( NGO_{ijt} \) represents NGO’s interventions (from \( NGO_{ijt-k} \) to \( NGO_{ijt} \)). The component \( NGO_{ijt-d} \) is 1 only if a NGO intervened in country \( i \) or \( j \) at time \( t - d \). Data on NGO’s interventions comes from Regan (2002) and include diplomatic intervention by the United Nations, the European Commission, the Organization of African Unity, the Inter-Governmental Authority on Drought and Development and the Catholic Church Economic Community of West African States. \( Eco_{ijt} \) and \( Mil_{ijt} \) respectively captures economic and military interventions (from \( t - k \) to \( t \)). The component \( Mil_{ijt-d} \) is 1 only if one of the two countries made a military intervention in the other one at time \( t - d \).\(^6\) The component \( Eco_{ijt-d} \) is 1 only if one of the two countries made an economic intervention in the other one at time \( t - d \).\(^7\)

\(^5\)Martin et al. (2008a) find that the effect of civil war on trade is persistent 20 years after the conflict with a larger fall in trade.

\(^6\)Military interventions refer to intervention with troops, naval forces, equipment or aid, intelligence or advisors, air support or military sanctions.

\(^7\)Economic interventions include loans, grants, non-military equipment or expertise, credits or relieve past obligations pro-
The effect of diplomatic intervention on trade of the target country ($\hat{\beta}_G$) is always positive and significant, whereas the bilateral effect ($\hat{\beta}_{bil}$) is never significant. The inclusion of NGO, military or economic interventions does not modify the effect of diplomatic intervention on trade.\textsuperscript{8}

Another interesting question is whether our results are due to the level of economic development of the intervener. In other words, does the nature of the intervener partially explain our results? To answer this question, from our main equation (6), we split our sample in two groups. The first one includes interveners belonging to the OECD (it remains more than 112,000 observations). The effect of diplomatic intervention on trade of the target country ($\hat{\beta}_G$) does not vary very much. The only difference is that the coefficient is negative the first two years, but non significant, whereas it was negative and significant in our main regression. The second group includes interveners which do not belong to the OECD (332,000 observations). Once again, results confirm that interventions do not induce any privileged trading relationship between the intervener and the target country but increase trade for the target country.

We also introduced a dummy variable to control for the intensity of civil war. The sign of the effect of diplomatic intervention is still unchanged.\textsuperscript{9}

4.3 Imports and exports

Now we distinguish the effect of intervention on imports (Figure 4) and exports (Figure 5). We wish to observe whether the intervention’s effect is different according the kind of trade flows. We decompose both $INT_{bil}^{i \rightarrow j}$ and $INT_G^{i \rightarrow j}$ in two components. $INT_{bil}^{i \rightarrow j}$ is decomposed into $INTX_{bil}^{i \rightarrow j}$ and $INTM_{bil}^{i \rightarrow j}$. The component $INTM_{bil}^{i \rightarrow j, t-d}$ of $INTM_{bil}^{i \rightarrow j}$ is a dummy which is equal to 1 only if country $i$ intervened in country $j$ at time $t-d$. It captures the effect of a diplomatic intervention on the imports of the target country ($j$) from the intervener ($i$). Similarly, the component $INTX_{bil}^{i \rightarrow j, t-d}$ of $INTX_{bil}^{i \rightarrow j}$ is a dummy which is equal to 1 only if country $j$ intervened in country $i$ at time $t-d$. It captures the effect of a diplomatic intervention on the exports from the target country ($i$) to the intervener ($j$). $INT_G^{i \rightarrow j}$ is decomposed into $INTX_{G}^{i \rightarrow j, t}$ and $INTM_{G}^{j \rightarrow i}$. The component $INTX_{G}^{i \rightarrow j, t-d}$ of $INTX_{G}^{i \rightarrow j}$ is a dummy which is equal to 1 only if country $i$ experienced an intervention at time $t-d$. It captures the effect of a diplomatic intervention on the exports of the target

\textsuperscript{8}The interpretation of NGO, military and economics intervention effects is very difficult. Indeed, we observe negative effect (significant or not) for the first coefficients and last coefficients are positive (just for the last 3 years at mean)

\textsuperscript{9}This result is robust to different thresholds, defined as a number of deaths per year (1000 deaths, 50,000 deaths...).
country \((i)\) to all its trade partners. We redefine the trade barrier terms as follows

\[ T_{ijt} = \exp \left( -\tilde{\beta}_{GX} INTX^G_{it} - \tilde{\beta}_{GM} INTM^G_{jt} - \tilde{\beta}_{bilX} INTX^{bil}_{ijt} - \tilde{\beta}_{bilM} INTM^{bil}_{ijt} - \tilde{\beta}_{C} CONTROL_{ijt} \right) \]

Notice that \(T_{ijt}\) is not necessarily equal to \(T_{ijt}\). We use the definitions above to estimate the following equation:

\[
\ln (X_{ijt}) = \beta_{0t} + \ln (GDP_{it}) + \ln (GDP_{jt}) + \beta_{GX} INTX^G_{it} + \beta_{GM} INTM^G_{jt} + \beta_{bilX} INTX^{bil}_{ijt} + \beta_{bilM} INTM^{bil}_{ijt} + \beta_{C} CONTROL_{ijt} + \beta_{MR} MR_{ijt} + \mu_{ij} + \rho_t + \epsilon_{ijt}
\]

where \(\beta_{0t} = -\ln \left( Y_{it}^W \right)\), \(\beta_I = (1 - \sigma) \tilde{\beta}_I\) for \(I = G, bil, C\). The term \(MR_{ijt}\) comprises the multilateral terms for all the explanatory variables (excepted the GDPs).

We now describe how the estimated effects differ according to the kind of trade flows.

**The effect of diplomatic intervention on imports:** as for global trade, diplomatic intervention has no significant effect on the imports of the target country from the intervener (\(\hat{\beta}_{bilM}\) is non significant). Figure 4 plots the estimated effect of interventions on the imports of the target country (\(\hat{\beta}_{GM}\)). We still find a negative effect of the end of civil war on trade. After the 4th year following an intervention, we observe a positive and significant effect on the total imports of the target country (\(\hat{\beta}_{GM}\) is significant). This effect is not always significant during the 15 years. The coefficient for the intervention involves more than 10% increase in importation from its natural level. Diplomatic intervention partially compensates for the negative effect of the end of conflict on imports.

**The effect of diplomatic intervention on exports:** the bilateral effect on exports (\(\hat{\beta}_{bilX}\)) is also never significant. The intervener does not import more from the target country than other countries. Figure 5 represents the effect of intervention on the exports of the target country (\(\hat{\beta}_{GX}\)). This effect is positive and significative after the 5th following the intervention. The values of the coefficients are larger than those for imports. The coefficient induces more than 30% increase in exports from its natural level. This persistent effect of diplomatic intervention partially compensates for the negative effect of the end of civil war on exports.

As for global trade flows, the results obtained for importation and exportation flows do not support the use of bilateral influence hypothesis whereas it unambiguously supports the transaction costs reduction hypothesis. This suggests that the positive effect of diplomatic intervention is due to an enhancement

\[\beta_{MR} MR_{ijt} = \beta_{GX} MRINTX^G_{ijt} + \beta_{GM} MRINTM^G_{ijt} + \beta_{bilX} MRINTX^{bil}_{ijt} + \beta_{bilM} MRINTM^{bil}_{ijt} + \beta_{C} MRCONTROL_{ijt}\]
of some trade-promoting capital such as institutions, infrastructure rebuilding, trust,... after a diplomatic intervention.

Figure 4: The impact of diplomatic intervention and civil wars on importations
5 Endogeneity issues

To answer to this question, we use two different methodologies.

5.1 Correcting for omitted variables

One major recent concern for gravity methodology is to control for omitted variables and their influence on main interest variables. In our case, we need to control if unobserved factors both influence trade and the decision to intervene diplomatically in a civil war. We follow Eichengreen and Irwin (1998) which provide some solution to manage endogeneity problem and omitted variable bias. We use lagged dependent variables to control for unobserved factors that could both influence trade and the decision to intervene diplomatically in a civil war. This methodology allows also to control if the decision to intervene in a country involved in civil war depends on previous trade. In this sense, we control in our all specification with one, two or three year lagged bilateral trade (Head and Ries, 2009). In all specifica-
tions, previous bilateral trade have a positive and significative influence on current trade. Controlling for this omitted variable bias does not change our main results. Our result vector of dummies for intervention is always positive and significative, and the bilateral effect not.\footnote{Results are not shown here but are available on request.}

5.2 Reverse causality between trade and diplomatic intervention?

A connected topic to our study relates to the motivations of countries to intervene in civil war. This question has to be tackled here because one can suspect a reverse causality between bilateral trade and diplomatic intervention. Does trade provide incentives to intervene?

To our knowledge, there are very few articles dealing with this question.\footnote{See Greig and Regan (2009) for a recent survey on the mediation in political science.} Greig and Regan (2009) show that “A third-party with no trade with civil war state is ten times more likely to offer mediation to the civil war than one with an average level of trade”. This result seems to be in opposition to the intuitive expected positive influence of trade on the choice of launching a diplomatic intervention. To test the potential endogeneity problem, we estimate the effect of imports and exports on the probability for each country $i$ to intervene in country $j$ involved in civil war:

$$
\text{Proba}(INT_{ijt}) = \beta_0 + \beta_1 M_{ijt} + \beta_2 X_{ijt} + \beta_3 \text{CONT}_{ijt} + \beta_4 \text{CONT}_{it} + \mu_{ij} + \rho_t + \varepsilon_{ijt}
$$

The main variables of interest, $M_{ijt}$ and $X_{ijt}$, are respectively the importation and the exportation flows from $i$ to $j$ at time $t$. We use dyad variables ($\text{CONT}_{ijt}$) as diplomatic relationships (UN Votes, Military Alliances) and dyad variables invariant in time ($\text{CONT}_{ij}$) as geography proximity (Log distance, Contiguity) and historical linkage (Common language, Old colony, Common colony). We also control for some intervener’s characteristics (Log GDP, Militaries Capabilities, Democracy Index) ($\text{CONT}_{it}$).\footnote{See data sources in appendix}

We restrict our sample such that the set of countries $j$ are countries where a civil war has occurred between 1960 and 1996. In specification (1) to (3) we use a logit specification to predict the probability for a country to intervene diplomatically in a civil war. In the first regression, we find that imports and exports fail to influence the intervention probability. In the second regression, we add control variables. Imports and exports flows have still non significant effects and the coefficients of the control variables have the expected signs. Geographical distance reduces the incentive to intervene in a civil conflict whereas colony linkages, military capabilities and GDP of potential interveners increase the probability of intervention. In regression (3) we use dyad fixed effects and time dummies and a logit estimation procedure. This method forces us to exclude countries that have never experienced an intervention; this reduces our sample drastically. We then switch to the OLS estimation procedure for regressions (4) to
(6). Whatever the specification considered, imports and exports flows have non significant effect on the probability of intervention. These results are robust to other controls and lags for imports and exports (Results not shown here).  

We can put forward several explanations for the non significant effect of imports and exports on the probability of intervention. First, countries involved in civil war are generally small countries regarding world trade. Their share in the trade flows of the potential intervener is generally small. Second, we showed that the intervener does not benefit from a privileged trading relationship with the target country. This may generate free-ridding and coordination problems for potential interveners and reduce incentives to intervene. Third, the main trading partners may not take part in the civil conflict because intervention is risky and may fail to end the conflict. If the intervener is suspected to defend one of the part involved in the conflict and the latter looses the civil war, winners may punish the intervener and reduce drastically their trade flows with this country. For these reasons, we are confident that the intervention decision is an exogenous determinant of trade flows.

14We do not find a negative effect of trade on the intervention’s probability as Greig and Regan (2009). Our main interest variable is in level whereas they consider “...the proportion of the a third party’s total imports and exports traded with the third party”.
Table 1: Trade Effect on Intervention’s Probability

<table>
<thead>
<tr>
<th>Specification:</th>
<th>(1)</th>
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<th>(3)</th>
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<th>(5)</th>
<th>(6)</th>
</tr>
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<td></td>
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<td>(69.34)</td>
<td>(0.0308)</td>
<td>(0.216)</td>
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<td>Democracy Index$_{i}$</td>
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<td>9578</td>
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<td>0.001</td>
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<td>no</td>
<td>no</td>
<td>yes</td>
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<td>no</td>
<td>yes</td>
<td>no</td>
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</table>

Note: Standard errors in parentheses with ***, ** and * respectively denoting significance at the 1%, 5% and 10% levels.
6 The institutional channel

In this section, we argue that institutions are a potential channel for the positive effect of diplomatic intervention on trade. The literature on the aftermath of civil war shows that institutions are dramatically affected by civil war. Diplomatic, economic or military interventions affect war outcome as civil war duration (Regan, 1996, 2002). Collier (2006) argues that the intervener plays an important role in the institutional rebuilding of the target country. The intervener can provide some institutional alternative, provide assistance of skilled people to rebuild institutions. After a civil war, the different parts share the power and the institutional rebuilding. This period after war is a very intensive source of conflicts. The intervener plays the go-between and often proposes some institutional design solutions. We refer to Acemoglu (2008) which defines institutions as “... rules, regulations, laws and policies that affect economic incentives and thus the incentives to invest in technology, physical capital and human capital” (p126). A large literature shows that institutional quality matters for trade. Institutional levels and the institutional bilateral distance between trade partners are major determinants of their bilateral trade flows. Anderson and Marcouiller (2002) show that corruption and imperfect contract enforcement reduce imports. The index of bad institutional quality (high degree of corruption, bad investment climate or judicial system’s inefficiency) acts as a hidden tax on imports or increases entry fixed costs (Levchenko, 2007). Institutions also influence specializations patterns (Berkowitz et al., 2006; Nunn, 2007; Costinot, 2009). This literature shows that "good" institutions are a source of comparative advantage and enable countries to produce and export more complex goods. According to the prominence of institutions in trade flows, we study the evolution of the quality of institutions after a diplomatic intervention and argue that institutions are a potential channel of the effect of intervention on trade.

6.1 Results

We use seven different institutional measures to analyze the effect of diplomatic intervention on institutions. Our result is robust whatever the institutional measure. We consider four variables from The PRS Group. The first one is an aggregated indicator named International Country Risk Guide (ICRG) including data starting from 1984. This aggregated measure breaks it up in three others measures which account for economic, financial and political institutions. We use two indicators from the Freedom House reflecting “civil liberties” and “political rights”. The last institutional indicator comes from the Fraser Institute. It provides a score regarding countries “regulation” of credit, labor and business. We are well-aware that these institutional measures do not reflect North (1994)'s definition and do not take into
account the criticisms about institutional measures (Glaeser et al., 2004; Persson, 2005). North (1994) defines two main characteristics that each institutional measures must represent. First, the indices must capture the constraints on behavior and, secondly the permanent or stable nature of institutions. He argues that popular measures used are not stable and are affected with a great volatility, reflecting policy choice rather than some rules of the game or constraints. Policy choice appears to be an institutional outcome and not a constraint. However, we think these measures capture at least some perception of the institutional quality level.

Is the hypothesis of a positive link between intervention and quality of institutions confirmed by our data? Are institutions affected by diplomatic intervention? To answer this question, we follow an event-study methodology used by Chen et al. (2007). We consider post-civil war countries and compare the evolution of the quality of institutions for those which were the target of a diplomatic intervention and those which were not. Our “event time” is the 10 years period after the end of civil war. The first year after the end of war is defined as event year 1, the second year as event year 2 and so on. Since the number of years for which data on institutions is available is not large, we restrict the "event" duration to 10 years.

The group of countries we focus on is the group of countries which experienced a civil war and were the target of a diplomatic intervention (WI). The analysis needs two controls groups. The first group is composed with countries which have never experienced a civil war in all our sample (P). It allows, among others, to control for the increasing institutional world trend which appears on the data. The second group is composed with countries which have experienced a civil war without any diplomatic intervention (W). For each of the two control groups, (P) and (W), for each year and for each institutional variable, we compute the median value of the institutional quality index, $\lambda^P_t$ and $\lambda^W_t$, respectively. We then compute the difference between the institutional quality in the country of interest, $\lambda^WI_{it}$, and the median for each institutional variable and each control group. Formally, we denote $\Delta^P_{it} = \lambda^WI_{it} - \lambda^P_{it}$ and $\Delta^W_{it} = \lambda^WI_{it} - \lambda^W_{it}$. We estimate (separately) for each of the seven institutional measures the three following equations:

\[
\lambda^WI_{it} = \alpha^WI + \beta^WI Endwar_{it} + \mu^WI_t + \varepsilon_{it}
\]

\[
\Delta^P_{it} = \alpha^P + \beta^P Endwar_{it} + \mu^P_{it} + \varepsilon_{it}
\]

\[
\Delta^W_{it} = \alpha^W + \beta^W Endwar_{it} + \mu^W_{it} + \varepsilon_{it}
\]

where $Endwar_{it}$ counts the number of years after the end of the civil war (from 1 to 10). Table 2 presents the results of the estimations.

---

15North (1994) defines institutions as “... the humanly devised constraints that structure human interaction”
Table 2: Post-War Trends on Institutions in Conflict Countries

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Group (WI) ((\lambda_{it}^{WI}))</th>
<th>(WI) relative to (P) ((\Delta_{it}^{P}))</th>
<th>(WI) relative to (W) ((\Delta_{it}^{W}))</th>
<th>Nbr of observations/ of countries</th>
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<tr>
<td><strong>ICRG</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Global</td>
<td>1.28*** (0.172)</td>
<td>0.74*** (0.14)</td>
<td>0.53*** (0.136)</td>
<td>225/25</td>
</tr>
<tr>
<td>Economic</td>
<td>0.48*** (0.115)</td>
<td>0.401*** (0.110)</td>
<td>0.155 (0.108)</td>
<td>229/25</td>
</tr>
<tr>
<td>Financial</td>
<td>0.914*** (0.135)</td>
<td>0.744*** (0.123)</td>
<td>0.51*** (0.114)</td>
<td>238/26</td>
</tr>
<tr>
<td>Political</td>
<td>1.515*** (0.205)</td>
<td>0.876*** (0.187)</td>
<td>0.941*** (0.183)</td>
<td>238/26</td>
</tr>
<tr>
<td><strong>Freedom House</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civil Liberties</td>
<td>0.028** (0.011)</td>
<td>0.037** (0.014)</td>
<td>0.017 (0.012)</td>
<td>471/37</td>
</tr>
<tr>
<td>Political Rights</td>
<td>0.029** (0.013)</td>
<td>0.034** (0.013)</td>
<td>0.028** (0.013)</td>
<td>471/37</td>
</tr>
<tr>
<td><strong>Fraser</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulation</td>
<td>0.051** (0.020)</td>
<td>0.033* (0.019)</td>
<td>0.041* (0.021)</td>
<td>97/22</td>
</tr>
</tbody>
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Note: Standard errors in parentheses with ***, ** and * respectively denoting significance at the 1%, 5% and 10% levels.

We show that the quality of institutions trend for group (WI), \(\hat{\beta}_{WI}\), is positive and significant whatever the institutional measure we consider (Column 2). The institutional’s quality trend for countries which have been the target of a diplomatic intervention (WI) relative to those which were in peace (P), \(\hat{\beta}_{P}\), is positive and significant (column 3). In another word, controlling for the world institutional improvement, we observe that institutional’s quality for countries belonging to WI is positive. Our main interest is the estimation comparing group (WI) and group (W) (Column 4). We observe a positive trend, \(\hat{\beta}_{W}\), for almost all indices. Diplomatic intervention seems to have a positive effect on institutions in post-civil war countries. This conclusion is an additional proof of the important role played by diplomatic intervention on the aftermath of civil war. It comforts our view that diplomatic intervention enhances some trade-promoting capital in the target country. It is also coherent with the positive effect of intervention on trade and the absence of a "bonus" of bilateral trade with the intervener.
6.2 Historical illustrations

We argue that diplomatic intervention in civil war affects not only the chances of a peace agreement but also leads to an improvement in the quality of the institutions of the target country, which in turn increases trade flows of the target country with the rest of the world. In this section, we discuss how a diplomatic intervention in a civil war impacts the institutions of the target country in the light of historical facts. Diplomatic interventions have an impact on institutions in the target country. Peace agreements ending civil wars are generally not only focused on cease-fire and clauses of non violence. Peace agreements are often embedded with agreements on new institutions. We illustrate this argument using three different cases of interventions in civil wars in Guatemala, Rhodesia and Yugoslavia.

After the diplomatic interventions of Spain, the Guatemalan civil war (1961-1996) ended with a negotiated agreement signed by the leftist rebel leaders of the Unidad Revolucionaria Nacional Guatemalteca (URNG) and government representatives. During the year 1996, they signed five different agreements: an agreement on social and economic aspects and agrarian situation, an agreement on the strengthening of civilian power and on the role of the armed forces in a democratic society, an agreement of definitive cease-fire, an agreement on constitutional reforms and electoral regime and finally an agreement on the legal integration of the URNG.

From 1976 to 1979, the United States and Great Britain tried to induce the negotiation of a peace agreement to end the Rhodesian civil war (1971-1979). In 1979, the Lancaster House Agreement ended the civil war following negotiations between representatives of the Patriotic Front (PF) and the Zimbabwe Rhodesia government. Parties signed a single agreement containing the Independence Constitution, arrangements for the pre-independence period and a cease-fire agreement. The Independence Constitution includes the definition of the Republic state, the rule of citizenship, a declaration of liberty and property rights, the definition of the Judicature, the governance of defence forces, the governance of public finance.

In Europe, the recent Balkan crisis has lead to the end of the Yugoslavian State. In 1995, the leaders of Bosnia, Croatia, and Serbia signed the Dayton peace accords, officially ending the wars in Bosnia (1992-1995) and Croatia (1991-1995). NATO troops entered in Bosnia in 1995 in order to enforce the end of fighting. Diplomatic representatives of the United States, Germany, France, Great Britain and Russia enabled the signatory of the Dayton Peace Agreement. This agreement includes issues such as precise steps for the end of fighting, the definition of the geographical boundaries between the Federal Republic of Yugoslavia and Bosnia and Herzegovina, voting rules for the next elections, and a new constitution.
These examples show that ending civil wars and promoting peace keeping is proceeded through an agreement on a constitution, allowing, among others, the holding of fair elections, the building of a judiciary system, the governance of public finance and the safeguarding of liberty and property rights.

7 Conclusion

We consider the impact of diplomatic intervention in civil wars on international trade. Using a large data set, we have shown that diplomatic intervention affects trade flows of countries involved in civil war. Whereas trade falls in post-war countries, diplomatic intervention has a positive effect on the exports and imports of the country where the civil war has occurred. The intervener does not benefit from a privileged trading relationship with the target country. These two main conclusions comfort the reduction of trade costs explanation and not the political influence explanation. We argue that these results are due to an enhancement of trade-promoting capital and show that diplomatic intervention has a positive effect on the institutional quality in the target country. The institutional channel appears to be one plausible explanation of the effect of intervention on trade.
Appendix A: reverse causality between trade and diplomatic intervention: data sources

Bilateral trade (imports and exports) data comes from IMF DOTS augmented by Martin et al. (2008b) as in the first part of the paper. For variables related to the geography we use the CEPII bilateral distance database (www.cepii.fr/anglaisgraph/bdd/distances.htm). The “Military capabilities” variable comes from Correlates of War (http://www.correlatesofwar.org/) is a mean of six country components: Energy consumption, Iron and Steel production, Military expenditure, Military personnel, Total population, Urban population. The “Alliances” variable comes from Correlates Of War and is coded 1 if dyad shares a defensive, neutrality, non-aggression or entente alliance at year $t$. The UN votes correlation annual database, available from 1946 to 1996, comes from Gartzke et al. (1999). The democracy index comes from the Polity IV database; it ranks each country on a -10 to + 10 scale. Intruder’s GDP comes from World Bank (World Development Indicator) completed by Barbieri (2002).
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<th>Year</th>
<th>Intervener</th>
<th>Target Country</th>
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