

Civil War in a Globalized World : Diplomatic Intervention and Trade

Mathieu Couttenier*

Raphael Soubeyran†

Very Preliminary Version – Please Do Not Quote

Résumé

We consider the relationship between diplomatic intervention in civil wars and trade. Using a large data set on the 1968-2005 period, we show that third party diplomatic intervention countervails the global post-war persistent decrease of trade. We show that (i) a diplomatic intervention compensates the post-war negative effect on global trade for the country where the civil war has occurred (target country) and (ii) the intervener does not benefit from privileged trading relationship with the target country. We identify a potential channel for these evidences : Institutions. We argue that interveners affect institutional quality in the target country. We show that (iii) the higher the intervener's institutional quality is, the higher the compensation effect of intervention on trade. And (iv) the higher the intervener's institutional quality, the higher the institutional quality in the target country after the end of the civil war.

*Paris School of Economics, Paris 1 Sorbonne, ENS Cachan, Maison des Sciences Economiques, CES, 106-112 Bd de l'Hôpital 75647 Paris cedex 13 Bur. +33 (0)1.44.07.82.42

Mail : mathieu.couttenier@univ-paris1.fr

†INRA-MOISA and IDEP, 2 Place Viala, 34060 Montpellier

Mail : soubeyra@supagro.inra.fr

1 Introduction

Since 1960, 29% of countries worldwide have known a civil conflict. Civil war alters dramatically infrastructures, human capital and institutions. Civil war has also a deep and persistent negative effect on international trade, up to (at least) 20 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 and its success have to be analyzed in considering the role of all parts invested in the rebuilding. In this sense, it is useful to observe what is the implication of third party intervention in civil war.

This article focuses on the effect of diplomatic intervention on the aftermath of civil war and more particularly on international trade. Does diplomatic intervention in civil wars affect international trade? Does diplomatic intervention affect trade through the end of conflict only? Or does diplomatic intervention affect international trade through other channels? Does the intervener benefit from a privileged trading relationship with the target country? We provide answers to these questions regarding the aftermath of civil war and diplomatic intervention. We concentrate on the (external) effect of diplomatic intervention on international trade. From 1968 to 2005, 94 diplomatic interventions in civil wars have occurred over a total of **FFFF** civil wars, we show that third party diplomatic intervention countervails the global persistent decrease of trade highlighted in (Martin et al. (2008a)). We show that (i) a diplomatic intervention compensates the post-war negative effect on global trade for the country where the civil war has occurred (target country) and (ii) the intervener does not benefit from privileged trading relationship with the target country. We identify a potential channel for this evidences : Institutions. We argue that interveners affect institutional quality in the target country. We show that (iii) the higher the intervener's institutional quality is, the higher the compensation effect of intervention on trade. And (iv) the higher the intervener's institutional quality, the higher the institutional quality in the target country after the end of the civil war.

A strand of the political science literature contributes to the understanding of the causes and roots of conflict and a new growing strand focuses on the aftermath of civil war (Bank (2003), Fosu and Collier (2005)). Scholars have analyzed the impact of third party intervention civil war duration (Regan (1996), Regan (2002)). To our knowledge, there is no study dealing with the effect of third party intervention on the aftermath of civil war.

In analyzing the impact of third party intervention on trade in arguing for an institutional channel,

we think this article contributes to the research agenda proposed in Blattman and Miguel (2009) : “The social and institutional legacies of conflict are arguably the most important but least understood of all war impacts”.

The remainder of our paper is structured as follows. Section 2 introduces the data and the estimation procedure following the line of Martin et al. (2008b) and provides details on the possibilities induced by this procedure. Section 3 presents our empirical results regarding the effect of diplomatic intervention on trade then examining institutions as a channel for these effects.

2 Data and Estimation Procedure

2.1 Data on Diplomatic Intervention and Trade

We use data from Regan (2002) on third party intervention in civil war. The data set contains 1465 third party intervention in civil war from 1945 to 1999 including 438 diplomatic interventions. Our diplomatic intervention variable takes into account all mediation (72%) , international forums (15%). Remaining (13%) brings the recall of ambassador in country in war, 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.

For civil war, we use the Correlates Of War data by Gleditsch (2004) and complete this one with own calculation from Regan (2002) to take into account civil war with less than 1,000 deaths per year (??).¹

For the usual gravity variables we use some different sources. We use IMF DOTS data augmented by Martin et al. (2008b) for trade variables. The Regional Trade Agreements data comes from Vicard (2009), the Currency Union data from José de Sousa ² and GDP from World Bank WDI completed by Barbieri (2002).

2.2 The Estimation Procedure

Our objective is to analyze the impact of diplomatic intervention in civil war on the target country’s trade. For this purpose, we use a gravity equation with microeconomics foundations in taking "multilateral resistance terms" into account (Anderson and van Wincoop (2004)).³ This equation allows to estimate

¹Indeed, Regan (2002) in this dataset records all interventions in conflict with more than 200 deaths by year.

²<http://jdesousa.univ.free.fr/data.htm>

³The literature shows that the classical gravity equation misses the "multilateral resistance terms" (Anderson and van Wincoop (2003), Martin et al. (2008b), Baier and Bergstrand (2009)).

bilateral trade flows according trade partner's income, bilateral distance and a set of bilateral variables representative for trade costs. Using a CES demand function that makes relative imports from a given exporter independent of third country, the usual gravity equation is

$$m_{ijt} = \alpha Y_{it} Y_{jt} \left(\frac{p_j T_{ij}}{P_i} \right)^{1-\sigma} \quad (1)$$

The left-hand side in condition (1) is the value of imports by country i from country j at time t (m_{ijt}). α is a positive constant. Y_{it} is the GDP of country i at time t . T_{ijt} is the trade barrier for the pair of countries ij . Mill prices in all countries are identical and equal the mark-up over marginal costs, $\forall j$, $p_j = \frac{\sigma}{\sigma-1}$. σ is the usual elasticity of substitution between goods. P_i is the multilateral price index for country i .

It is useful to decompose the trade barriers term T_{ijt} . We define the trade barrier T_{ijt} from country j to country i as

$$T_{ijt} = \exp(\delta' \Psi_{ijt})$$

where Ψ_{ijt} is a vector of exogenous variables. It will be convenient to distinguish between the different components of Ψ_{ijt} . Let ψ_{it} and ψ_{jt} be the unilateral components relative to country i only and to country j only, respectively. Let ψ_{ijt} be the bilateral component who effectively depends on both countries i and j .

We follow (Martin et al. (2008a)) and consider a reference country in order to control for the price index term (see Anderson and van Wincoop (2004)). Country r is the country of reference to be chosen latter. Taking the imports from a country r as a benchmark, it allows to eliminate price index terms :

$$\frac{m_{ijt}}{m_{irt}} = \frac{Y_{jt}}{Y_{rt}} \exp((1-\sigma) \delta' (\Delta_r \psi_{jt} + \Delta_r \psi_{ijt})), \quad (2)$$

where $\Delta_r \psi_{jt} = \psi_{jt} - \psi_{rt}$ and $\Delta_r \psi_{ijt} = \psi_{ijt} - \psi_{irt}$.

Note that using country r as a benchmark also eliminates variables specific to the importer (i). The value of imports by country i from country j relative to the value of imports by country i from the USA is determined by the characteristics of the exporter j (relative to country r), $\Delta_r \psi_{jt}$, and the characteristics of the pair ij (relative to the pair ir), $\Delta_r \psi_{ijt}$.

3 Empirical Results

3.1 The Effect of Diplomatic Intervention on Trade

We specify the trade barrier term in order to take into account the global effect of diplomatic intervention. We specify the two components remaining in (2) :

$$\boldsymbol{\psi}_{jt} = \begin{pmatrix} \mathbf{EndWar}_{jt} \\ \mathbf{Inter}_{jt} \end{pmatrix} \text{ and } \boldsymbol{\psi}_{ijt} = \begin{pmatrix} RTA_{ijt} \\ CU_{ijt} \end{pmatrix}$$

Bold characters indicates vectors of variables, e.g. \mathbf{EndWar}_{jt} is a lags dummies vector indicating the end of war in country j (\mathbf{EndWar}_{jt} to \mathbf{EndWar}_{jt-k}). \mathbf{EndWar}_{jt-k} is a dummy and is set to 1 only if country j stepped out of war k years before time t . \mathbf{Inter}_{jt} is also a lags dummies vector. Its component \mathbf{Inter}_{ijt} is set to 1 if some country intervenes in country j at time t .

RTA_{ijt} is a dummy if countries are in a common membership in a Regional Trade Agreements at time t and CU_{ijt} a dummy if countries are in a common membership in a Currency Union.

We can now write our main equation of interest

$$\begin{aligned} \ln\left(\frac{m_{ijt}}{m_{irt}}\right) &= \ln\left(\frac{GDP_{jt}}{GDP_{rt}}\right) + (1 - \sigma) [\delta_1(\Delta_r RTA_{ijt}) + \delta_2(\Delta_r CU_{ijt})] \\ &\quad + (1 - \sigma)\delta_3(\Delta_r \mathbf{EndWar}_{jt}) \\ &\quad + (1 - \sigma)\delta_4(\Delta_r \mathbf{Inter}_{jt}) \end{aligned} \quad (3)$$

where Δ_{us} designates variables which are in difference with respect to the U.S., e.g. $\Delta_{us} RTA_{ijt} = RTA_{ijt} - RTA_{iut}$ and $\Delta_r \mathbf{Inter}_{jt} = \mathbf{Inter}_{jt} - \mathbf{Inter}_{rt}$. All regression include times and dyadic countries dummies, C_{ij} .

The vector of lagged dummies \mathbf{Inter}_{jt} allows to observe the persistence of the impact of diplomatic intervention on trade, and in the next equation, δ_5 is our main interest. Our main specification includes 427,174 observations (dyads) from 1968 to 2005 17,036 diplomatic interventions (4%), that is 94 different diplomatic interventions. The sample is smaller than Martin et al. (2008a)

Our regression contains a large number of lagged variables. For ease of reading, we present our results with graphics rather than with tables.⁴ 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.

Figure 1 shows with the black square the civil war effect on trade with 10% confidence interval. The

⁴All tables are available upon request.

effect is persistent 15 years after the end of the conflict and the trade is around 15% from its natural level.⁵ Our main result concern the line with black circle. It appears clearly that diplomatic intervention allows to compensate for the effect of the end of conflict. The effect is persistent around 15 years after the civil war. The effect of diplomatic intervention is always the same when we introduce a dummy for more intense civil war.

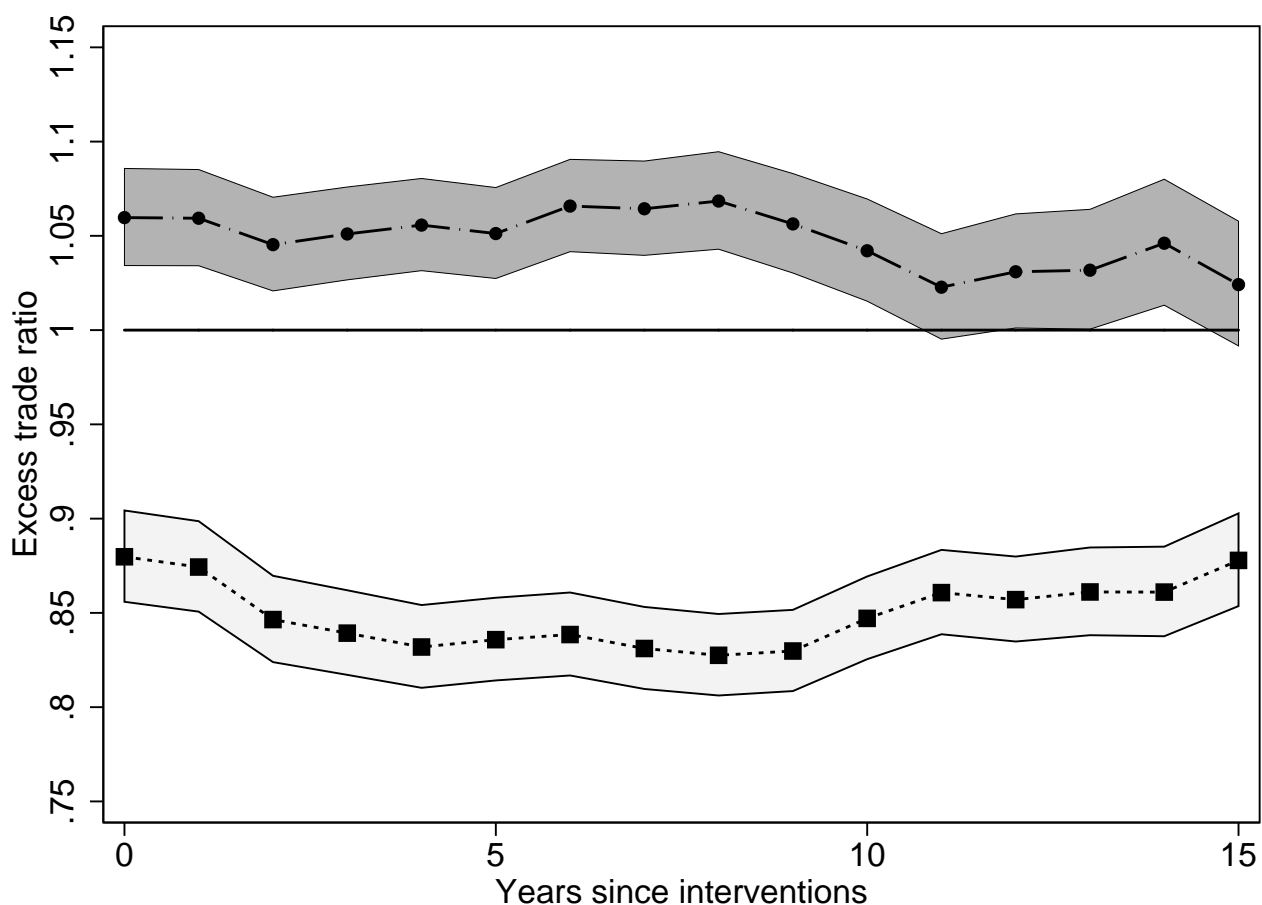


FIG. 1 – The impact of diplomatic intervention and civil wars on trade

This estimation shows that the trade of all the countries with the target country is enhanced by diplomatic intervention.

A first explanation is that after the intervention, the intervener and the target country may introduce some formal trade preferences. But in this case, the trade between the intervener and the target country should grow more than trade between the target country and its other partners. We can test this explana-

⁵Martin et al. (2008a) found that effect of civil war on trade is persistent 20 years after the conflict with fall in trade larger. Our effect is less persistent and larger because our sample takes into account wars with less 1000 deaths by year.

tion. We add to equation (3) a vector of dummy variables $\Delta_r \mathbf{Inter}_{ijt} = \mathbf{Inter}_{ijt} - \mathbf{Inter}_{irt}$ in order to capture the bilateral marginal effect of intervention (for the intervener). The component \mathbf{Inter}_{ijt} of \mathbf{Inter}_{ijt} is a dummy set to 1 only if one of the two countries intervenes in the other one at time t .

$$\begin{aligned} \ln\left(\frac{m_{ijt}}{m_{irt}}\right) &= \ln\left(\frac{GDP_{jt}}{GDP_{rt}}\right) + (1 - \sigma) [\delta_1(\Delta_r RTA_{ijt}) + \delta_2(\Delta_r CU_{ijt})] \\ &\quad + (1 - \sigma)\delta_3(\Delta_r \mathbf{EndWar}_{jt}) \\ &\quad + (1 - \sigma)\delta_4(\Delta_r \mathbf{Inter}_{jt}) + (1 - \sigma)\delta_5(\Delta_r \mathbf{Inter}_{ijt}) \end{aligned}$$

It turns out that diplomatic intervention does not induce any privileged trading relationship between the intervener and the target country (none of the estimated coefficient in the vector $\widehat{\delta}_5$ is significant). In other words, trade between the intervener and the target country does not grow more than trade between the target country and its other partners.

This result leads to a second possible explanation. If intervention enhances some trade-promoting capital such as institutions, infrastructure rebuilding, trust,..(Mayer et al. (2008)), it should have a positive effect on the trade of the target country with all its partners without favoring the intervener. The two estimations presented above fit better with this explanation. The next section aims to confirm this proposition.

3.2 The Institutional Channel

This section is dedicated to evidence on the role of institutions as a channel between diplomatic intervention and trade. The literature on the aftermath of civil war shows that institutions are dramatically affected by civil war. The intervener plays an important role in the institutional rebuilding in the target country. The intervener can provide some institutional alternative, some skilled people to rebuild institutions (Collier (2006)). 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 could play the go-between and propose some institutional design solutions.

First of all, are institutions affected by a diplomatic intervention? To answer this question, we estimate equation 3.2 below. We estimate the institutional level of the target country as a function of the occurrence of a diplomatic intervention and an interaction term between the vector of lagged dummies for diplomatic intervention and the institutional level of the intervener.

$$ICRG_{i,t} = \gamma_0 + \gamma_1(\mathbf{EndWar}_{it}) + \gamma_2(\mathbf{Inter}_{it}) + \gamma_3(\mathbf{Inter}_{it} * ICRG_{dt}) + \mathbf{CountryFixedEffect}_i + \xi_i$$

Equation 3.2 takes into account some lags dummies vector the end wars ($EndWar_i$), the intervention ($Inter_{it}$) and the interaction term ($Inter_{it} * ICRG_{d,t}$). The *Country fixed effect* allows to control for all time invariant effects.⁶ Our measure of the institutional level is “ICRG Political”.⁷ Despite of the classical criticisms, this measure is disponible for a relatively wide range time series (since 1984).

Figure 3.2 represents the estimated marginal effect of diplomatic intervention on the country’s institutional quality ($\hat{\gamma}_2 + \hat{\gamma}_3 ICRG_{dt}$) over a period of 10 years.⁸ We distinguish three groups, i.e. whether the institutional quality of the intervener is in the 1th decile (black circles), 5th decile (black diamonds) or the last decile (black triangles) among all countries. We can then identify the effect of intervener’s institutional quality. Our sample is composed by 977 observations for 53 countries which known a war between 1984 and 2003. We have 55 cases of diplomatic interventions (5.63%).⁹

The effect of diplomatic intervention on the institutional level of target country is positive and persistent up to 10 years. Moreover, the higher the intervener’s institutional quality, the higher the institutional quality in the target country. For the first two years, the marginal effect is not significant. Indeed, institution rebuilding takes time and the institutional enhancement (eventually from the effort provided by the intervener) does not notice immediately.

This shows that the intervener affects the institutional quality of the target country. To complete our reasoning, we show that the institutional quality of the intervener increases the trade of the target country. We consider our main equation (3) and add $\Delta_r Inter_j * ICRG_d$ as an explanatory variable.

$$\begin{aligned} \ln\left(\frac{m_{ijt}}{m_{irt}}\right) &= \ln\left(\frac{GDP_{jt}}{GDP_{rt}}\right) + (1 - \sigma) [\delta_1(\Delta_r RTA_{ijt}) + \delta_2(\Delta_r CU_{ijt})] \\ &+ (1 - \sigma)\delta_3(\Delta_r EndWar_{jt}) + (1 - \sigma)\delta_4\Delta_r(C_{ij}) \\ &+ (1 - \sigma)\delta_5(\Delta_r Inter_j) \\ &+ (1 - \sigma)\delta_6(\Delta_r Inter_j * ICRG_d), \end{aligned}$$

⁶Time invariant variables have an important role for the institutional rebuilding. These time invariant variables are ethnic fractionalization, fraction of the population who speaks an European language or English, initial GDP and education (to avoid the well-identified endogeneity problem), the natural resources endowment...

⁷This indicator provides a means of assessing the political stability, taking into account : Government Stability, Socioeconomic Conditions, Investment Profile, Internal Conflict, External Conflict, Corruption, Military in Politics, Religion in Politics, Law and Order, Ethnic Tensions, Democratic Accountability, Bureaucracy Quality.

⁸The time dimension is too weak to consider more than ten dummies

⁹Results are the nearly the same if we take countries which don’t know a civil war over the period. If we take all countries, the effect of intervention is bigger.

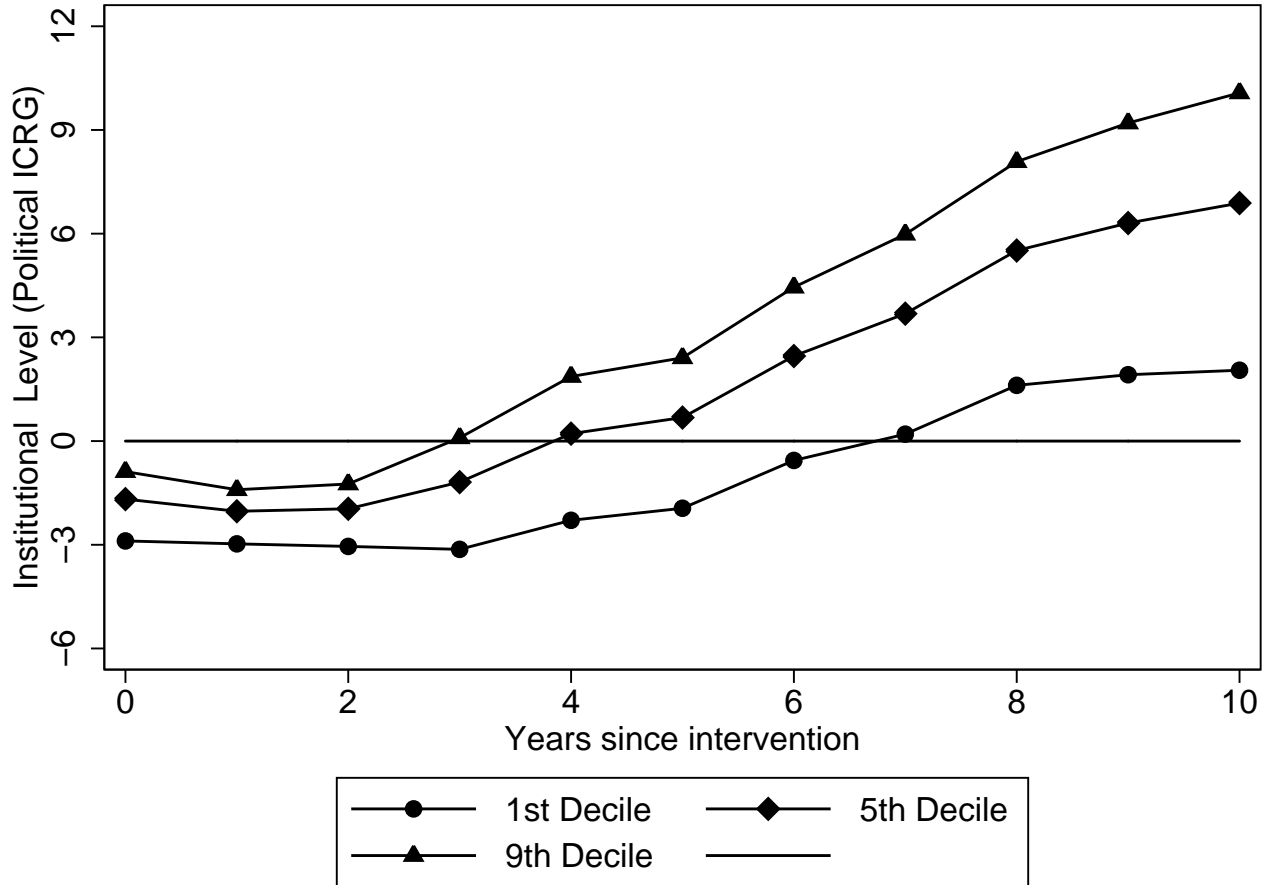


FIG. 2 – The marginal effect of intervention on institution.

where $ICRG_d$ is the institutional level of the intervener d .¹⁰ $Inter_j * ICRG_d$ is a vector indicating what is the effect of the institutional quality intervener (d) on trade. In this equation, our focus is the marginal effect of intervention on trade ($\hat{\delta}_5 + \hat{\delta}_6 * ICRG_d$).

Figure 3 represents the effect of the intervener's institutional quality on the trade of the target country. We distinguish the first (black diamonds), the fifth (black triangles) and the last decile (black squares) of the intervener's institutional quality. Figure 3 shows the higher the intervener's institutional quality is, the higher the positive effect of intervention on trade.

Figure 3 provides an interesting evidence that the institutional channel. This specifies the effect of the diplomatic intervention on the trade of the target country. In the first two years after the end of war, the diplomatic intervention limits the post-war negative effect on trade and at the same time, the effect

¹⁰If more than one country intervenes the same year, we consider the median of the institutional levels of the interveners.

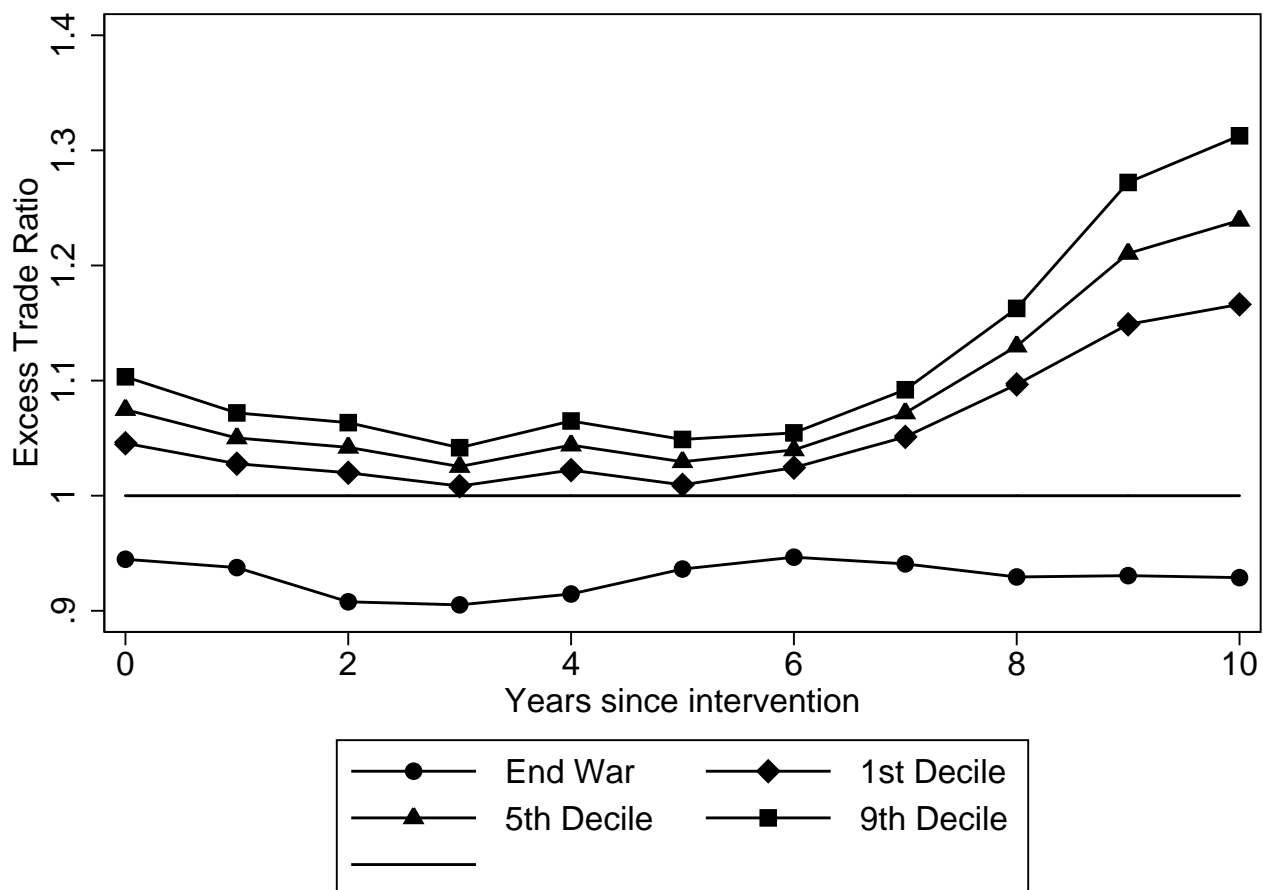


FIG. 3 – The impact of diplomatic intervention and civil wars according the institutional quality of intervener on trade

of intervention on the institutional quality of the target country is not significant.

A plausible interpretation of these results is that the diplomatic intervention is a signal for all trading partners of the target country. The higher the intervener’s institutional quality, the higher the positive signaling effect. At the end of the war, the presence of the intervener acts a "guarantee" for the rest of the world that peace will be robust in the future. After two years, we observe an institutional enhancement that also confirms our intuition about the institutional channel of the effect of intervention on trade.

4 Conclusion

This paper has three mains results. First, diplomatic intervention compensates the post-conflict decrease of trade in the target country. Second, the intervener affects the evolution of the institutions in the target country. And, the higher the intervener’s institutional quality, the higher the positive effect of

intervention on trade. This article offer then an optimistic perspective on diplomatic intervention in civil war.

5 Appendix

TAB. 1 – Number of Intervention by country

Country	Number of interventions	Frequency	Country	Number of interventions	Frequency
BEL	1	1.06	JOR	1	1.06
CAN	3	3.19	JPN	1	1.06
CHE	1	1.06	KEN	3	3.19
COG	1	1.06	LBY	2	2.13
COL	1	1.06	MEX	1	1.06
CUB	1	1.06	NGA	4	4.26
DEU	2	2.13	NIC	1	1.06
DJI	1	1.06	NLD	1	1.06
DOM	1	1.06	NOR	3	3.19
EGY	3	3.19	RUS	6	6.38
ESP	3	3.19	SDN	2	2.13
FRA	6	6.38	SOM	1	1.06
GAB	3	3.19	SYR	1	1.06
GBR	11	11.70	THA	2	2.13
GHA	2	2.13	TZA	4	4.26
GTM	1	1.06	UKA	1	1.06
IDN	1	1.06	ZAF	2	2.13
IND	4	4.26	ZAR	2	2.13
IRN	2	2.13	ZMB	2	2.13
ITA	4	4.26	ZWE	2	2.13
			Tot	94	100

Références

- Anderson, J. E. and E. van Wincoop (2003, March). Gravity with gravitas : A solution to the border puzzle. *American Economic Review* 93(1), 170–192.
- Anderson, J. E. and E. van Wincoop (2004, September). Trade costs. *Journal of Economic Literature* 42(3), 691–751.
- Baier, S. L. and J. H. Bergstrand (2009, February). Bonus vetus ols : A simple method for approximating international trade-cost effects using the gravity equation. *Journal of International Economics* 77(1), 77–85.
- Balch-Lindsay, D. and A. J. Enterline (2000). Killing time : The world politics of civil war duration 1820-1992. *International Studies Quarterly* 44, 615–42.
- Bank, W. (2003). *Breaking the Conflict Trap : Civil War and Development Policy*. New York : Oxford University Press.
- Barbieri, K. (2002). *The Liberal Illusion, Does Trade Promote Peace ?* The University of Michigan Press.
- Blattman, C. and E. Miguel (2009). “Civil War”. NBER Working Papers 14801, National Bureau of Economic Research, Inc.
- Collier, P. (2006). Post-conflict economic recovery. Technical report.
- Collier, P. and A. Hoeffler (2004, October). Greed and grievance in civil war. *Oxford Economic Papers* 56(4), 563–595.
- Elbadawi, I. and N. Sambanis (2000). *External interventions and the duration of civil wars*. Princeton University, Princeton, NJ.
- Fosu, A. and P. Collier (2005). *Post-Conflict Economies in Africa*. New York : Palgrave Macmillian.
- Gleditsch, K. (2004). A revised list of wars between and within independent states, 1816-2002. *International Interactions* 30, 231–262.
- John, R. (2007). Naftas and cusftas impact on international trade. *Review of Economics and Statistics* 89(3), 416–435.

- Levchenko, A. A. (2007, 07). Institutional quality and international trade. *Review of Economic Studies* 74(3), 791–819.
- Martin, P., T. Mayer, and M. Thoenig (2008a, 04-05). Civil wars and international trade. *Journal of the European Economic Association* 6(2-3), 541–550.
- Martin, P., T. Mayer, and M. Thoenig (2008b, 07). Make trade not war? *Review of Economic Studies* 75(3), 865–900.
- Mayer, T., K. Head, and J. Ries (2008, December). The erosion of colonial trade linkages after independence. Working Papers 2008-27, CEPII research center.
- Patrick M. Regan, R. F. and A. Aydin (2008). Diplomatic interventions and civil wars : A new dataset. *forthcoming Journal of Peace Research*.
- Regan, P. (1996). Conditions for successful third party intervention in intrastate conflicts. *Journal of Conflict Resolution* 40, 336–359.
- Regan, P. (2002). Third party interventions and the duration of intrastate conflicts. *Journal of Conflict Resolution* 46, 55–73.
- Vicard, V. (2009). On trade creation and regional trade agreements : Does depth matter? *Review of World Economics*. Forthcoming.
- Wantchekon, L. and Z. Neeman (2002). A theory of post-civil war democratization. *Journal of Theoretical Politics*.