

# Does globalization promote civil war?

## An empirical research

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### Abstract

This paper investigates the empirical relationship between globalization and intrastate conflict in a sample of 160 countries over the period 1970-2009. To that end, we use a measure of globalization that distinguishes the social and political dimensions of integration from the economic dimension, thus allowing us to adopt a broader perspective than in most of existing studies and examine the effect of these three distinct aspects of globalization on civil violence. The results of the paper show that the degree of integration with the rest of the world contributes significantly to increasing the incidence of civil wars, in direct contrast to arguments which defend that globalization has the beneficial effect of deterring internal armed conflicts. In particular, the dimension of globalization that most robustly relates with internal conflict is economic integration. Our findings are not affected by the inclusion of additional explanatory variables in the analysis, or by changes in the definition of civil war. Likewise, the relationship observed between the degree of integration and civil violence does not seem to be driven by countries located in the most conflictive regions in the world.

*Keywords:* Globalization, civil war.

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# 1 Introduction

The consequences of globalization are nowadays the subject of an active public debate in different forums (Stiglitz, 2002; Bhagwati, 2004). The interest surrounding this issue is clearly related to the increasing relevance of the process of globalization currently underway. This does not imply that globalization is a new phenomenon, as its origins go back to at least the 19th century (Findlay and O'Rourke, 2007). Nevertheless, during the last few decades the world has experienced unprecedented levels of integration, surpassing the peak reached before the First World War. This process is characterized by the opening of national borders to a variety of flows, including people, goods and services, capital, information and ideas (Clark, 2000). Although it is difficult to agree on a precise definition, there is wide consensus that globalization tends to erode the relevance of national borders, generating complex relations among different actors at multi-continental distance (Norris, 2000). These increasing mutual interactions have important consequences on many relevant facets of contemporary societies, including economic, social, cultural and political aspects. Accordingly, understanding the effects of globalization is essential to address the numerous challenges posed by this process, and be able to identify who wins and who loses, not only within each country but also across countries.

Against this background, numerous studies have been published in recent years on the impact of globalization on economic development and growth (Frankel and Romer, 1999; Dreher, 2006), income inequality and poverty (Dollar and Kraay, 2004; Milanovic, 2005), labour market (Dreher and Gaston, 2007; Tomohara and Takii, 2011), environmental quality (Antweiler et al., 2001; Frankel and Rose, 2005), or democracy and human rights (Rudra, 2005; Dreher et al., 2012). Likewise, there are various

contributions that examine the potential link between globalization and intrastate conflict using different indicators of trade openness and foreign direct investment to measure the relevance of globalization (Bussmann and Schneider, 2007; Martin et al., 2008; Ruger and Sorens, 2014). From a policy perspective, the relationship between these variables and civil war is clearly important, as it provides information on the role that economic integration plays in this context. Nevertheless, the degree of trade openness and foreign direct investment are not useful to capture the incidence of other dimensions of globalization identified in the political economy literature, such as social integration and political integration (Prakash and Hart, 1999; Keohane and Nye, 2000). This is potentially important, given that it is not evident that the various dimensions of globalization affect internal conflict in the same way. Bearing this in mind, and in a quest for empirically well-founded stylized facts, this paper aims to provide a comprehensive analysis of the relationship between globalization and the incidence of civil armed conflicts. To that end, we adopt a broader perspective than that found in most of the existing studies on this topic and investigate in a systematic way the consequences that the economic, social and political dimensions of globalization have on civil war

To the best of our knowledge, only Olzak (2011) and Flaten and De Soysa (2012) have thus far considered the multidimensional nature of the process of globalization in this context. Nevertheless, our study differs from these prior works in two major aspects. First, there are important methodological differences between our paper and Olzak (2011) and Flaten and De Soysa (2012). Thus, the endogeneity of the globalization variables in this context is particularly relevant and may seriously affect the results of the analysis (Wooldridge, 2002). However, Olzak (2011) and Flaten and De Soysa (2012) do not adequately address this potential problem and thus do not

convincingly establish a causal relationship between globalization and civil violence. Unlike these previous papers, in our study we adopt an instrumental variables approach to investigate the causal link between the degree of integration with the rest of the world and civil war. Second, Olzak (2011) and Flaten and De Soysa (2012) focus their attention on different aspects of internal violence. In particular, the dependent variable used by Olzak (2011) is the number of fatalities from conflict, which is a measure of the intensity of civil war, whereas Flaten and De Soysa (2012) examine the impact of globalization on the onset of civil war and respect for human rights. In contrast, we are interested in the effect of integration on the *incidence* of civil war. This allows us to relate our paper to the abundant literature on the determinants of the incidence of intrastate conflicts (e.g. Miguel et al. 2004; Montalvo and Reynal-Querol, 2005; Esteban et al., 2012a,b).

The remainder of the paper is organized as follows. After this introduction, section 2 reviews several of the theoretical arguments proposed in the literature to justify the possible connection between globalization and internal conflict. Section 3 describes the measures used in our study to quantify the relevance of globalization and the incidence of internal conflict in the various countries. Section 4 presents the empirical analysis undertaken in the paper to investigate the link between globalization and civil war. The robustness of our findings is examined in section 5. The main conclusions of our work are discussed in the final section.

## 2 The relationship between globalization and internal conflict

From a theoretical perspective, there are several arguments to believe that globalization and intrastate conflict may be related. Nevertheless, this is a complex relationship, as attempting to explain how globalization affects conflict implies taking into consideration multiple factors and mechanisms. Specifically, it is important to note that economic, social and political integration can have different effects on conflict (Olzak, 2011; Flaten and De Soysa, 2012).

Most of the existing literature has focussed exclusively on the link between international trade and civil war. Thus, according to Martin et al. (2008) there are two mechanisms relating trade and the opportunity cost of internal conflict, which work in opposite directions. The first of these mechanisms is the deterrence effect. This effect is based on the idea that the opportunity cost of conflict is positively associated with the degree of trade openness of the country in question, as the economic benefits generated by international trade can be threatened by the existence of within-country armed violence. According to this effect, trade openness reduces the potential risks of civil war. Nevertheless, Martin et al. (2008) also recall that international trade can be a substitute for internal trade during civil war episodes, thus acting as an insurance and reducing the opportunity cost of conflict. This insurance mechanism also implies the weakening of the degree of economic interdependence of the various regions and ethnic groups within a country, which in turn increases the feasibility of internal conflict (Martin et al., 2008). Therefore, the final impact of international trade on the incidence of civil war depends ultimately on the magnitude of both effects, which may be related to the degree of intensity of conflict. In particular, the deterrence effect

should be more relevant in high intensity conflicts, whereas the insurance effect should be less important in this type of conflicts (Martin et al., 2008).

Moreover, various authors have emphasized the relevance of economic integration in promoting growth and economic development (Frankel and Romer, 1999; Alcalá and Ciccone, 2004; Dreher, 2006), which is particularly relevant for the establishment of the rule of law and political stability (La Porta et al., 1999). Given that the opportunity cost of conflict increases with advances in the process of economic development (Collier and Hoeffler, 2002; Fearon and Laitin, 2003), this argument suggests that economic globalization may contribute indirectly to reducing the risk of civil war.

In any case, although economic globalization possibly benefits the countries involved in the process in aggregate terms, it also results in winners and losers within these countries. In fact, the opening of national economies to world markets has led to greater inequality in numerous countries (Stiglitz, 2012). According to the traditional view, economic inequality is perceived as a major driver of social conflict. Thus, as Sen (1973, p.1) pointed out: “the relationship between inequality and rebellion is indeed a close one”. Yet, intuitive and natural as it might seem, the link between income inequality and conflict has not yet received conclusive and definitive empirical support (Esteban et al., 2012 a,b). In any case, other dimensions of inequality are potentially important in this context. For example, economic globalization also contributes to increasing spatial inequality (i.e. inequality across the various regions of a country) (Ezcurra and Rodríguez-Pose, 2014). This is particularly relevant in this context, since a high level of spatial inequality may lead to internal conflicts about the territorial distribution of resources, thus heightening the risk of secession and undermining social and political stability (Østby et al., 2009; Deiwiiks et al., 2012).

Furthermore, the positive and negative effects of economic globalization are often

unevenly distributed across the members of different ethnic groups. Accordingly, the degree of economic integration with the rest of the world influences ethnic inequality (i.e. inequality across ethnic groups), favouring some ethnic groups over others (Olzak, 2011). The implications of economic globalization on ethnic inequality may be especially important in lower income countries, where ethnic groups that hold a political dominant position are generally the most benefitted, while other groups tend to be excluded and reap few benefits from the process of integration (Chua, 2003). In order to keep their privileged situation and limit the degree of mobilization of disadvantaged groups, the dominant ethnic group usually adopts practices including the deterioration of civil and political rights of minority groups. This setting leads to an intensification of social unrest based on ethnic cleavages (Østby, 2008; Wimmer et al., 2009), which is consistent with the increasing relevance of violent ethnic conflicts in the last decades (Chua, 2003).

The social dimension of globalization can also affect conflict. Thus, the flows of information and ideas that characterize social integration boost internal movements based on claims for self-determination and expanded minority rights (Olzak, 2011; Flaten and De Soysa, 2012). Social globalization contributes to reducing the cultural distance between countries, thus providing an ideological platform and an international audience predisposed to support these claims (Olzak, 2011). In this setting, minority groups have a greater capacity to mobilize against repressive regimes that deny them their rights, which in turn raises the risk of violent armed conflict. Moreover, the advances in this dimension of globalization give rise to an increase in migratory flows across national borders (Goldberg and Pavnick, 2007). These migratory flows often lead to a negative reaction of native citizens and the aggravation of existing ethnic tensions.

Social globalization also exerts greater international pressure on repressive regimes as a result of the increasing information available via the Internet and other global communication media (Dreher et al., 2012). In this context, the existence of a violent armed conflict within a country negatively affects the likelihood of receiving foreign investment and international aid. Indeed, this effect is particularly important in countries highly dependent on tourism, as the economic gains generated by tourism are put at risk due to the negative publicity of internal violence. This argument seems to suggest that this aspect of social globalization increases the opportunity cost of civil war, thus reducing the risk of conflict. It should be recalled, however, that the advance of the new information technologies also enhances the mobilization capacity of insurgents, as can be observed in the recent wave of demonstrations, protests and civil wars that have shaken the Arab world.

Finally, political globalization may also be connected with the incidence of intrastate conflict through different mechanisms. An important aspect of this dimension of globalization has to do with the increasing relevance of international economic and political organizations. Membership in these organizations provides numerous advantages of a different nature that member countries do not want to endanger by adopting repressive policies against the rights of specific minority groups (Dreher et al., 2012; Flaten and De Soysa, 2012). For example, in the case of the European Union, the member states must sign the European Convention for the Protection of Human Rights and Fundamental Freedoms. Likewise, several UN declarations urge that action be taken against countries that violate the rights of ethnic minorities (Koenig, 2008), although examples such as the Darfur conflict suggest the scant relevance of such international pressure in practice. In any case, this seems to suggest that political globalization should have the beneficial consequence of deterring internal armed



conflict.

Furthermore, international organizations such as the WTO, the IMF or regional trade unions often defend the strategic interests of power blocks like the United States or the European Union (Dreher et al., 2012). Accordingly, the decisions adopted by these organizations tend to be based on asymmetric trade and financial relations, which can affect the internal situation and the economic performance of low- and middle-income countries (Stiglitz, 2006). This may have implications on the level of dispersion of the income distribution, the degree of ethnic inequality or the magnitude of spatial disparities within these countries. As outlined above, all these factors are especially important in explaining the potential for social unrest and civil conflict.

Empirical research is key to illustrating the potential link between globalization and conflict. In recent years, several studies have investigated this relationship empirically, paying particular attention to the impact of international trade on civil war (Barbieri and Reuveny, 2005; Bussmann and Schneider, 2007; Martin et al., 2008). The analysis of the link between trade openness and civil war is doubtless useful for attempting to examine the effect of economic globalization on internal conflict, but it does not provide any information on the role played by social and political globalization in this context. Although the different aspects of globalization are often positively correlated, this omission is potentially important, as the various arguments discussed above show that social and political globalization may have a direct effect on the incidence of conflict. Accordingly, the impact of economic integration on conflict observed in the literature may be affected by the omission of social and political globalization from the analysis (Dreher, 2006). Bearing this in mind, in this paper we follow the strategy adopted in two recent papers by Olzak (2011) and Flaten and De Soysa (2012) and use an extensive concept of globalization, which allows us to com-

prehensively examine the overall effect of economic, social, and political integration on civil war. Nevertheless, our research does not aim to propose a new theory or to test empirically the relevance of a specific channel linking globalization and internal violence. As pointed out in the introduction, our main contribution to the literature has to do with the employment of an instrumental variables approach to investigate the causal link between the degree of integration with the rest of the world and civil war.

### **3 Measuring globalization and internal conflict**

Our empirical analysis requires comparable and reliable information on the incidence of globalization in the various countries. Nevertheless, this is not an easy task because, as discussed above, globalization is a multidimensional process and cannot be captured by a single variable (Clark, 2000; Keohane and Nye, 2000). Bearing this in mind, the measure of globalization that we use is the KOF index of globalization constructed by Dreher (2006) and updated by Dreher et al. (2008). This is a composite index widely employed in the recent literature to examine different aspects of the consequences of globalization (e.g. Dreher, 2006; Dreher and Gaston, 2007, 2008; Rao and Vadlamannati, 2011; Ezcurra and Rodríguez-Pose, 2014).<sup>1</sup>

The KOF index is based on a set of 23 variables associated with different dimensions of globalization. These variables are used to obtain three indexes on the incidence of economic, social and political integration by means of principal component analysis (for further details see Dreher et al. (2008)). In turn, the information provided by these three indices is employed to calculate an overall index of global-

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<sup>1</sup>A comprehensive list of papers based on the KOF index of globalization can be found at <http://globalization.kof.ethz.ch/>.

ization. Specifically, the index of economic integration is a weighted average of two subindices that respectively measure actual economic flows and existing restrictions on trade and capital. The index of social integration is a weighted average of three subindices that respectively capture the importance of personal contacts, information flows and cultural proximity. The degree of political integration is proxied by the number of embassies in a country, membership in international organizations, participation in UN peacekeeping missions, and the ratification of international treaties. Finally, the overall index of globalization is obtained as a weighted average of the three indices of economic, social and political integration. Table 1 includes further details on the different components of the KOF index, as well as the weights attached to each individual variable to derive the various indices. In turn, Table 2 displays the correlation coefficients between the overall measure of globalization and the three indices of economic, social and political integration. As expected, all the correlation coefficients are positive and statistically significant at the 1% level. Their magnitude, however, reveals the existence of discrepancies between the various dimensions of globalization identified by the KOF index. This shows that the distinction between economic, social and political globalization is empirically relevant and is not only a conceptual issue.

[INSERT TABLE 2 AROUND HERE]

According to the KOF index, in 2009 the world's most globalized country was Belgium (score of 92.7) as a result of the country's high degree of economic and political integration with the rest of the world. Belgium was followed by other European countries, such as Ireland (92.0), the Netherlands (90.9) and Austria (90.6). At the other end of the scale we find East Timor, which was the world's least globalized

country in 2009 (score of 23.4). Other countries ranking low on the overall index include Equatorial Guinea (25.9), Laos (26.4) or the Solomon Islands (27.0). A first observation from this ranking is that the incidence of globalization appears to be positively associated with the level of economic development of the various countries, thus suggesting that high-income countries generally tend to register greater levels of integration with the rest of the world than low- and middle-income countries.

In order to complete this information, we now study the dynamics of the process of globalization throughout the study period. To do so, instead of resorting to a set of descriptive statistics, we examine the entire distribution of the KOF index. In particular, we apply a non-parametric approach to estimate the external shape of the distribution using a Gaussian kernel function and the optimal smoothing parameter proposed by Silverman (1986, p.48). Our estimates are shown in Figure 1. As can be observed, the initial situation has not remained stable over time. Thus, the density functions have clearly shifted towards the right between 1970 and 2009, thus indicating that the incidence of the process of globalization has increased throughout the study period, particularly over the last two decades. Furthermore, Figure 1 reveals that the distance between the two ends of the distribution has decreased. This implies that the gap between the most and the least globalized countries has narrowed, which suggests that the spread of globalization all over the world has contributed to reducing existing differences in the degree of integration of the various countries (Villaverde and Maza, 2011). In order to confirm the relevance of this process of convergence, we calculate the coefficient of variation of the KOF index over time. The value of this statistic is found to have decreased by 28% between 1970 and 2009. However, it is interesting to note the presence of a second mode in the last two decades located at the upper end of the distribution, thus indicating the tendency of the most globalized countries to

diverge at the end of the study period.

[INSERT FIGURE 1 AROUND HERE]

In order to conduct the analysis, we also need to quantify the incidence of civil conflicts in the various countries. To that end, we resort to the information provided by the UCDP/PRIO dataset. This dataset is the result of a collaborative project between the Department of Peace and Conflict Research at Uppsala University and the Centre for the Study of Civil War at the International Peace Research Institute located in Oslo.<sup>2</sup> The UCDP/PRIO data, which are described in detail by Gleditsch et al. (2002), have been used frequently in recent years by numerous researchers and policymakers (e.g. Collier et al., 2002; Miguel et al., 2004; Esteban et al., 2012 a,b). We follow the convention in the literature and employ a yearly binary indicator defined according to a threshold based on the number of casualties. Given the nature of the study, we focus our attention on intermediate and high-intensity conflicts. Therefore, we take as baseline a variable which reports all internal conflicts with 1,000 or more battle-related deaths over the course of the conflict. More specifically, a conflict is coded as zero provided it has not resulted in more than 1,000 battle-related casualties over time. Once a conflict reaches this threshold, it is coded as one. This definition of civil war is consistent with the approach adopted by Doyle and Sambanis (2000), Fearon and Laitin (2003) or Montalvo and Reynal-Querol (2005), among many others.

[INSERT FIGURE 2 AROUND HERE]

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<sup>2</sup>For further details see [www.prio.org/data/armed-conflict/](http://www.prio.org/data/armed-conflict/).

Figure 2 shows the number of civil conflicts that fulfil the above criterion between 1970 and 2009. The graph shows that the global trend in intrastate conflict has not been uniform throughout the study period. The maximum number of civil wars was reached at the beginning of the 1990s and was the result of the steady and gradual accumulation of conflicts since the mid 1970s. Coinciding with the end of the Cold War, the incidence of civil conflicts decreased slightly. This seems to suggest that the increase in the incidence of internal violence in some countries associated with the Soviet collapse was offset by improved management strategies by states and international organizations (Gurr, 2000).<sup>3</sup> In any case, Figure 2 reveals that in 2009 there were still 23 ongoing civil wars all over the world, thus implying that about one in nine countries was affected by internal conflict.

## 4 Is there an empirical link between globalization and civil war?

### 4.1 Estimation strategy

In this section we investigate the relationship between globalization and intrastate conflict in 160 countries over the period 1970-2009. To that end, we estimate different versions of the following model:

$$C_{it} = \beta G_{it} + \gamma' X_{it} + \eta_i + \theta_d + \varepsilon_{it} \quad (1)$$

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<sup>3</sup>It is interesting to note that the basic pattern in Figure 2 is observed in a broad range of other data sets on civil wars (e.g. Fearon and Laitin, 2003; Esteban et al., 2012b).

where  $C$  is a binary variable that takes a value of one if a civil armed conflict occurred in country  $i$  during year  $t$  and zero otherwise,  $G$  is the KOF index of globalization described above, and  $X$  denotes a set of variables that control for additional factors that are assumed to have an influence on internal conflict. In turn,  $\eta$  stands for country-specific effects, while  $\theta$  are decade dummies common to all countries.<sup>4</sup> Finally,  $\varepsilon$  is the corresponding disturbance term. The main interest throughout the paper is the coefficient  $\beta$ , which measures the effect of globalization on the incidence of intrastate conflict.

The control variables included in vector  $X$  have been selected on the basis of existing studies on the explanatory factors of civil war (see Hegre and Sambanis (2006) and Blattman and Miguel (2010) for surveys of this literature). Thus, there is an increasing body of research that shows the association between economic conditions and internal violence. In particular, the level of GDP per capita can be interpreted as a proxy for “a state’s overall financial, administrative, police and military capabilities” (Fearon and Laitin, 2003, p.80), which suggests that rebels can expect a greater probability of success in low-income countries. Furthermore, episodes of conflict tend to be preceded by negative income shocks (Collier and Hoeffler, 2004; Miguel et al., 2004). This is consistent with the empirical evidence provided by Alesina et al. (1996) showing that low growth rates are a causal factor of political instability and unconstitutional government changes. In fact, the lower the growth rate, the lower the opportunity cost of enlisting as a rebel and engaging in a civil war (Collier and Hoeffler, 2004). Taking these arguments into account, we control for the level of GDP per capita and the growth rate of the economy in the preceding period.

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<sup>4</sup>The introduction of year dummies does not change the core results of the paper, although it reduces slightly the significance of some coefficients.

Democracy may be also related to the presence of internal conflict. Democratic states are generally characterized by less repression of minority groups and by the observance of and respect for the civil and political rights of their citizens (Fearon and Laitin, 2003). This suggests that ethnopolitical groups are more prone to adopt protest strategies other than rebellion in democratic societies (Gurr, 2000). Therefore, democratic regimes are less likely to produce grievance and violence. By contrast, autocracies tend to be less stable than democracies. In fact, the regime transitions in non-democratic states may increase the risk of conflict. Although the relationship between democracy and conflict is complex (Collier and Rohner, 2008), these arguments suggest that one should control for the level of democracy in the sample countries. To that end, we follow Olzak (2011) and include in the list of regressors of model (1) a democracy index drawn from the Polity IV Project which combines three out of the five components of Polity IV (*XCONST*, *XRCOMP*, *XROPEN*) and leaves out the two components (*PARCOMP* and *PARREG*) that are related to political violence, and therefore are likely to be endogenous (Vreeland, 2008). Finally, abundant evidence shows that the incidence of civil conflicts is usually affected by the existence of earlier episodes of violence, so we also control for the number of peaceful years previous to the year in question (Martin et al., 2008).

When considering the specification in model (1), it is important to note that the inclusion of country-specific effects allows us to control for those time-invariant elements relevant in this context, such as geographic and historical factors (Djankov and Reynal-Querol, 2010). In fact, as pointed out by Sunde and Cervellati (2014), these country fixed effects should also account for all potential determinants of civil violence in which most of the variation throughout the study period is across countries rather than over time. This is the case, for example, of the degree of ethnic diversity,



population size, the availability of natural resources or regional disparities. In turn, the inclusion of decade dummies is useful to control for time periods with unusual levels of incidence of civil wars, as occurred coinciding with the end of the Cold War (Figure 2). Therefore, our empirical specification accounts for the most important determinants of civil conflict identified in the literature (Hegre and Sambanis, 2006; Blattman and Miguel, 2010).

Before estimating model (1), it is important to note that the existence of an internal conflict may affect the spread of globalization in the country in question. For example, the empirical evidence provided by Martin et al. (2008) shows that the destruction of trade due to civil wars can be quantitatively very important and persistent over time. In particular, in the case of civil conflicts with reported casualties over 50,000 deaths, these authors observe a fall in trade around 25% from its natural level in the first year of the war. The destruction of trade increases with time and it is still present at around 40% 25 years after the conflict's onset. The effect is lower in magnitude but still present and persistent in the case of less-intensity conflicts (Martin et al., 2008). In addition to this reverse causality problem, there may be omitted determinants of civil violence correlated with the degree of integration. Finally, the values of the globalization index may be affected by measurement errors. The implications of these three problems are potentially important from an econometric perspective (Wooldridge, 2010), but they could be solved if we had suitable instruments for globalization. These instruments must be important factors in accounting for the cross-country variation in the incidence of globalization that we observe in our sample, but they must not be correlated with the error term in model (1).

As pointed by Flaten and De Soysa (2012), finding instruments that fulfil these two conditions is not an easy task in our context given the nature of the KOF index.

In order to overcome this important problem, we use several variables as exogenous instruments. Our first instrument is the (weighted) average of the incidence of globalization in neighbouring countries. To calculate this average the values of the globalization index are weighted by a spatial weights matrix,  $W$ , which describes the spatial interdependences among the sample countries. In particular,  $W$  is defined as follows:

$$W = \begin{cases} w_{ij} = 0 & \text{if } i = j \\ w_{ij} = \frac{1/d_{ij}^2}{\sum_j 1/d_{ij}^2} & \text{if } i \neq j \end{cases} \quad (2)$$

where  $d_{ij}$  is the geographic distance between the centroids of countries  $i$  and  $j$ , which in itself is strictly exogenous. As can be observed,  $W$  is row standardized, so that it is relative and not absolute distance which matters. The rationale for using this instrument has to do with the notion that geography and spatial interdependence are important factors for the spread of globalization, which is consistent, for example, with numerous theoretical models developed in the so-called “New Economic Geography” (e.g. Krugman, 1998; Fujita and Thisse, 2002). In particular, there is abundant empirical evidence showing that trade flows are more likely between neighbouring countries, as transport costs increase with geographic distance (e.g. Anderson and Van Wincoop, 2004; Disdier and Head, 2008). Similarly, the cultural distance between two countries depends directly on the geographic distance between them (Disdier et al., 2010). Accordingly, these arguments suggest that a country’s level of globalization tends to be higher, the higher the degree of integration of its neighbouring countries with the rest of the world.

Taking into account that geographic location seems to be relevant in explaining the relevance of globalization, we also use the degree of remoteness of the various countries as an additional instrument. This variable has been identified in the recent

literature as one of the determinants of the level of openness of national borders to international trade (Baier and Bergstrand, 2004). In fact, Martin et al. (2008) employ this variable as instrument for trade openness in their analysis of the link between civil war and international trade. Intuitively, the choice of this instrument is based on the idea that remote countries tend to register lower levels of integration with the rest of the world. As is usual in the literature, we calculate the remoteness variable according to the following expression:

$$R_{it} = -\ln \left( \frac{\sum_{j \neq i}^n GDP_{jt}}{d_{ij}} \right) \quad (3)$$

In order to address the endogeneity problems discussed above, we resort to the Two-Stage Least Squares (2SLS) method to estimate model (1). As pointed out by Miguel et al. (2004), 2SLS is typically preferred even in cases in which the dependent variable is dichotomous (Angrist and Kreuger, 2001; Wooldridge, 2002), as strong specification assumptions are required to justify the use of other alternative methods such as those proposed by Rivers and Vuong (1988). In fact, the Monte Carlo experiment performed by Angrist (1991) shows that if the binary nature of the dependent variable is ignored and a linear instrumental variable approach is used, the estimates are very close to the average treatment effect obtained using a bivariate probit model (Djankov and Reynal-Querol, 2010). Therefore, the use of 2SLS in this context has sound empirical support. Furthermore, as is usual in the literature, the standard errors are clustered at the country level to allow for arbitrary within-country correlation in the error term of model (1).

## 4.2 Results

Before presenting our main results, we should first investigate to what extent the instruments proposed in the previous section are correlated with the KOF globalization index. To that end, Table 3 shows the results of the corresponding first stage regressions. As can be observed, the F-statistics for the excluded instruments are, in all cases, well above the threshold of 10 suggested by Staiger and Stock (1997) when there is a single endogenous regressor. Moreover, the coefficients of the excluded instruments are statistically significant in all regressions. Consistent with the arguments discussed above, the relevance of globalization in a particular country is positively affected by the degree of integration of its neighbouring countries with the rest of the world. In addition, our estimates show that countries with low (high) values of the remoteness variable are characterized by high (low) levels of globalization. Interestingly, these findings do not depend on the specific dimension of globalization considered in the analysis. The relationships between the excluded instruments and the various globalization indices are illustrated in Figure 3 with the partial regression plots of the proposed instruments versus the various measures of globalization conditional on the full set of control variables described in the preceding section. Overall, the results in Table 3 and Figure 3 reveal that both the degree of integration of neighbouring countries and the remoteness indicator are able to provide useful information for explaining the cross-country variation in the incidence of globalization.

[INSERT TABLE 3 AROUND HERE]

[INSERT FIGURE 3 AROUND HERE]

We now turn to the second stage results of our instrumental variables estimation in Table 4. The first column of the table shows that the coefficient of the overall index of globalization is positive and statistically significant. Accordingly, the degree of integration with the rest of world contributes to increasing the incidence of civil wars, which casts worrying implications on the consequences of the process of globalization currently underway. More specifically, this result seems to question directly the validity of arguments which defend that the advances of globalization can help to promote stability and peace and reduce the risks of internal conflicts all over the world (Bhagwati, 2004; Barbieri and Reuveny, 2005). The different controls included in our baseline specification of model (1) show that this is not a spurious correlation resulting from the omission of relevant variables in this context. In particular, it should be noted that the globalization index remains significantly associated with intrastate conflict even when we control for the level of GDP per capita and the economic growth of the various countries. This is especially important, given that numerous studies have highlighted the role played by globalization in promoting economic development and growth (e.g. Frankel and Romer, 1999; Alcalá and Ciccone, 2004; Dreher, 2006). Our results show that the overall index of globalization makes a relevant contribution in explaining the cross-country variation in the incidence of civil war, and is not simply capturing the effect of economic conditions.

[INSERT TABLE 4 AROUND HERE]

So far we have investigated the overall impact of globalization on internal armed conflicts. In order to complement our results, we now use the information provided by the KOF index to examine the role played in this setting by economic, social and

political integration. This is particularly interesting in this context, given that it is not clear a priori that these three dimensions of globalization affect civil war in the same way. In view of this, model (1) is estimated again with the indices of economic, social and political integration as regressors, instead of the overall indicator employed so far. The second, third and fourth columns of Table 4 present the findings obtained when the three dimensions of globalization identified by Dreher (2006) are analysed individually, using as instruments the (weighted) average of the incidence of economic, social and political globalization in neighbouring countries and the remoteness variable. The results are similar in all cases. Regardless of the specific index employed in each case, the coefficients of the different measures of globalization are positive and statistically significant in all the specifications considered. It is interesting to note that the positive association between economic globalization and internal conflict observed in the second column of Table 4 is in line with the empirical evidence provided by Martin et al. (2008) or Olzak (2011), although it contrasts with the findings reported by Barbieri and Reuveny (2005), Bussmann and Schneider (2007) or Flaten and De Soysa (2012). Nevertheless, caution is needed when comparing our results with previous research. Thus, in many cases there are important differences in the definition of the dependent variable, the study period and the countries included in the analysis. In addition, only Martin et al. (2008) have used an instrumental variable approach to deal with the endogeneity of the degree of integration in this context. Furthermore, unlike our research, most of these previous papers focus exclusively on the effect of a particular aspect of globalization (i.e. trade openness) on internal violence. In fact, only Olzak (2011) and Flaten and De Soysa (2012) use aggregate measures including different features of economic integration. Thus, using a combined index known as “Globalindex”, Olzak (2011) shows that economic globalization significantly increases

the fatalities from ethnic conflicts. Flaten and De Soysa (2014), however, report a negative association between the KOF index of economic globalization and the onset of civil conflicts.

Additionally, the third and fourth columns of Table 4 show that the incidence of civil war in a given country is positively related to its level of social and political globalization, which is consistent with several of the arguments discussed in section 2. These findings are an important contribution of the paper, taking into account the scant attention paid so far by the literature to the potential link between these two dimensions of globalization and the incidence of civil wars. However, not accounting for all dimensions of globalization may lead to an omitted variable bias. Consequently, we include the measures of economic, social and political integration jointly in the fifth column of Table 4. The results indicate that none of the indices in this specification is statistically significant at conventional levels. Nevertheless, this finding should be treated with caution due to the possible existence of multicollinearity (see Table 2), which probably results in greater standard errors. In order to put out research in the context of earlier papers on the topic, it should be noted that the empirical evidence provided by Olzak (2011) indicates that cultural and sociotechnical aspects of integration increase the number of fatalities in ethnic conflicts. However, in the case of non-ethnic conflicts, she finds that sociotechnical aspects of globalization are negatively correlated with casualties. In turn, the results reported by Flaten and De Soysa (2012) suggest that social globalization reduces the risk of conflict onset.

Given that our model is overidentified, we can check formally whether the excluded instruments are appropriately independent of the error process, which is particularly important to support the validity of our estimation strategy. To do so, we perform the Hansen test of overidentifying restrictions, which is consistent in the presence of

heteroskedasticity and autocorrelation. As can be observed in Table 4, the results of this test fail in all cases to reject the null hypothesis at usual significance levels, thus indicating that the excluded instruments are uncorrelated with the error term in model (1). This reinforces our confidence in the findings discussed above on the effect of globalization on civil war.

With respect to the control variables included in model (1), the information provided by Table 4 reveals that our estimates are, in general, consistent with the findings of the literature on the determinants of internal armed conflicts. Thus, the analysis indicates that short-term income shocks and the level of economic development tend to be negatively related to the incidence of civil war, although the coefficients of GDP per capita and economic growth are not statistically significant at conventional levels. Furthermore, our results show that there is a negative and statistically significant relationship between democracy and the incidence of intrastate conflicts, which means that democratic countries are characterized, on average, by lower rates of civil violence.<sup>5</sup> Finally, Table 4 also reveals that internal conflicts are more likely in countries affected in the past by a civil war.

## 5 Robustness checks

The analysis carried out so far suggests that globalization has a positive impact on the incidence of intrastate conflict. In particular, our estimates seem to indicate that the three main dimensions of globalization (economic, social and political integration) are positively associated with the presence of civil armed conflicts. In this section we

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<sup>5</sup>We investigated the possible existence of an inverted U-shaped relationship between democracy and internal armed conflict (e.g. Hegre et al., 2001). To that end, we considered an alternative specification of model (1) that also included the square of the democracy index. Nevertheless, our results did not support the hypothesis of an inverted U-shaped link between democracy and civil violence in our sample.



investigate the robustness of these findings.

### **Influential regions**

We begin by examining whether the results are robust to the elimination of regions that can be considered especially conflictive. As is known, civil wars have been particularly persistent during the last decades in Asia, Sub-Saharan Africa and Latin America. Accordingly, we carry out different estimations of model (1) in which we exclude the countries in these regions in turn. As reported in Tables 5, 6 and 7, the results of this robustness check are very similar to those presented in Table 4, thus suggesting that our findings are not driven by those countries located in the most conflictive regions in the world. In all cases the coefficient of the overall index of globalization remains positive and statistically significant. Furthermore, the various measures used to quantify the different dimensions of integration continue to be positive and statistically significant when they are included in the model separately. The only exception is the index of political globalization, which is no longer significant when Sub-Saharan African countries are removed from the analysis.

[INSERT TABLE 5 AROUND HERE]

[INSERT TABLE 6 AROUND HERE]

[INSERT TABLE 7 AROUND HERE]

## **Cross-border conflict spillovers and the exclusion restriction**

The exclusion restriction implied by our instrumental variables regressions is that, conditional on the set of controls included in the baseline specification of model (1), the excluded instruments have no effect on the incidence of civil armed conflict, other than their impact through globalization. Nevertheless, the validity of this assumption may be problematic in the case of the globalization of neighbouring countries, as one may argue that this variable could be correlated with the level of violence registered by neighbouring countries within their borders, which could in turn affect the risk of civil conflict in a particular country. In this line, the international relations literature has highlighted that conflict in one nation can cause violence in neighbouring countries in many different ways (Brown, 1996; Lake and Rothchild, 1998). As an example, we might mention the existence of refugee flows or armed rebel groups seeking protection or wreaking havoc on neighbouring states to internationalize the conflict, alliances between transnational ethnic groups, or territorial demands involving two different nations. In fact, the empirical relevance of these cross-border conflict spillovers has been confirmed by several studies (e.g. Hegre and Sambanis, 2006; Buhaug and Gleditsch, 2008; Bosker and De Ree, 2014).

Taking this into account, it seems reasonable to examine how plausible it is that the existence of cross-border spillovers could give rise to an indirect effect of the level of globalization in neighbouring countries on the incidence of conflict in a particular country. Following the usual econometric approach to address this type of questions, in the previous section we performed various tests of overidentification. As mentioned above, the results of these tests indicated in all cases that our instruments are uncorrelated with the error term in model (1) (Table 4). Nevertheless, these tests should be interpreted with some caution, as “passing the test” simply means failure to reject

the exclusion restriction and the tests may have weak power. In view of this, and in order to confirm the validity of our identification strategy, here we substantiate it further by directly controlling for the incidence of conflict in neighbouring countries.

[INSERT TABLE 8 AROUND HERE]

Table 8 presents the results obtained when this additional covariate is included in our baseline specification. As can be seen, the presence of a civil conflict in neighbouring countries has a positive and statistically significant effect on the incidence of internal violence, which is consistent with the existence of cross-border conflict spillovers. Nevertheless, Table 8 shows that the inclusion of this additional control in model (1) does not affect the previous estimates of the impact of globalization on civil war, thus confirming the robustness of our findings.

### **Alternative measures of conflict**

As mentioned above, the dependent variable in model (1) is a binary variable that reports all conflicts with more than 1,000 battle-related deaths over its course. Our findings, however, may be affected by the choice of this specific threshold of deaths. For this reason, as an additional robustness check, we now examine to what extent the previous results depend on the definition of civil war used to construct the dependent variable in model (1). To this end, we now employ an alternative indicator based on the UCDP/PRIO data corresponding to conflicts with 25 or more battle-related deaths in a given year (PRIO25), which allows us to include low-intensity conflicts in the analysis (Miguel et al., 2004; Montalvo and Reynal-Querol, 2005; Esteban et al., 2012a).

[INSERT TABLE 9 AROUND HERE]

Table 9 reports the results obtained when PRIO25 is used as dependent variable in model (1). This change, however, has little effect on the overall impact of globalization on civil conflicts. In fact, the first column of the table reveals that the coefficient of the aggregate index of globalization continues to be positive and statistically significant. In turn, the regression with the index of economic globalization shown in the second column of Table 9 also confirms our previous findings. The only appreciable change in comparison with the estimates in Table 4 has to do with the role played in this context by the social and political dimensions of integration. Thus, although the third and fourth columns of Table 9 still indicate the presence of a positive association between these aspects of globalization and civil violence, the coefficients of these variables are not statistically significant at conventional levels. This suggests that the social and political dimensions of globalization do not affect low-intensity conflicts.

At this point it should be recalled that the information to construct the two dependent variables employed so far were drawn in both cases from the UCDP/PRIO dataset. In view of this, one may wonder if our results could be affected by the use of this particular dataset. In order to investigate this issue, we resort to the Correlates of War (COW) dataset, which has been used by Doyle and Sambanis (2000), Collier and Hoeffler (2002) or Fearon and Laitin (2003), among others.<sup>6</sup> According to this alternative dataset, an internal armed conflict is considered a civil war if it caused a total of at least 1,000 battle-related deaths annually. Table 10 shows the impact of globalization on civil war using the data drawn from the COW Project to construct the dependent variable of model (1). The results of this additional analysis are very

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<sup>6</sup>See Sambanis (2004) for further details about the COW civil war data.

similar to those reported in Table 9. In particular, it should be noted that the positive and statistically significant effect of the overall index of globalization remains unaltered. Furthermore, as occurred with PRIO25, only the economic aspect of integration continues to exert a statistically significant impact on the dependent variable, thus confirming the relevance of this dimension of globalization in explaining the incidence of internal conflicts.

[INSERT TABLE 10 AROUND HERE]

## 6 Conclusions

As is well known, civil wars account for an enormous share of deaths and hardship in the world today. In addition to the direct impact on battle-related deaths, intrastate conflicts give rise to an important number of indirect deaths due to disease and malnutrition, as well as the forced displacement of refugees. It is estimated that civil wars have caused three times as many deaths as wars between states since the end of the Second World War (Fearon and Laitin, 2003). Intrastate conflicts also have a negative impact on political stability and economic development. Therefore, the analysis of the explanatory factors of internal armed conflicts is particularly relevant. In view of this, in this paper we have investigated the link between the process of globalization and civil war using data on 160 countries over the period 1970-2009. Unlike most of the existing studies on this issue, this paper employs an extensive notion of globalization including its three main dimensions: economic integration, social integration and political integration.

The results obtained from an instrumental variable approach show a positive association between globalization and the incidence of civil war. Accordingly, the advances in the process of globalization currently underway contribute to significantly increasing the risk of internal armed conflict. This finding contrasts directly with arguments which defend that globalization has the beneficial effect of deterring intrastate conflicts. The observed link does not depend on the specific dimension of globalization considered in the analysis, although the aspect of integration that more robustly correlated with civil war is economic globalization. The results of the paper are not affected by the inclusion in the analysis of additional explanatory variables or changes in the definition and sources of data on civil wars. Likewise, the relationship observed between the degree of integration and civil violence does not seem to be driven by those countries located in the most conflictive regions in the world.

The analysis raises some potentially interesting issues. Specifically, our findings highlight that the process of globalization can give rise to social unrest and internal armed conflicts, which should be seriously taken into account by policymakers at the national level, and by regional and international organizations. Furthermore, numerous studies have found that the degree of integration with the rest of the world plays a key role in fostering growth and economic development (Frankel and Romer, 1999; Dreher, 2006). Nevertheless, our results suggest that, in addition to this direct impact, globalization also has a negative influence on economic development through its effect on civil war. In any case, further research is required to identify and analyse in detail the various causal mechanisms which ultimately explain the complex link between globalization and internal conflict. Only by pursuing this strand will we be able to attain a more complete understanding of how globalization affects civil war.

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## Tables and figures

Table 1: Components of the KOF index of globalization.

<i>Indices and Variables</i>	<i>Weights</i>
<i>Economic Globalization</i>	[36%]
Actual flows	[50%]
Trade (percent of GDP)	(21%)
Foreign direct investment, stocks (percent of GDP)	(28%)
Portfolio investment (percent of GDP)	(24%)
Income payments to foreign nationals (percent of GDP)	(27%)
Restrictions	[50%]
Hidden import barriers	(24%)
Mean tariff rate	(27%)
Taxes on international trade (percent of current revenue)	(26%)
Capital account testrictions	(23%)
<i>Social Globalization</i>	[37%]
Data on personal contacts	[34%]
Telephone traffic	(25%)
Transfers (% of GDP)	(4%)
International tourism	(26%)
Foreign population (percent of total population)	(21%)
International letters (per capita)	(25%)
Data on information flows	[35%]
Internet users (per 1000 people)	(33%)
Television (per 1000 people)	(36%)
Trade in newspapers (percent of GDP)	(32%)
Data on cultural proximity	[31%]
Number of McDonald's restaurants (per capita)	(44%)
Number of Ikea (per capita)	(45%)
Trade in books (% of GDP)	(11%)
<i>Political globalization</i>	[26%]
Embassies in country	(25%)
Membership in international organizations	(28%)
Participation in UN Security Council Missions	(22%)
International treaties	(25%)

Source: <http://globalization.kof.ethz.ch/>

Table 2: Correlation coefficients between the various dimensions of globalization.

	Overall index of globalization	Economic globalization	Social globalization	Political globalization
Overall index of globalization	1.000			
Economic globalization	0.858	1.000		
Social globalization	0.947	0.772	1.000	
Political globalization	0.587	0.218	0.417	1.000

Notes: Data for 148 countries in 2009. All the correlation coefficients are statistically significant at the 1% level.



Table 3: First stages regressions.

Dependent variable	(1)	(2)	(3)	(4)
	Overall globalization	Economic globalization	Social globalization	Political globalization
Overall index of globalization in neighbouring countries (t-1)	0.222*** (0.039)			
Economic globalization in neighbouring countries (t-1)		0.253*** (0.064)		
Social globalization in neighbouring countries (t-1)			0.245** (0.052)	
Political globalization in neighbouring countries (t-1)				0.426*** (0.070)
Remoteness (t-1)	-0.146*** (0.031)	-0.154*** (0.035)	-0.104*** (0.031)	-0.120** (0.057)
GDP per capita (t-1)	0.046** (0.022)	0.005 (0.042)	0.135*** (0.044)	0.014 (0.024)
Economic growth (t-1)	0.062** (0.025)	0.172*** (0.046)	-0.035 (0.035)	0.092** (0.040)
Democracy (t-1)	0.006*** (0.001)	0.006** (0.003)	0.006*** (0.002)	0.002 (0.003)
Peaceful years	-0.000 (0.000)	-0.001* (0.000)	-0.001** (0.000)	0.001 (0.001)
R-squared	0.25	0.13	0.17	0.19
F test of excluded instruments	53.01***	26.68***	26.39***	56.50***
Country-specific effects	Yes	Yes	Yes	Yes
Decade dummies	Yes	Yes	Yes	Yes
Countries	160	139	160	161
Observations	5073	4561	5073	5093

Notes: Robust standard errors clustered at the country level in parentheses. \* Significant at 10% level, \*\* significant at 5% level, \*\*\* significant at 1% level.

Table 4: The relationship between globalization and civil war. Second stage regressions.

	(1)	(2)	(3)	(4)	(5)
Overall index of globalization	0.359*** (0.129)				
Economic globalization		0.423*** (0.141)			0.307 (0.589)
Social globalization			0.361*** (0.129)		0.136 (0.549)
Political globalization				0.167** (0.080)	-0.007 (0.111)
GDP per capita (t-1)	-0.011 (0.038)	-0.012 (0.049)	-0.045 (0.046)	0.006 (0.036)	-0.034 (0.099)
Economic growth (t-1)	-0.089 (0.058)	-0.144 (0.092)	-0.049 (0.060)	-0.075 (0.056)	-0.124 (0.123)
Democracy (t-1)	-0.008** (0.003)	-0.009** (0.004)	-0.008** (0.004)	-0.006* (0.003)	-0.009** (0.004)
Peaceful years	-0.006*** (0.001)	-0.006*** (0.002)	-0.006*** (0.001)	-0.006*** (0.002)	-0.006*** (0.002)
Root MSE	0.221	0.217	0.214	0.210	0.216
Hansen p-val.	0.852	0.984	0.484	0.215	0.752
Country-specific effects	Yes	Yes	Yes	Yes	Yes
Decade dummies	Yes	Yes	Yes	Yes	Yes
Countries	160	139	160	161	139
Observations	5073	4561	5073	5093	4561

Notes: The dependent variable is a binary variable that takes a value of one for conflicts with 1,000 or more battle-related deaths over time, and zero otherwise (UCDP/PRIO dataset). Robust standard errors clustered at the country level in parentheses. \* Significant at 10% level, \*\* significant at 5% level, \*\*\* significant at 1% level.

Table 5: Robustness analysis. Results excluding Asian countries. Second stage regressions.

	(1)	(2)	(3)	(4)	(5)
Overall index of globalization	0.344** (0.152)				
Economic globalization		0.383** (0.160)			1.799 (1.977)
Social globalization			0.409** (0.169)		-1.377 (2.119)
Political globalization				0.145* (0.084)	-0.220 (0.340)
GDP per capita (t-1)	0.014 (0.039)	0.013 (0.051)	-0.012 (0.042)	0.023 (0.037)	0.129 (0.198)
Economic growth (t-1)	-0.058 (0.065)	-0.101 (0.096)	-0.031 (0.070)	-0.036 (0.063)	-0.219 (0.171)
Democracy (t-1)	-0.006 (0.004)	-0.007* (0.004)	-0.007 (0.004)	-0.004 (0.004)	-0.005 (0.009)
Peace duration	-0.006*** (0.002)	-0.005*** (0.002)	-0.005*** (0.002)	-0.006*** (0.002)	-0.005** (0.002)
Root MSE	0.198	0.203	0.204	0.198	0.307
Hansen p-val.	0.450	0.426	0.311	0.133	0.815
Country-specific effects	Yes	Yes	Yes	Yes	Yes
Decade dummies	Yes	Yes	Yes	Yes	Yes
Countries	133	120	133	134	120
Observations	4305	3942	4305	4325	3942

Notes: The dependent variable is a binary variable that takes a value of one for conflicts with 1,000 or more battle-related deaths over time, and zero otherwise (UCDP/PRIO dataset). Second stage regressions. Robust standard errors clustered at the country level in parentheses. \* Significant at 10% level, \*\* significant at 5% level, \*\*\* significant at 1% level.

Table 6: Robustness analysis. Results excluding Sub-Saharan African countries. Second stage regressions.

	(1)	(2)	(3)	(4)	(5)
Overall index of globalization	0.323** (0.163)				
Economic globalization		0.402*** (0.156)			-0.098 (0.499)
Social globalization			0.317** (0.147)		0.672 (0.631)
Political globalization				0.145 (0.125)	-0.207 (0.256)
GDP per capita (t-1)	0.032 (0.070)	0.042 (0.071)	0.001 (0.077)	0.048 (0.068)	-0.065 (0.121)
Economic growth (t-1)	-0.166** (0.076)	-0.249** (0.115)	-0.129* (0.075)	-0.156** (0.074)	-0.077 (0.179)
Democracy (t-1)	-0.010** (0.004)	-0.012*** (0.005)	-0.010** (0.005)	-0.008* (0.004)	-0.011** (0.005)
Peaceful years	-0.006*** (0.002)	-0.006*** (0.002)	-0.006*** (0.002)	-0.007*** (0.002)	-0.006*** (0.002)
Root MSE	0.204	0.210	0.207	0.203	0.221
Hansen p-val.	0.799	0.253	0.956	0.309	0.674
Country-specific effects	Yes	Yes	Yes	Yes	Yes
Decade dummies	Yes	Yes	Yes	Yes	Yes
Countries	115	100	115	115	100
Observations	3527	3200	3527	3527	3200

Notes: The dependent variable is a binary variable that takes a value of one for conflicts with 1,000 or more battle-related deaths over time, and zero otherwise (UCDP/PRIOD dataset). Second stage regressions. Robust standard errors clustered at the country level in parentheses. \* Significant at 10% level, \*\* significant at 5% level, \*\*\* significant at 1% level.

Table 7: Robustness analysis. Second stage results excluding Latin American countries. Second stage regressions.

	(1)	(2)	(3)	(4)	(5)
Overall index of globalization	0.373*** (0.132)				
Economic globalization		0.489*** (0.139)			0.382 (0.686)
Social globalization			0.335** (0.134)		0.184 (0.664)
Political globalization				0.176** (0.088)	-0.096 (0.154)
GDP per capita (t-1)	-0.029 (0.040)	-0.061 (0.047)	-0.060 (0.052)	-0.006 (0.037)	-0.090 (0.120)
Economic growth (t-1)	-0.084 (0.062)	-0.141 (0.103)	-0.041 (0.064)	-0.072 (0.060)	-0.109 (0.130)
Democracy (t-1)	-0.007** (0.004)	-0.009** (0.004)	-0.006* (0.004)	-0.005 (0.003)	-0.008** (0.004)
Peaceful years	-0.007*** (0.002)	-0.006*** (0.002)	-0.006*** (0.002)	-0.007*** (0.002)	-0.006*** (0.002)
Root MSE	0.212	0.217	0.213	0.224	0.217
Hansen p-val.	0.774	0.478	0.357	0.562	0.359
Country-specific effects	Yes	Yes	Yes	Yes	Yes
Decade dummies	Yes	Yes	Yes	Yes	Yes
Countries	136	117	136	137	117
Observations	4185	3745	4185	4205	3745

Notes: The dependent variable is a binary variable that takes a value of one for conflicts with 1,000 or more battle-related deaths over time, and zero otherwise (UCDP/PRIO dataset). Second stage regressions. Robust standard errors clustered at the country level in parentheses. \* Significant at 10% level, \*\* significant at 5% level, \*\*\* significant at 1% level.

Table 8: Robustness analysis. The impact of cross-border conflict spillovers. Second stage regressions.

	(1)	(2)	(3)	(4)	(5)
Overall index of globalization	0.326*** (0.125)				
Economic globalization		0.386*** (0.138)			0.103 (0.514)
Social globalization			0.342*** (0.125)		0.310 (0.501)
Political globalization				0.151* (0.079)	-0.008 (0.108)
GDP per capita (t-1)	-0.003 (0.037)	-0.002 (0.048)	-0.036 (0.044)	0.013 (0.035)	-0.051 (0.094)
Economic growth (t-1)	-0.087 (0.056)	-0.127 (0.088)	-0.050 (0.058)	-0.073 (0.054)	-0.080 (0.112)
Democracy (t-1)	-0.007** (0.003)	-0.008** (0.003)	-0.007** (0.003)	-0.005* (0.003)	-0.008** (0.003)
Peaceful years	-0.006*** (0.001)	-0.005*** (0.002)	-0.006*** (0.001)	-0.006*** (0.002)	-0.005*** (0.002)
Conflict in neighbouring countries (t-1)	0.279*** (0.104)	0.296** (0.123)	0.283*** (0.101)	0.268*** (0.101)	0.283** (0.117)
Root MSE	0.209	0.214	0.212	0.209	0.215
Hansen p-val.	0.852	0.744	0.708	0.284	0.875
Decade dummies	Yes	Yes	Yes	Yes	Yes
Country-specific effects	Yes	Yes	Yes	Yes	Yes
Countries	160	139	160	161	139
Observations	5073	4561	5073	5093	4561

Notes: The dependent variable is a binary variable that takes a value of one for conflicts with 1,000 or more battle-related deaths over time, and zero otherwise (UCDP/PRIO dataset). Second stage regressions. Robust standard errors clustered at the country level in parentheses. \* Significant at 10% level, \*\* significant at 5% level, \*\*\* significant at 1% level.

Table 9: Robustness analysis. Alternative measures of internal conflict: PRIO25. Second stage regressions.

	(1)	(2)	(3)	(4)	(5)
Overall index of globalization	0.308* (0.166)				
Economic globalization		0.423** (0.174)			1.464 (1.243)
Social globalization			0.226 (0.170)		-1.051 (1.241)
Political globalization				0.145 (0.107)	-0.052 (0.197)
GDP per capita (t-1)	0.006 (0.037)	-0.000 (0.049)	-0.008 (0.045)	0.019 (0.035)	0.168 (0.191)
Economic growth (t-1)	-0.108* (0.060)	-0.161* (0.096)	-0.077 (0.060)	-0.093 (0.058)	-0.327 (0.213)
Democracy (t-1)	-0.006 (0.004)	-0.007* (0.004)	-0.005 (0.004)	-0.004 (0.004)	-0.008 (0.006)
Peaceful years	-0.006*** (0.001)	-0.006*** (0.001)	-0.006*** (0.001)	-0.007*** (0.001)	-0.006*** (0.002)
Root MSE	0.245	0.254	0.250	0.249	0.312
Hansen p-val.	0.231	0.490	0.140	0.142	0.872
Country-specific effects	Yes	Yes	Yes	Yes	Yes
Time effects	Yes	Yes	Yes	Yes	Yes
Countries	160	139	160	161	139
Observations	5073	4561	5073	5093	4561

Notes: The dependent variable is a binary variable that takes a value of one for conflicts with more than 25 battle-related deaths in a year, and zero otherwise (UCDP/PRIO dataset). Second stage regressions. Robust standard errors clustered at the country level in parentheses. \* Significant at 10% level, \*\* significant at 5% level, \*\*\* significant at 1% level.

Table 10: Robustness analysis. Alternative measures of internal conflict: COW dataset. Second stage regressions.

	(1)	(2)	(3)	(4)	(5)
Overall index of globalization	0.284* (0.147)				
Economic globalization		0.275* (0.146)			0.463 (0.575)
Social globalization			0.227 (0.143)		-0.142 (0.581)
Political globalization				0.096 (0.094)	-0.086 (0.131)
GDP per capita (t-1)	0.051 (0.034)	0.068 (0.049)	0.031 (0.041)	0.067** (0.033)	0.092 (0.101)
Economic growth (t-1)	-0.215*** (0.070)	-0.270*** (0.087)	-0.185*** (0.070)	-0.198*** (0.070)	-0.289*** (0.111)
Democracy (t-1)	-0.005 (0.004)	-0.005 (0.005)	-0.005 (0.004)	-0.003 (0.004)	-0.005 (0.005)
Peaceful years	-0.011*** (0.001)	-0.010*** (0.001)	-0.011*** (0.001)	-0.011*** (0.002)	-0.009*** (0.002)
Root MSE	0.225	0.230	0.226	0.223	0.234
Hansen p-val.	0.720	0.714	0.375	0.211	0.354
Country-specific effects	Yes	Yes	Yes	Yes	Yes
Decade dummies	Yes	Yes	Yes	Yes	Yes
Countries	159	138	159	160	138
Observations	4823	4340	4822	4858	4340

Notes: The dependent variable is a binary variable that takes a value of one for conflicts with more than 1,000 battle-related deaths annually, and zero otherwise (COW dataset). Robust standard errors clustered at the country level in parentheses. \* Significant at 10% level, \*\* significant at 5% level, \*\*\* significant at 1% level.



Figure 1: Kernel density estimates of the overall index of globalization.

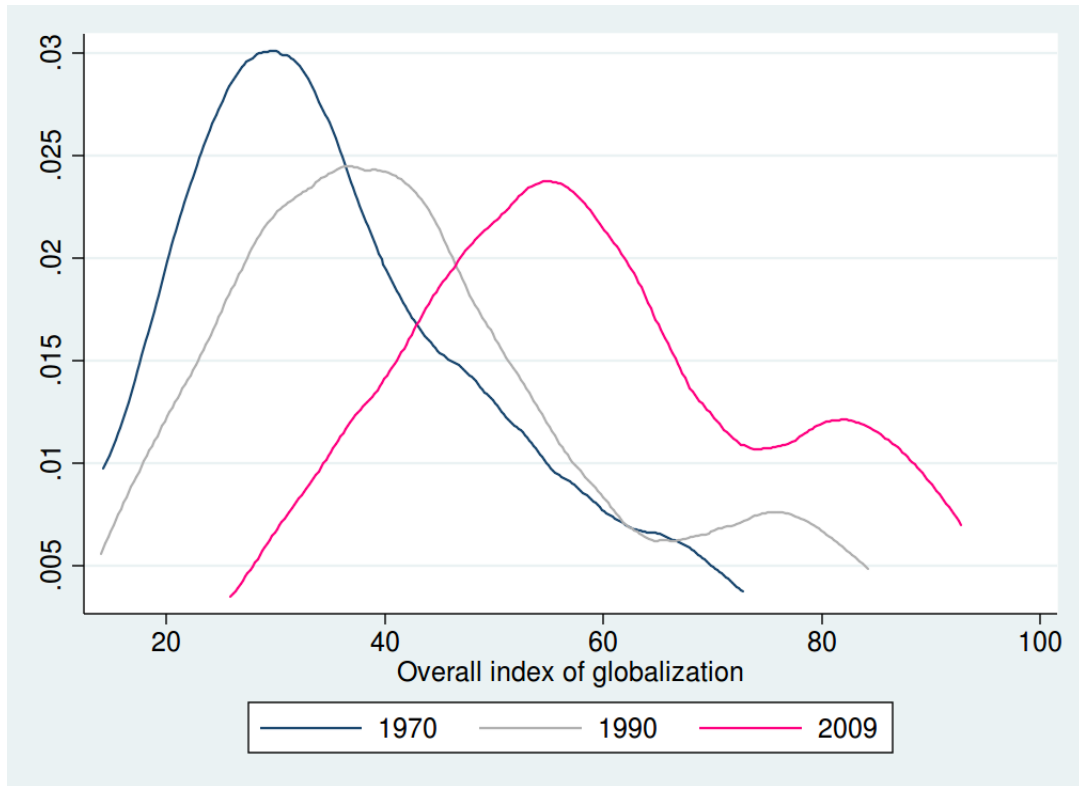


Figure 2: Number of civil wars from 1970 to 2009.

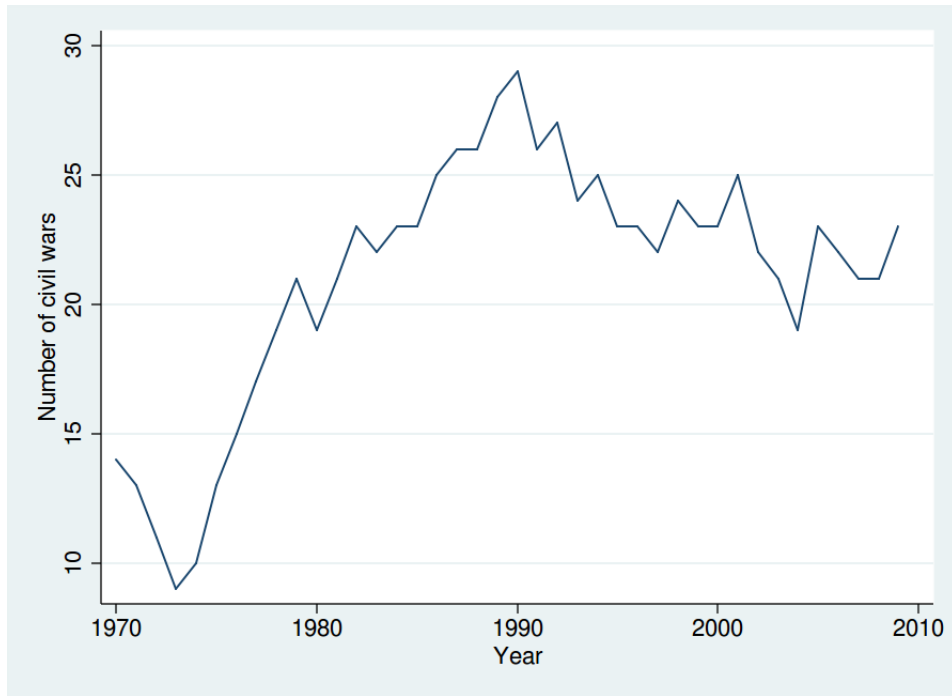


Figure 3: Partial regression plot: Overall index of globalization and remoteness.

