The impact of civil war on foreign direct investment flows to developing countries

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ABSTRACT

We investigate the impact of civil war on foreign direct investment flows to developing countries. We employ a new dataset that disaggregates FDI inflows to primary, secondary and tertiary sectors. Secondly, we control for a richer set of economic and institutional variables that could determine FDI inflows including population, GDP per capita, the degree of trade openness, exchange rate variability, inflation, the governance structure of the host country using ICRG data, and its regime type using the POLITY autocracy-democracy data. We also address the reverse causality between FDI and conflict and the potential endogeneity of explanatory variables by employing dynamic system GMM techniques in estimation. Our results indicate that primary sector FDI flows to developing countries are not significantly affected by civil war, whereas secondary and tertiary sectors FDI are more sensitive to such outbreak, potentially leading to reversals of existing FDI. Among institutional variables, government stability and control of corruption are more significant compared to regime type, law and order, and bureaucratic quality.

Keywords: FDI, Civil War, Governance, Democracy, SYS-GMM
JEL Codes: D74, F21, F51.

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1. Introduction

Does economic globalisation promote peace? Or, at a more fundamental level, can mutually beneficial exchanges diminish armed conflict? These questions have been at the heart of the debate on whether deeper economic integration among nation states represents a pathway to peace (Blanton and Apodaca, 2007; Bussman, 2010; Bussman and Schneider, 2007; Gartzke and Li, 2003). Perhaps commerce and conflict have features in common, despite being seemingly distinct. For example, there are two means of acquiring the endowment of another: peaceful voluntary exchange or violence and coercion, taking the form of theft or war. At another level, it has been observed that democratic nations that are economically inter-dependent or integrated seem not to go to war with each other. The theoretical basis for this phenomenon in political science is known as the liberal peace. The liberal peace concept in political science, as opposed to the realist view, states that there is a liberal tripod based upon which nations may refrain from war with each other. The pillars of the tripod comprise of mutually shared (democratic) values, economic interdependence and common membership of international organisations (Gleditsch, 2008). By contrast, the realist school of political science envisages an anarchical relationship between nation states, where the balance of power and the cost-benefit calculus of conflict determine the presence or absence of inter-state war. Economic interdependence does not necessarily rule out armed conflict, nor does war completely eliminate trade between the antagonists (Barbieri and Levy, 1999).

The idea that trade promotes peace can be traced back to Montesquieu (1748). Its modern version (the liberal peace idea) postulates that advanced democratic countries that are also trade inter-dependent will not go to war; see Hegre (2000) for one example of the voluminous literature in this regard. Most of this work pertains to international trade; the literature on the specific effects of financial globalisation, particularly foreign direct investment flows (FDI), is relatively limited. Bussman (2010) and Polachek, Seiglie and Xiang (2012) demonstrate using national dyads (pairs of nation states) that the stock and flow of FDI reduces hostile behaviour (not just confined to war) between nation states. Conversely, Li and Vashchilko (2010) show that dyadic conflict reduces bilateral FDI flows between high-income and low-income countries.

The analysis alluded to above pertains to inter-state conflict. However, most wars nowadays are internal, chiefly taking the form of civil wars in developing countries. This begs the question as to consequences of the liberal peace notion for intra-state or civil war. Bussman and Schneider (2007) show that a globalised, trade dependent and outward looking economy cannot be sustained in the presence of intense internal conflict; however, policies to foster greater globalisation (increased international competitiveness) may breed discontent, as they typically involve real wage compression for unskilled workers, promoting inequality.

When we come to analysing the role of foreign direct investment (FDI), a relatively under-investigated question is the consequence of internal conflict, particularly high intensity civil war, on the prospects for inward investment flows into

developing countries.[1] Investment, particularly foreign capital, is emphasised as pivotal to promoting the growth prospects of developing countries. Political instability and civil war are meant to, *a priori*, deter inward inflows from abroad. Work on the risk of investment abroad, specifically measured by forward looking insurance premia on investment abroad, finds that the risk is reduced in the case of democratic regimes with constraints on the executive (Jensen, 2008; Jensen and Young, 2008). In contrast, war, including civil war, increases the risk of the returns to investment not being met due to uncertainties associated with physical destruction of productive assets, as well as adversely affecting revenue flows. Also, other political risks, including the risk of expropriation may be exacerbated by civil war; however, these risks may be mitigated by good governance, such as the rule of law.

While there have been a number of studies examining the impact of political risk on FDI flows into developing countries (when FDI is the dependent variable and conflict is an independent variable), the literature focussing more narrowly on the impact of civil war on FDI is scant.[2] Busse and Hefeker (2007) study the impact of internal conflict (as one element of political risk) and find that FDI is indeed deterred by conflict. However, Blanco (2012), examining similar determinants of FDI for Latin American countries, finds no significant impact of internal conflict. Resnick (2001) shows that domestic conflict (along with other determinants including democracy and democratic transition) has a significant impact on reducing inward FDI in developing countries. Using firm level data, Driffield, Jones and Crotty (2013) also find that conflict deters FDI.

None of these studies, however, distinguish between different types of FDI, which raises the question of whether their results are invariant to sub-categories of FDI. For example, FDI in the primary sector, say in the oil and gas sector, may be undeterred by the presence of war because of the prospect of profits, as long as the security of the infrastructure can be reasonably guaranteed. Even in manufacturing, certain sectors, such as the production of ready-made garments, may not be deeply affected by civil war, as exit is achievable at a low cost because of the relatively negligible fixed costs in that sector. Other sectors, such as in infrastructure, which involve high fixed costs may be discouraged from entering if a civil war is ongoing, but otherwise existing FDI in these sectors may not be fully repatriable. Still other activities, whose capital is primarily knowledge or human capital based, may discount the presence of conflict. This is due to the intangible nature of this form of knowledge capital, which is not subject to war-time collateral damage. Such FDI inflows (primarily in the tertiary sector) may therefore be more sensitive to the outbreak of civil war.

In this paper, we pursue this line of enquiry by investigating the impact of civil war on disaggregated measures of FDI flows into developing countries. Our empirical

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[1] This question is different from whether bilateral FDI flows make a pair of nation states less likely to declare war or be hostile to one another.

[2] Blanton and Apodaca (2007), among others, study the association between FDI and civil war but do the reverse: they look at the impact of globalization, including FDI, on armed internal conflict, finding that FDI significantly lowers both the probability of conflict and its intensity.

hypothesis is based on the premise that not every type of foreign investment flow will be deterred by the presence of internal conflict. Some sectors are footloose: they can easily relocate elsewhere, others require the investment of large fixed costs that are difficult to recoup in the event of localised war. Then there is firm specific capital, which may be knowledge based. This may reside in the firm's intangible knowledge base that is not affected by war. Footloose industries may be both influenced negatively or positively by civil war, as they can relocate easily. Mihalache (2011), who distinguishes between different types of FDI, finds that investment in footloose sectors and financial sectors are not negatively impacted by conflict in contrast to physical capital intensive sectors.

We examine this proposition further by employing disaggregated measures of FDI using a new dataset that distinguishes FDI inflows between primary, secondary and tertiary sectors, covering the range of industries as represented in Appendix I. This is the first and main contribution of our paper. The distinguishing feature of this dataset is that it is project-based, characterising greenfield FDI which we consider is more appropriate in examining the impact of civil war, given that political instability seems to play a more critical role in the firms' decision to enter as greenfield rather than as M&A investment (Demirbag, Tatoglu and Glaister, 2008). Furthermore, the majority of FDI inflows into developing countries are of greenfield type rather than M&A (Calderón, Loayza and Servén, 2002). As argued above, our main theoretical prior is that civil war affects inward FDI differently, depending crucially on the classifications of FDI into primary, secondary and tertiary sectors. In particular, primary sector FDI may be more insensitive to the outbreak of civil war than secondary or tertiary sector FDI.

Secondly, in relation to previous studies, we control for a richer set of macroeconomic and institutional variables that could determine FDI inflows, including GDP per capita, the degree of trade openness, exchange rate variability, inflation, quality of governance and democracy. This allows us to check, for example, whether more open economies (in terms of the value of trade to GDP ratios) are more or less likely to receive inward investment, or whether macroeconomic instability (owing to inflation or exchange rate variability) hinders FDI inflows. We also look at the governance structure of the country using the International Country Risk Guide (ICRG) data, and its political orientation using the POLITY autocracy-democracy score database. These governance and polity indicators may be relevant to international investors, and is a factor that has received relatively less attention in the conflict-FDI literature. Governance indicators have long been regarded as an important determinant of FDI inflows; see Busse and Hefeker (2007) as one example. In our case, as we are primarily interested in the effect of civil war on inward investment from abroad, the quality of governance may mitigate (or exacerbate) the effect of civil war on FDI inflows. Shareholders in multinational enterprises (MNEs) are increasingly wary of investing in war-torn societies with extremely poor human rights records, making the extent of democracy germane to our analysis. Democracies may be better at securing sounder property rights enforcement regimes encouraging FDI, but equally they may discourage FDI due to increased regulation and populist pressures (Li and Resnick,

2003).

Finally, in light of the established literature which examines the impact of FDI on conflict (e.g. Blanton and Apodaca, 2007; Bussman and Schneider, 2007), we address the potential reverse causality and endogeneity between FDI and conflict by employing system GMM estimation techniques proposed by Arellano and Bond (1991) and Blundell and Bond (1998). Given our cross-country sample of data covering 128 developing countries over the period 2003-2012, the use of system GMM estimation also accounts for the underlying dynamics in the FDI inflows and individual country-specific effects, as well as corrects for potential biases stemming from measurement errors and correlations between the regressors and the error term.

Our results indicate that primary sector FDI to developing countries is not significantly affected by civil war, whereas FDI inflows to the secondary and tertiary sectors are more sensitive to such outbreak. In fact, our estimates of the value of FDI inflows indicate that not only does foreign investment into these two sectors drop to virtually nil but it can also go into reverse since existing FDI could even flow out of the country in the event of civil war. Among the institutional factors, government stability and control of corruption are more important determinants of FDI compared to regime type, law and order, and bureaucratic quality.

The remainder of the paper is organised as follows: section 2 provides a brief theoretical overview, followed by a discussion of the empirical methodology in section 3 and the data in section 4; section 5 presents our empirical findings and finally, section 6 is by way of conclusion.

2. Theory

Consider the following profit function (π) of a firm faced with a decision about engaging in FDI in a potential conflict ridden territory:

$$\pi = R(X^P, X^C, G) - F - E(X^C) - C(X^P, X^C, G) \tag{1}$$

where R indicates revenues depending on the volume of output (X) in the states of peace (superscript P) and conflict (superscript C), F is a fixed costs of operation that is not recoverable, E is a cost of exiting the market in the state of conflict, and C represents variable costs depending on the volume of output under peace or conflict. We make revenues and costs an increasing function of a vector of governance and polity variables, G, such that revenues increase and costs decrease with good quality institutions, including sound democratic credentials. Exit costs, E, will vary with the type of industry as described below, but, fixed costs, F, will be higher in the case of greenfield investment.

Maximising with respect to output in the two states leads to the first-order conditions:

$$\frac{\partial \pi}{\partial X^P} = R_P - C_P = 0 \tag{2}$$

and

$$\frac{\partial \pi}{\partial X^C} = R_C - E_C - C_C = 0 \qquad (3)$$

Here, subscripts refer to partial derivatives. In equation 2, the implication is for marginal revenue to equal marginal cost under optimisation, given fixed costs. In equation 3, we observe an extra (marginal) cost of exit (E_C). Furthermore, due to the destruction and collateral damage associated with war, $C_c > C_P$ for any given level of output. Some firms may be inhibited by these costs, particularly when there are large physical capital outlays. In footloose industries, such as garments or where the particular asset of the firm is its knowledge embodied in human capital these exit costs may not apply. Again, for some firms in extractive sectors such as oil, high prices (and therefore, revenues) may make it worthwhile operating even in times of conflict. The upshot is that with low fixed and exit costs in the event of war and high revenues (even when there is war) a firm may not be deterred from investing by conflict. By contrast, a firm with high exit costs and low war time revenues may choose not to enter a war ridden economy.

3. Methodology

In estimating the conflict-FDI relationship, there is a potential endogeneity problem as conflict may be dependent on the state of economic development, which in turn might influence FDI inflows. There could also be reverse causality from FDI to conflict, owing to greed and grievance related causes of conflict[3] induced by FDI inflows especially in low income countries. System GMM (SYS-GMM) estimation can address this potential reverse causality and endogeneity problem, thus overcoming biases typically associated with pooled OLS estimation or standard GMM estimation that suffers from small-sample biases and does not account for individual country-specific fixed effects (Baltagi, 2013). However, it is difficult to determine proper instruments for all the variables that are included in the FDI-conflict relationship, but this can be tackled effectively with SYS-GMM estimation.

Following Li and Vashchilko (2010) and Mihalache (2011), we use a two-step system GMM estimation of the following baseline specification:

$$Y_{it} = \beta_0 Y_{it-1} + \beta_1 X_{it} + \beta_2 Z_{it} + \mu_i + \varepsilon_{it} \qquad (4)$$

where Y_{it} is the dependent variable measuring sectoral FDI of country i in year t; X_{it} represents the variable measuring civil war; Z_{it} stands for a set of control variables including the macroeconomic and institutional variables; μ_i represents country-specific effects with $\mu_i \sim iid(0, \sigma_\mu^2)$; and ε_{it} is random error with $\varepsilon_{it} \sim iid(0, \sigma_\varepsilon^2)$, and

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[3] See Murshed (2010) for a summary of greed versus grievance cause of conflict.

the β's are the parameters to be estimated.

In line with Arrelano and Bond (1991), we can specify the first-difference transformation of the equation above as:

$$J'\Delta Y_{it} = J'\beta_0 \Delta Y_{it-1} + J'\Delta \varepsilon_{it} \qquad (5)$$

where J' is a matrix of instruments (where for simplicity we have ignored the presence of the explanatory variables). Under the assumption that the explanatory variables are weakly exogenous and the error term is not serially correlated, the GMM estimator is derived from the moment conditions: $E[Y_{it-s}(\varepsilon_{it} - \varepsilon_{it-1})] = 0$ where $s \geq 2; t = 3, \ldots T$ (Arellano and Bond, 1991). The system GMM estimator combines the first-difference transformation and simultaneous determination of moment conditions for both the level and first-difference equations (1) and (2). The instruments for the level equation are the lagged differences of the variables, and the moment conditions are: $E[(Y_{it-s} - Y_{it-s-1})(\mu_i + \varepsilon_{it})] = 0$ where $s = 1$ (Blundell and Bond, 1998). The two-step system GMM estimator is preferred over the one-step system GMM estimator because the former is asymptotically more efficient. However, Windmeijer (2005) argues that the asymptotic standard error yields a downward bias when two-step GMM estimator is applied. In order to deal with the bias, he suggests a finite-sample correction of robust standard error for the two-step covariance matrix. Hence, we employ the Windmeijer (2005) corrected standard errors.

Another related issue in SYS-GMM estimation is to determine the validity of instruments, for which there are two tests. The first one is a test for over-identifying restrictions, which checks for the overall instruments validity by analysing the moment conditions. Either Sargan test or Hansen test can be applied for over-identifying restrictions. In this study, the Hansen test is better because it is considered to be more robust in the presence of autocorrelation and heteroskedasticity. The second test is the autoregressive (AR) test, where the null hypothesis is that the error term does not have serial correlation in both difference-level and difference regressions. Generally, the estimation could allow for the rejection of no first order autocorrelation, AR (1). The most important criterion here is that there should be no second-order autocorrelation AR (2) of the residuals, consistent with the assumption of the GMM estimation procedure.

4. Data and variables

We construct a sample of unbalanced panel data for 128 developing countries, covering low and middle income countries based on the World Bank classification, over the period of 2003-2012. The list of countries included in the sample is given in Appendix II. Table 1 provides summary statistics for all the variables in the model (including their logarithmic values where appropriate), with the figures for FDI and GDP represented in US dollars. These figures show that mean FDI inflows are the largest for the secondary sector, followed by primary and tertiary sectors, respectively.

[Insert Table 1 here]

We use these disaggregated measures of FDI as our dependent variable in estimations. Since civil war can exert completely different effects on FDI in different industries or economic sectors, a disaggregated measure that distinguishes between primary, secondary and tertiary sectors is more appropriate than using an aggregated FDI measure. To facilitate this investigation, a new FDI dataset has been created by the authors. Our primary source for such FDI data is the greenfield FDI database from fDi Markets (www.fdimarkets.com), a subsidiary of Financial Times, which provides project-based information from MNEs around the world covering 191 countries and 39 industries. Transnational investments in new physical projects or expansion of existing investments as well as the related job creations and capital flows are tracked by fDi Markets. The drawback of this dataset is that it does not incorporate any information/data on M&As, but given our theoretical priors about the impact of civil war which are more related to greenfield FDI and since the latter accounts for the majority of FDI inflows to developing countries (Calderón et al. 2002; Demirbag, et al., 2008), the use of this dataset is fit for purpose.

The steps taken to create the disaggregated FDI measures from the fDi Markets database were as follows:

  i. Explore the original data by countries and industries
 ii. Record all the industry-country data including the number of projects and amount of capitalisation.
iii. Reclassify the 39 industries represented in the fDi Markets database into three economic sectors, namely primary, secondary and tertiary sectors.
 iv. Recalculate and aggregate the sectoral FDI inflows (project capitalisation and number of projects) and transform the values into natural logarithmic form.[4]

By construction, the FDI measure that we adopt uses flow data rather than stock, with its value represented in nominal US million dollars (transformed into logs). Although this may be an imperfect empirical proxy for examination of our theoretical priors in light of the critique by Kerner (2014), measurement errors are endemic in every attempt to quantify aggregate economic measures and we seek to address potential biases in estimation by applying system-GMM and conducting robustness tests with regard to alternative measures. For instance, in addition to the value of projects, we also use the number of projects to quantify our FDI measure for each sector. Furthermore, while we attempt to classify fDi Markets's 39 industries into three economic sectors (primary, secondary and tertiary) using the standard US input-output matrix of industrial classification, the original database aggregates FDI data for

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[4] By definition, all project values are positive, thus allowing transformation into logarithms. In addition to value of FDI projects (capitalisation), we also collect (as part of robustness) the data on the number of FDI projects for each economic sector. In constructing these measures, we account for all the information available in the database.

secondary and tertiary sectors into one or more industries, where such industries can be both services and manufacturing. [5] To mitigate the effect of such potential misclassification of FDI data, we conduct a robustness test by combining the secondary and tertiary sectors data to represent a non-primary FDI measure (to distinguish from primary sector FDI).

With regard to the main independent variable (civil war), a similar issue of representation and measurement arises. Busse and Hefeker (2007) and Blanco (2012) use the ICRG internal conflict data, an index ranging from 0 to 12. This is a broader risk-based measure characterising the potential of the host country to experience conflict, covering elements of civil unrest as well as political violence (short of war). Such a measure is not quite representative of civil war as defined by the occurrence of high-intensity conflict. An alternative measure could be outcome based, quantifying the recent history of civil war with varying degrees of occurrence. One such measure is based on "event counts" data of domestic conflict as used by Resnick (2001), but this is also not representative in our case as it accounts for onsets of low intensity conflict. Blanton and Apocada (2007) and Bussmann and Schneider (2007) use a binary indicator of (armed) conflict using a threshold of battle-related deaths. Since civil wars are exclusively a developing country phenomenon (Blanton and Apodaca, 2007) and as nearly every developing country has some form of violent upheaval if a ten or twenty year time horizon is considered, the use of a binary indicator of high intensity civil conflict seems an appropriate measure of civil war in our case.

In order to construct this binary indicator, we follow previous studies is using the UCDP/PRIO Armed Conflict Dataset. This dataset represents all types of conflict in the world from 1946 to 2012. Following Bussmann and Schneider (2007) and others, civil war is defined as a dummy variable, equal to 0 for no (or minor) conflict, and 1 for high intensity conflict. [6] Such a measure, characterising the potential of a host country to experience high intensity civil conflict, is relevant given our underlying assumption that not every type of FDI, particularly greenfield, is deterred by civil war. However, as a robustness check, we also consider the use of the ICRG measure of conflict in our empirical analysis.

The control variables can be divided into two types, macroeconomic variables and institutional factors. As for the macroeconomic determinants, the data for which are sourced mainly from UNCTAD, we account for differences in living standards across countries using the natural logarithm of GDP per capita (measured in US dollars at constant exchange rates and constant prices in 2005). Next, we include the inflation

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[5] For example, referring to Appendix I, "Beverages" includes "Foods & beverage stores" which is a service; "Building & Construction Materials includes "Building material .... & supply dealers" which is a service; "Communications" includes "Wired telecom carriers" and "Wireless telecom carriers" which may also be services; "Consumer products" includes "General merchandise stores", "Miscellaneous store retailers, and Nonstore retailers", which are services; "Food & tobacco" includes "Food & beverage stores" and "Wholesale trade" which are services. "Pharmaceuticals" includes "Health & personal care stores" which is a service. "Textiles" includes "Clothing & clothing accessories stores" which is a service.

[6] As used in most studies, a threshold of 1000 battle deaths is used to distinguish between non-conflict (or minor conflict given that nearly every developing country has low intensity conflict) and high intensity conflict (representing civil war).

rate (measured by the annual change in consumer price index, CPI) which, like tax, reduces real domestic income and, therefore, the incentives for multinationals to invest. Trade openness, measured by the sum of imports and exports of goods and services as a percentage of GDP, is also included to capture the effect of globalisation and individual country-level differences in their reliance on trade. Also included is the index of real effective exchange rate to account for differences in international competiveness across countries. This index is measured as the value of home currency against a weighted average of the currencies of major trade partners divided by a price deflator or index of costs (Rodrik, 2008). Finally, we capture the effect of a country's economic size by including (log of) population, the data for which is sourced from the World Bank.

Turning to institutional factors, we first control for the effects of governance using the following variables: government stability, bureaucratic quality, control of corruption and rule of law. The governance data, drawn from ICRG, are survey-based, with scores 0 to 12 for government stability (capturing the ability of the government to execute its avowed policies) and 0 to 6 for the other variables, with higher score representing higher quality of governance. Not only is good governance crucial to attracting foreign investment, it can also mitigate the negative effects of a civil war on investor sentiments.

Next, we attempt to capture the democratic credentials of the government as these attributes might also affect the investment climate. Resnick (2001) finds that both democracy and democratic transition are negatively associated with FDI inflows, implying that foreign investors actually prefer more autocracy and dislike the changing environment towards democracy. Li and Resnick (2003) indicate that democracy is like a double edged sword when it comes to the way in which it affects FDI; not only does it encourages FDI through better enforcement of property rights, it may also impose conditions on inward investment. Also, institutional investors are increasingly loathed to invest in repressive regimes, partly due to the bad press some of these regimes receive, and also because of the lobbying activities of development and human rights charities (NGOs). We deploy the well-known hybrid POLITY 2 combined scores of democracy (ranging from 0 at the bottom end to 10 for perfect democracies) and autocracy (extending from -10 for the worst to 0), available from the POLITY IV project (www.systemicpeace.org)[7]. In connection with the first set of institutional (governance) indicators, we utilise the Polity 2 data which gives a combined score on both democracy and autocracy, with a range of between -10 and +10, with +10 being the highest democracy score, and -10 the maximum autocracy score. In this calculation, each country is assigned both a democracy and autocracy score. Established democracies usually get a democracy score of 10, and an autocracy score of 0, making its average polity score 10. Many developing countries, even after the third wave of democratisation following the cold war, are imperfect democracies, combining democratic principles of multi-party elections (often marred by violence and malpractice) with autocratic powers vested in the elected executive. In these countries, both the democratic and autocratic scores are strictly non-zero, with the combined

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[7] We also considered the ICRG democracy variable but the results are not significantly affected.

number often ranging from -10 to +10. A higher non-negative Polity score indicates a greater degree of democracy. Table 1 indicates that the mean sample polity score is 3.33. Table 2 presents the correlation coefficients, showing no serious issues of multicollinarity among the variables.

[Insert Table 2 here]

5. Empirical results

Tables 3-5 present the main set of empirical results, showing the impact of civil war alongside other variables on the different measures of FDI, covering primary (Table 3), secondary (Table 4) and tertiary (Table 5) sectors. Each table includes the results of estimations for the baseline model with macroeconomic controls (column 1) as well as additional controls of institutional variables, included individually to avoid conflating their effects. The SYS-GMM estimates are obtained using the maximum number of available observations for each regression and the Hansen test confirms the validity of instruments (included for up to 2 lags in each regression) to account for the reverse causality in the FDI-conflict relationship and the potential endogeneity of the explanatory variables. Furthermore, the AR2 test confirms the absence of second-order serial correlation in each regression.

In Table 3, the results show that civil war does not have any significant impact on FDI inflows to the primary sector (even after controlling for institutional quality, which has the perverse effect of altering the sign of the civil war dummy but not its significance). This result is plausible and consistent with our theoretical prior since MNEs in the primary sector (such as mining, oil and gas) are mainly attracted to countries with rich natural resources and, being driven by profits, will not care much about the onset of civil war in these countries. Additionally, population has a positive and statistically significant impact on FDI, suggesting that primary sector FDI is determined mainly by the strength of the potential workforce available for MNEs in host countries. Inflation also appears to have a significant and positive effect on primary sector FDI inflows. Among the institutional variables, control of corruption serves to enhance the inflow of FDI into the primary sector.

[Insert Table 3 here]

Table 4 presents the estimated results for the secondary (mainly manufacturing) sector FDI, where the effect of civil war on FDI is always negative and statistically significant (at 10% level) in some cases (columns 1, 2, and 6). In particular, the negative influence of civil war is found to be significant when controlling for government stability and democracy. The estimated coefficients suggest that, while the effect is not robustly significant, FDI can be reduced by around 81%-119% in the event of a civil

war.[8] Although this effect might seem surprisingly high, a plausible interpretation could be that FDI inflows could drop to almost nil and even go into reverse given that existing FDI could also flow out of the country.[9] Additionally, GDP per capita, population and the control of corruption appear to have positive and significant influence on secondary sector FDI. To the extent that civil war affects secondary sector FDI, our results indicate that manufacturing MNEs - which make up the bulk of secondary sector FDI - are generally averse to civil war, which can cause potential damage to plant and equipment and incur casualties for workforce and management, but otherwise these MNEs could be reluctant to abandon their production completely where exit is not easily achievable at low cost.

[Insert Table 4 here]

In Table 5, which presents the estimates for tertiary sector FDI, the results confirm that civil war has a negative influence on FDI inflows. While this effect is statistically significant (at 10% level) without the inclusion of institutional controls, its significance is enhanced (albeit with a lower magnitude of the estimate) when controlling for bureaucratic quality and democracy. On average, the results indicate that, in the event of a civil war, tertiary sector FDI could be affected by a much greater percentage (around 155%-220% in the short term) than secondary sector FDI, consistent with our theoretical priors. The result confirms that tertiary sector FDI can be more even more sensitive to civil war than secondary sector FDI. Additionally, there is a statistically significant lagged effect of FDI inflows, suggesting that the impact of civil war on tertiary sector FDI can be persistent. Furthermore, GDP per capita, inflation, population, real exchange rate and government stability all appear to have positive and significant influence on FDI. These results are generally supportive of the view that tertiary sector FDI, which is composed largely of footloose knowledge-intensive sectors such as financial services, as well as service industries such as communications and hotels are significantly adversely affected by civil war. The positive effect of inflation and real exchange rate, though perverse, can be driven by MNEs attraction to greater liquidity (e.g. the availability of quasi money) that might be associated with such effects.

[Insert Table 5 here]

Although the results are consistent with our theoretical arguments characterising

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[8] We follow the logarithmic approximation in interpreting these estimates so that when log (y) is the dependent variable, the coefficient on the dummy variable, when multiplied by 100, is interpreted as the percentage difference in y, holding other factors fixed – see Wooldridge (2013).

[9] Bearing in mind the nature of FDI data, being project-based, it is plausible that some FDI projects can be abandoned or the management of existing projects could be repatriated at the outbreak of a civil war.

the impact of civil war according to the categories of FDI, as well as across a variety of model specifications (determined by the addition of institutional controls), we conduct additional estimations by verifying the sensitivity of the results to alternative classification of the FDI data, as well as to using an alternative measure of FDI and civil conflict.

As noted earlier, owing to the shortcoming of the fDi Markets database that potentially misrepresents FDI inflows to secondary and tertiary sectors, we construct a measure of FDI by aggregating the value of inflows to these two sectors. In this case, our theoretical prior is that non-primary sector FDI inflows (representing secondary and tertiary sectors) should be more sensitive to the outbreak of civil war than primary sector FDI. Table 6 presents the estimated results, confirming that the results are generally robust to this classification. In particular, the results suggest that civil war has a significant negative impact on non-primary FDI inflows. Additionally, the significance and positive effects of lagged FDI, population and real exchange rate prevail in this classification, consistent with the results of Table 5.

[Insert Table 6 here]

As additional robustness tests, we used the log of the number of FDI projects and as an alternative measure of the dependent variable. At the same time, we also considered the ICRG measure of civil conflict for the main independent variable of interest. The estimations were conducted for both primary and non-primary sectors of FDI, allowing for the same set of control variables as before. The results, not shown to conserve space, are robust to these alternative measures.[10] In general, conflict reduces FDI inflows in both the primary and non-primary sectors, with FDI in the latter case being more sensitive to the risk of conflict than in the former. The effects of other variables are also consistent as before. In particular, population has a significant and positive impact on FDI inflows to both primary and non-primary sectors, while the influences of lagged FDI, trade openness, GDP per capita and real exchange rate prevail in the non-primary sector.

In summary, the results suggest that both secondary and tertiary sector FDI inflows to developing countries are heavily affected by civil war, with the effect on the tertiary sector being more sensitive to the value of FDI inflows than in the secondary sector. In contrast, civil war does not impact significantly on FDI inflows to the primary sector. Among the institutional variables, government stability and control of corruption are more important determinants than other factors, like democracy, law and order, and bureaucratic quality. It should also be noted that, in all sectors, the main determinant of FDI appears to be population, suggesting that economic size (in terms of the

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[10] With the number of FDI project as the dependent variable, the estimated impact of conflict is reasonable, indicating that a unit increase in the risk of conflict (not civil war) reduces inward FDI by (roughly) 21-37% in the primary sector and 31-38% in non-primary sector (in the short term).

availability of potential workforce) is a crucial factor in attracting FDI inflows. Among the macroeconomic variables, competiveness (represented by the real exchange rate) tends to be a significant factor influencing FDI inflows in the non-primary (tertiary) sector.

6. Conclusion

It is increasingly recognised that civil war in developing countries brings with it a host of developmental problems including economic growth retardation and the prevention of poverty reduction (Murshed, 2010). We have attempted, in this paper, to gauge the extent to which civil war deters growth enhancing FDI flows into developing countries. Foreign capital in this form augments domestic sources of investment, besides having potentially positive spillover effects on domestic factor productivity and knowledge capital. Furthermore, we make an indirect contribution to the liberal peace literature, as applied to developing countries, and in the internal conflict context, even though the explicit (dependent) variable of interest is not the risk of civil conflict *per se*, but its impact as an independent variable, on FDI inflows.

We do not lump all forms of FDI inflows together, but instead disaggregate these into primary, secondary and tertiary sectors. In doing this, we take into account the heterogeneity of different sectors, some of which may be inhibited from entering by conflict, and others who are not. These heterogeneous attitudes to investment under conditions of conflict may be predicated upon prospects of profit even in times of war, ease of exit, something which is difficult when they are substantial sunk (fixed) cost investments in physical capital, but otherwise easy either because the firm's capital is principally embodied in intangible human capital or because of low fixed costs (Mihalache, 2011). More mobile sectors may or may not be deterred from entering because of (high intensity) civil conflict in the host economy; equally they may or may not be induced to exit once a civil war breaks out. Immobile sectors, with substantial sunk costs in physical capital, such as those associated with extracting oil, gas and minerals should be deterred by conflict, unless the revenues are substantial.

In accordance with these theoretical priors, we draw the distinction between FDI flows into primary, secondary and tertiary sectors, which thereby enables us to conduct an empirical investigation analysing the impact of civil war on these disaggregated FDI flows into developing countries. In this sense, the use of the fDi Markets database characterising project-based greenfield FDI data represents the main, and important, contribution of our paper. Consistent with our theoretical arguments regarding the impact of civil war on inward FDI into these sectors, we find FDI flows in the secondary and tertiary sector are more sensitive to the outbreak of civil war than in the primary sector. In fact, our estimates realistically suggest that FDI in these two sectors can even flow into reverse through repatriation of existing projects in the event of high intensity civil conflict.

In this calculus, while conducting our econometric investigation using dynamic system-GMM estimation on a cross-country sample of data for developing countries, we argue that governance and polity factors may loom large, in addition to the standard

macroeconomic control variables and the degree of openness of the economy. Thus (as part of our second contribution) we incorporate a richer set of control variables comprising both governance indicators and regime type in our econometric estimation, in addition to the standard macroeconomic controls. We find that governance indicators, such as government stability and control of corruption, trump regime type (democracy) and other indicators such as law and order, which are conventionally considered highly significant. According to our results, what matters more for developing countries in attracting FDI inflows from abroad, over and above economic size (determined by population), is government stability and control of corruption, not democratic orientation.

Our results can be contrasted to the findings of Busse and Hefeker (2007) who also employ dynamic panel data estimation methods and ICRG data but do not disaggregate FDI inflows into various types and do not study the effect of civil war *per se*: like us they find the influence of government stability and the control of corruption significant; they also find internal conflict and democratic accountability significant, but our measure of civil war is different, as is our use of the democracy database. Overall, they find greater significance of ICRG governance indicators impacting aggregate FDI inflows. In contrast, Resnick (2001) finds that democracy reduces aggregate inward FDI in developing countries, but we do not find this effect pertinent in our disaggregated data. Our findings are also at variance with Mihalache (2011) who employs disaggregated FDI inflow data (with a different classification) and a slightly different measure of civil conflict, but does not control for governance and some other relevant macroeconomic variables.

From the liberal peace standpoint, a view that suggests that economic globalisation is unlikely to be sustainable in situations of intense civil war, our results are rather mixed. When it comes to primary sector inward investment, a more realist view prevails - profit comes before the dangers that war entails. But this is not the case when we analyse secondary (mainly manufacturing) and tertiary (services) FDI inflows, where civil war inhibits inward investment heavily and more significantly in the tertiary sector, even after we control for institutional factors which can arguably subsume some of the negative effects of war, and despite the fact that some tertiary sectors are highly mobile. From a policy perspective, success in attracting non-primary sector FDI does require conflict abatement.

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Appendix I

Economic Sector	Industry
primary	Coal, Oil and Natural Gas
primary	Metals
primary	Minerals
secondary	Aerospace
secondary	Alternative/Renewable Energy
secondary	Automotive Components
secondary	Automotive OEM
secondary	Beverages
secondary	Building & Construction Materials
secondary	Business Machines & Equipment
secondary	Ceramics & Glass
secondary	Chemicals
secondary	Consumer Electronics
secondary	Consumer Products
secondary	Electronic Components
secondary	Engines & Turbines
secondary	Food & Tobacco
secondary	Industrial Machinery, Equipment & Tools
secondary	Medical Devices
secondary	Non-Automotive Transport OEM
secondary	Paper ,Printing & Packaging
secondary	Pharmaceuticals
secondary	Plastics
secondary	Rubber
secondary	Semiconductors
secondary	Textiles
secondary	Wood Products
tertiary	Biotechnology
tertiary	Business Services
tertiary	Communications
tertiary	Financial Services
tertiary	Healthcare
tertiary	Hotels & Tourism
tertiary	Leisure & Entertainment
tertiary	Real Estate
tertiary	Software & IT services
tertiary	Space & Defence
tertiary	Transportation
tertiary	Warehousing & Storage

Appendix II

Country List

Afghanistan	Guatemala	Pakistan
Albania	Guinea	Palau
Algeria	Guinea Bissau	Panama
Angola	Guyana	Papua New Guinea
Argentina	Haiti	Paraguay
Armenia	Honduras	Peru
Azerbaijan	Hungary	Philippines
Bangladesh	India	Republic of Moldova
Belarus	Indonesia	Romania
Belize	Iran (Islamic Republic of)	Rwanda
Bhutan	Iraq	Saint Lucia
Bolivia	Jamaica	Samoa
Bosnia and Herzegovina	Jordan	Sao Tome and Principe
Botswana	Kazakhstan	Senegal
Brazil	Kenya	Serbia
Bulgaria	Kiribati	Seychelles
Burkina Faso	Korea, Dem. People's Rep.	Sierra Leone
Burundi	Kyrgyzstan	Solomon Islands
Cambodia	Lao People's Dem. Rep.	Somalia
Cameroon	Lebanon	South Africa
Central African Republic	Lesotho	Sri Lanka
Chad	Liberia	Suriname
China	Libya	Swaziland
Colombia	Madagascar	Syrian Arab Republic
Comoros	Malawi	TFYR of Macedonia
Congo	Malaysia	Tajikistan
Costa Rica	Maldives	Thailand
Dem. Rep. of the Congo	Mali	Timor-Leste
Djibouti	Marshall Islands	Togo
Dominica	Mauritania	Tonga
Dominican Republic	Mauritius	Tunisia
Ecuador	Mexico	Turkey
Egypt	Micronesia	Turkmenistan
El Salvador	Mongolia	Uganda
Equatorial Guinea	Montenegro	Ukraine
Eritrea	Morocco	United Republic of Tanzania
Ethiopia	Mozambique	Uzbekistan
Fiji	Myanmar	Vanuatu
Gabon	Namibia	Venezuela
Gambia	Nepal	Viet Nam
Georgia	Nicaragua	Zambia
Ghana	Niger	Zimbabwe
Grenada	Nigeria	

Table 1. Summary statistics

Variable	Mean	Std. Dev	Min	Max	Obs
Capex1 (USD million)	1955.371	3420.21	0.03	32838	743
lnCap1	19.9931	2.0916	10.3090	24.2149	743
Capex2 (USD million)	2061.914	6762.151	0.01	72737.62	763
lnCap2	19.4913	2.1588	9.2103	25.0101	763
Capex3 (USD million)	1579.168	4663.679	0.2	50120.24	896
lnCap3	19.3081	2.0701	12.2061	24.6377	896
Capex23 (USD million)	3128.979	10306.28	0.01	111230.2	955
lnCap23	19.8651	2.20134	9.2103	25.4349	955
Civil War	0.0297	0.1698	0	1	1280
GDP per capita	2541.19	2600.636	115.6307	17201	1275
ln(income)	7.2995	1.1108	4.7504	9.7527	1275
Population (thousand)	41872.81	158097.4	19.7	1377065	1275
ln(Pop)	15.7008	2.0594	9.8884	21.0432	1275
Inflation	0.31384	7.2912	0.0001	244.11	1123
Trade	89.0301	41.3892	13.6402	397.5308	1137
ln(Trade)	-0.2170	0.4534	-1.9922	1.3801	1137
Exchange	108.3406	58.0195	28.5205	940.9999	873
Government Stability	8.2265	1.5441	4	11	850
Control of Corruption	2.0042	0.6586	0	4	850
Law and Order	3.0426	1.0330	0	6	850
Bureaucratic Quality	1.6098	0.7933	0	4	850
Polity	3.3333	5.5867	-10	10	850

Note: Capex1, Capex2 and Capex3 represent the total annual value (capital expenditure) of FDI inflows to primary, secondary and tertiary sectors, respectively, with lnCap1, lnCap2 and lnCap3 denoting their (natural) logarithmic values. Capex23 represents FDI inflows to non-primary sector, adding secondary and tertiary sectors (Capex2+Capex3); with lnCap23 its logarithmic value. Trade denotes trade openness [(Exports+Imports)/GDP]. ln(Income) is the log of GDP per capita. ln(Pop) is the log of Population. Exchange is the index of real exchange rate. Polity is the POLITY 2 variable from the POLITY IV project.

Table 2. Correlation coefficients of variables

	Civil War	Inflation	ln(Income)	ln(Trade)	Exchange	Government Stability	Control of Corruption	Law and Order	Polity	Bureaucratic Quality
Civil War	1									
Inflation	0.1693	1								
ln(Income)	-0.1178***	-0.2962	1							
ln(Trade)	-0.1322***	-0.0723	0.1199***	1						
Exchange	0.5222***	0.1968***	-0.0500	0.0746	1					
Government Stability	-0.1578***	-0.0400	-0.1314	0.0575	-0.1575***	1				
Control of Corruption	-0.1082***	-0.2611***	0.2281***	0.0311*	-0.1646**	0.0001***	1			
Law and Order	-0.1233***	-0.1245	-0.0077***	0.2915***	-0.1709***	0.2374***	0.2724***	1		
Polity	0.0025**	-0.1395	0.3520***	-0.0139	0.0083	-0.4152***	0.2730***	-0.1666	1	
Bureaucratic Quality	-0.0489**	-0.3498	0.4659***	0.0657	-0.1926***	-0.1406***	0.2977***	0.1243**	0.3547***	1

Notes: *** Statistical significance at 1% level; ** Statistical significance at 5% level; * Statistical significance at 10% level. Variables are defined in Table 1. The sample period is 2003-2012. All pairwise correlations are calculated using the maximum number of observations available in the sample.

Table 3. The impact of civil war on FDI in primary sector

	1	2	3	4	5	6
lnCap1(-1)	-0.0662	0.0975	0.0711	0.1185	0.1668	0.1088
	(0.1287)	(0.1272)	(0.1444)	(0.1436)	(0.1225)	(0.1184)
Civil War	-0.8874	0.2658	0.0771	0.4117	0.4109	0.0809
	(0.8782)	(0.5798)	(0.7555)	(0.6814)	(0.5733)	(0.6785)
ln(Income)	-0.4023	-0.1671	-0.5055	-0.5161	-0.0462	-0.5393
	(0.5247)	(0.5708)	(0.5855)	(0.5098)	(0.5392)	(0.5619)
ln(Pop)	0.3691*	0.3971**	0.3859*	0.3463**	0.4122**	0.3715**
	(0.1928)	(0.1703)	(0.2156)	(0.1650)	(0.1778)	(0.1799)
Inflation	3.6031	6.5009**	7.8395**	6.3425**	7.1187**	7.9295***
	(3.6119)	(2.6701)	(3.6824)	(2.9188)	(3.5774)	(2.7354)
ln(Trade)	-2.5739**	-1.9266	-2.2101	-2.1944	-1.3359	-2.3745
	(1.2170)	(1.4311)	(1.6722)	(1.5038)	(1.1635)	(1.6384)
Exchange	-0.0001	-0.0015	-0.0017	-0.0016	-0.0005	-0.0029
	(0.0042)	(0.0031)	(0.0040)	(0.0031)	(0.0023)	(0.0036)
Government Stability		0.1200				
		(0.1008)				
Control of Corruption			0.6944*			
			(0.4026)			
Law and Order				0.5029		
				(0.3255)		
Bureaucratic Quality					0.4760	
					(0.5790)	
Polity						0.1362
						(0.2473)
Constant	29.2281***	19.8042	23.7539*	23.5277**	14.6218	25.2809**
	(10.4695)	(13.5119)	(13.6424)	(11.1546)	(9.2408)	(10.9222)
N	355	320	320	320	320	320
AR1	0.012	0.007	0.012	0.009	0.005	0.006
AR2	0.283	0.864	0.918	0.961	0.799	0.935
Hansen	0.560	0.802	0.616	0.825	0.675	0.710

Note: *** Statistical significance at 1% level (p value < 0.01); ** Statistical significance at 5% level (p value < 0.05); * Statistical significance at 10% level (p value < 0.1). Dependent variable is log of FDI in primary sector (lnCap1). Estimation is by two-step system GMM with robust standard errors reported below estimates (in parentheses). Institutional variables and population are regarded as exogenous; the other variables are treated as endogenous in the estimation.

Table 4. The impact of civil war on FDI in secondary sector

	1	2	3	4	5	6
lnCap2 (-1)	0.1270	0.1429	0.1617	0.1418	0.1780*	0.1398
	(0.0920)	(0.1040)	(0.1035)	(0.1025)	(0.1063)	(0.0945)
Civil War	-0.8191*	-1.0820*	-1.0973	-1.0051	-1.0852	-1.1935*
	(0.4649)	(0.5967)	(0.7410)	(0.6547)	(0.7993)	(0.6376)
ln(Income)	0.7297	0.8689**	0.7582**	0.9669***	1.0485**	1.3298**
	(0.4927)	(0.3667)	(0.3823)	(0.3528)	(0.5307)	(0.5644)
ln(Pop)	0.8562***	1.0083***	0.9744***	0.9902***	1.1737**	1.0896***
	(0.1752)	(0.1971)	(0.2196)	(0.1854)	(0.2294)	(0.1888)
Inflation	1.1059	1.2263	1.3238	1.1682	-0.1519	0.9615
	(2.2638)	(2.5722)	(2.4964)	(2.1441)	(3.0925)	(2.3490)
ln(Trade)	0.6711	0.9653	0.8826	0.8595	2.1104**	1.2613
	(0.7947)	(0.8311)	(1.0890)	(0.8483)	(0.9449)	(1.0051)
Exchange	0.0002	0.0009	0.0013	0.0013	0.0008	0.0017
	(0.0013)	(0.0016)	(0.0018)	(0.0016)	(0.0019)	(0.0019)
Government Stability		0.0074				
		(0.0468)				
Control of Corruption			0.3795*			
			(0.2071)			
Law and Order				0.1920		
				(0.1462)		
Bureaucratic Quality					-0.1845	
					(0.4819)	
Polity						-0.0685
						(0.1646)
Constant	-5.6323	-11.0823*	-10.4664	-11.5971*	-20.3164**	-16.9095*
	(7.0579)	(6.6916)	(8.2443)	(6.0083)	(8.8596)	(9.2682)
N	381	354	354	354	354	354
AR1	0.003	0.003	0.002	0.003	0.003	0.002
AR2	0.481	0.348	0.359	0.364	0.245	0.340
Hansen	0.582	0.666	0.675	0.702	0.531	0.779

Note: *** Statistical significance at 1% level (p value < 0.01); ** Statistical significance at 5% level (p value < 0.05); * Statistical significance at 10% level (p value < 0.1). Dependent variable is log of FDI in secondary sector (lnCap2). Estimation is by two-step system GMM with robust standard errors reported below estimates (in parentheses). Institutional variables and population are regarded as exogenous; the other variables are treated as endogenous in the estimation.

Table 5. The impact of civil war on FDI in tertiary sector

	1	2	3	4	5	6
lnCap3 (-1)	0.1814**	0.2038**	0.1888**	0.2094**	0.2088**	0.2246**
	(0.0854)	(0.1009)	(0.0952)	(0.0978)	(0.0971)	(0.0960)
Civil War	-2.2037*	-1.2327	-1.5516*	-1.3271	-1.9166***	-1.9099**
	(1.1848)	(1.2222)	(0.8516)	(1.1115)	(0.6310)	(0.9249)
ln(Income)	1.2889**	1.8758**	1.3677**	1.6147**	0.4979	1.1601**
	(0.7374)	(0.9350)	(0.5303)	(0.7551)	(0.5030)	(0.4756)
ln(Pop)	0.8907***	1.0514***	0.9810***	1.0526***	0.6812***	0.9316***
	(0.2364)	(0.3117)	(0.2139)	(0.2868)	(0.2208)	(0.2094)
Inflation	6.6034**	5.0148*	6.0365**	5.1902*	7.8909***	5.5585*
	(3.0005)	(3.0206)	(3.0278)	(3.0507)	(2.8484)	(2.8956)
ln(Trade)	1.9465	2.3769	1.8202	2.3463	0.3800	1.9804
	(1.3669)	(1.6149)	(1.4291)	(1.4592)	(1.1711)	(1.4151)
Exchange	0.0056***	0.0051**	0.0054***	0.0048**	0.0055***	0.0050***
	(0.0019)	(0.0024)	(0.0019)	(0.0023)	(0.0015)	(0.0016)
Government Stability		0.1691*				
		(0.0979)				
Control of Corruption			0.3546			
			(0.3239)			
Law and Order				0.0477		
				(0.3048)		
Bureaucratic Quality					0.4907	
					(0.7012)	
Polity						-0.2159
						(0.1747)
Constant	-17.7471	-28.5497*	-20.4040*	-25.4080**	-3.3290	-17.7561*
	(11.6500)	(15.1822)	(10.7887)	(10.9331)	(10.5793)	(10.6544)
N	465	408	408	408	408	408
AR1	0.000	0.000	0.000	0.000	0.000	0.000
AR2	0.661	0.598	0.822	0.621	0.922	0.641
Hansen	0.279	0.482	0.450	0.479	0.358	0.365

Note: *** Statistical significance at 1% level (p value < 0.01); ** Statistical significance at 5% level (p value < 0.05); * Statistical significance at 10% level (p value < 0.1). Dependent variable is log of FDI in tertiary sector (lnCap3). Estimation is by two-step system GMM with robust standard errors reported below estimates (in parentheses). Institutional variables and population are regarded as exogenous; the other variables are treated as endogenous in the estimation.

Table 6. The impact of civil war on FDI in non-primary sectors

	1	2	3	4	5	6
lnCap23 (-1)	0.1797	0.2213**	0.2208***	0.2250***	0.2250***	0.2173***
	(0.0682)	(0.0879)	(0.0749)	(0.0766)	(0.0750)	(0.0804)
Civil War	-2.4454***	-1.6335	-1.9119**	-1.8790**	-1.9137**	-1.8849*
	(0.9291)	(1.0162)	(0.8104)	(0.9544)	(0.7609)	(0.9745)
ln(Income)	0.5430	0.8851	0.5384	0.6082	0.6364	0.9663*
	(0.4536)	(0.6638)	(0.5473)	(0.5080)	(0.4426)	(0.5000)
ln(Pop)	0.8364***	1.0095***	0.9532***	0.9201***	0.9542***	1.0597***
	(0.2469)	(0.2781)	(0.2717)	(0.2727)	(0.2357)	(0.2710)
Inflation	4.0383	2.5214	3.2540	3.0376	3.6536	2.6282
	(2.7340)	(2.6296)	(2.7466)	(2.4855)	(2.2522)	(2.4839)
ln(Trade)	1.7283	2.4304*	1.9164	1.9290	1.8172	2.5475*
	(1.7650)	(1.3226)	(1.4712)	(1.4284)	(1.3801)	(1.4110)
Exchange	0.0059***	0.0051**	0.0055***	0.0051***	0.0051***	0.0051***
	(0.0018)	(0.0021)	(0.0019)	(0.0017)	(0.0014)	(0.0019)
Government Stability		0.0938				
		(0.0949)				
Control of Corruption			0.2904			
			(0.2789)			
Law and Order				0.0969		
				(0.1717)		
Bureaucratic Quality					0.1237	
					(0.5056)	
Polity						-0.0458
						(0.19350
Constant	-9.8161	-19.7411*	-13.9458	-13.6442	-13.9204	-20.6696*
	(13.2073)	(11.6097)	(12.1594)	(11.2732)	(10.2003)	(10.6875)
N	509	440	440	440	440	440
AR1	0.000	0.001	0.001	0.001	0.001	0.001
AR2	0.101	0.199	0.250	0.241	0.257	0.224
Hansen	0.486	0.669	0.652	0.688	0.523	0.663

Note: *** Statistical significance at 1% level (p value < 0.01); ** Statistical significance at 5% level (p value < 0.05); * Statistical significance at 10% level (p value < 0.1). Dependent variable is log of FDI in non-primary sectors (lnCap23). Estimation is by two-step system GMM with robust standard errors reported below estimates (in parentheses). Institutional variables and population are regarded as exogenous; the other variables are treated as endogenous in the estimation.