WHY IS THE MIDDLE EAST BURNING? AN HISTORICAL ANALYSIS OF THE ECONOMIC CAUSES OF CONFLICTS FROM 1963 TO 1999

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Violent conflicts have become one of the major concerns in the Middle East. In recent days, especially, the Middle East has experienced a dramatic surge in violent conflicts. We examine the dynamics of historical conflicts in the region to explain the factors that triggered and fuelled conflicts in the region by using a panel of conflict estimates for ten Middle Eastern nations for the period 1963-1999. On the basis of the historical estimates we hazard the risk of explaining the factors that possibly led to the current eruption of violent crises in the Middle East. The fixed effects model is applied to control for unobservable country-specific effects that result in a missing-variable bias in cross-sectional studies, which thereby investigates the factors that caused statistically significant changes in conflicts over time within the chosen group. On the basis of the panel data estimates, we offer insights in the roles of inequality, inflation, economic growth, military spending, foreign direct investment, immigration and remittances in the surge in conflicts in the Middle East.

Keywords: Conflicts, income inequality, panel data, military expenditure, economic growth.

JEL Classification: D74; O13; H56

1. Introduction

Since 2011 violent protests and conflicts in Egypt and Tunisia have spread to the people of Iran and Libya who seem to have begun to revolt against their existing political regimes. The situation in Libya shows some ominous signs that more bloody and severe conflicts, even revolution, will possibly engulf the nation. The continuing protests in Iran and sporadic street skirmishes in Tehran emit clear signals about people's discontent and potential for

costly conflicts, which can eventually trigger changes in governments. However, the new governments that might spring up in their places in Egypt, Tunisia, Libya and Iran and in any other countries in the Middle East might be even worse. The civil war in Syria continues with bottomless human miseries. The relevant question for us is whether there is any fundamental economic reason that the Middle East has shown tendencies towards violent conflicts over the long-run. In this paper we examine the economic causes of violent conflicts in the Middle East in the earlier era, namely from the 1963 to the 1999, that can hide germs of today's violent conflicts in the region. The study highlights a panel of ten nations in the Middle East. Due to unavailability of consistent data, we have chosen seven Arab nations – namely Algeria, Egypt, Jordan, Kuwait, Morocco, Syria, and Tunisia. We have chosen three non-Arab nations Iran, Israel, and Turkey. Our main goal is to understand the role various economic factors in fuelling historical conflicts in the above panel of ten nations.

Because of its geographical location, huge oil reserves, and strategic importance to the main players in international politics, the Middle East has been regarded as one of the flash points of dangerous conflicts in the contemporary world. At the heart of the region's violent past is the Israeli-Palestinian conflict, which has dominated domestic, regional, and world politics for more than five decades. The region has also hosted three wars not involving Israel (Iraq-Iran 1980–1988, Iraq-Kuwait 1991, and Iraq 2003). The region is, moreover, surrounded by other long-term conflict zones such as Sudan, Afghanistan and the Caucasus. In the recent days violent protests and severe conflicts in Egypt and Tunisia have spread Iran and Libya. In this work we will provide empirical analysis for the economic causes of conflicts for the above ten nations.

The main strategy of our research is to identify the economic factors that might have triggered and fuelled conflicts in the Middle East over the four decades since the 1960s. An important determining factor of conflicts is economic inequality. The empirical analysis is performed by using a unique panel of inequality estimates that cover ten countries over the selected period. In other words, we look for specific economic, and some non-economic, factors that can explain changes in conflicts in the region.

A few observations are in order: first, our results indicate that the economic inequality bears a negative relation with conflicts. The negative sign on the inequality variable indicates the special characteristics of a very imbalanced society in the Middle East where all opposition is crushed through heavy military presence and/or the very poor do not have the assets essential to initiate an armed rebellion. A corollary of the finding is that improvements in inequality can destabilise the Middle East society by triggering and fuelling new conflicts. Secondly, a host of macroeconomic variables like inflation, military expenditure, and immigration have a positive relation with conflicts. Thirdly, foreign direct investment (FDI) as a percentage of GDP, GDP growth, and workers remittance are shown to bear a negative relation with the intensity and levels of conflicts. A simplistic explanation of the cascading conflicts in the Middle East in 2010 and 2011 can thus be couched in terms of declining FDI, lowering of GDP growth and dwindling remittances due to the ongoing economic and political turmoils in the region since the Gulf wars. The plan of the paper is as follows: in Section 2 we discuss the role of inequality in conflicts. In

Section 3 we examine the role of wealth in conflicts. In Section 4 we explore the relevant economic variables for the Middle East. In Section 5 we offer the model, data sources and empirical findings and conclude in Section 6.

2. Revisiting Conflicts and Inequality

The role of inequality in conflicts has always been a popular theme. A number of studies have focused on discovering the relation between conflicts and inequality. Studies by Olson (1963), Sigelman and Simpson (1977), Hardy (1979), Weede (1981, 1987), Muller (1985), Park (1986), Muller and Seligson (1987), Midlarsky (1988), Londregan and Poole (1990), Boswell and Dixon (1990), Brockett (1992), Binswanger et al (1993), and Schock (1996) have reached the conclusion that inequality in the allocation of resources and material goods such as land, wealth, income and other assets are linked with the occurrence of socio-political instability in several countries. Although in general most theorists assume there to be a strong relation between inequality and conflicts, findings are inconclusive as the empirical work reveals three possible relationships between these variables: (a) positive relation, (b) negative relation, and (c) no relation between the variables.

The first expectation is that economic inequality increases conflicts. There are two reasons for this. When economic inequality is high, poor people are jealous of the richer people and, having little to lose, choose to use force to redistribute income. Conversely, rich people are greedy and have everything to lose; so they acquire the resources needed to prevent the redistribution of wealth. As economic inequality increases, conflict increases. There is an extensive literature offering support for a positive relation between different forms of inequality and political and social conflicts (for example, Sigelman and Simpson, 1977; Muller, 1985; Weede, 1987). If we look at the recent literature on the economic causes of civil wars in developing countries, we will find inequality cited as an important factor (Schock, 1996; Boyce, 1996; Nafziger and Auvinen (1997); Stewart, 1998; Elbadawi, 1992; Collier, 2000b; Collier and Hoeffler, 1999). Schock (1996) tests the hypothesis 'Hypothesis 1: Economic inequality is positively related to violent conflict'. The hypothesis is tested using quantitative cross-national lagged panel data which examines political violence between 1973 and 1977. He reaches a result that supports the proposed hypothesis. Boyce (1996) points out that the main reason behind the violent conflict in El Salvador is inequality (especially the unequal distribution of land). An empirical study by Nafziger and Auvinen's (1997) 'indicated that high income inequality (based on Gini Index) is associated with political conflict and complex humanitarian emergencies.' Frances Stewart (1998) uncovers a positive relation between horizontal inequalities and civil conflicts by examining case studies on developing countries such as Afghanistan, Burundi, Cambodia, El Salvador, Guatemala, Haiti, Liberia, Nicaragua, Rwanda, Sierra Leone, and Somalia. Elbadawi (1999) recognises poverty and ethnic fractionalisation as the main causes of civil wars. Studies by Mitchell on the Philippines (Mitchell, 1969), Paranzino on South Vietnam (Paranzino, 1972), and Morgan and Clark on the United States (Morgan and Clark, 1973), furnish further evidence on the positive relation between inequality and conflicts.

The polar case highlights a possible scenario that economic inequality decreases conflicts. Higher levels of inequality are associated with a powerful privileged minority, prepared and willing to use its power to suppress conflict. Another potential reason for the negative relation can pivot on the social comparison processes of human beings. It is usually attributed to the 18th Century English Poet laureate Samuel Johnson that "...it is better that some should be unhappy, than that none should be happy, which would be the case in a general state of equality." That means some people will be unhappy under moderate economic inequality, while under pure economic equality, everyone is unhappy. This viewpoint is supported by Havrilesky and Parvin. Havrilesky says,

> "...it is reasonable to assume that a discordance-minimizing distribution of income exists at some positive level of discordance and that a perceived change in the distribution away from this minimum toward either of the extremes of equality or inequality will generate increased discordance." (Havrilesky, 1980)

> Parvin proposes that

> "...it is therefore more reasonable to assume that an optimum level of income inequality exits for any level of per capita income. Subsequently, beyond this optimum level, the net effect of further redistribution of income toward more or less equality may imply increasing, not decreasing, political unrest." (Parvin, 1973)

Other scholars have suggested that there is no direct relationship between inequality and conflict; and that there are more important factors responsible for conflicts such as absolute poverty, or mobilisation processes. There is also an argument that inequality does not matter since economic inequality changes very gradually over time while conflict occurs regularly but erratically. There are important studies that support this possibility, as examples Duff and McCamant (1976) and by Powell (1982) on Western-style democracies, Russo (1972) on South Vietnam (1972), and McAdam (1982) and Spilerman (1971) on the United States.

3. Economic Wealth and Conflicts

The recent literature on the relation between conflict and wealth indicates that there is a negative relation between the two variables (Collier and Hoeffler, 2002a and 200b; Fearon and Laitin, 2003). A study by Humphreys (2003) predicted the probability of starting war is about 15% for a country with gross domestic product (GDP hereafter) per capita of $250. If this GDP per capita is doubled, then the probability of war will drop to 7.5%.

Another interesting study by Fearon and Laitin (2003) predicted a probability of 18% for war breaking out for countries with their GDP per capita at $600. This probability decreases to 11% if the GDP per capita increases to $2000 and to less than 1% for countries with GDP per capita of $10,000. How could this be explained? One of the explanations offered by Homer-Dixon (1994) and Fearon and Laitin (2003) is that wealthier countries are more capable of protecting their assets against rebels. Another important explanation is expounded by Homer-Dixon (1994) as he argues that poverty causes violence since scarcity triggers migrations that in turn result in conflicts between identity groups over resources.

A study by Bates (2001) has an important finding: if the value of assets increases in any economy, then its people have an incentive to increase their motivation to use violence for furthering their economic interests. In an important work Keen (2000) highlights that a rise in the value of assets of a country can lead to a rise in the value of controlling the state apparatus. A study by Mack (2002) has raised a nagging question: if the increasing of wealth would lead to decrease the frequency and ferocity of conflicts, then why we are seeing the opposite. A plausible explanation is presented by Humphreys (2003), which argues that there might be other important variables in action that can outweigh the extenuating effects of increased wealth such as population sizes. Another possible reason is the unevenness of the global economic growth rates across different regions.

4. Conflicts and Economic Variables

Economic growth can affect conflicts through several channels. Collier and Hoeffler (1998, 2001, 2002a, and 200b) argue that civil conflicts are driven by economic opportunity rather than by political grievances: for example young men would be more likely to take up arms when their expected income as fighters is higher than their income as agricultural workers. They also found that slow income growth, low per capita income, natural resource dependence, lower male secondary education enrolment, rebel military advantages, and total population are all significantly and positively linked with the start of civil conflict. Democracy, they find, does not reduce the probability of civil conflict; this result supports their analysis of civil conflicts as being driven by economics rather than politics.

Elbadawi (1992) and Sambanis (2002) study the incidence of civil war and reach almost the same results as Collier and Hoeffler; except that they find democracy reduces the incidence of civil conflicts. A recent study by Boix (2003) develops a game-theoretic model that describes different forms of conflict, ranging from civil war to guerrilla warfare, revolution, political assassination and riot, as the result of income inequality.

Low growth rates have both direct and indirect relations with conflict. Barro (1991), Alesina and Perotti (1996), and Collier (1998) find a significant negative relationship between investment, growth rates, and different measures of conflict. A paper by Benhabib and Rustichini (1996) presents a game theoretic structure to explain the conflict that can occur between two social groups over the allocation of resources (distribution of income). A conflict starts in this model when each group tries to attain a larger share of output, either directly, or by controlling the system of allocation. The strategic interaction between the two groups over the allocation of output affects the economy's power of enlarging or diminishing the size of the pie over time and has an effect on growth at low or high levels of development, depending on the parameters of the production technology and the preferences. Fearon and Laitin (2003) find that lower GDP per capita is significantly related to the onset of civil conflict, whereas democracy and ethnic diversity are not significantly related to conflicts.

5. Data and Measurement

Traditionally, the measurement of conflict is a major problem in examining the relationship between conflicts and other variables, which impacted on the sensitivity of the findings. Our results are not immune from this general deficiency.

5.1 Data on Conflict and Inequality

If one looks at the existing studies on conflicts, one will note that most papers use the Correlates of War (COW) database. However, the lack of transparency of the COW database has been the focus of an exhaustive assessment by Sambanis (2002). Moreover, the database excludes conflicts which have fewer than1000 combat-related deaths per year. In our work, as a substitute of the COW database, we will use the new Armed Conflict Data database developed by the International Peace Research Institute of Oslo, Norway and the University of Uppsala, Sweden (PRIO/Uppsala). We find the PRIO/Uppsala data to be more transparent and consistent than the COW one and also because of the records of smaller conflicts, with a threshold of 25 battle deaths per year[1]. The PRIO/Uppsala database recognises three different intensities, or levels, of conflict, namely the minor, intermediate, and war.

The inequality data is drawn from the Estimated Household Income Inequality Data Set (EHII) — a global dataset derived from the econometric relationship between UTIP-UNIDO, other conditioning variables, and the World Bank's Deininger and Squire data set (see http://utip.gov.utexas.edu/about.html). The UTIP-UNIDO data set source computes inequality measures for nearly 3200 country/year observations, covering over 150 countries during the period 1963 to 1999. Traditionally inequality is linked to a number of mathematical properties of income distribution such as skewness, variance, and dispersion. Consequently, there are several methods for computing inequality, for example the McLoone Index, the coefficient of variation, range, range ratios, the Gini Coefficient, and Theil's T statistic. The main justification for choosing Theil's T statistic is that it offers a more flexible structure that often makes it more suitable than other measures[2]. If we had permanent access to all necessary individual-level data for the population of interest, measures like the Gini coefficient or the coefficient of variation would be generally satisfactory for describing inequality. Yet, in the real world, individual data is hardly ever reachable, and researchers make do with aggregated data.

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[1] An armed conflict is defined in the PRIO/Uppsala database as follows: 'a contested incompatibility which concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle -related deaths.' Refer to the PRIO website (www.prio.no/cwp/ArmedConflict) or the University of Uppsala website (www.pcr.uu.se).

[2] Pedro Conceição and Pedro Ferreira (2000) provide a much more detailed analysis of these issues in their UTIP working paper 'The Young Person's Guide to the Theil Index: Suggesting Intuitive Interpretations and Exploring Analytical Applications.'

5.2 The Basic Model

This work uses a model which addresses the findings of previous literature on conflicts. In this conceptual model, conflicts are considered a function of inequality, as well as of inflation, military expenditure, foreign direct investment, growth, workers' remittance, population, GDP per capita, military personnel, and immigration.

$$CON_{(it)} = \alpha_i + \beta_0 * INQ_{(it)} + \beta_1 * INF_{(it)} + \beta_2 * ME_{(it)} + \beta_3 * FDI_{(it)} + \beta_4 * GRO_{(it)}$$

$$+ \beta_5 * WRG_{(it)} + \beta_6 * POP + \beta_7 * PP_{(it)} + \beta_8 * MILPER_{(it)} + \beta_9 * IMN_{(it)}$$

$$+ \beta_{10} * DUM1_{(it)} + \beta_{11} * DUM2_{(it)} + \beta_{12} * DUM3_{(it)} + \varepsilon_{(it)} \qquad (1)$$

Where:
- i stands for country index, t represents time period,
- CON is the conflict intensity, α_i is a country-specific intercept,
- INQ is the estimated income inequality,
- INF is annual inflation as measured by the year-to-year change in the consumer price index,
- ME is military expenditure as a percentage of GDP (constant 1995 US$),
- FDI is foreign direct investment as a percentage of GDP (constant 1995 US$),
- GRO is the real growth rate of the economy in the preceding period,
- WRG is the workers' remittance as a percentage of GDP,
- PP is GDP per capita (constant 1995 US$),
- POP is the total population
- MILPER is the number of military personnel
- IMN is the immigrant population to the US as a proportion of the population in the country of origin.
- DUM1 is a dummy variable where 1 represents Arab county and 0 non-Arab country,
- DUM2 is a dummy variable where 1 represents conflicts involving Shiite Muslim Population and 0 represents otherwise,
- DUM3 is a dummy variable where 1 represents oil exporting countries and 0 non-oil exporting countries.

We will estimate equation (1) by using a set of panel data including observations for ten Middle Eastern countries covering the period 1963–1999. Unfortunately, there are limited freely available data on Arab countries. As a consequence, we are unable to include more than seven Arab countries in this study: Algeria, Egypt, Jordan, Kuwait, Morocco, Syria, and Tunisia. The three non-Arab countries are Iran, Israel, and Turkey.

In this study we will use the panel data that will allow us to control for unobservable time-invariant country-specific effects that result in a missing-variable bias. This problem is recognised in many studies such as Bruno et al. (1995), Ravallion (1995), Bourguignon and Morrison (1998), Deininger and Squire (1996 and 1998), and Forbes (2000). The fixed effect model setting will be used in this study for three main reasons. First, the fixed

effects model will control unobservable country-specific characteristics and will reduce possible hetero-scedasticity problems rooting from probable differences across countries (Greene, 1997). Second, the fixed effects model is preferred for the reason that the most important objective of this study is to explore what factors have caused changes in intensity of conflicts over time within countries, rather than to explain variations in the intensity of those conflicts. Finally, another reason for choosing the fixed effect model is due to its appropriateness since the focus of this work is upon a precise number of countries and the inference is limited to those countries (Baltagi, 1995).

5.3 Empirical Results

Two models are estimated by using a pooled model (ordinary least squares), fixed effects (accounting for heterogeneity across countries), and random effects (accounting for heterogeneity across countries and across time). We will analyse the impact of inequality on the intensity of conflict across ten major Middle Eastern countries for the period 1963–1999. Other independent variables collected are growth rate, GDP per capita, inflation, military expenditure, FDI, population, military personnel, and immigration.

The results shown in Table 1 indicate that the signs of the parameters are almost all as hypothesised in the context of the Middle East: military expenditure, inflation, immigration to the US, and population, increase the probability of conflict. FDI, growth, workers' remittance, and military personnel lower the probability of war. One unexpected result is the negative sign on the inequality variable, indicating that increasing inequality by a unit would lower the probability of war by 8.8%. Explanations for this include the special characteristics of a very imbalanced society in which all opposition is crushed through heavy military presence; and/or that the very poor do not have the assets essential to initiate an armed rebellion (Baddely, 2005).

Inflation and military expenditure both have a positive coefficient and are statistically significant with conflicts. One unit increase in inflation and in military expenditure causes an increase in the level of intensity of conflicts by 0.23% and 1% respectively. Conversely, FDI as a percentage of GDP, growth, and immigration all negatively affect conflicts. One unit decrease in FDI as a percentage of GDP, growth, and immigration causes increases in the intensity level of a conflict by 4.5%, 0.97%, and 213.25% respectively. This result is consistent with the theory that a lower growth rate increases risk of conflict, as individuals in low income situations have less to lose from conflict. As for the immigration variable, immigration is endogenous to the intensity of conflict. When a conflict occurs, number of people emigrating increases. The size of immigration may proxy the intensity of conflict. The oil dummy variable (Dum3) is statistically significant and has a negative coefficient which decreases the incidence of conflicts by 11.07%.

Table 2 reveals a significant negative relation between conflict and inequality. One unit increase in inequality causes a decrease in the intensity of conflict by 7.6%. Note that the intensity of conflict decreases by 10.17%, 0.5%, and 145.06% for a one unit increase respectively in FDI as a percentage of GDP, growth, and workers remittance respectively. On the other hand, one unit decrease in inflation, military expenditure, and immigration

causes a decrease in the intensity of conflict by 0.07%, 0.7%, and 141.97% respectively. The results of dummy variable 2 and 3 indicate the importance of ethnicity and oil in increasing the intensity of a conflict.

Table 1: Regression Results

Variable	(1) Pooled	(2) Fixed Effects	(3) Random Effects
Inequality	−0.033544 **	−0.08785***	−0.01197***
	(2.221113)	(−3.91938)	(−3.67083)
Inflation	0.002259 ***	0.002265***	0.002289***
	(4.635813)	(6.194494)	(4.831499)
Military Expenditure as % of GDP	0.007111***	0.010003***	0.008681***
	(3.619289)	(7.150603)	(4.506451)
FDI as % of GDP	−0.06452***	−0.04491***	−0.07949***
	(−4.29665)	(−4.60092)	−5.35128
% of yearly growth	−0.01207***	−0.00968***	−0.01268***
	(−5.93838)	(−7.08342)	(−6.43429)
Workers Remittance as % of GDP	−0.74007	−0.25281	0.26338
	(−1.61274)	(−0.80655)	(−0.58481)
GDP per capita	−5.50E−06**	−1.93E−06	−8.71E−07
	(−2.00716)	(−0.99617)	(−0.31498)
Yearly immigration to the US as % of total population	2.914059***	2.132453***	2.693899***
	(3.617157)	(3.708477)	(3.450764)
Military Personnel	−0.08351***	−0.11973***	−0.1558***
	(−4.36503)	(−6.80704)	(−6.80607)
Population	3.46E−06***	5.64E−07	5.60E−07
	(3.202762)	(0.62953)	(0.471964)
Dum1	0.02541	−0.04658	−0.04253
	(0.39732)	(−0.71234)	(−0.68167)
Dum2	−0.07197	−0.09292	−0.09531
	(−1.09901)	(−1.31957)	(−1.51985)
Dum3	−0.08389*	−0.11073***	−0.17558
	(−1.94246)	(−3.33142)	(−3.92191)
Constant		0.689813***	0.920071***
		(6.081123)	(5.228591)
Observations	348	348	348
Countries	10	10	10
Years	1963-1999	1963-1999	1963-1999
Adjusted R²	0.511366	0.535056	0.396787
R-squared	0.528264	0.544226	0.429816

Note: t-statistics in parenthesis. ***, **, and * indicate, respectively, statistically significance at the 1%, 5% and 10% level.

Table 2: Regression Results

Variable	(1) Pooled	(2) Fixed Effects	(3) Random Effects
Inequality	−0.091573***	−0.076088***	−0.050859**
	(6.562322)	(−3.345247)	(−2.380208)
Inflation	0.000754**	0.000687***	0.001268*
	(2.037453)	(0.962346)	(1.929451)
Military Expenditure as % of GDP	0.000847	−0.007174***	−0.001500***
	(0.413624)	(−2.459804)	(−0.561813)
FDI as % of GDP	−0.001343	−0.101747***	−0.055210***
	(−0.102879)	(−4.580128)	−2.664835
% of yearly growth	−0.002592*	−0.004591***	−0.008972***
	(−1.675193)	(−1.585396)	(−3.320547)
Workers Remittance as % of GDP	−1.447443***	−1.450638**	−1.725907***
	(−4.213220)	(2.209611)	(−2.729125)
GDP per capita	4.04E−06**	7.43E−06*	7.59E−06*
	(1.995469)	(1.876433)	(1.947560)
Yearly immigration to the US as % of total population	1.99490**	1.419658	2.295985**
	(2.075277)	(1.226688)	(2.108987)
Military Personnel	0.064272***	−0.019566	−0.018299
	(3.977971)	(−0.582054)	(−0.572095)
Population	9.79E−06***	3.83E−06**	6.96E−06***
	(10.41271)	(2.139106)	(4.226150)
Dum1	0.118902	0.114587	0.145657*
	(1.587167)	(1.277340)	(1.656011)
Dum2	−0.566320***	−0.574763***	−0.570577***
	(−7.931723)	(−6.404488)	(−6.439276)
Dum3	−0.190909***	−0.395185***	−0.383280***
	(−4.190205)	(−6.127085)	(−6.092093)
Constant		1.556629***	1.137331***
		(5.937525)	(4.641377)
Observations	348	348	348
Countries	10	10	10
Years	1963−1999	1963−1999	1963−1999
Adjusted R²	0.680258	0.453933	0.424676
R-squared	0.691283	0.530822	0.446168

Note: t-statistics in parenthesis. ***, **, and * indicate, respectively, statistically significance at the 1%, 5% and 10% level.

6. Conclusion

The main goal of this work is to identify the factors that influence the intensity of conflicts in the Middle East between 1963 and 1999. The empirical analysis is performed using a unique panel of ten countries from the Middle East over the selected period. This work estimates the effects of inequality and various other economic variables on the intensity of conflicts. We looked for specific economic and non-economic factors that might determine changes in conflicts in the region.

We find that inequality has an inverse relationship with conflicts in the Middle East. More specifically, we note that one point increase in inequality results in a decrease in conflict of 8.8% in the first model and 7.6% in the second model. As we have articulated before the negative sign on the inequality variable indicates the special characteristics of a very imbalanced society where all opposition is crushed through heavy military presence and/or the very poor do not have the assets essential to initiate an armed rebellion (Baddely, 2005). Inflation, military expenditure, and immigration bear a positive relationship with the intensity of conflicts. On the other hand, FDI as a percentage of GDP, growth, and workers remittance have a negative association with conflicts. In the first model, the most important factor that impacts on the intensity of conflicts is the immigration variable: one point increase in immigration results in a 213% increase in the intensity of conflict. In the second model, immigration and workers' remittances significantly influence the intensity of conflict, though in opposite directions: one unit increase in the immigration variable results in an increase in conflict by 142%, while one unit increase in workers remittance variable results in a decrease in the intensity of conflicts by 145%.

References:

Alesina, A., and R. Perotti. 1993. "Income Distribution, Political Instability and Investment." NBER working paper # 4486.

Alesina, A. and Roberto P. 1996. "Income Distribution, Political Instability and Investment.*" European Economic Review* XL:1203–1228.

Alesina, A., Özler, S., Roubini, N. and Swagel, P. 1996. "Political Instability and Economic Growth." *Journal of Economic Growth* 1:189–212.

Azar, E., Jureidini, P. & McLaurin, R. 1978. "Protracted Social Conflict; Theory and Practice in the Middle East." *Journal of Palestine Studies* 8:41–60.

Baddely, M. 2005. "Armed Conflict, Economic Development and Financial Stability." Cambridge Centre for Economic and Public Policy. Cambridge, UK.

Bailey, S. 1990. *Four Arab-Israeli Wars and the Peace Process*. London: The Macmillan Press

Baltagi, B. H. 1995. *Econometric Analysis of Panel Data*. West Sussex: John Wiley and Sons Ltd.

Bates, R. 2001. *Prosperity and Violence*. New York: Norton Press.

Baron, R. & Greenberg, J. Eds. 1990 *Behaviour in Organizations: Understanding and Managing the Human Side of Work*. New York: Allyn & Bacon.

Barro, R. 1991. "Economic Growth in a Cross Section of Countries." *Quarterly Journal of Economics* 106:407-443.

Benhabib, J., and A. Rustichini. 1996."Social Conflict and Growth." *Journal of Economic Growth* 1:23–44.

Binswanger, H., Deininger, K. and Feder, G. 1993. "Power, Distortions, Revolt, and Reform in Agricultural Land Relations." Latin America and the Caribbean Technical Department and the Agriculture and Rural Development Department, World Bank. Mimeo.

Boix, C. 2003. *Democracy and Redistribution*. Cambridge: Cambridge University Press.

Boswell, T. and Dixon, W. 1990. "Dependency and Rebellion: A Cross-National Analysis." *American Sociological Review* LV:540–559.

Bourguignon, F. and Morrison, C. 1998. "Inequality and Development: The Role of Dualism." *Journal of Development Economics* 57: 233–257.

Boyce, J. (1996). *Economic Policy for Building Peace: The Lessons of El Salvador*. London: Lynne Rienner Publishers.

Brockett, C. 1992. "Measuring Political Violence and Land Inequality in Central America." *American Political Science Review* LXXXVI:169–176.

Bruno, M., Ravallion, M. and Squire, L. 1995. "Equity and Growth in Developing Countries: Old and New Perspectives on the Policy Issues." World Bank Working Papers in Macroeconomics and Growth No. 1563.

Collier, P. 1998. "On the Economic Consequences of Civil War", *Oxford Economic Papers* 50:563–573.

Collier, P. 2000. "Doing Well out of War: An Econometric Perspective." In *Greed and Grievance: Economic Agendas in Civil Wars*, edited by Mats Berdal and David M. Malone, 91–112. Bouder: Lynne Rienner.

Collier, P. and Hoeffler, A. 2000. "Greed and Grievance in Civil Wars." World Bank. WPS 2000-18.

Conceição, P. and Ferreira, P. 2000. "The Young Person's Guide to the Theil Index: Suggesting Intuitive Interpretations and Exploring Analytical Applications." UTIP Working Paper Number 14.

Deininger, K. and L. Squire. 1998. "New Ways of Looking at Old Issues: Inequality and Growth." *Journal of Development Economics* 57:259–87.

Dollar, D., Easterly, W. and Gatti, R. 2000. "What Causes Political Violence? A Research Outline." Development Research Group, World Bank. Mimeo.

Duff, E. and McCamant, J. 1976. *Violence and Repression in Latin America: A Quantitative and Historical Analysis*. New York: Collier MacMillan.

Elbadawi, I. 1992. "Civil Wars and Poverty: The Role of External Interventions, Political Right and Economic Growth." Development Research Group, World Bank. Mimeo.

Fearon, J. & Laitin, D. 2003. "Ethnicity, Insurgency and Civil Wars." *American Political Science Review* 97:75–90.

Forbes, K. J. (2000). "A Reassessment of the Relationship between Inequality and Growth." *American Economic Review* 90:869–87.

Forsyth, D. 1998. *Group Dynamics*. Belmont: Wadsworth Publishing.

Greene, W. H. 1997. *Econometric Analysis*. 3rd Edition. New York: Prentice-Hall International Inc.

Hardy, M. 1979. "Economic Growth, Distributional Inequality, and Political Conflict in Industrial Societies." *Journal of Political and Military Sociology* VII:209–227.

Havrilesky, T. 1980. "The Discordance-Inequality Trade-off." *Public Choice* 35:371–377.

Homer-Dixon, Thomas F. 1994. "Environmental Scarcities and Violent Conflict: Evidence from Cases." *International Security* 19:5–40.

Humphreys, M. 2003. "Economics and Violent Conflict." http://www.preventconflict.org/portal/economics.

Isard, W. and Chung, Y. 2000. "A Proposal for North/South Korea Cooperation that Proved Effective: A Plea for More Multi-analytic Approaches in Conflict Management." *Peace Economics, Peace Science and Public Policy* 6:1–11.

Jean, F. and Rufin, J. (1996). *Économie des Guerres Civiles*. Paris: Hachette Press.

Kaldor, M. 1999. *New and Old Wars: Organized Violence in a Global Era*. Cmbridge: Polity Press.

Keen, D. 1998. *The Economic Functions of Violence in Civil Wars*. Oxford: Oxford University Press.

Londregan, J. and Poole, K. 1990. "Poverty, the Coup Trap, and the Seizure of Executive Power." *World Politics* XLII:151–183.

Mack, A. 2002. "Civil War: Academic Research and the Policy community." *Journal of Peace Research* 39:515–525.

McAdam, D. 1982. *Political Process and the Development of Black Insurgency, 1930–1970.* Chicago: University of Chicago Press.

Midlarsky, M. 1988. "Rulers and the Ruled: Patterned Inequality and the Onset of Mass Political Violence." *American Political Science Review* LXXXII:491–509.

Mitchell, E. 1969. "Some Econometrics of the Huk Rebellion." *American Political Science Review* 63:1159–71.

Morgan, W. and Clark, T. 1973. "The Causes of Racial Disorders: A Grievance-Level Explanation." *American Sociological Review.* 38:611–624.

Muller, E. N. 1985. "Income Inequality, Regime Repressiveness, and Political Violence." *American Sociological Review* 50:47–61.

Muller, E. and Seligson, M. 1987. "Inequality and Insurgency." *American Political Science Review* LXXXI:425-451.

Mwanasali, M. 2000. 'The View from Below', In *Greed and grievance: Economic Agendas in Civil Wars*, edited by Mats Berdal and David M. Malone, 137–153. Boulder: Lynne Rienner.

Nafziger, W. & Auvinen, J. 1997. "War, Hunger and Displacement: An Econometric Investigation into the Sources of Humanitarian Emergencies." UNU/WIDER Working Paper No. 142.

Olson, M. 1963. "Rapid Growth as a Destabilizing Force." *Journal of Economic History* XXIII:529-552.

Paranzino, D. 1972. "Inequality and Insurgency in Vietnam: A Further Re-analysis." W*orld Politics* 24:565-578.

Park, K. 1986. "Re-examination of the Linkage between Income Inequality and Political Violence." *Journal of Political and Military Sociology* XIV:185-197.

Parvin, M. 1973. "Economic Determinants of Political Unrest: An Econometric Approach." *Journal of Conflict Resolution* 17:271-296.

Perotti, R. 1996. "Growth, Income Distribution and Democracy: What the Data Say." *Journal of Economic Growth* 1:149-187.

Pondy, L. 1967. "Organizational Conflict: Concepts and Models." *Administrative Science Quarterly* 12:296-320.

Powell, B. 1982. *Contemporary Democracies, Participation, Stability and Violence.* Cambridge: Harvard University Press.

Ravallion, M. 1995. "Growth and Poverty: Evidence for Developing Countries in the 1980s." *Economic Letters* 48:411–17.

Reno, W. 2000. "Shadow States and the Political Economy of Civil Wars", In *Greed and grievance: Economic Agendas in Civil Wars*, edited by Mats Berdal and David M. Malone, 43–68. Boulder: Lynne Rienner.

Russo, A. 1972. "Economic and Social Correlates of Government Control in South Vietnam", In *Anger, Violence, and Politics, Theories and Research*, edited by I. Feierabend, R. Feierabend and T. Gurr. Englewood Cliffs: Prentice Hall.

Sambanis, N. 2002. "What is a Civil War? Conceptual and Empirical Complexities of an Operational Definition." Yale University. Mimeo.

Schock, K. 1996. "A Conjectural Model of Political Conflict: The Impact of Political Opportunities on the Relationship between Economic Inequality and Violent Political Conflict." *Journal of Conflict Resolution* XL:98–133.

Sigelman, L. and Simpson, M. 1977. "A Cross-national Test of the Linkage between Economic Inequality and Political Violence." *Journal of Conflict Resolution* 21:105–128.

Spilerman, S. 1971. "The Causes of Racial Disturbances: Tests of an Explanation." *American Sociological Review* 36:427–442.

Stewart, F. 1998. "The Root Causes of Conflict: Some Conclusions." Queen Elizabeth House. Working Paper no. 16.

Stewart, F. 2002. "Horizontal Inequalities: A Neglected Dimension of Development." Queen Elisabeth House. Working Paper Series No. 81.

Weede, E. 1981. "Income Inequality, Average Income, and Domestic Violence." *Journal of Conflict Resolution* XXV:639–654.

Weede, E. 1987. "Some New Evidence on Correlates of Political Violence: Income Inequality, Regime Repressiveness, and Economic Development." *European Sociological Review* 3:97–108.