ECONOMIC AND SOCIAL COMMISSION FOR WESTERN ASIA (ESCWA)

TRENDS AND IMPACTS IN CONFLICT SETTINGS:
CONFLICT AND MDGS

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ABBREVIATIONS AND EXPLANATORY NOTES

AfDB	African Development Bank
ECA	Economic Commission for Africa
ECRI	Emerging Conflict and Related Issues
ESCWA	Economic and Social Commission for Western Asia
FDI	foreign direct investment
GER	gross enrolment rates
GDP	gross domestic product
GNI	gross national income
GPI	gender parity index
HDI	Human Development Index
IDP	internally displaced person
IFI	international financial institution
IMF	International Monetary Fund
LAS	League of Arab States
LDC	least developed country
MDG	Millennium Development Goal
MMR	maternal mortality ratio
NER	net enrolment ratio
NGO	non-governmental organisation
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
ODA	overseas development aid
OLS	ordinary least squares
SAP	structural adjusted programme
UCDP	Uppsala Conflict Data Programme
UNDP	United Nations Development Programme
UNESCO	United Nations Education, Scientific and Cultural Organization
UNSD	United Nations Statistical Division
VAT	value added tax
WDI	World Development Indicators

References to dollars ($) are to United States dollars, unless otherwise stated.

Executive summary

While the relationship between conflict and development is well established, the strength and direction of that relationship is less than uniform across countries and across different conflict types (primarily civil strife compared to conflicts between countries). The literature on the conflict-development nexus is already well-established despite being a relatively new research arena born largely, albeit not exclusively, out of the ashes of the Cold War and in a world order that spawned a series of mainly intra-state conflicts which received much international media attention for their deleterious developmental outcomes. This study revisits the literature within the prism of the ESCWA region, paying particular attention to its five conflict-affected member countries and territories, namely: Iraq, Lebanon, Palestine, the Sudan and Yemen.[1] It focuses on the relationship between conflict and the Millennium Development Goals (MDGs) specifically, and on conflict and development more generally given that MDGs are a subset of the greater development agenda.

Given the lack of a universal framework on the conflict-development nexus, this study does not exclude any possibility in relation to the exact nature of that nexus. It entertains the likelihood of exogenous relationships whereby the link stems potentially from conflict and transmits itself via proxies on development or, equally plausibly, the association begins from development and spreads to the conflict side of the nexus. Just as valid would be the assertion that the relationship is endogenous, which suggests that a feedback loop between conflict and development makes it difficult to ascertain the genesis of the given nexus. Data limitations complicate analysis and, as such, the study does not enter into any concrete discussion as to the exact status of the relationship; nevertheless this study does allude to both exogeneity and endogeneity whenever

necessary in order to shed some light on the nexus within the ESCWA regional setting.

The region is a conflict hotbed, with recent conflicts often reflecting either the relapse of or at least related to some significant degree to a previous conflict, including those that predate the collapse of the bipolar Cold War world order. Its developmental consequences among conflict-affected ESCWA member countries have been largely reflected in poor MDG attainments relative to other member countries in the region, though this in itself does not exclude other reasons for the disparities. This study finds that one year of civil war in the ESCWA region yields a significantly higher penalty on the income of an affected country above and beyond the effect of a single year of an inter-State war and of comparative civil conflicts in other regions of the world. Moreover, both direct and indirect transmitting mechanisms of conflict on development require further investigation given that an investigation limited to the former leads to an underestimation of the actual cost of conflict on development. Nevertheless, in terms of comparatively brief conflicts, there is no evidence that the impact on the economy is long-lasting.

Additionally, this publication highlights the fact that the cost of conflict should not be limited in terms of income effects, whether growth or total level; rather it needs to include direct developmental effects. This publication engages in such an endeavour and yields the following observations: (a) on average in the ESCWA region, one additional year of civil war causes a decline in per-capita GDP of about 17.5 per cent, which is marginally higher than in non-ESCWA countries; (b) the effect of an inter-State war is significantly smaller and does not differ between ESCWA and non-ESCWA countries; (c) most of the adverse effect of civil and inter-State wars on income is transmitted through weaker institutions, international trade disruption, and decline in investment and physical capital accumulation; and (d) the effect of wars on non-income dimensions of development is significant whereby on average in the ESCWA region one additional year of war currently (especially civil war) causes development indicators to return to the levels of 5 to 10 years ago.

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[1] These five ESCWA member countries make up the conflict-affected countries and territories that are under the purview of the Emerging Conflict and Related Issues (ECRI) Section. The datasets used in this study relate to the Sudan prior to the creation of South Sudan and all mention of South Sudan in this study refer to the areas that were under the control of the Government of South Sudan prior to secession.

Finally, this publication presents arguments for "pro-MDG" budgets that are both responsibly sourced and realistically posited, given not only the presence of significant financial constraints but also competing interests, including the need to ensure security in conflict or fragile countries. While this is largely theoretical owing to extreme data limitations, it does suggest that with adequate political willpower and institutional and economic capacities, budgetary realignments in favour of developmental goals can be undertaken even with no rise in expenditures. This will require an increase in the efficiency of budgetary resources as the emphasis will lie in the provision of public goods and services at the expense of bureaucracy and salaries. An improvement in fiscal space, however, could allow for an increase in expenditures, while maintaining a close eye on the sources of revenue in order to ensure that the increase in expenditure is not short-lived due to the potential for a collapse in the revenue base. This requires a diversification in revenue generation, which is extremely difficult in conflict and fragile countries with weak institutions and extremely vulnerable populations. Careful thought is needed regarding the suitability of policies based on posited theories given that they could do more harm than good, thereby leading eventually to another round of conflict and/or de-development.

In summary, this study contributes to the conflict–development literature in a number of ways, as follows: (a) it provides an encapsulating look at the conflict–development nexus in the ESCWA region, which has seen surprisingly little research work; (b) it calculates the cost of conflict on development in the region above and beyond the orthodox mechanisms by including the direct and indirect costs, thereby separating out the impact of conflict on income and other developmental factors; (c) it separates out civil wars from inter-State wars and shows that differences in developmental outcomes can be caused by different types of conflicts; and (d) it introduces appropriate theoretical budgetary responses to shortfalls in MDG attainments in conflict countries.

Introduction

"Poverty is one of the most important causes of conflict. And economic growth reduces the likelihood of conflict onset. For this reason there is a fundamental compatibility between the MDG project and the goal of conflict prevention."[2]

This quote neatly summarizes the recently well-established inter-linkages between conflict and MDGs, which suggests that any study on MDG achievements (or lack thereof) in a conflict country should also take into account the nature and scope of the conflict in evaluating MDG outcomes and projections.[3] This is also true of post-conflict countries given that they remain fragile, with 44 per cent relapsing into conflict within five years, and have to contend with the legacy of conflict.[4] This link can be further strengthened by noting that conflicts tend to be disproportionally played out in poor countries where the need for achieving MDG targets is particularly pressing.[5]

Conflict has significant impacts on MDG targets, both direct and indirect. The direct effects are readily observable and encompass, for instance, the destruction of infrastructure and public services that adversely affect education, health and the provision of clean drinking water. The indirect effects, on the other hand, are less immediately apparent but no less serious and deleterious to MDGs via budgetary reallocations away from MDG targets relative to security considerations. In such cases, the upkeep of existing pro-MDG infrastructure and public services can deteriorate both qualitatively and quantitatively, thereby leading to longer-term adverse outcomes that may not be attributed to the legacy of conflict. Measuring the cost of conflicts is fraught with difficulties, though estimates have been made. One such estimate puts the net present value of the cost of conflict at around 250 per cent of GDP at the outset of conflict. The total cost for a developing country associated with conflict is estimated at $54 billion.[6] It is widely believed that even these figures are underestimated. Moreover, behind these dollar figures are "lives lost, immense human suffering, and the destruction of communities".[7]

The perceived negative relationship between economic growth and development on the one hand and conflict on the other can be viewed as a prism from which we can contextualize the conflict-MDG nexus, especially given the clear and strong link between economic growth, development and MDG targets.[8] Countries experiencing conflict or those with a recent history of conflict are as a whole lagging behind in achieving their MDG targets, while some are even regressing.[9] Despite being largely heterogeneous in terms of country characteristics (thus indicating possible non-conflict causes of this gap between "current" and "targeted" outcomes), there is a striking similarity in all these conflict or post-conflict countries and territories.

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[2] M. Humphreys and A. Varshney, "Violent Conflict and the Millennium Development Goals: Diagnosis and Recommendations", CGSD Working Paper No. 19 (2004), p. 30.

[3] However, it should be noted that the quote suggests a purely exogenous relationship from development issues to conflict. This study goes further by acknowledging the possibility of reverse causality as well as endogeneity.

[4] For example, in the Kenema district of Sierra Leone, it was reported that there were 303 deaths per 1000 live births even after fighting had abated. See United Nations Millennium Project, *Investing in Development – A Practical Plan to Achieve the MDGs* (London: Earthscan, 2005).

[5] A total of 22 out of the 34 poorest countries in the world are either in or emerging from conflict. Ibid.

[6] P. Collier and A. Hoeffler, "The Challenge of Reducing the Global Incidence of Civil War" (2004), which was presented to the Copenhagen Consensus Project.

[7] M. Humphreys and A. Varshney, "Violent Conflict and the Millennium Development Goals: Diagnosis and Recommendations", CGSD Working Paper No. 19 (2004), p. 12.

[8] Within that context, a cursory look at Human Development Index (HDI) rankings shows a very strong correlation between high HDI scores and GDP per capita (though it should be noted that GDP per capita is a component of HDI). These countries also generally have very high levels of attainments in terms of MDG targets. Of course, exceptions occur. The HDI ranking of Cuba, for example, is far greater than its ranking in terms of GDP per capita, while some Gulf countries, such as Saudi Arabia, have significantly higher GDP per capita rankings as opposed to HDI rankings.

[9] F. Stewart, "Conflict and the Millennium Development Goals", *Journal of Human Development and Capabilities*, vol. 4, No. 3 (2003), pp. 325-351. See also table 5 in chapter II for a more specific look at the ESCWA region.

Given the permeating environment of either conflict or security fragility that threatens a relapse into conflict, the authorities simply cannot eschew economic development as a national priority while addressing what they "perceive" to be directly related to conflict. As this study seeks to portray, development plays an inherent role in both exacerbating and ameliorating conflict, insofar as conflict has a similar impact on the development process. Consequently, issues of development (and hence MDGs) need to be acted upon even in such volatile and uncertain security and political climates. The question that arises out of this is both pertinent and difficult, and should not merely be seen as being rhetorical in nature, namely, how can all interested parties move ahead to ensure that MDGs are achieved in the face of at times wanton destruction with limited resources and a whole host of competing interests? The rest of this study will concentrate itself not so much on answering this query but on enlightening the reader of the central issues that both beget the question in the first place and also hopefully open up space for a debate of the question itself. This study does not pretend to posit an encapsulating answer that begins to chew away at the impediments that maintain a destructive relationship between conflict and development; rather it seeks to inform in order to elicit responses from interested parties, particularly policymakers, who may be better equipped to address the conflict-development nexus and formulate the appropriate responses so as to provide a way forward to tackle this matter of global importance.

The study is structured as follows: (a) chapter I presents a survey of the literature on the conflict-development relationship that serves to illustrate the relevant and complex issues addressed by this publication; (b) chapter II offers a statistical snapshot of MDG progress in conflict-affected countries and territories of the ESCWA region, which aims to marry the data within the context of the background, as detailed in chapter I;[10] (c) chapter III investigates econometric analyses of general conflict and development issues in the ESCWA region;[11] (d) having established a link between de-development (and hence poor MDG outcomes) and conflict, chapter IV discusses possible budgetary and fiscal policies to assist in meeting MDGs; and (e) chapter V presents the summary and a list of recommendations.

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[10] The ESCWA region comprises the following 14 members: Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Palestine, Oman, Qatar, Saudi Arabia, the Sudan, the Syrian Arab Republic, the United Arab Emirates and Yemen. The five conflict-affected member countries investigated in this study are Iraq, Lebanon, Palestine, the Sudan and Yemen.

[11] This is undertaken wherever possible. Unfortunately data limitations render a specific treatment of the ESCWA region untenable in some cases, thereby necessitating a more global analysis.

I. CONFLICT AND DEVELOPMENT: A SURVEY OF THE LITERATURE

Much has been written on conflict and the Arab region, of which ESCWA member countries and territories form a subset. Indeed there is no shortage of material in a region that has endured five instances of extra systemic armed conflicts between a State and a non-State group located outside its own territory, 25 instances of inter-State armed conflicts occurring between two or more countries, 174 instances of internal armed conflicts between governments and one or more internal opposition groups without intervention from other countries, and 24 instances of internationalized armed conflicts between States and opposition groups with interventions from other countries on one or both sides.[12] This amounts to a total of 228 instances of conflict between 1946 and 2008.

Another dataset that registers "major episodes of political violence", which is produced by the Centre for Systemic Peace, records incidents that "involve at least 500 'directly-related' fatalities and reach a level of intensity in which political violence is both systematic and sustained at a base rate of at least 100 'directly-related deaths per annum'".[13] These include incidents of inter-State, intra-State and communal violence, and are further broken down to illustrate episodes of international, civil, ethnic, communal and genocidal violence and warfare (see table 1).[14]

For many decades, the study of conflict in the Middle East has revolved around the Arab-Israeli conflict and on the structural effects of post-colonial legacies, namely: arbitrarily drawn borders, multi-ethnic or multi-sectarian societies, and regional rivalries between regimes eager to assert themselves and consolidate their new and weak legitimacy and grounding in society. Another perspective placed conflict in the context of geopolitical trends and the competition between the two superpowers of the Cold War era, namely, the United States of America and the Union of Soviet Socialist Republics, which left little space for consideration of domestic political or socio-economic dynamics.

In addition to these approaches to understanding conflict in the region, political economists sought to explain the internal political characteristics and dynamics of the countries in the Middle East with reference to their defining economic features. Much was made of the political structures and behavioural patterns of so called "rentier" economies that depended on external revenues most commonly derived from the exploitation of hydrocarbons. For example, Besley and Persson put forward a theoretical model to prove that increases in the prices of exported and imported primary commodities had significant positive effects, both statistically and quantitatively, on the incidence of civil conflict.[15] They also showed that the effects of global market prices were heterogeneous depending on whether or not a country was a parliamentary democracy or had a system of strong checks and balances, which were interpreted as proxies for a key model parameter reflecting the degree of consensual arrangements among political institutions. However, the study of rentier economies usually limited itself to explaining the nature of the domestic-social contract rather than allowing for a detailed understanding of civil or inter-State conflict.

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[12] Where armed conflict is defined as "a contested incompatibility that 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". Uppsala Conflict Data Program (UCDP), which is available at: www.pcr.uu.se/research/ucdp/definitions/.

[13] Centre for Systemic Peace, "Major Episodes of Political Violence, 1946-2010", which is available at: www.systemicpeace.org/warlist.htm.

[14] According to the Centre for Systemic Peace, wars or violence characterized as "civil" are defined as intra-State incidents involving rival political groups; "ethnic" violence is an intra-State phenomenon involving the State agent and a distinct ethnic group; "international" violence is inter-State, usually conducted between two or more States, but may denote a distinct polity resisting foreign domination (colonialism). Violence is defined as the use of instrumental violence without necessarily exclusive goals, and war is considered as violence between distinct, exclusive groups with the intent to impose a unilateral result to the contention. Ibid.

[15] T. Besley and T. Persson, "The Incidence of Civil War: Theory and Evidence", LSE STICERD Research Paper No. EOPP 005 (2009), which is available at: http://sticerd.lse.ac.uk/dps/eopp/eopp05.pdf.

Country/territory	Independence	International war	International violence	Civil war	Civil violence	Ethnic war	Ethnic violence	Total
Non-conflict								
Bahrain								
Egypt	*	4	1	*	2	*	*	7
Jordan	*	2	*	1	*	*	*	3
Kuwait	*	1	*	*	*	*	*	1
Oman	*	*	*	*	1	*	*	1
Qatar								
Saudi Arabia	*	*	*	*	1	*	*	1
Syrian Arab Republic	*	3	1	1	*	*	*	5
United Arab Emirates								
Conflict								
Iraq	*	1 ongoing	2	*	3	2	1	9
Israel/Palestine[a]	1	4	3		*	1 ongoing	*	9
Lebanon	*	2	2	1	*	1	1	7
The Sudan	*	*	*	*	1	2	2	5
Yemen	*	*	2	1	3	1	1	8
Total conflict countries/territories[b]	1	7	9	2	7	7	5	38

Source: Compiled by ESCWA, adapted from Centre for Systemic Peace, "Major Episodes of Political Violence, 1946-2010", which is available at: www.systemicpeace.org/warlist.htm.

Notes: a/ The dataset by the Centre for Systemic Peace does not specifically include the occupied Palestinian territories. Given that the conflicts Israel has been involved in have affected Palestine directly and/or indirectly, the figures for Israel are provided here as a proxy for Palestine.

b/ This is the total for Iraq, Lebanon, Palestine (data for Israel), the Sudan and Yemen.

More recently, scholars have begun to delve into the economic and developmental underpinning of Middle Eastern societies in order to grasp the occurrence and evolution of conflict.[16] This builds on a growing and broader understanding of the relationship between individual and collective prosperity on one hand, and political (in)stability on the other. Perhaps the most sophisticated philosophical perspective is offered by Amartya Sen in his groundbreaking study, entitled "Development as Freedom".[17]

Sen proposed that the notion of development needed to be understood as "expanding the real freedoms that people enjoy". He categorized these non-mutually exclusive freedoms in the following way: (a) political freedoms; (b) economic facilities; (c) social opportunities; (d) transparency guarantees; and (e) protective security. He posited that all these interconnected freedoms played a role in promoting "overall freedoms of people to lead the kind of lives they have reason to value". Development could therefore be transformed from a measurement of economic growth and be understood as a means for human beings to achieve the ultimate end of living a life they believed was valuable, and vice versa – freedoms are the primary ends but also the principal means of development. If so, then a renewed effort to achieve development, broadly understood as the enhancement of individual and collective freedoms as Sen argued, would surely lead to greater stability and less conflict.

This is where MDGs come into play. Their achievements do help to pave the way to the kinds

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[16] For example, one notable early exception was the work of Hudson, who published his groundbreaking study on Lebanon in 1968. See M.C. Hudson, *The Precarious Republic: Political Modernization in Lebanon* (New York: Random House, 1968). In the 1990s, a new school of thought emerged with regard to the Israeli-Palestinians conflict that focused on the political economy of war and peace. See G. Shafir, *Land, Labour and the Origins of the Israeli-Palestinian Conflict, 1882-1914* (Cambridge: Cambridge University Press, 1989); as well as the plethora of works by J. Nitzon and S. Bichler, which are available at: http://bnarchives.yorku.ca.

[17] A. Sen, *Development as Freedom* (Oxford: Oxford University Press, 1999).

of freedom Sen prescribed: a global effort conducted at a national level to halve the number of the poorest and most hungry, empower women, reduce rates of child and maternal mortality, protect people from diseases, and protect the environment from destruction and contamination. Clearly, these goals are all interconnected, falling under the aegis of the State and pivoting on an assumption of good governance. It follows then that MDG achievement is hampered in weak States afflicted by poor governance, weak political legitimacy and will, and limited fiscal space.

While the correlation between conflict and poor development is clear and unquestioned, less apparent is the direction of the causality. Specifically, does conflict bring forth de-development or do poor developmental outcomes engender the seeds of conflict? Or are both the conflict and de-development processes involved in a symbiotic relationship that breeds a vicious cycle that combine together the well known concept of a "development trap" with that of the lesser known "conflict trap"?

Addressing the issue of the impact of conflict on development appears to be straightforward enough; conflict is detrimental to development in so much as it has physical and economic repercussions. The direct and indirect consequences of conflict are made obvious through death, injury and human flight, spread of disease and destruction of infrastructure. Its economic ramifications often include a reduction in GDP and thus falling incomes as the consequence of disrupted markets and infrastructures; an overall reduction in trade; flight of capital, both physical and human; and increased military expenditure coupled with a decrease in spending on social expenditure. Stewart expanded on Sen's concept of freedoms, and proposed that conflict could be examined through a lens of "entitlement" failures, where "entitlements represent people's command over resources".[18]

Beyond market or exchange entitlements and direct (subsistence) entitlements, Stewart included public entitlements (government provided goods, services or subsidies), civic entitlements (provided by communities or NGOs)

and legal entitlements. Stewart demonstrated that the nature of conflict and how it is waged (its geography and scope, the length and the intensity) impacted these entitlements. The cumulative cost of war are higher where the conflict is prolonged, where the conflict is waged at the centre of or throughout the country rather than being confined to one region, and where the economy is inflexible or the subsistence sector is small. Through his study of 25 sample countries affected by conflict between 1960 and 1995, Stewart noted that, during conflict, some entitlements generally fell (such as market entitlements and public entitlements) while direct, civic and extra-legal entitlements invariably rose. While there were notable exceptions in most cases, on balance, entitlements deteriorated as the fall in market entitlements could not be compensated for by rises in other types of entitlements.[19] This adversely affects MDGs as evidenced by increased mortality and morbidity rates and deteriorating nutritional, health and educational outcomes. On the other hand, it also shows that there are winners and losers during a conflict and where there is sufficient political will, it is possible to mitigate some of the adverse effects of conflict on people's freedoms and entitlements. This illustrates that even where conflict is ongoing and unresolved, or perhaps even where countries are stuck in a "development trap", the value in pursuing MDGs is not entirely lost.

There has been some debate over recent years regarding the idea of "development traps" that prevent people from leading lives they have reason to value. Two prominent figures in this debate are Jeffrey Sachs, Director of the Earth Institute at Columbia University and one of the architects of MDGs, and Paul Collier, Director of the Centre for the Study of African Economies at Oxford University. They differ in their approach to aid, specifically in Africa, and the role and responsibilities of the international community to what Collier terms "the bottom billion".[20] In 2004,

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[18] F. Stewart, "Conflict and the Millennium Development Goals", *Journal of Human Development and Capabilities*, vol. 4, No. 3 (2003), pp. 325-351.

[19] Generally speaking, Stewart noted that this can occur where the government demonstrated strong political will and had the capacity to execute its will. Ibid.

[20] The "bottom billion" refers to the poorest people who live in the 58 countries whose economies have not grown over the long term. While the majority of these people live in Africa, they include, relevant to this study, the Sudan and Yemen.

Sachs et al. argued that these countries were stuck in a self-perpetuating, self-reinforcing cycle of poverty.[21] Extreme poverty leads to malnourishment, disease and a lack of education, all of which affect the stock of human capital. This then affects prospects of economic growth (or development), which in turn affects human capital, thereby resulting in a development trap. They identified the culprit not as a deficiency or deficit in governance or the prevalence of corruption, but rather as the existence of the poverty trap in which countries were "too poor to achieve robust, high levels of economic growth and, in many places, simply too poor to grow at all… Specifically, Africa's extreme poverty leads to low national savings rates, which in turn lead to low or negative economic growth rates".[22] Sachs et al. outlined five structural reasons for the persistence of the poverty trap, namely: (a) very high transport costs and small market sizes, (b) low productivity agriculture, (c) very high disease burdens, (d) adverse geopolitics, and (e) a slow diffusion of technology from abroad. They advocated for huge public investments to stimulate both rural and urban under productivity, and stressed the need for increased overseas development assistance (ODA) in order to assist countries in achieving their MGD targets.

While they focused on the "poverty trap" within the context of MDGs,[23] Collier focused on four traps that are not specifically addressed by the MDGs, namely: the conflict trap, the resource trap, the location trap and the poor governance trap. Collier asserted that all of these traps were the main causes of poverty for the bottom billion, as opposed to the existence of an intrinsic poverty trap. Collier also introduced the idea of "timing" to explain why countries suffering from one or more of these traps had not been able to break out of poverty unlike a number of other countries, such as India and China.[24] He argued that China

and India broke out at a time that allowed them to penetrate global markets, whereas now, even if a country breaks free of its traps (which Collier argued was possible with the right policies and assistance), globalization meant they could not compete and were at higher risk of falling back into the traps from which they had escaped.

In essence, Sachs et al. and Collier see the plight of the poorest countries in terms of opposing priorities. The former view poverty as a "trap" that can be addressed and mitigated by "bottom-up" development efforts aimed at making people more productive, improving the conditions for human capital and, eventually, stimulating growth. Collier, on the other hand, places more emphasis on the overarching need for economic growth and per-capita income. He emphasizes the need to address the "development traps" that cause poverty rather than to direct limited resources at tackling solely the consequences of poverty (for example the education, health, infrastructure deficits); and that "wars and coups keep low-income countries from growing and hence keep them dependent upon exports of primary commodities… [this dependency in turn makes them] prone to wars and coups… without growth peace is considerably more difficult".[25]

Both approaches have merit, and there is significant agreement in their respective analyses of why some countries are economically stagnant. As noted above, conflicts breed both winners and losers, and it is possible to mitigate the misery or the lack of freedoms of a population by pursuing MDGs even in conflict-affected and ongoing conflict countries. However, if Collier is correct, then addressing conflict is pivotal to achieving development goals in conflict-affected countries. Moreover, States emerging from civil wars experience a heightened vulnerability to the onset of renewed conflict. Collier et al. illustrated that ending a civil war was extremely hard, while preventing relapse was also fraught with difficulties. Indeed, Collier asserted that the first five years following the cessation of hostilities were pivotal given that it is during that period that conflict relapse most commonly occurs. This is

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[21] J.D. Sachs et al., "Ending Africa's Poverty Trap", *Brookings Papers on Economic Activity*, vol. 1 (2004), pp. 117-240.

[22] Ibid.

[23] Sachs et al. believed that the "poverty trap" could be remedied by massive amounts of foreign aid to address all the interlinked development issues at once, from poverty to child mortality to the prevalence of tuberculosis and malaria. Ibid.

[24] That does not imply that poverty has been eradicated in these countries, rather that they have managed

high levels of economic growth that have lifted millions of their citizens out of poverty.

[25] P. Collier, *The Bottom Billion: Why The Poorest Countries Are Failing and What Can Be Done About It* (New York: Oxford University Press, 2007), p. 37.

due to the legacy of war and, more specifically, to the fact that "most of the costs of a civil war, perhaps as much as half, accrue after the war is over".[26] Addressing these challenges "involves a practical agenda for economic development and the effective regulation of those markets that have come to facilitate rebellion and corrupt governance".[27]

In essence, the work of Sen, Stewart, and Collier demonstrate that while for donors engaging with conflict-affected and conflict-prone States is costly, risky and difficult,[28] it is vital for the achievement of MDGs.[29] Just as there is broad agreement that countries that are emerging from conflict are at greater risk of falling back into conflict, and that low-income countries are at greater risk of falling into conflict than high-income countries, the mitigation of conflict conditions (and even, as Collier prescribes, military intervention to prevent relapse into conflict where necessary) is an important condition for allowing sustainable development to take place, and the achievement of MDGs is perhaps the most measurable benchmark of such sustainable (and sustained) development.

A. FRAGILE STATES AND CONFLICT

Pursuing an answer to the question of the nature of the relationship between development and conflict requires delving into the causes of conflict. Indeed, this is exactly what Collier and Hoeffler sought to do in 2004 when they tested both political science and economic approaches to understanding the motivations behind rebellions, or the "grievance versus greed" debate by challenging the political accounts of conflict "in which the grievances that both motivate and explain rebellion are assumed to be well-grounded in objective circumstances such as unusually high inequality, or unusually weak political rights".[30] What they discovered, according to their analytical model (the Collier-Hoeffler model) was that when predicting whether a civil war would occur during a five-year period, opportunities for rebellion were much more significant than the objective indicators of grievance such as inequality, political rights, ethnic polarization and religious fractionalization.[31] Moreover, while ethnic dominance played a significant role, along with population size, a closer inspection of "opportunity as an explanation of conflict risk was consistent with the economic interpretation of rebellion as greed-motivated". Collier and Hoeffler also found that primary commodity exports significantly increase the risk of war where they constituted 32 per cent or greater of total GDP.[32] According to their study, a diaspora that was willing to finance rebellions along with low foregone earnings, per capita income, male secondary school enrolment and growth rates all increased the risk of conflict not as a result of inequality-based grievances, but rather because "they make rebellion cheap". Another crucial factor is time elapsed since the end of a previous conflict whereby an inverse relationship is at play between time since last conflict and the risk of conflict relapse.

As seen in table 1, intra-State violence, including civil and ethnic violence and war, account for almost two-thirds of the violence in the ESCWA region. Despite this, however, the pattern of rebellions, civil wars, greedy rebels and "lootable" resources does not fit as neatly in the ESCWA region as it does in other regions, particularly Africa, which is the focus of much of the literature on the economic dimensions of civil wars.[33] While it may be true that countries most

[26] Ibid., p. 28.

[27] P. Collier et al., *Breaking the Conflict Trap: Civil War and Development Policy* (Washington: World Bank and Oxford University Press, 2003). p. 91.

[28] Department for International Development (DFID), *Why We Need to Work More Effectively in Fragile States* (January 2005).

[29] House of Commons International Development Committee, *Conflict and Development: Peacebuilding and Post-conflict Reconstruction*, vol. 1 (October 2006), which is available at: www.publications.parliament.uk/pa/cm200506/cmselect/cmintdev/923/92302.htm.

[30] P. Collier and A. Hoeffler, "Greed and Grievance in Civil War", *Oxford Economic Papers*, vol. 56, No. 4 (2004), pp. 563-595.

[31] Ibid.

[32] Refer to table 2 for a break-down of the primary commodity exports across the ESCWA region.

[33] There is admittedly an overlap given that the ESCWA region also incorporates two African countries, namely, Egypt and the Sudan. Equally, the wider Arab region further includes the African countries of Algeria, Comoros, Djibouti, Libyan Arab Jamahiriya, Mauritania, Morocco, Somalia and Tunisia. It is also important to note that while civil wars only account for 9 per cent of the conflict in Africa, intra-State strife (i.e. excluding conflict with external actors), which can be used as a "loose" definition of civil war does predominate.

prone to conflict suffer from higher levels of poverty in some cases, this model does not provide convincing arguments for the prevalence of conflict in the ESCWA region. Of the five focus countries and territories examined in this report, perhaps this model is applicable to the Sudan and Yemen. However, conflicts in Iraq,

Lebanon and Palestine are less convincingly understood through just a materialist approach. Indeed much of the literature explicitly adds the caveat that the most enduring conflict of the region, namely, the Israeli-Arab conflict, is not included in their analysis or their conflict models.

TABLE 2. RATIO OF PRIMARY COMMODITY EXPORTS (PETROLEUM, PETROLEUM PRODUCTS AND RELATED MATERIALS) TO GDP IN THE ESCWA REGION, 2000-2008
(*Percentages*)

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Bahrain		46.4	46.6	48.0	49.4	57.9	58.2	58.5	
Egypt	1.9	1.6	1.7	3.0	4.0	4.2	4.3	4.0	4.5
Iraq	76.5	82.8	66.4	..	..	..	..	..	..
Jordan	0.0	0.0	0.0	0.1	0.4	0.1	0.3	0.2	0.0
Kuwait	45.7	40.4	35.1	37.7	42.9		50.6	49.9	54.1
Lebanon	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oman	45.0	38.6	37.2	39.2	37.5	43.6	39.5	38.4	
Qatar	22.8	33.1	17.7	32.0	30.6	30.2	30.9	29.3	
Saudi Arabia	37.6	32.0	33.8	36.4	42.3	49.4	50.6	51.6	57.7
The Sudan	8.8	10.9	7.3	10.9	12.8	13.7	13.2		16.0
Syrian Arab Republic	18.3	18.5	21.8	18.3	14.9	15.5	13.2	11.7	10.0
United Arab Emirates	38.0	29.7	29.1	28.6	36.9	37.6	43.0	37.8	..
Yemen		31.0	29.0	30.3	26.7	30.7	32.1	26.3	25.3

Sources: Calculations of oil export figures are based on data by the United Nations Comtrade, which is available at: http://comtrade.un.org/db; and the nominal GDP figures are taken from the World Development Indicators, which is available at: http://data.worldbank.org/indicator/NY.GDP.MKTP.CD.

Notes: Two dots (..) indicate that data on exports, GDP or both are not available or are not separately reported.

No figures were available for Palestine.

Table 2 illustrates that for the ESCWA region, primary commodity exports figures have little explanatory power when it comes to understanding ongoing conflicts (with particular reference to the "greed" hypothesis). While it is true that ratios for Iraq were the highest in the region, and that Iraq has experienced the greatest number of deadly incidences of violence, the current situation in that country was more or less triggered by external factors. The nature of the Iraqi regime provides a greater understanding of why the country was prone to civil and international conflict. Of course, resource wealth plays a highly significant role; however, it cannot be considered the main determinant of or explanation for violent conflict in the country. Saudi Arabia, Kuwait, Bahrain and the United Arab Emirates also have primary export

commodities over 32 per cent of their GDP. Of these, two countries, namely, Kuwait and Saudi Arabia, experienced conflict in 1990 and 2007, respectively (see table 1). This does not imply that these countries will be less prone to violence once the oil rents run out, which is a possible near-term scenario for the Syrian Arab Republic and Yemen; or if they are not effectively distributed, as in Iraq. However, the politics of primary export commodities should be the focus of analysis in the ESCWA region, alongside other relevant and significant variables, such as the system of governance, particularly power-sharing arrangements that are susceptible to international power politics.

Sørli, Gleditsch and Strand attempted a more detailed exploration of conflict or civil war

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in the Middle East and built on the Collier-Hoeffler model by studying conflicts between 1960 and 2003. Within that context, the Sørli-Gleditsch-Strand model found that loot-seeking behaviour (in other words "greed") aimed at controlling oil revenue did not characterize conflicts in the Middle East and that a lack of democracy and modernization had not led to major internal rebellions.[34] By considering regime types, which is not significantly focused on in the Collier-Hoeffler model, Sørli, Gleditsch and Strand found that both economically and politically rentier States and authoritarian regimes "fit better into the traditional grievance-based perspective on civil war".[35]

A later study by Collier and Rohner in 2007 found that, contrary to popular belief that democracies are less prone to violence, democracies below a certain income threshold are more prone to political violence.[36] In this study, Collier and Rohner move beyond looking solely at civil wars, which it can be argued limited the applicability of the Collier-Hoeffler as well as the Sørli-Gleditsch-Strand models to explaining conflict more broadly in the Middle East region, in order to include other forms of political violence as well, including riots, coups, assassinations, revolutions, strikes and demonstrations.[37] In each case, the Collier-Rohner model suggests a strong correlation between democracy, income and violence. They concluded that while income growth makes democracies safer and authoritarian regimes absolutely more prone to violence, this is only true if the income threshold is high enough.

Other scholars, such as Chassang and Padro i Miquel, use critical economic indicators, including income per capita, to explain the rise of conflict, thereby providing a strong argument for

the nexus between citizens joining armed groups and a State's capacity to repress such groups and conflicts.[38] They found two patterns, namely: civil conflict prevalence was negatively correlated with income per capita, and civil conflict occurred when countries suffered negative income shocks. They created an empirical bargaining model that failed to prove the first pattern but were successful in illustrating that probabilities of conflict increased in bad economic conditions owing to a low opportunity cost of fighting. The basis of their argument is that in a low GDP economy, wages are modest and returns to productive activity are small, thereby making diminutive the opportunity cost of fighting. The first pattern needs further empirical work to find structural causes of instability in poor countries. Examples of structural elements are discussed below in Rotenberg and Fearon's work on the weakness of the State, which in turn causes room for conflict.

Any discussion of civil war and civil conflict must of course make reference to the notion of weak or failing States. Robert Rotberg, President of the World Peace Foundation and architect of the Index of African Governance, addressed this issue when he distinguished between strong, weak, failing and collapsed States by judging their ability to deliver "political goods" to their citizenry.[39] Of these political goods, human security comes first and foremost, but they also encapsulate the rule of law, independent judiciary, political participation, fundamental human and civil rights, medical and health care, schools and education, the "arteries of commerce", and economic and physical infrastructures, among others.[40] Strong States perform well in the delivery of all of the

[34] It is important to recall that the study went up to 2003 and, therefore, does not take into account more recent events in the Middle East.

[35] M.E. Sørli, N.P. Gleditsch and H. Strand, "Why is There So Much Conflict in the Middle East?", *Journal of Conflict Resolution*, vol. 49, No. 1 (2005), pp. 141-165.

[36] P. Collier and D. Rohner, *Democracy, Development and Conflict* (2007).

[37] Ibid.

[38] S. Chassang and G. Padro i Miquel, "Economic Shocks and Civil War", *Quarterly Journal of Political Science*, vol. 4, No. 3 (2009), pp. 211-228.

[39] R.I. Rotberg, "The New Nature of Nation-State Failure", *The Washington Quarterly* (Summer 2002), pp. 85-96; and "Failed States, Collapsed States, Weak States: Causes and Indicators", in *When States Fail: Causes and Consequences*, R.I. Rotberg (ed.) (Princeton: Princeton University Press, 2004), pp. 1-50.

[40] R.I. Rotberg, "Failed States, Collapsed States, Weak States: Causes and Indicators", in *When States Fail: Causes and Consequences*, R.I. Rotberg (ed.) (Princeton: Princeton University Press, 2004), pp. 3.

categories of political goods. Rotberg defines weak States as those that are "inherently weak because of geographical, physical, or fundamental economic constraints; basically strong, but temporarily or situationally weak because of internal antagonisms, management flaws, greed, despotism, or external attacks; and a mixture of the two".[41] A weak State does not necessarily harbour violence or, if it does, it may be of a low level. Moreover, many states that appear to be strong in terms of their ability to monopolize the use of violence are fundamentally weak and violence is used or threatened against its own population to suppress dissent.

A failed State, however, is one that, according to Rotberg, is distinguished by the violence used against it by its own citizens and vice versa. He argued that it is the enduring character of that violence and the fact that much of it is "directed against the existing government or regime, and the inflamed character of the political or geographical demands for shared power or autonomy that rationalize or justify that violence in the minds of the insurgents".[42] He also noted that the extent of a State's failure could be measured by how much of its territory it actually controlled or, as he put it, "how nominal or contested is the central government's sway over peripheral towns and rural roads and waterways? Who really expresses power up-country, or in districts distant from the capital?"[43]

Finally, a collapsed State is one where political goods are obtained through ad hoc or private means, where there is an authority vacuum and sub- or non-State actors replace the prime polity of the State with authority over the different geographical areas that had comprised the State. Lebanon during its civil war represents one such State in the ESCWA region. Nevertheless, Rotberg argued that the role of the Syrian Arab Republic as the hegemon guaranteed security.[44] Rotberg classified the Sudan as a collapsed State, and warned that Iraq could follow after the collapse of Saddam Hussein's regime.

In 2003, Fearon and Laitin also focused on State weakness and explored the relationship between ethnicity, insurgency and civil war.[45] Like Collier and Hoeffler, they reported that opportunity for insurgency provides a more convincing explanation for the occurrence of violent conflict than grievance. However, they differed from Collier and Hoeffler in their approach to the economic variables that make a country more conflict prone, noting that their theoretical interpretation was more Hobbesian than economic.[46] "We agree that financing is one determinant of the viability of insurgency however economic variables such as per capita income matter primarily because they proxy for state administrative, military, and police capabilities. We find no impact for primary commodity exports, and none for secondary schooling rates distinct from income."[47] Like Rotberg, their emphasis is firmly on the State and its relative weakness, "marked by poverty, a large population and instability".[48] They argued that while Collier and Hoeffler were correct in surmising that conflict is more likely if the opportunities for rebellion are strong, primary commodity exports (such as oil, agricultural products, metals and minerals) are not a good measure of financing for potential rebels because without control of national distribution systems and ports they are difficult to exploit. Consequently, oil exports are relevant not because of their financing power, but because they indicate relative State extractive apparatus weakness at a given level of income.

In 2005, Fearon elaborated on the relationship between oil, civil war and the State in

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[41] Ibid., p. 4.

[42] Ibid.

[43] Ibid., p. 5.

[44] Ibid., p. 10.

[45] J.D. Fearon and D.D. Laitin, "Ethnicity, Insurgency, and Civil War", *American Political Science Review*, vol. 97, No. 1 (2003), pp. 75-90. Insurgency is defined as a military conflict that is characterized by small, lightly armed groups that practise guerilla warfare from rural base areas.

[46] A Hobbesian worldview is rather pessimistic and can be characterized as one where humanity engages in "zero-sum" games; that is, where there must be winners and losers. Economics, on the other hand, suggest a worldview where "win-win" scenarios are more plausible.

[47] J.D. Fearon and D.D. Laitin, "Ethnicity, Insurgency, and Civil War", *American Political Science Review*, vol. 97, No. 1 (2003), pp. 75-90.

[48] Ibid.

which he highlighted the importance of the State.[49] He argued that oil predicts civil war risk not because it can be used easily by rebels to finance a rebellion, but because oil producers have relatively low State capabilities given their per capita income (stemming from the nature of the rentier State) and crucially because oil makes the State or regional control a tempting "prize". Consequently, conflict is triggered through political mechanisms rather than economic structures. Fearon's findings challenge the accepted policy recommendations for preventing the onset of civil wars in resource-rich countries. Diversified economies and a visible transfer of commodity income into social service programmes would, he argued, do little to reduce civil war risks. Instead, Fearon suggested that policies that involve "international monitoring and influence on the distribution of oil revenues might reduce the payoffs for an extractive, exploitative strategy of State capture and control, while increasing politicians' incentives to compete on the basis of service and infrastructure provision".[50]

In the same journal, Collier and Hoeffler responded to criticism by also "bringing the State back in".[51] Their policy recommendations challenge Fearon's as they highlight the link between resources and secessionist movements that claim ownership of resources, which they allege are looted by State elites. Collier and Hoeffler argued that national governments needed to link resource revenues to basic social services, such as education, and encourage transparency in revenues through a proposed Extractive Industries Transparency Initiative (EITI).[52] This debate speaks more convincingly on conflict and development in the Middle East where factoring the politics of the State into debates on conflict vulnerability, along with economic structures, makes more sense. Taken together, the notion of

weak and failing States, the Sørli-Gleditsch-Strand model and the Collier-Rohner model provide a more convincing understanding of conflict in the Middle East, thereby encapsulating the following: (a) grievance, such as ethnic dominance, horizontal inequalities and poor standards of living; (b) opportunity, including unemployment and lack of education; (c) economy in terms of poverty and/or low or no growth; and (d) polity, such as regime type and political exclusion.

Nevertheless, it must be noted again that the discussions above have all focused on intra-State violence. While this is indeed the source of the great majority of violent incidents, inter-State violence accounts for almost one-third of conflicts in the region. A comprehensive analysis must therefore also take this type of conflict into account.

B. EFFECTS OF CONFLICT ON MDGs

According to conventional wisdom, the challenges faced by MDGs in post-conflict contexts are similar to those in many poor developing countries. However, the generalized Collier-styled analysis of conflict not only helps to understand an ongoing conflict but equally it sheds light on the reality of a post-conflict context; that is, a country that is still tottering on the brink of relapse into war, with the same structural problems that made it more vulnerable to conflict in the first place. Table 3 outlines the challenges faced by conflict-prone countries.

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[49] J.D. Fearon, "Primary Exports and Civil War", *Journal of Conflict Resolution*, vol. 49, No. 4 (2005), pp. 483-507.

[50] Ibid.

[51] P. Collier and A. Hoeffler, "Resource Rents, Governance, and Conflict", *Journal of Conflict Resolution*, vol. 49, No. 4 (2005), pp. 625-633.

[52] More information on the Extractive Industries Transparency Initiative (EITI) is available at: http://eiti.org/.

TABLE 3. CHALLENGES FACED BY POST-CONFLICT COUNTRIES IN ACHIEVING THEIR MDG TARGETS

MDG	CHALLENGES
GOAL 1 Eradicate extreme poverty and hunger	Conflict not only slows and retards growth but reverses gains made. GDP drops by an average of 2.2 per cent per year[a]. Other effects can include capital flight, shift to higher military spending, spending cuts in other areas (health, education), destruction of infrastructure and assets. Extent of impact depends on scope and location of conflict.
GOAL 2 Universal primary education	Education is disrupted, school destroyed, shortage of teachers. Children may have to scavenge for food and work, or they may be forced to flee or be recruited by armed groups. Even if children manage to attend school, their ability to learn is severely compromised by the conflict. Primary enrolment can often rebound quickly after the conflict has ended, but only if the community is able to rebuild homes and livelihoods so that children are not needed for work.
GOAL 3 Gender equality, empowerment of women	Women and children suffer disproportionately from the effects of conflict. Death or absence of male heads of households as a result of the conflict places additional burdens on widows to provide for their families. Sexual violence is sometimes used as a weapon of war, and women and girls are recruited, coerced or kidnapped by armed groups. Women and children constitute majority of internally displaced persons (IDPs) and in refugee camps. Conflict gives women the opportunity to take up leadership roles typically dominated by men, particularly economic roles. These roles are often reversed, however, on resolution of the conflict.
GOAL 4 Reduce child mortality	Illness, disease, lack of immunization, malnutrition and violence all lead to higher rates of death among children in post-conflict environments, making them more vulnerable.
GOAL 5 Improve maternal health	Mothers suffer from hunger, disease, exposure, dehydration, and trauma. Displacement, forced migration, rape and other forms of violence. Access to healthcare may be limited as health clinics and hospitals may be closed or destroyed, or lack medicines, water, electricity, staff, and security. These factors have a profound negative effect on the health of mother and expectant-mothers.
GOAL 6 Combat HIV/AIDS, malaria, tuberculosis and others	Armed conflict and its effects increase the vulnerability of a population to infectious diseases. Migrations of large numbers of people can also cause diseases to spread to populations who are not directly-affected by the conflict. Mobile male combatants who use rape as a weapon of war can lead to the spread of HIV and other diseases. Conflict disrupts access to basic prevention tools such as condoms, as does the breakdown in health-care systems.
GOAL 7 Ensure environmental sustainability	Conflict decimates forests and agricultural lands and poisons water sources. It often drives rural inhabitants to urban areas, placing further strain on already overstretched public services.
GOAL 8 Develop global partnership for development	Conflict disrupts trade and investment and often interrupts development assistance. The continuing high expenditure on the military diverts spending on essential and often decimated public services, and increases national debt and places further strain on economies. Scarcity of human capital exists alongside collapsed labour markets.

Source: Adapted from United Nations Development Programme (UNDP), "Beyond the Midpoint: Achieving the Millennium Development Goals" (2010), table 4.1, p 71.

Note: a/ This average is based on data in P. Collier, "On the Economic Consequences of Civil War", *Oxford Economic Papers*, vol. 51 (1999), pp. 168-183.

According to UNDP, post-conflict countries should not be considered a *tabula rasa* despite the massive upheaval and disruption of social and economic systems.[53] Specifically, "effective recovery and the successful promotion of MDGs require acknowledgement of the dynamic legacies of civil conflict", and the international community must "take stock of these legacies in order to better identify those aspects that have the greatest potential to contribute to economic recovery and peace-building".[54]

Within that context, Humphreys and Varshney emphasized the need to monitor the conflict implications of MDG assistance, and that decisions regarding aid allocation by country and sector must take conflict dynamics into close account.[55] They argued that MDG achievement in conflict-affected countries should be considered in terms of three criteria, namely: (a) effectiveness in the face of a weak or predatory State; (b) the unintended consequences of aid in fuelling conflict; and (c) the challenge of engaging with the adverse effects that conflict has on MDG achievement. They also emphasized that economic and security strategies require better and stronger coordination.[56]

C. COST OF CIVIL CONFLICT ON DEVELOPMENT[57]

While the bulk of the literature survey thus far has attempted, directly or otherwise, to quantify the costs of conflict on development, a combination of the lack of a universally accepted

methodology, country heterogeneity and data availability produce significant variations in outcome. Nevertheless, all these studies are consistent in intuitively expecting this impact to be negative given that conflict involves massive costs in terms of loss of human lives, depletion of natural resources and social capital, and destruction of physical capital and infrastructure. The fact that many of the countries that are currently regarded as developing or even least-developed have experienced some form of violent conflict in the relatively recent past strengthens the popular conviction that war must be a development curse. But exactly how much does it cost?

Several studies have tackled this question, but no consensual answer has emerged. In particular, while most empirical work confirms that the effect of war tends to be negative on development, point estimates of this effect tend to vary considerably across different studies, most of which concentrate on civil, rather than inter-State wars.[58] Examples of such studies include Fitzgerald (1987); Richardson and Samarasinghe (1991); Grobar and Gnanaselvam (1993); DiAddario (1997); Collier (1999); Rodrik (1999); Lopez and Wodon (2005); and Cerra and Saxena (2008).[59]

Other studies have been undertaken on the impact of civil wars on such factors as poverty, including, for example, by Justino and Verwimp (2006); on household and other assets by Annan, Blattman and Horton (2006), and Bruck (2006); on child malnutrition and other juvenile health deficiencies by Aldernam, Hoddinott and Kinsey (2006), and Bundervoet, Verwimp and Akresh (2009); on educational opportunities by Shemyakina (2011); and on institutions by Fortna (2004), Toft (2008), and Blattman and Miguel (2010). The impact of inter-State conflict on economic development and growth have been covered by Olson (1982); Sala-i-Martin (1998); Doppelhofer, Miller and Sala-i-Martin (2004); Blomberg, Hess and Thacker.(2006); Marwah and

[53] Within the context of conflict, *tabula rasa*, or "blank slate" in English, refers to the notion that one should not simply assume that a post-conflict State can eschew its past legacies and successfully make a break with the past. Instead, steps to avoid conflict relapse must take into consideration a State's history and specific circumstances.

[54] United Nations Development Programme (UNDP), "Beyond the Midpoint: Achieving the Millennium Development Goals" (2010).

[55] Humphreys, M. and A. Varshney, "Violent Conflict and the Millennium Development Goals: Diagnosis and Recommendations", CGSD Working Paper No. 19 (2004).

[56] Ibid.

[57] The literature in this sub-section refers specifically to the background material that partially forms the raison d'être for the econometric analysis presented in chapter IV.

[58] This owes almost certainly to the fact that civil wars are far more frequent than inter-State wars and also as income is the most immediate and simplest empirical proxy for development.

[59] Refer to the bibliography for the full references of these studies.

Klein (2005); Sevastianova (2009); Glick and Taylor (2010); and Yamarik, Johnson and Compton (2010). A brief summary of results of a tranche of these studies are presented below in table 4.

TABLE 4. CIVIL CONFLICT AND ITS DEVELOPMENTAL EFFECTS

Author(s)	Results
Olson (1982)	War can eliminate distributional conflicts, thereby reducing rent seeking and improving the quality of governance
Fitzgerald (1987)	Total cost of civil war in Nicaragua (1981-6) $2.09 billion. Approximately equal to 5 per cent of aggregate GDP for each conflict year
Richardson and Samarasinghe (1991)	Cost of Sri Lankan civil war between 1983-8 at $6.15 billion, or 2.2 per cent of aggregate GDP
Grobar and Gnanaselvan (1993)	Cost of Sri Lankan civil war at $1.99 billion, or 0.7 per cent of aggregate GDP
DiAddario (1997)	Civil war in Nicaragua cost 2.5 per cent of GDP per year during conflict
Sala-i-Martin (1998)	Inter-State war is a robust and negative determinant of economic growth
Collier (1999)	Civil war reduces the growth rate of per-capita GDP by 2.2 per cent per annum
Rodrik (1999)	Social conflicts primary reason why national economic growth rates lack persistence and why so many countries have experienced a growth collapse since the mid-1970s
Abadie and Gardeazabal (2003)	Per-capita GDP in the Basque region would be 10 per cent lower than what it would be had there not been terrorism
Doppelhofer, Miller and Sala-i-Martin (2004)	War is only marginally correlated with economic growth
Fortna (2004)	Wars that end with outright military victory lead to more stable peace and possibly stronger state institutions
Lopez and Wodon (2005)	GDP per capita in Rwanda would have been 25-30 per cent higher in 2001 if the civil conflict in 1994 had not occurred
Marwah and Klein (2005)	Increase in military expenditure might boost aggregate demand and increase GDP, but likely to be a short-term effect. Long-term growth potential of the economy should decrease as military expenditure crowds out private investment
Aldernam, Hoddinott and Kinsey (2006)	Zimbabwe: war related malnutrition led to suffering children to be significantly shorter as adults, with adverse lifetime labour productivity effects
Annan, Blattman and Horton (2006)	Northern Uganda: Significant losses of cattle, homes and other assets
Blomberg, Hess and Thacker (2006)	Major inter-State conflict in the previous two years has a negative effect on economic growth
Bruck (2006)	Civil war in Mozambique led to loss of 80 per cent of cattle stock and depletion of household assets
Justino and Verwimp (2006)	20 per cent of Rwandan population entered into poverty following 1994 civil strife
Cerra and Saxena (2008)	GDP declines 6 per cent in the immediate aftermath of war
Toft (2008)	Wars that end with outright military victory lead to more stable peace and possibly stronger state institutions
Bundervoet, Verwimp and Akresh (2009)	Burundi: children in regions affected by civil war have significantly lower height-for-age ratio
Sevastianova (2009)	Negative impact of war on the one and two year economic growth rate, but no significant impact on the five year growth rate
Blattman and Miguel (2010)	In civil wars, governments may lose legitimacy, with victors and losers co-existing uneasily, potentially exacerbating political and social divisions
Glick and Taylor (2010)	Large and persistent impact of inter-State war on trade, national income and global economic welfare
Yamarik, Johnson and Compton (2010)	A standard deviation increase in fatality-weighted conflict (1960-2000) results in an average decrease of about a tenth of a standard deviation in 2000 real GDP per-capita
Shemyakina (2011)	Tajikistan: Girls whose homes were destroyed during conflict are less likely to obtain secondary education. This reduces their future employment prospects

Source: ESCWA.

Note: The full references of these studies are set forth in the bibliography.

D. SUMMARY ON THE LITERATURE

Overall, this chapter has highlighted the intricacies of not just the conflict-development nexus but also the importance of considering localised or regional characteristics when applying a set theory to specific circumstances. While certain stylized facts, such as that poorer countries are more prone to conflict do tend to be region-neutral and thus have wider-applicability, one must nevertheless be aware of the caveat emptor clause when purchasing and utilizing the various theoretical approaches available from the conflict-development literature. In particular, the authors suggest that closer attention be paid to the direction of causality of the conflict-development relationship. For instance, Lebanon was witnessing unprecedented economic growth at the onset of civil war. The same could be said for Iraq which had much better socio-economic indicators on the eve of the first Gulf war than at present.

Consequently, socio-economic indicators, such as growth and poverty, are not sufficient to explain the onset of conflict in this part of the world. Issues of governance and foreign power politics can also provide the answers to explain the onset of conflict. While the negative impact of conflict on development is clear, and while the positive development payoff to conflict amelioration can also be made with significant degrees of certainty, less obvious is the endogenous relationship between the two. A feedback loop may well be in operation and, if so, addressing either one of the conflict or de-development issues should go a long way towards breaking both the conflict and development traps. In this case, policymakers with limited resources facing unlimited demands need not overly-concern themselves with identifying the root cause of the conflict-development relationship (i.e. whether conflict leads to de-development or whether de-development leads to conflict). Rather they should concentrate on one or the other, particularly given that, if the relationship is indeed symbiotic, then curing one ill will lead to benefits that are greater than the sum of their constituent parts.

II. TAKING STOCK: MDG PROGRESS IN CONFLICT-AFFECTED COUNTRIES AND TERRITORIES IN THE ESCWA REGION

With the target year of 2015 in sight, the international community is busy taking stock of MDG achievements at global, regional and national levels. Four years remain for MDG targets to be reached and for national governments and the international community to commit to filling in the gaps where policies, strategies and programme implementations, funding or firm political commitments fall short, thereby improving the lives of millions of people. In this same spirit of assessment, this chapter focuses on MDGs in the ESCWA region, in particular in the conflict and less-developed countries that face even greater challenges in meeting their targets for 2015.

This chapter aims at the following: (a) taking stock and comparing achievements to date, laying the groundwork for other chapters in the report to suggest a way forward for these countries in the form of practical and specific policy recommendations for national governments, national and international NGOs and the donor community; and (b) contributing to the wider debate on MDG achievement in conflict and conflict-affected countries by exploring the complex relationship between conflict and development in the vastly different conflict scenarios that exist in the region. This chapter concludes that the conflict-affected countries relevant to this study truly lag behind other ESCWA member countries in terms of meeting MDGs. A hard reality regarding the security and political circumstances of these countries and territories needs to be acknowledged before MDG attainments are studied. By doing so, the report can assess whether indeed it is conflict or rather a variety of overlapping factors that hinder the realization of basic human rights and needs for all.

A. ESCWA ON THE GLOBAL STAGE

The ESCWA region is characterized by both profound homogeneity and difference. The 14 ESCWA member countries share a common language, culture and religious beliefs. Many of the countries and territories in the region face similar threats and challenges in terms of political, social, economic, environmental and developmental issues. Yet it is perhaps one of the most diverse regions in the world in terms of development and conflict. It comprises a combination of population-rich, resource-rich, resource-poor, developing and least-developed areas as well as internal, international and internationalized conflicts. However, as is the case with all of these imposed dichotomies, they fail to capture accurately the complexity and inter-linkages of a region that has demonstrated its geopolitical importance over millennia, and long before the discovery of oil and other natural resources. More relevantly for this paper, they fail to reflect entirely, the comprehensive state of human development and human security in the region.[60]

These categorizations fail to reflect the state of the region accurately for three reasons, namely:

(a) The Sudan and Yemen are least developed countries (LDCs), despite considerable resource wealth (although in the case of Yemen, this is rapidly depleting). This illustrates that being resource-rich is no guarantee for a medium level of human development, and certainly not enough to guarantee a minimum level of human security;[61]

(b) Being labour-rich does not guarantee a wealth of productive labour. In fact, countries in the region that are labour-rich are suffering from low labour-productivity owing to diverse challenges;

(c) A country that is not afflicted with conflict does not mean it is not affected by conflict. For example, this region holds the largest number of refugees in the world, which illustrates that even when conflict can be contained by national borders, the effects of conflict cannot be quarantined and isolated.

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[60] C. Breisinger et al., *From Arab Summer to Equitable Growth and Poverty Reduction* (International Food Policy Research Institute, 2011).

[61] The Human Development Index combines indicators of life expectancy, educational attainment and income into a composite human development index. Yemen and the Sudan come in at numbers 133 and 154 respectively out of 169 ranked countries for the 2010 index.

TABLE 5. CURRENT MDG STATUS IN THE ESCWA REGION

	MDG1	MDG2	MDG3	MDG4	MDG5	MDG6	MDG7
Bahrain	green	green	green	green	green	green	green
Egypt	green	green	white	green	green	green	N/A
Iraq	black	black	black	white	white	black	black
Jordan	white	green	green	white	white	green	white
Kuwait	green	white	green	green	green	green	white
Lebanon	green	green	white	green	green	green	black
Palestine	black	green	green	black	green	green	black
Qatar	green	green	green	green	green	green	green
Saudi Arabia	green	green	green	green	green	green	green
South Sudan	white	black	white	black	black	white	black
The Sudan	black	black	white	black	black	black	black
Syrian Arab Republic	green	green	green	green	green	green	white
United Arab Emirates	green	green	green	green	green	green	green
Yemen	black	black	black	white	black	black	black

green	On-track: Goals are either achieved or are likely to be achieved by 2015.
white	Feasible: Goals are likely to be achieved by 2020.
black	Off-track: Goals are unlikely to be achieved by 2020, or progress is either stagnating or even deteriorating.

Sources: Compiled by ESCWA, based on MDG data by the United Nations Statistical Division (UNSD), MDG country reports by UNDP and, in the case of Qatar, Statistics Authority of Qatar, "The Millennium Development Goals in the State of Qatar" (2008).

Note: No reports were available for Oman.

The very nature of MDGs as a global effort requires the ability to make global and regional comparisons. However, on closer inspection, using data provided by both the United Nations Statistical Division (UNSD) and MDG country reports by UNDP, where these are available, the worst performing countries are those that are most severely affected by conflict, including the two abovementioned LDCs. Table 5 summarizes the current track of MDG progress for ESCWA member countries. As can be seen, with the exception of Lebanon, the other four conflict-affected countries and territories are performing at a level below that of counterparts in the region. It is safe to venture that the relatively poor performance in terms of MDGs of the ESCWA region hides the fact that regionwide variability is high;[62] and that the average performance of the region as a "composite country" does not accurately depict reality.[63]

B. MDG1: ERADICATE EXTREME POVERTY AND HUNGER[64]

As noted above, it would be problematic to refer to MDG achievement on a regional scale without acknowledging the significant differences between data retrieved from individual member countries and how this impacts the regional forecast as a whole. This can be seen most clearly for MDG1 on the eradication of poverty and hunger, where Western Asia is one of the few regions in the world that is not expected to meet the target for the proportion of people living under $1.25 a day, and is the only region where the depth of poverty has not decreased between 1990 and 2010.[65] A slightly more positive picture is presented in the Arab MDG Report (2010), which reflects a certain degree of data variability (see table 6).[66] It highlights that there has been

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[62] C. Breisinger et al., op. cit.

[63] It should also be noted that within-country variation can also be significant, especially given clear rural-urban divides.

[64] Unless otherwise noted, data for the rest of this chapter are derived from the United Nations Statistical Division (UNSD).

[65] United Nations, *The Millennium Development Goals Report 2010* (New York, 2010), p. 7.

[66] ESCWA, "The Third Arab Report on the Millennium Development Goals 2010 and the Impact of the Global Economic Crises" (E/ESCWA/EDGD/2010/3). Note that while data from the MDG report of 2010, which were used for table 6, looked at the universal target of $1.25, table 5 used national poverty lines information instead. Hence, while closely correlated, they are not directly comparable.

an annualized drop in poverty rates across the Arab region of 2.2 per cent between the 1990s and the 2000s. Of the five conflict countries and territories in the ESCWA region, only Lebanon will be able to achieve MDG1 by 2015, while it is feasible in the area of the Sudan under the authority of the autonomous Government of South Sudan.

TABLE 6. POVERTY RATES IN CONFLICT-AFFECTED COUNTRIES AND TERRITORIES OF THE ESCWA REGION

Country/ territory	Survey year	Poverty incidence (%)	Survey year	Poverty incidence (%)	Annual change in poverty rate (%)
Lebanon	1997	10.0	2005	8.0	-2.8
Palestine	1998	20.3	2007	34.5	4.1
Yemen	1998	40.0	2006	34.8	-1.7
Arab Region		20.3		17.1	-2.2

Source: ESCWA, "The Third Arab Report on the Millennium Development Goals 2010 and the Impact of the Global Economic Crises" (E/ESCWA/EDGD/2010/3), p. 10.

Note: Owing to different methodologies, these surveys are not necessarily directly comparable.

The annualized fall in poverty rates for Lebanon exceeded the regional average and, equally encouragingly, the incidences of poverty also began at a far lower level than the regional average. Yemen's rate of progress is lower than the regional average, which is even more disturbing given that its poverty rate is double that average.[67] While it witnessed a slight decrease, the number of poor has remained the same since 1998, at 7 million, owing to high annual demographic growth absorbing three-quarters of the annual increase in real consumption. Its poverty gap declined modestly from 10.7 per cent in 1998 to 8.93 per cent in 2005, thereby making it unlikely to reach its target of 5.4 per cent by 2015. The underweight target among children aged five years (15 per cent by 2015) is unlikely to be attained given that the indicator increased from 30 per cent in 1992 to 46 per cent in 1998, before falling back slightly to 42.9 per cent in 2005.

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[67] The percentage of people under the Yemeni national poverty line only decreased from 40.1 to 34.8 per cent between 1998 and 2005, which is far removed from the target set of 20.1 per cent by 2015.

With regard to north and south Sudan in 2010, both territories suffered from high levels of poverty among the population at 46.5 per cent in areas under Khartoum's jurisdiction and 50.6 per cent in South Sudan; and their poverty gap rates were also high at, respectively, 16.2 per cent and 24 per cent in 2010, along with high unemployment rates, at 25.4 per cent in 2010 for areas under Khartoum's control. The nutritional situation is critical with slightly more than 30 per cent of children aged five and under moderately or severely underweight in 2010. It is important to note that, despite numerous challenges, areas under the control of the Government of South Sudan have considerable potential for economic growth and poverty reduction by 2020, especially given that South Sudan started from a high poverty level.[68] However, this view is not universally accepted.[69]

In Iraq, eradicating poverty and hunger remains a challenge. Approximately 7 million Iraqis were living in poverty in 2010, totalling 23 per cent of the population (39 per cent in rural areas). These figures are far removed from its 2015 target of 16 per cent. Moreover, the proportion of the population consuming less than the minimum recommended energy intake increased from 2 per cent in 1990 to 7 per cent in 2007, diverging away from the target of 1 per cent; and while the proportion of underweight children aged five and under dropped marginally from 9 per cent to 8 per cent, further efforts should be deployed to reach the target of 5 per cent by 2015.[70]

The situation in Palestine is similarly worrying, but this masks significant differences between the West Bank and the Gaza Strip. In general a dissatisfying performance level was registered in the war against poverty and

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[68] Ministry of Welfare and Social Security in the Sudan and National Population Council General Secretariat (NPC/GS), *Sudan Millennium Development Goals Progress Report 2010* (2010).

[69] See, for example, J. Vandemoortele, "The MDG Conundrum: Meeting the Targets Without Missing the Point", *Development Policy Review*, vol. 27, No. 4 (2009), pp. 355-371.

[70] Ministry of Planning in Iraq and the United Nations Country Team in Iraq, *The Millennium Development Goals in Iraq, 2010* (2010).

hunger.[71] The Gaza Strip suffers from far higher rates of deprivation than the West Bank, with poverty rates approximately twice as high in the former. Poverty in the greater Arab region is also predominantly a rural phenomenon, which was confirmed using both the poverty headcount and poverty gap indices.[72] The ratio of rural to urban headcount index for Yemen rose from 1.3 in 1996 to 1.9 in 2006, but remained largely stable for Palestine falling slightly from unity in 1997 to 0.9 in 2007 (and thus in favour of rural areas).[73]

As a whole, while Western Asia has seen only a slight decrease in the proportion of the population undernourished, it does generally suffer from a lower level of undernourishment compared to many other regions. However, it was the only region that made no progress at all in reducing the prevalence of underweight children aged five and under.[74] Within that figure, the proportion of underweight children increased in rural areas. This is in line with the general trend in the region, where poverty is greater in rural areas, thereby affecting indicators for MDG1. Accordingly, Arab countries, including those that are affected by conflict, face major challenges in achieving MDG1.[75] Perhaps most alarmingly is the sense that conflict-affected countries and territories are currently not on track to achieve the target indicator of halving hunger, and this is without factoring in the effects of the recent food crisis. Furthermore, Western Asia is not expected to meet the target of the proportion of the population living below $1.25 per day. This

is particularly damning given that national poverty lines within the region are generally above this figure.

C. MDG2: ACHIEVE UNIVERSAL PRIMARY EDUCATION

As a whole Western Asia has made gains in net enrolment in primary schools between 1998/1999 and 2007/2008, rising from 83 to 88 per cent (see figure I). Despite this achievement, only sub-Saharan Africa performed worse, with 76 per cent net enrolment in 2008. Nevertheless, given that enrolment figures were already relatively high, a slow level of increment does not necessarily suggest that progression towards 100 per cent enrolment is not on track in some ESCWA member countries, as evidenced by the significant variability between countries (refer to table 5).

In the focus countries (minus the Sudan), the net enrolment ratio (NER) for Iraq dropped slightly between 1999 and 2005 (see table 7). However, its sharpest drop was in 2001 when the NER reached 85.1. An estimated 500,000 children in Iraq are, for various reasons, unable to enrol in primary education.[76] In Lebanon, it dropped from 92.7 in 1999 to 87.1 in 2006, which marks the war of Israel on Lebanon, before regaining most of its ground by 2009, reaching 91.1 per cent. On the other hand, the figure dropped by 21.6 points in Palestine between 2000 and 2008, from 99.1 to 77.5 and where, at the last count, an estimated 110,000 children are out of school.[77] It is not a coincidence that these dates and falls in NER correspond to outbreaks of conflict or sanctions. What is interesting to note, however, is that Palestine suffered a greater loss, while beginning from the highest rate among the countries, and falling to levels similar to those of Yemen. Consequently, it is not only conflict, but the intensity, length and scope of conflict that can have a profound influence on NERs. These poor results are consistent with findings by UNESCO that conflict-affected countries are falling behind in reaching their educational targets.[78]

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[71] Ministry of Planning and Administrative Development in Palestine, *Millennium Development Goals, Progress Report* (August 2010).

[72] ESCWA, "The Third Arab Report on the Millennium Development Goals 2010 and the Impact of the Global Economic Crises" (E/ESCWA/EDGD/2010/3), p. 11. Data were only available for Palestine and Yemen with respect to the five conflict-affected countries and territories under investigation.

[73] It is important to note, however, that the heavily urbanized Gaza Strip was at this time experiencing an economic blockade imposed by the Israeli Government.

[74] United Nations, *The Millennium Development Goals Report 2010* (New York, 2010), p. 12.

[75] ESCWA, "The Third Arab Report on the Millennium Development Goals 2010 and the Impact of the Global Economic Crises" (E/ESCWA/EDGD/2010/3).

[76] United Nations Education, Scientific and Cultural Organization (UNESCO), *The Hidden Crisis: Armed Conflict and Education* (2011).

[77] Ibid.

[78] Ibid.

Specifically, despite having one-quarter of the world's primary school-age population, conflict countries and territories account for roughly half of the out-of-school population. Primary school drop-out rates, secondary school enrolment and literacy rates are also lower compared to non-conflict countries.

**Figure I. Adjusted net enrolment ratio (NER) in primary education,
1998/1999 and 2007/2008**
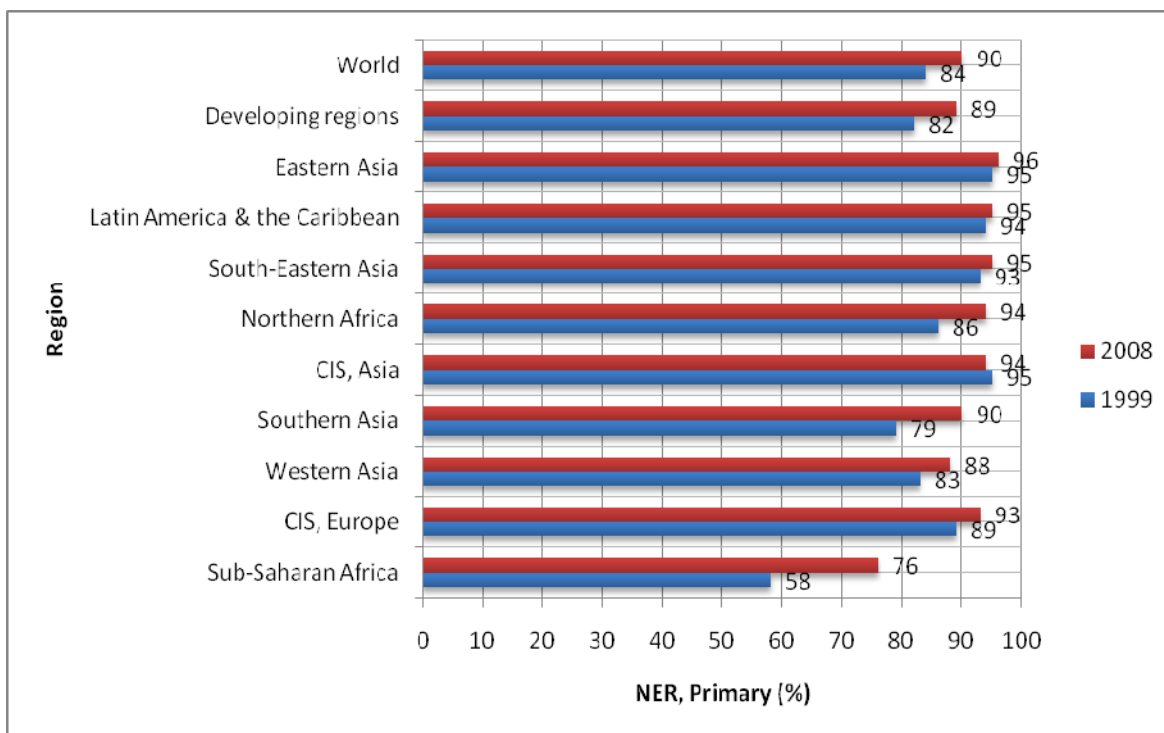
Source: United Nations, *The Millennium Development Goals Report 2010* (New York, 2010).

Note: This is defined as the number of pupils at the theoretical school age for primary education enrolled in either primary or secondary school, expressed as a percentage of the total population in that age group. Note also that in this report, Western Asia encompasses ESCWA member countries with the exception of the Sudan, and also includes Cyprus, Israel and Turkey.

TABLE 7. ADJUSTED NER IN PRIMARY EDUCATION: CONFLICT-AFFECTED COUNTRIES
AND TERRITORIES OF THE ESCWA REGION

	1999	2000	2001	2003	2004	2005	2006	2007	2008	2009
Iraq	87.5	86.1	85.1	89.8	88	87.3	..	..	..	..
Lebanon	92.7	..	..	..	..	..	87.1	88.3	89.3	91.1
Palestine	98.9	99.1	99	94.6	88.6	82.4	79.8	77.4	77.5	..
Yemen	56.3	58.6	66.3	71.8	74.1	75.3	..	..	73	..

Source: Compiled by ESCWA, based on MDG data by the United Nations Statistical Division (UNSD).

Notes: Two dots (..) indicate that data on exports, GDP or both are not available or are not separately reported.

There is insufficient data to include the Sudan in this comparison, according to official UNSD and World Bank data. However, the figure for net total enrolment for primary education in the Sudan in 2000 was 41.9 per cent.

In terms of gender parity in primary education, little progress has been made in Iraq; and while Lebanon has seen a narrowing gender gap, the fact remains that its NER fell for both males and females (see table 8). Palestine has also regressed, yet it is the only country where the gender parity ratio still favours slightly girls. Consequently, while a much smaller proportion of children were enrolled in primary education in 2008, the gender ratio was close to unity. Yemen made the greatest progress in addressing the problem, although this may reflect the fact that it was starting from an extremely low base of female enrolments. In 1999, the ratio of female to male enrolment stood at 0.56, whereas in 2008, the ratio had risen to 0.8. In north Sudan, gross enrolment rates (GER) reached 71.1 per cent in 2010, thereby indicating that general primary education is unlikely to be achieved before 2020.[79] In South Sudan, NER rose from 15.8 points in 2006 to 48 points in 2008, indicating great albeit insufficient improvement to achieve the desired MDG2 target by 2015.[80]

TABLE 8. ADJUSTED NER IN PRIMARY EDUCATION BY GENDER: CONFLICT-AFFECTED COUNTRIES AND TERRITORIES OF THE ESCWA REGION

	1999	2008
Iraq boys	93.7	93[a/]
Iraq girls	81	81.4
Lebanon boys	94	89.5
Lebanon girls	91.3	89
Palestine boys	98.5	77.4
Palestine girls	99.3	77.5
Yemen boys	70.5	79.8
Yemen girls	41.5	66

Source: Compiled by ESCWA, based on MDG data by the United Nations Statistical Division (UNSD).

Note: a/ Data for 2005.

[79] However, the gross enrolment rates (GER), which are used here in the absence of net enrolment rates (NER), mask wide regional disparities in the Sudan.

[80] Ministry of Welfare and Social Security in the Sudan and National Population Council General Secretariat (NPC/GS), *Sudan Millennium Development Goals Progress Report 2010* (2010).

Beyond enrolment, primary education survival rates are a vital indicator of a quality education and young adult literacy. Within that context, Iraq, the Sudan and Yemen have made progress between 1999 and 2008, but are still off-track to meet their targets by 2015; while Lebanon and Palestine have regressed quite significantly in the same time frame. Figure II illustrates the changes and the comparisons by ESCWA member and gender.

Various other MDG2 targets are also worth mentioning. For example, Lebanon suffers particularly from weak physical and infrastructural elements with regard to primary schooling given that 57 per cent of public schools occupy rented buildings, many of which lack the specifications appropriate for schools.[81] In Iraq for the academic year 2007/8, some 15 per cent of schools were in dilapidated buildings while one-quarter of school buildings needed comprehensive refurbishment.[82] In terms of literacy rates amongst those aged 15-24, Palestine, the Sudan and Yemen have registered improvements over time. While Lebanon and Iraq lack the requisite data for comparison purposes, a static snapshot suggests that Lebanon's rate was on target at 98.7 per cent in 2007.[83] Iraq's literacy rate in 2000, at 84.8 per cent, was very similar to the figure of 2007, at 84 per cent, thereby indicating stagnation.[84].

[81] ESCWA, "The Third Arab Report on the Millennium Development Goals 2010 and the Impact of the Global Economic Crises" (E/ESCWA/EDGD/2010/3), p. 30.

[82] Ministry of Planning in Iraq, *National Development Plan 2010-2014* (2010), p. 115.

[83] Trading Economics, *World Bank Indicators, Lebanon* (2011), which is available at: http://tradingeconomics.com.

[84] Ministry of Planning in Iraq and the United Nations Country Team in Iraq, *The Millennium Development Goals in Iraq, 2010* (2010).

Figure II. Primary completion rate by gender and combined: conflict-affected countries and territories of the ESCWA region, 1999 and 2008
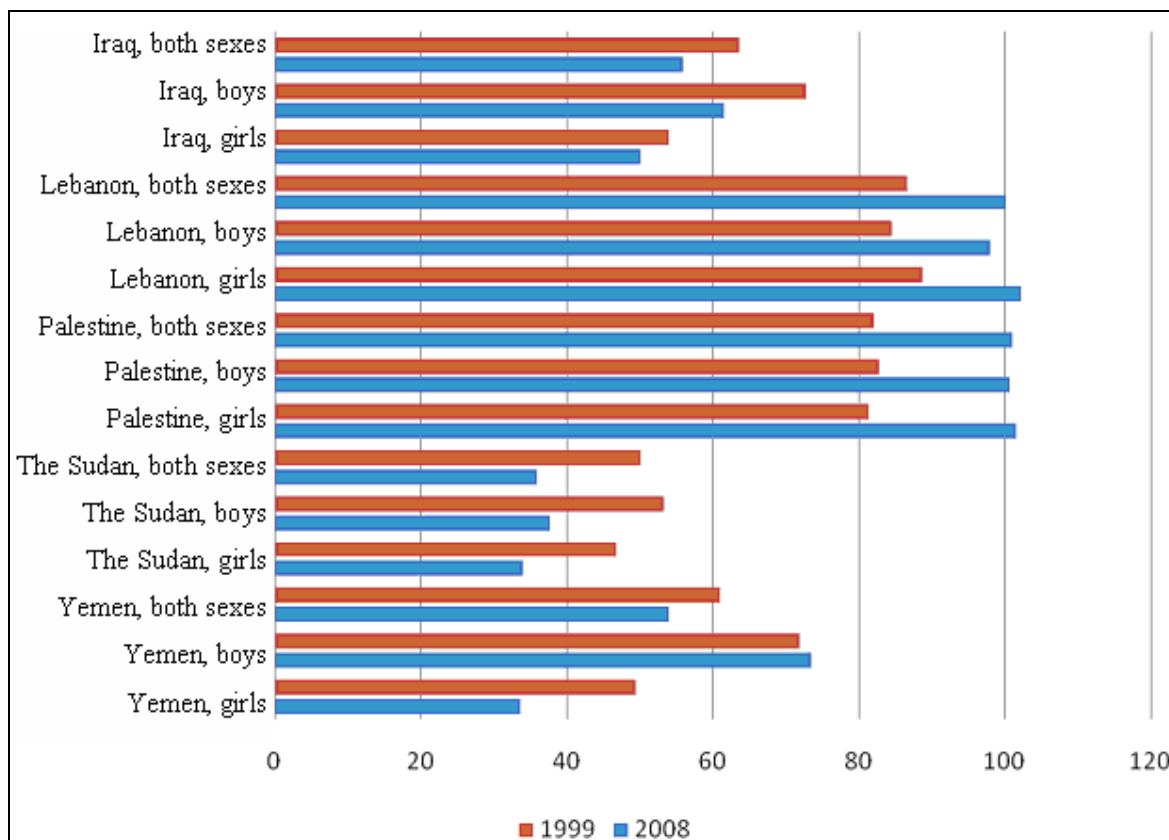
D. MDG3: PROMOTE GENDER EQUALITY AND EMPOWER WOMEN

In general, gender equality goals have produced satisfying results in Lebanon and Palestine. However, apart from these two ESCWA member countries along with federal-controlled Sudan in the north (where MDG3 is feasible), the rest are not likely to achieve their targets before 2020. In Lebanon, the gender parity index (GPI) in primary education is near unity, at 0.96-0.97 between 1999 and 2009, and favours females at both secondary and tertiary levels. However, women are politically underrepresented in the legislature, holding only between three and six seats out of a total of 128 between 1998 and 2010. This means that the percentage of seats held by women today is 3.1 per cent, while at its height between 2006 and 2009, it was still a rudimentary albeit more favourable 4.7 per cent.[85] The current Cabinet in Lebanon, which was formed on 13 June 2011, is noteworthy in having no female representation. The share of women in wage employment in the non-agricultural sector has greatly improved as evidenced by the proportion of females employed as salaried workers, which saw an increase from 14.2 per cent in 1995 to 83.3 per cent in 2004/2005.[86]

Palestine, like Lebanon, has demonstrated GPI scores that suggest little disadvantage to women, and these gains have not been lost despite renewed conflict and closures between 1999 and 2008. While it recorded a score of unity for

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[85] UNDP, *Millennium Development Goals Lebanon Report 2008* (2009).

[86] Ibid.

primary level enrolment in 2008 and 1.07 in secondary level enrolment, the largest gains have been made in tertiary education, where GPI was 0.89 in 1999 and 1.23 in 2008.[87] Equally encouragingly, the share of women in wage employment in the non- agricultural sector increased over the same time period, from 15.6 per cent in 1999 to 18 per cent in 2008.[88] The adult female literacy rate was 91.7 per cent and the youth female literacy rate stood at 99.2 per cent in 2009.

In the Sudan, primary level GPI improved modestly between 1999 and 2009, from 0.85 to 0.90. However, at the secondary level it decreased slightly from 0.96 in 2001 to 0.88 in 2009. The only years that have a record of tertiary education (1999/2000) indicate a GPI score of 0.92. However, the Sudan has recorded the most gains in encouraging female political participation at the national level, with the percentage of seats held by them in the national Parliament increasing from 5.3 per cent in 1999 to 18.9 per cent in 2010. While behind target, we note that this proportion is high for the ESCWA region, though this may be partially attributable to the fact that the Sudan has set up a female quota representation in Parliament. In areas of north Sudan under federal jurisdiction, despite a persistent gender gap in primary education, there are considerable improvements in secondary education, where gender parity enrolment has been more or less achieved (though enrolment rates themselves are low for both genders). In South Sudan in 2009, there was a low ratio at the primary and secondary school levels at 58.4 and 37.7 per cent, respectively. Moreover, while women in the formal non-agriculture sector experienced clear gains in their participation across the national economy, the gender disparity was still evident in

2010, with women representing only 32.33 per cent of total employment in all sectors.[89]

In Iraq, gender parity in primary education witnessed improvements between 1990 and 2007, rising from 0.80 to 0.94. However, the share of females in wage employment in the non-agricultural sector decreased from 11 per cent in 1990 to 7 per cent in 2008, diverging further away from its target of 50 per cent. However, Iraq has made impressive gains in terms of the proportion of women holding seats in Parliament, increasing from 7.6 per cent in 2000 to 25.5 per cent in 2010. However, like the case of the Sudan, this increase can be partially attributed to the introduction of quotas. Nevertheless, only 18 per cent of females aged 15 years and over are participants in the labour force while the female illiteracy rate of 26 per cent is also hampering the achievement of MDG3.[90]

In Yemen, the promotion of gender equality and the empowerment of females are also off-track. This is despite improvements in the proportion of girls to boys in basic education rising from 44.6 per cent in 1990 to 74.8 per cent in 2008.[91] However, progress towards other gender targets remains fraught with impediments. For example, the economic participation of women in the non-agricultural sectors stagnated between 1999 and 2004, from 6.4 to 6 per cent; and political participation remained extremely low.[92] As noted above, its primary education GPI has improved, while at the tertiary level, GPI has also increasingly seen a narrowing gender gap, albeit from a low 0.28 in 1999 to 0.42 in 2007. Gains have been more modest in secondary level enrolment, with an increase of just 0.12 points between 1999 and 2006 at 0.37 and 0.49, respectively.

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[87] However, while this is an encouraging trend, it should be noted that this could be due to male university level enrolment being relatively more affected by conflict. If so, this merely reflects deterioration in enrolment rates for men rather than any improvements for women.

[88] Ministry of Planning and Administrative Development in Palestine, *Millennium Development Goals, Progress Report* (August 2010).

[89] S.S. Mohamed Nour, "Labour Market and Unemployment in Sudan", United Nations University Working Papers Series No. 2011-007 (2011).

[90] Ministry of Planning in Iraq and the United Nations Country Team in Iraq, *The Millennium Development Goals in Iraq, 2010* (2010).

[91] UNDP, *Millennium Development Goals Yemen Report 2010* (2010).

[92] Female parliamentary representation decreased to only 1 seat in 2010.

Results presented above for Goals 2 and 3 do not, however, measure the quality of education received, merely the quantity received. UNESCO cautions about accepting quantitative figures only and suggests rather that the quality of education needs to be incorporated into the analysis.[93] Finding proxies for education quality remains difficult and is beyond the immediate scope of this publication. Nevertheless, it is important within that context to caution against an overly simplistic acceptance of the results presented here.

E. MDG4: CHILD MORTALITY RATES

In all five conflict-affected countries and territories, child mortality and infant mortality rates decreased per 1000 live births between 1990 and 2008, though a clear divergence manifests itself between the two LDCs and the other ESCWA member countries (see table 9). Indeed the performance of Iraq, Lebanon and Palestine is better than the regional average, which is particularly impressive for strife-torn Iraq and the Gaza Strip, given the suffocating blockage it faces. Immunization against measles in Palestine and the Sudan are also improving, with near 100 per cent immunization in the former. The situation in Yemen is characterized by stagnation as rates have not improved since 2005 and is actually slightly worse than in 1990. The decrease in Iraq and Lebanon is even worse than exhibited in the table below owing to the fact that it masks deterioration in later years despite earlier improvements. The immunization rate for Lebanon in 1985 stood at 85 per cent, and fell to 79 per cent at the turn of the millennium before collapsing dramatically in 2008. In Iraq, immunization reached 87 per cent in 2000 before falling to 69 per cent in 2008, no doubt affected by the multitude of conflicts afflicting its population.

TABLE 9. UNDER-FIVE AND INFANT MORTALITY RATES, AND MEASLES IMMUNIZATION RATES: CONFLICT-AFFECTED COUNTRIES AND TERRITORIES OF THE ESCWA REGION

	Under-five mortality rate (*per 1000 live births*)		Infant mortality rate (*per 1000 live births*)		Measles immunization (*% children under one*)	
	1990	2008	1990	2008	1990	2008
Iraq	53	44	42	36	75	69
Lebanon	40	13	33	12	61	53
Palestine	38	27	33	24	73[a/]	96
The Sudan	124	109	78	70	57	79
Yemen	127	69	90	53	69	62
Arab Region	83	52	60	38	77	82

Source: ESCWA.

Note: a/ Data for 2005.

F. MDG5: IMPROVE MATERNAL HEALTH

Lebanon has made significant progress aimed at reducing maternal mortality. Specifically, the maternal mortality ratio (MMR) decreased from 140 per 100,000 live births in 1990 to 86.3 in 2004, and it is estimated that the goal of reducing the ratio to 26 per 100,000 live births could eventually be met by 2015. As for the proportion of births attended by skilled professionals, it was already 98.9 per cent in 2006, which meant that the target had already been attained. Moreover, the proportion of women receiving antenatal care reached 98.8 per cent in 2006, up from 87.1 per cent in 1990.[94] Palestine is also characterized by an extremely high rate of births attended by skilled professionals, at 98.9 per cent in 2006; and of pregnant women receiving prenatal care, at 98.6 per cent in 2006, thereby signifying that its MDG5 is on-track.[95]

In Iraq, while MMR, at 84 per 100,000 live births in 2010, is unlikely to improve significantly

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[93] UNESCO, op. cit.

[94] UNDP, *Millennium Development Goals Lebanon Report 2008* (2009).

[95] Ministry of Planning and Administrative Development in Palestine, *Millennium Development Goals, Progress Report* (August 2010).

to achieve the target of 29 by 2015, the proportion of births attended by skilled health personnel reached 89 per cent in 2006, increasing from 50 per cent in 1990.[96] Similarly, the Sudan is below the target achievement level for maternal mortality. Its rate dropped slightly from 830 per 100,000 births in 1990 to 750 in 2008. Further compounding matters is a clear deterioration in the ratio of births attended by skilled health staff, from 69.4 per cent in 1990 to 49.2 per cent in 2006. In Yemen, deliveries attended by qualified medical staff increased from 16 to 36 per cent between 1990 and 2006, which, while laudable, is still very far from its target of 100 per cent by 2015. Indeed, in terms of MMR, there was a noticeable worsening between 1997 and 2003, from 351 to 365 per 100,000 live births.[97]

G. MDG6: COMBAT HIV/AIDS, MALARIA, TUBERCULOSIS AND OTHER DISEASES

Given a low prevalence of HIV/AIDS in the region, tuberculosis is considered the leading cause of communicable deaths in the Arab world. The Sudan, Yemen as well as isolated areas in Iraq suffer from endemic cases of malaria.[98] In Iraq, the tuberculosis prevalence rate and death rate increased between 1990 and 2008, while a decrease has been measured in all of the other countries and territories. The incidence rate in Iraq and the Sudan has not decreased over the same time period, while Palestine, Yemen and Lebanon have all made progress (see figure III).

In terms of achieving MDG6, Iraq and Yemen are both off-track. Iraq is waging a losing battle against diseases. While malaria has been almost completely eliminated, new incidences of tuberculosis rose from 2 to 12 for every 100,000 Iraqis between 2000 and 2006. With regard to HIV/AIDS, despite low levels of infection, associated vulnerability and risk factors are in continuous growth. The current situation is pushing the country further away from achieving

its MDG6 targets by 2015.[99] As for Yemen, HIV/AIDS remains a marginal problem, given very low incidence rates. Malaria, on the other hand, is a real challenge. Good progress has been made between 1990 and 2009, with malaria incidence falling from 1263 to 600 per 100,000.[100] Despite these improvements, malaria still represents a critical and serious issue, and the efforts expended to combat it will prove fruitless unless combined with a reduction in population growth. Additionally, while cases of tuberculosis are decreasing, efforts need to be enhanced in order to achieve MDG6 targets.

In the Sudan, MDG6 holds the most promising possibility of achievement across both the north and south. With sufficient effort, the target is realistically attainable by 2020. The Sudan has low HIV prevalence rates. As for malaria, which represents the leading cause of morbidity and death in the Sudan, there has been a remarkable reduction in cases related to malaria between 2001 and 2010.[101] Lebanon and Palestine have registered favourable scores in terms of MDG6 targets. The number of HIV/AIDS cases reported in Lebanon is limited and, in 2010, a full 100 per cent of the population reported with advanced HIV infection had access to antiretroviral drugs.[102] With regard to tuberculosis, the number of cases in 2006 was 375, almost one-third of its level in 1995. In Palestine, HIV/AIDS infection levels have been extremely low, with only 66 cases reported by the Ministry of Health, and the tuberculosis treatment success rate was as high as 94 per cent in 2008.[103] Owing to a series of immunization and early disclosure programmes, most infectious diseases have been successfully eliminated.

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[96] Ministry of Planning in Iraq and the United Nations Country Team in Iraq, *The Millennium Development Goals in Iraq, 2010* (2010).

[97] UNDP, *Millennium Development Goals Yemen Report 2010* (2010).

[98] ESCWA, op. cit., p. 74.

[99] Ministry of Planning in Iraq and the United Nations Country Team in Iraq, *The Millennium Development Goals in Iraq, 2010* (2010).

[100] UNDP, *Millennium Development Goals Yemen Report 2010* (2010).

[101] Ministry of Welfare and Social Security in the Sudan and National Population Council General Secretariat (NPC/GS), *Sudan Millennium Development Goals Progress Report 2010* (2010).

[102] UNDP, *Millennium Development Goals Lebanon Report 2008* (2009).

[103] Ministry of Planning and Administrative Development in Palestine, *Millennium Development Goals, Progress Report* (August 2010).

**Figure III. Incidence rate of tuberculosis: conflict-affected countries
and territories of the ESCWA region, 1990-2008**
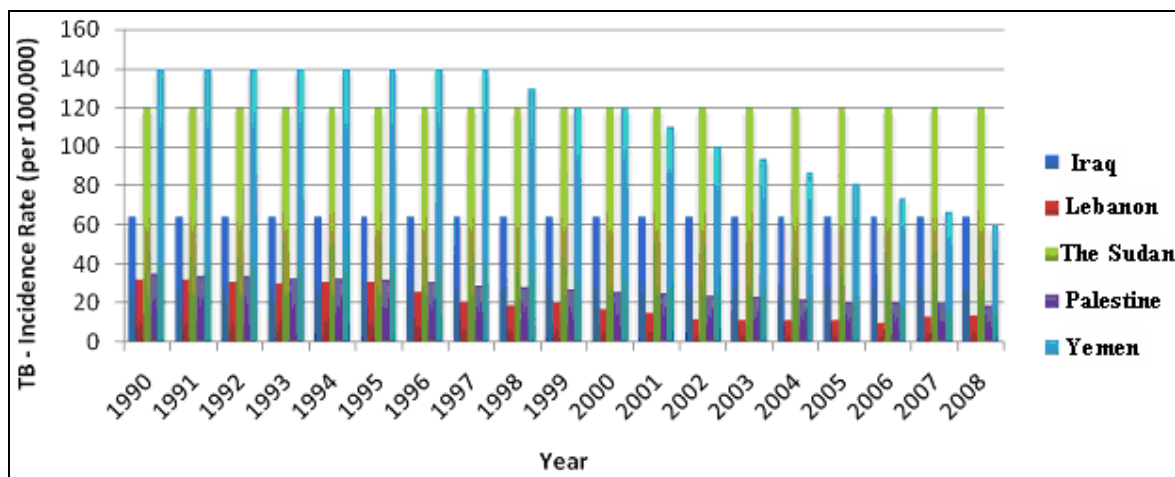
H. MDG7: ENSURE ENVIRONMENTAL SUSTAINABILITY[104]

All five conflict-affected countries and territories under investigation are off track for MDG7. This is hardly surprising given that in most conflict zones the environment is often neglected due to more pressing and immediate geopolitical, economic and social concerns. In Iraq, the proportion of households using an improved water source has stagnated at around 80 per cent since 1990, thereby contributing to significant environment degeneration. While the target of 96 per cent of households using an improved sanitation facility by 2015 is not impossible to attain, 83 per cent of Iraq's wastewater is left untreated. In Lebanon, the war of 2006 resulted in heavy environmental damage. A study conducted by the World Bank estimated the war cost of environmental degradation at $729 million or 3.6 per cent of GDP.[105] In Palestine, between 1995 and 2008, there was a reduction of 71 per cent in the proportion of the population without access to an improved water source, and a reduction of 68 per cent in the proportion of the population that does not use an improved sanitation facility. Moreover, fish stocks in the waters off the Gaza Strip have been depleting as a result of fishing restrictions laid down by Israel.[106]

Efforts in the Sudan need to be re-doubled, particularly given the vast and diversified natural resources, fertile land and biodiversity. Far from achieving its target of 82 per cent of the population having access to clean drinking water in 2015, there was a small decline in that percentage between 1990 and 2009, from 64 to 62 per cent. On the other hand, access to adequate sanitation improved from 33 per cent in 1990 to 42 per cent in 2009, but this is still below the set target of 67 per cent by 2015. In Yemen, the proportion of people without access to improved sanitation decreased from 89.4 per cent in 1994 to 77 per cent in 2008. However, Yemen is unlikely to attain its target of 44.7 per cent.

I. COMPOSITE MDG INDEX

The arguments and data presented in this chapter highlight the difficulties faced by the bulk of the conflict-affected countries in achieving their MDG targets, with the possible exception of Lebanon. While the reasons behind these

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[104] Data for this part are taken from the MDG reports for each country (stated above), unless otherwise indicated.

[105] UNDP, *Millennium Development Goals Lebanon Report 2008* (2009).

[106] Ministry of Planning and Administrative Development in Palestine, *Millennium Development Goals, Progress Report* (August 2010).

difficulties are multifaceted, they can be summarized as being related to economic, social welfare, political and security factors.[107] More specifically, ESCWA has created a composite MDG index that attempts to yield greater insights relating to the conflict–development nexus and to ease the analysis of the plethora of MDG targets. By so doing, rather than present country performance indicator by indicator (as set forth above in this chapter), it becomes possible to collapse selected indicators that are argued to be related with both development and conflict into four baskets or sub-indices, namely: economic, social welfare, political and security. This yields an overall score that relates a conflict country's developmental performance by sub-indices.[108]

Country improvements and/or deteriorations are viewed across a 12-year period divided across four triennia beginning in 1997-1999 and ending in 2006-2008, summarized in table 10. A broad overview of the index provides a mixed picture with regard to "progression" along the conflict-development continuum. First, this study notes that the overall composite index score between the first (1997-1999) and fourth (2006-2008) triennia deteriorated for three out of the five ESCWA member countries under review, namely, Iraq, Lebanon and the Sudan. This owes mainly to more uncertain political and security climates. On the positive side, improvements were found in terms of social welfare across the board while economic improvements were relatively more prevalent. However, there was a marked deterioration in economic and social welfare scores between the third and fourth triennia, consistent with falls in security scores, thereby suggesting that conflict raises the spectre for de-development, or at least slows down the rate of its progression.

J. SUMMARY ON MDG PROGRESS

Mindful of the significant data limitations, the overall picture suggests that, with the exception of Lebanon, the conflict-affected countries and territories lag behind their ESCWA counterparts on MDG attainments. This is not to say that some targets will not be achieved, but rather that the general picture is bleak and that, if left unchecked, the current trends could produce suboptimal outcomes that leave millions of citizens possessing a quality of life that fails to meet the ideals of MDGs by 2015 or even by the slightly delayed timeframe of 2020. The route to reversing this depressing finding is, however, fraught with difficulties given that conflict-affected countries, their security situation and often their political environments remain fragile and require addressing. While this does not have to come at the expense of MDG targets, there is a need to acknowledge that without a secure polity, the provisions of public goods and services required for MDG achievement are more likely to be produced in a piecemeal, suboptimal and inefficient manner.[109] Consequently, despite facing limited resources that, in a perfect world, would be heavily focused on MDGs, the reality remains that some of these resources need to be expanded in order to secure national polities. This then applies further pressure on the efficient use of scarce resources so as to better improve the probability of MDG attainment, particularly via the use of budgetary and external resources.

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[107] For more information, refer to ESCWA, "The Developmental Costs of Conflict in the ESCWA Region: A Composite MDG Index for Conflict-Affected Countries" (2011).

[108] Ibid. The index scores range from a low of zero to a high of 10, and are a conglomeration of rankings of up to 144 developing countries. Thus a score close to 10 for a given basket indicates a country is progressing well in a particular area (e.g. economic).

[109] This is tested and illustrated in the econometric analysis of the costs of conflict in chapter III.

TABLE 10. COMPOSITE MDG INDEX BY BASKET AND TRIENNIUM: CONFLICT-AFFECTED
COUNTRIES AND TERRITORIES OF THE ESCWA REGION

Time	Country/territory	Overall score	Economic	Social welfare	Political	Security
1997-1999 (T1)	Iraq	3.73	5.37	2.77	0.85	5.95
2000-2002 (T2)		4.00	2.98	4.92	0.59	7.49
2003-2005 (T3)		3.32	3.06	4.74	1.20	4.28
2006-2008 (T4)		2.98	2.49	5.05	1.98	2.41
Change T1 – T4		Deteriorate	Deteriorate	Improve	Improve	Deteriorate
Percentage change T1 – T4		-20.11%	-53.63%	82.31%	132.94%	-59.50%
1997-1999 (T1)	Lebanon	5.89	4.82	5.20	5.49	8.05
2000-2002 (T2)		6.42	5.42	7.25	4.97	8.04
2003-2005 (T3)		6.43	5.44	7.36	5.10	7.80
2006-2008 (T4)		5.37	5.11	7.25	4.77	4.34
Change T1 – T4		Deteriorate	Improve	Improve	Deteriorate	Deteriorate
Percentage change T1 – T4		-8.83%	6.02%	39.42%	-13.11%	-46.09%
1997-1999 (T1)	Palestine	4.46	3.54	3.00	4.08	7.22
2000-2002 (T2)		5.05	4.12	5.47	3.36	7.26
2003-2005 (T3)		5.59	5.64	5.38	3.90	7.45
2006-2008 (T4)		5.03	3.84	5.40	3.79	7.10
Change T1 – T4		Improve	Improve	Improve	Deteriorate	Deteriorate
Percentage change T1 – T4		12.78%	8.47%	80.00%	-7.11%	-1.66%
1997-1999 (T1)	The Sudan	3.32	3.37	3.84	2.04	4.04
2000-2002 (T2)		3.48	3.93	4.46	1.98	3.57
2003-2005 (T3)		3.29	3.62	4.18	1.81	3.57
2006-2008 (T4)		3.12	3.20	4.13	2.41	2.74
Change T1 – T4		Deteriorate	Deteriorate	Improve	Improve	Deteriorate
Percentage change T1 – T4		-6.02%	-5.04%	7.55%	18.14%	-32.18%
1997-1999 (T1)	Yemen	3.86	2.12	1.22	3.73	8.36
2000-2002 (T2)		4.41	3.40	3.17	2.84	8.21
2003-2005 (T3)		4.30	3.12	3.34	3.20	7.52
2006-2008 (T4)		4.22	2.48	3.53	3.46	7.42
Change T1 – T4		Improve	Improve	Improve	Deteriorate	Deteriorate
Percentage change T1 – T4		9.33%	16.98%	189.34%	-7.24%	-11.24%

Source: ESCWA.

**Figure IV. Trends in the composite index by conflict-affected country and territory
of the ESCWA region**
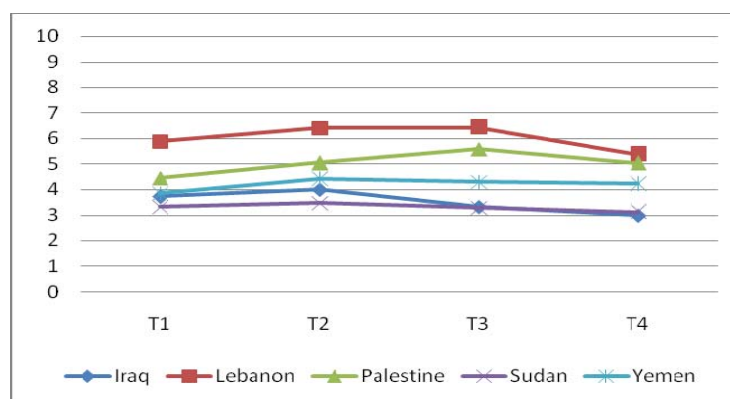
Source: ESCWA.

III. ASSESSING THE DEVELOPMENT COSTS OF CONFLICT

The literature survey in chapter I illustrates that while there is debate as to the direction of the causality between conflict and development, there is little doubt that the causality exists and manifests itself in a myriad of forms. This chapter eschews the wider debate as to the direction of causality and accepts the assertion that the causality could be either exogenous (unidirectional) or endogenous (bidirectional). In other words, this study accepts that de-development could lead to conflict or that conflict could lead to de-development in an unambiguous manner, insofar as the direction of movement is obvious, but equally encompasses the argument that their relationship is symbiotic and affect each other in a feedback loop from which it is difficult to disentangle the relationship so as to arrive at the initial point of disequilibrium.

This is done by providing an econometric estimate of the impact of war on development.[110] Very little is known on the relationship between war and development in the ESCWA region. This chapter estimates the effects of conflict on income and MDG-related variables for two different groups of countries, namely, economies in the ESCWA region and war-torn counterparts in other regions, and distinguishes between civil and inter-State wars.[111] From a methodological perspective, most of the existing literature estimates have reduced form models, that is models whereby per-capita income (or growth or any other development variable) is regressed on a measure of war duration (or war occurrence) and a set of controls. Often, these controls are variables that are themselves affected by war. This in turn causes possible multi-collinearity between war and the controls and biases the estimates of the war effect. Some authors recognize this problem and decide to exclude those controls that are most likely to be affected by war.[112] However, this solution is not particularly convincing: if the

excluded controls are significant determinants of development (as measured by income or any other variable), then an omitted variable problem arises and estimates of the effect of war are again likely to be biased.[113] The route pursued in this chapter is to estimate a structural system of equations (see the annex for the detailed methodology). In this way, war is allowed to affect development both directly and indirectly via its effect on the controls. This should provide a more realistic assessment of the overall development effects of conflict.

A. PRELIMINARY FINDINGS AND STYLIZED FACTS

The dataset for the econometric analysis is structured as a panel as follows: for each of 206 countries/territories, observations are taken over periods of five years (quinquennia) starting from 1960-1964 except for the last term of 2000-2005, which encompasses six years, so that the time dimension consists of at most nine observations and the total maximum number of observations in the panel is 1854.[114] The average war duration across all quinquennia and countries is equal to 0.27 years (approximately 99 days) for civil wars and 0.07 years (approximately 26 days) for inter-State wars. The corresponding war deaths are 106 and 271. Consequently, it appears that while inter-State wars are less frequent, they tend to cost more in terms of lives. Obviously, the dispersion around these averages is very large as only a minority of countries is involved in a war at any point in time. In fact, out of a total of 1854 observations, there are 1615 observations for which civil war duration is equal to zero and 1772 for which inter-State war duration is equal to zero. Cases of countries that are contemporaneously involved in civil and inter-State war are very rare as the panel contains only 31 observations where both civil war duration and inter-State war duration are positive. Restricting attention to the sample of observations for which war duration is positive, the average number of years of civil

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[110] War in this chapter refers to civil (intra-State) war and inter-State (international) war.

[111] Due to data limitations, it is not possible to identify and limit the exercise to the five focus countries and territories. Consequently, the ESCWA data encompasses all 14 members.

[112] See for instance, P. Collier, "On the Economic Consequences of Civil War", *Oxford Economic Papers*, vol. 51 (1999), pp. 168-183.

[113] This bias is likely to take two forms, namely: (a) low estimated coefficients on the war variable (meaning that the true cost of war is underestimated); and (b) large standard errors associated with these coefficients (meaning that the likelihood to conclude that the cost of war is not significant increases).

[114] Please see the annex table for a definition list of the variables.

war in a quinquennium is 2.14, while the average number of years of inter-State war in a quinquennium is 1.7. For the 13 ESCWA member countries, which excludes Palestine, there are on average 0.39 years of civil war in each country in each quinquennium and 0.13 years of inter-State war.[115] The corresponding average death tolls are 105 (civil war) and 903 (inter-State war). When restricting attention to the sub-sample of war-torn member countries (that is, the countries that have experienced a war during the period of observation of this report), in each quinquennium there are on average 1.52 years of civil war and 0.78 years of inter-State war. The corresponding death tolls are 1,082 and 5,419.

As a preliminary piece of evidence, this chapter reports a set of simple correlations between war duration and per-capita income levels and growth in the panel of all countries. In each quinquennium, the level of per-capita income is measured as the average of per-capita GDP (in 2000 United States dollars, constant prices) taken over the five years. Growth instead is simply the average annual percentage change in per-capita GDP over the quinquennium.

Figure V. Relationship between war and the level of per-capita GDP and between war and the growth rate of per-capita GDP

Years of war (per quinquennium)
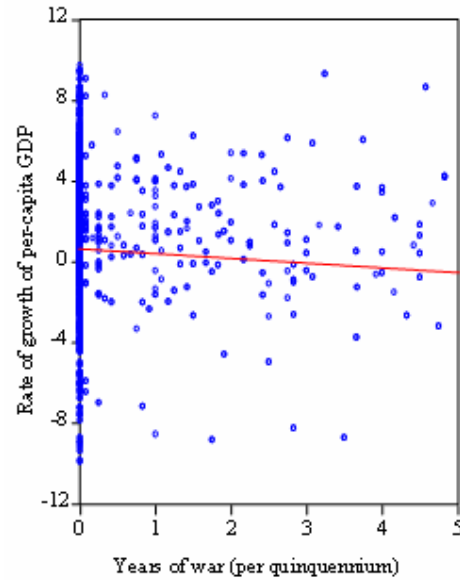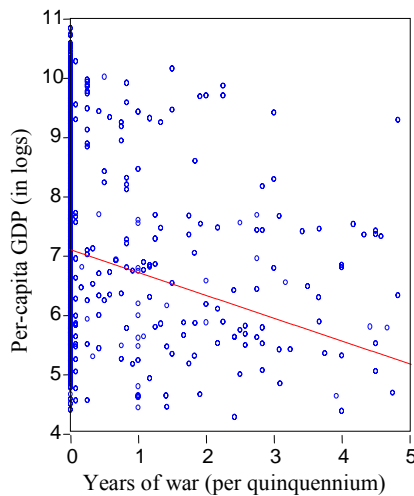
Figure V depicts the scatter plot of total war duration (civil plus inter-State) against log per-capita GDP and growth, respectively. The figures also report the ordinary least squares (OLS) regression line. As can be seen, both correlations are negative, meaning that the longer a country is at war, the lower its per-capita GDP and growth rate will be. The slope coefficient for per-capita GDP is -0.183 and for the rate of growth of per-capita GDP it is -0.337. This means that an increase in war duration by one year is associated with a decline in average growth by 0.34 percentage points.

Figures VI and VII reproduce the scatter plots separately for civil wars and inter-State wars. The difference between the two types of war is clear: the correlation with both per-capita GDP and growth is significantly negative in the case of civil wars, but flat or even positive in the case of inter-State wars. In the case of growth versus civil war duration, the estimated slope coefficient is -0.595, which implies that one additional year of war is associated with a decrease in average growth by 0.6 percentage points a year. Conversely, in the case of growth versus inter-State war duration, the estimated slope coefficient is 0.374 and statistically insignificant. This means that there is no evidence of any systematic association between years of inter-State war and growth performance.

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[115] The dataset used in this chapter does not list Palestine and, therefore, the results for the ESCWA region exclude Palestine. See the Correlates of War (COW), which is available at: www.correlatesofwar.org/.

**Figure VI. Relationship between civil war
and the level of per-capita GDP and
between civil war and the growth
rate of per-capita GDP**
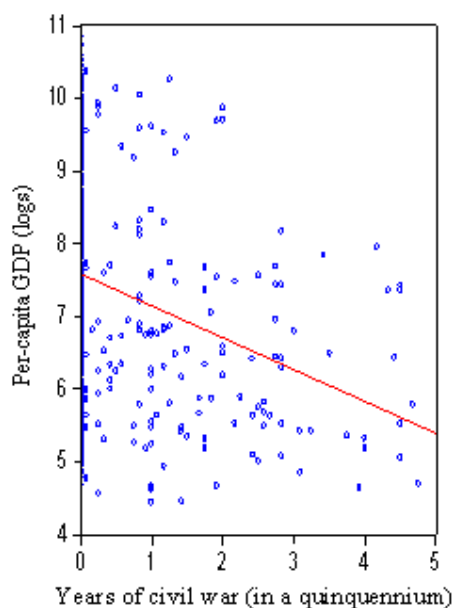
**Figure VII. Relationship between inter-State
war and the level of per-capita GDP and
between inter-State war and the growth
rate of per-capita GDP**
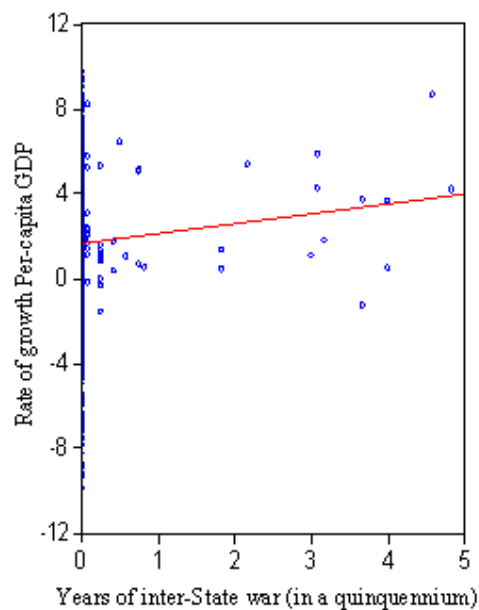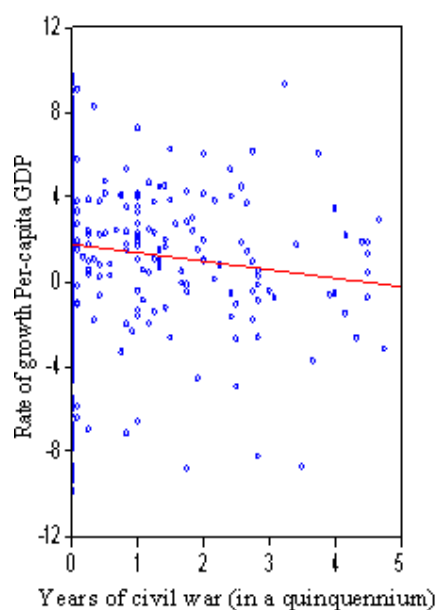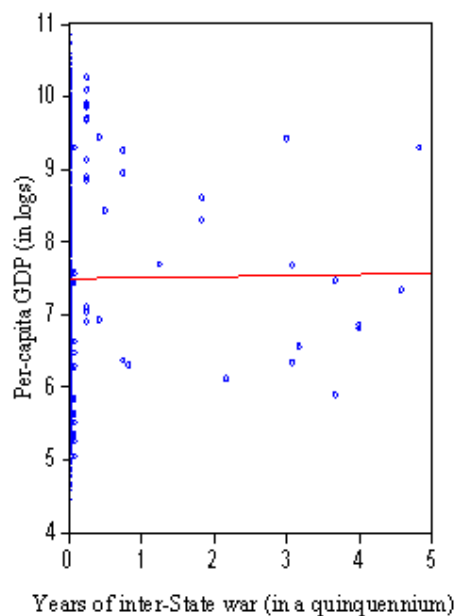
Two stylized facts therefore emerge from these simple scatter plots. First, an increase in war duration is associated with a significant decline in the rate of growth and the level of per-capita GDP. This negative correlation is statistically significant; the estimated slope coefficient

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implies that one additional year of war is associated with a decline in growth of 0.34 percentage points a year over a five-year period.[116] Secondly, most of the negative association between war duration and growth/income level is driven by civil wars. Inter-State war duration appears to be substantially uncorrelated with growth and/or per-capita income level. One additional year of civil war is associated with a decline in per-capita GDP growth of 0.6 percentage points a year. By contrast, one additional year of inter-State war appears to be associated with a mild increase in growth, but the effect is statistically insignificant. However, the stylized facts cannot be interpreted in terms of causality. That is, the fact that there is a negative correlation between per-capita GDP and civil war duration does not necessarily mean that civil war causes a decline in growth or income. The scatter plots and the correlations are convenient ways to summarize the raw data and provide information on statistical co-movements. In order to make inferences about the direction of causality and the robustness of the income effect of war a more formal econometric model has to be estimated.[117]

B. ECONOMETRIC RESULTS AND DISCUSSION

There is a very lively and recent empirical literature that studies the determinants of cross-country differences in terms of development, with per-capita GDP as an empirical proxy for development.[118] The literature has developed into a research programme that emphasises three main categories of long-run income determinants,

namely:[119] geography, institutions and policy. This study incorporates these three categories in order to shed light on the variables behind the performance of per-capita GDP, as follows:

(a) *Geography:* distance from the equator (latitude), dummy variable for landlocked countries (landlocked), index of malaria ecology (malaria), and the percentage of exports of fuels and minerals on total merchandise exports (fuels). Latitude and landlocked are meant to capture the morphological structure of a country's geography. The expectation is that greater distance from the equator increases per-capita income, while lack of access to the sea reduces income. Malaria ecology is an index of the quality of the disease environment. It is constructed by combining temperature, mosquito abundance and mosquito vectors into an ecologically-based measure of malaria risk. The theoretical expectation is that a worse disease environment reduces income by affecting individual productivity and conditioning the historical development of economic activities. Fuels, is a rather standard measure of natural resource dependence. While the traditional wisdom is that natural resources are a curse for development, recent evidence indicates that this does not necessarily have to be the case. In fact, the net impact of resources on income is conditional on other factors, including for instance policies and institutions, and might even be positive. The theoretical expectation on the sign of the fuels variable is therefore ambiguous;

(b) *Institutions:* index of quality of the legal system and regulation (institutions). This index is obtained by aggregating relevant components of the Economic Freedom of the World Index published by the Fraser Institute.[120]

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[116] Recall that the observations are grouped in quinquennia.

[117] The intricacies of the econometrics modelling are eschewed in this study due to space constraints and direct relevance to the majority of readers. The full econometric encapsulation is available upon request.

[118] In line with this trend in recent research, the structural econometric model used in this study is initially estimating using per-capita GDP as the dependent variable. The analysis is carried out in two stages. In the first stage, the equation is estimated without including the war variable. The purpose is to assess the baseline determinants of war. In the second stage, war is added to the baseline specification and potential transmission channels identified.

[119] In fact, most of the research in the area revolves around the question of whether any of the three categories dominates over the other two. For instance, Acemoglu, Johnson and Robinson (2001) as well as Rodrik, Subramanian and Trebbi (2004) suggest that "institutions rule", meaning that after controlling for institutional variables, policy and geography play a relatively minor role. By contrast, Sachs (2003) provides evidence that geography, in the form of disease environment, matters even after controlling for institutions. All in all, there is no consensus and it is a standard approach in the literature to specify the regression model including variables from all of the three categories.

[120] The Fraser Institute is available at: www.freetheworld.com/.

It measures the extent to which legal and regulatory provisions and judicial procedures are conducive to economic activity. In this sense, the Index incorporates such aspects as the degree of enforcement of property rights and contracts, the protection against expropriation risk, the efficiency of the bureaucracy and the control of corruption that have been captured in the previous literature by means of time invariant measures. The theoretical expectation is that better institutions increase per-capita GDP;

(c) *Policy:* openness to international trade (trade), number of years of education of the average individual in the population (education), government size (government) and volatility of inflation (volatility). Most theoretical arguments predict a positive effect of trade on both growth and income. However, the previous empirical evidence is not conclusive and trade has been occasionally found to have a negative or negligible effect. Education is generally expected to improve per-capita income and to foster growth, even though in previous empirical work female education has been occasionally found to have a marginally insignificant effect owing to persistent labour market discrimination which prevents women from accessing positions where they can fully exploit the human capital they have accumulated.[121] The size of government is measured by total government consumption as a percentage of GDP. The literature suggests that large governments are more likely to be inefficient and hence negatively associated with per-capita income. Indeed, government consumption, as distinct from public investment, tends to be unproductive. Moreover, a bigger share of government consumption is often associated with higher taxes, which in turn discourage economic activity. All in all, government size is expected to reduce per-capita income. Inflation volatility is measured by the standard deviation of annual inflation over each quinquennium. A volatile inflation indicates a less stable and predictable macroeconomic environment. Instability and unpredictability in turn cause uncertainty and hence have disruptive effects on entrepreneurial activity. This means

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[121] See, for instance, R, Barro and X. Sala-i-Martin, *Economic Growth* (MIT Press: Cambridge, 1995); and R. Barro, "Human Capital and Growth", *American Economic Review*, vol. 91, No. 2 (2001), pp. 381-385.

that higher volatility should be associated with a lower per-capita income.

Table 11 reports the estimates of the income equation.

TABLE 11. BASELINE MODEL OF INCOME
(*Dependent variable: the log of per-capita GDP*)

Variable	Estimate
Lagged per-capita GDP	0.88 (0.04)[c/]
Institutions	0.04 (0.02)[a/]
Fuels	-0.00 (0.09)
Trade	0.10 (0.05)[b/]
Education	-0.02 (0.02)
Volatility	-0.00 (0.00)[b/]
Government consumption	-0.01 (0.00)
Latitude	0.96 (0.21)[c/]
Landlocked	-0.13 (0.07)[a/]
Malaria	-0.02 (0.01)[c/]
Constant	0.75 (0.23)[c/]
Observations	474

Notes: Robust standard errors in parenthesis.

a/ denotes estimate is significant at the 10-per-cent level.

b/ denotes estimate is significant at the 5-per-cent level.

c/ denotes estimate is significant at the 1-per-cent level.

Endogenous variables: institutions, fuels, trade, education, volatility, government.

Most of the coefficients are significant at the usual confidence levels and have the a priori signs. In general, it does not appear that any category of income determinants is dominating over the others: institutions, geographical variables, and (some) policy variables are all statistically different from zero. More specifically, better institutions, greater international trade integration and greater distance from the equator tend to increase per-capita GDP. Conversely, per-capita income is reduced by a more volatile macroeconomic environment (and possibly a bigger government, even though the estimated coefficient of this variable is, strictly speaking, not significant), an environment that is more conducive to malaria, and the lack of direct access to the sea. All of these effects are consistent with the theoretical predictions. The only two variables whose estimated coefficients are largely insignificant are fuels and education. However,

this is not entirely surprising. As noted above, for these two variables, the literature often makes conflicting predictions and/or provides ambiguous empirical results. For instance, in the case of resource dependence several transmission mechanisms of opposite sign might be operating simultaneously, thereby cancelling each other out in aggregate terms. The lack of significance of the coefficient of education can instead be due to education being strongly correlated with one of the other regressors (most likely, lagged per-capita income). To some extent, it is also possible, as discussed above, that labour market imperfections in several developing countries prevent human capital from having a strong positive impact on growth. The removal of such imperfections, including, for instance, gender discrimination, would then result in a much stronger and statistically more significant relationship between education variables and income. Finally, the coefficient of lagged per-capita GDP, positive and smaller than one, implies a rate of conditional convergence around 10 per cent per year.[122]

An important aspect of the equation estimated in table 11 is that it does not include a measure of physical capital accumulation or investment. In fact, this is often the case in recent literature on determinants of income and development. Most of the other variables are expected to affect per-capita income by affecting an individual's incentives to save and invest. In this sense, adding investment could make many of the other regressors insignificant and hence complicate the statistical inference and interpretation of the results. However, given the key role of investment in growth theory, one should at least check how the baseline estimates of the income regression change when a proxy of physical capital accumulation is introduced. For that purpose, table 12 reports the results of an income regression that includes fixed capital formation as percentage of GDP.

TABLE 12. BASELINE MODEL OF INCOME WITH PHYSICAL CAPITAL ACCUMULATION (INVESTMENT)

(*Dependent variable: the log of per-capita GDP*)

Variable	Estimate
Lagged per-capita GDP	0.90 (0.03)[c]
Investment	0.01 (0.00)[c]
Institutions	0.03 (0.02)[b]
Fuels	-0.00 (0.00)
Trade	0.02 (0.07)
Education	-0.00 (0.02)
Volatility	-0.00 (0.00)[c]
Government consumption	-0.00 (0.01)
Latitude	0.61 (0.16)[c]
Landlocked	-0.06 (0.05)
Malaria	-0.01 (0.01)[a]
Constant	0.33 (0.23)
Observations	473

Notes: Robust standard errors in parenthesis.

a/ denotes estimate is significant at the 10-per-cent level.

b/ denotes estimate is significant at the 5-per-cent level.

c/ denotes estimate is significant at the 1-per-cent level.

Endogenous variables: institutions, fuels, trade, education, volatility, government.

As expected, the estimated coefficient of investment is positive and strongly significant. The evidence concerning the other determinants of income does not change dramatically. The two most interesting differences relative to table 11 concern trade and government. Specifically, trade becomes statistically insignificant. This finding is in line with early evidence from Levine and Renelt who found a very robust association between trade and investment.[123] Government consumption also becomes insignificant. In fact, one should note that even in the specification without investment, government barely passed the zero restriction test at usual confidence levels. Nevertheless, the observed increase in the p-value (unreported) might be indicative of strong collinearity between investment and government consumption. A possible rationalization of this collinearity is that government consumption affects per-capita income by discouraging investment. Once investment is controlled for, government consumption has no other relevant effect on per-capita income. In conclusion,

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[122] While this speed of convergence is much faster than that originally estimated by Barro (1991) and Barro and Sala-i-Martin (1995), it is similar to the estimate of Caselli, Esquivel and F. Lefort, who also used a dynamic panel approach. See F. Caselli, G. Esquivel and F. Lefort, "Reopening the Convergence Debate: A New Look at Cross-Country Growth Empirics", *Journal of Economic Growth*, vol. 1 (1996), pp. 363-389.

[123] R. Levine and D. Renelt, "A Sensitivity Analysis of Cross-Country Growth Regressions", *American Economic Review*, vol. 82, No. 4 (1992), pp. 942-963.

introducing investment as a regressor of per-capita income does raise some issues of multi-collinearity. At the same time, investment is an important determinant of per-capita income and many of the other regressors remain statistically significant. Furthermore, investment is likely to be one of the channels through which war affects per-capita income. The rest of this chapter proceeds without the investment variable, unless otherwise indicated.

C. INTRODUCING THE WAR VARIABLES

Having modelled the determinants of per-capita income in a dynamic framework, the next step is to introduce the war variables. However, it is important to identify which of the determinants of income might be affected by war and which, instead, are to be regarded as certainly exogenous to war. This in turn will inform the analysis of the possible channels through which war affects per-capita income. In fact, the division appears to be quite straightforward from a theoretical point of view. On the one hand, all of the policy variables and institutions are potentially affected by war. On the other, geographical variables are unlikely to depend on war. Table 13 replicates table 11 with the addition of a war variable.

TABLE 13. INCOME WITH TOTAL WAR DURATION
(*Dependent variable: the log of per-capita GDP*)

Variable	Estimate
Lagged per-capita GDP	0.88 (0.04)[c/]
War	-0.00 (0.00)
Institutions	0.03 (0.02)
Fuels	-0.00 (0.00)
Trade	0.08 (0.06)
Education	-0.01 (0.01)
Volatility	-0.00 (0.00)[b/]
Government consumption	-0.01 (0.00)[b/]
Latitude	0.90 (0.18)[c/]
Landlocked	-0.13 (0.07)[a/]
Malaria	-0.02 (0.00)[c/]
Constant	0.76 (0.17)[c/]
Observations	474

Notes: Robust standard errors in parenthesis.

a/ denotes estimate is significant at the 10-per-cent level.

b/ denotes estimate is significant at the 5-per-cent level.

c/ denotes estimate is significant at the 1-per-cent level.

Endogenous variables: institutions, fuels, trade, education, volatility, government.

The war variable has the expected negative coefficient but is statistically insignificant. At the same time, two variables that were significant in the regression of table 11 have now become insignificant, namely: institutions and trade. A possible explanation of why war, institutions and trade all display insignificant coefficients is that they are collinear. In turn, collinearity arises if war directly determines institutions and trade. This therefore suggests that institutions and trade might be channels through which the effect of war is transmitted to per-capita GDP. The estimated coefficients of the other variables are qualitatively unchanged (*in other words,* they retain their sign and degree of significance). The speed of convergence also appears to be substantially unaffected by the inclusion of the war variable. All in all, if one were to estimate this income equation only, without considering the structural relations that link war to the other determinants of per-capita income, one would (most likely erroneously) conclude that war has no significant development cost.

Table 14 replicates table 13 with the addition of an ESCWA dummy and the breaking up of the war variable into smaller constituent parts.

TABLE 14. INCOME WITH CIVIL AND INTER-STATE WAR DURATION AND ESCWA DUMMIES
(*Dependent variable: the log of per-capita GDP*)

Variable	Estimate
Lagged per-capita GDP	0.88 (0.02)[c/]
Civil war	-0.01 (0.01)[a/]
Inter-State war	0.02 (0.01)
Civil war (ESCWA)	-0.04 (0.08)
Inter-State war (ESCWA)	-0.14 (0.16)
ESCWA	-0.18 (0.05)[c/]
Institutions	0.03 (0.02)
Fuels	-0.00 (0.00)
Trade	0.08 (0.04)[a/]
Education	-0.01 (0.01)
Volatility	-0.00 (0.00)[b/]
Government consumption	-0.00 (0.03)
Latitude	0.82 (0.13)[c/]
Landlocked	-0.17 (0.07)[b/]
Malaria	-0.02 (0.00)[c/]
Constant	0.76 (0.15)[c/]
Observations	474

Notes: Robust standard errors in parenthesis.

a/ denotes estimate is significant at the 10-per-cent level.

b/ denotes estimate is significant at the 5-per-cent level.

c/ denotes estimate is significant at the 1-per-cent level.

Endogenous variables: civil war, inter-State war, civil war (ESCWA), inter-State war (ESCWA), institutions, fuels, trade, education, volatility, government.

ESCWA is a dummy variable when included (not interacted with the war duration variables).

Both trade and civil war are weakly significant, while the coefficient of institutions comes up insignificant. However, it must be stressed that this increase in the precision of the estimates is marginal and does not invalidate the previous observations on the collinearity of trade, institutions and war. Probably more interesting is the finding that the interactive terms (in other words, the interaction of war and ESCWA variables) have largely insignificant coefficients. This means that in the reduced form equation, there is no evidence of ESCWA member countries behaving differently from war-torn countries in other regions. Finally, the negative and significant coefficient on the ESCWA dummy (when not interacted with the war duration variables) indicate that ESCWA member countries have a systematically lower per-capita income level than the average non-ESCWA member in the sample after controlling for all the other determinants of development (including war).

Taking stock of the estimates reported above, it is possible to conclude the following:

(a) The direct effect of war (civil or international in both the ESCWA region and other regions) on per-capita income is statistically negligible after accounting for other potential determinants of income;

(b) There is evidence that war is collinear with other potential determinants of income, namely: institutions and trade. Collinearity implies that the coefficients of the war variables in the income regression are not precisely estimated. From an economic perspective, this means that war could be affecting per-capita income indirectly via its effect on institutions and trade. Another variable on which war is expected to have a strong effect is education. However, education in the income equation is always statistically insignificant, meaning that it cannot work as a transmission mechanism of the effect of war.

D. TRANSMISSION CHANNELS I: CONFLICT AND INSTITUTIONS

In order to estimate the impact of war on institutions, the determinants of institutions will have to be identified. To that end, one can consider various economic theories of institutions that have been discussed in recent years. Two in particular are currently popular. First, in 1999, La Porta et al. proposed to link the quality of institutions to the legal origins of a country.[124] According to this theory, the legal system can be viewed as an indicator of the relative power of the State vis-à-vis property owners.[125] The second popular economic theory of institutions was presented in 2001 by Acemoglu, Johnson and Robinson, who argued that current institutions depend on the choices and incentives of European colonizers, which in turn reflects the disease environment.[126] In countries where the disease environment was particularly hostile, so that settling down was not an option, the colonizers set-up "extractive institutions", that is institutions which allowed them to exploit and appropriate local wealth as quickly and pervasively as possible. Instead, in countries where the disease environment was favourable, colonizers decided to settle down and hence established institutions that were similar to those they had in their own countries. In this sense, countries with a worse disease environment (countries that are more exposed to malaria and other diseases that could have caused high mortality among the colonizers) should have worse institutions. The variable malaria already introduced in the previous section is used to capture the quality of the disease environment.

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[124] R. La Porta et al., "The Quality of Government", *Journal of Law and Economic Organizations*, vol. 15 (1999), pp. 222-279.

[125] In particular, common law has developed in England to some extent as a defence of Parliament and property owners against the attempts by the sovereign to regulate and expropriate them. Conversely, civil law has developed in France (and in other countries) more as an instrument used by the sovereign for State-building and controlling economic life. The legal origins therefore affect the evolution of institutions that are relevant for economic activity, including, for instance, the protection against the risk of expropriation, the responsiveness and accountability of policymakers, and the protection and enforcement of contracts. In this respect, different legal origins are likely to explain a significant part of the cross-country variation in institutional quality. To provide an empirical representation of the legal origin theory, a dummy variable *legor* is constructed that takes value 1 in country i if the legal system of country i originates from the UK common law, and a value of zero if not.

[126] D. Acemoglu, S. Johnson and J. Robinson, "The Colonial Origins of Comparative Development: An Empirical Investigation", *American Economic Review*, vol. 91, No. 5 (2001), pp. 1369-1401.

In addition, the set of controls includes two other variables that have been widely used in the empirical analysis of institutional quality. One is the degree of ethnic fragmentation (ethnic), which is defined as the probability of two randomly selected individuals in the population not belonging to the same ethnic group. The expectation is that social cohesion is weaker in more fragmented societies, which therefore have more troubles undertaking reforms and end up with worse institutions.[127] The other control is the measure of dependence on fuel exports (fuels). As a matter of fact, in trying to explain the transmission channels of the resource curse, various papers have identified a negative effect of primary commodity export dependence on the overall quality of institutions. The underlying intuition is that natural resources constitute easily appropriable resources and therefore favour the development of rent-seeking.

The results of the estimation of the institution equation are reported in the top half of table 15.

TABLE 15. CONFLICT AND INSTITUTIONS
(*Dependent variable: index
of institutional quality*)

Variable	Estimate
Lagged institution index quality	0.73 (0.04)[c/]
Civil war	-0.27 (0.56)
Inter-State war	-2.12 (0.98)[b/]
Civil war (ESCWA)	-0.70 (0.13)[c/]
Inter-State war (ESCWA)	0.46 (0.61)
ESCWA	-0.25 (0.21)
Fuels	0.00 (0.00)
Legor	0.20 (0.31)
Ethnic	0.24 (0.40)
Malaria	-0.08 (0.02)[c/]
Constant	1.88 (0.30)[c/]
Observations	593
With lagged per-capita GDP	

[127] See also W. Easterly and R. Levine, "Africa's Growth Tragedy: Policies and Ethnic Divisions", *Quarterly Journal of Economics*, vol. 112, No. 4 (1997), pp. 1203-1250.

TABLE 15 (*continued*)

Variable	Estimate
Lagged institution index quality	0.79 (0.01)[b/]
Lagged per-capita GDP	0.43 (0.55)
Civil war	-0.24 (0.56)
Inter-State war	-2.57 (0.89)[a/]
Civil war (ESCWA)	-0.80 (0.12)[b/]
Inter-State war (ESCWA)	0.50 (1.14)
ESCWA	-0.30 (0.34)
Fuels	0.00 (0.00)
Legor	0.19 (0.31)
Ethnic	0.29 (0.50)
Malaria	-0.08 (0.02)[b/]
Constant	3.46 (0.55)[b/]
Observations	503

Notes: Robust standard errors in parenthesis.

a/ denotes estimate is significant at the 5-per-cent level.

b/ denotes estimate is significant at the 1-per-cent level.

Endogenous variables: civil war, inter-State war, civil war (ESCWA), inter-State war (ESCWA), fuels.

ESCWA is a dummy variable when included (not interacted with the war duration variables).

The evidence is that wars effectively reduce institutional quality. At the global level, the effect is significant only for international wars. However, in the specific case of the ESCWA region, the negative effect of civil wars is also strongly significant. The estimated coefficient implies that for the average ESCWA member, one additional year of civil war reduces the quality of institutions by 0.7 points on a scale from 1 to 10. To get a sense of the size of this impact, consider that the full sample average of the institutional indicator is 5.86, with a standard deviation of 1.20. In the group of ESCWA member countries, the average of institutions is 5.99, with a standard deviation of 1.22. Taking the quinquennium 2000-2005 as the reference, 0.7 points correspond to the difference in institutional quality that exists between India and Bangladesh (or Ivory Coast).

Turning to the other controls, the quality of the disease environment appears to be a more important determinant of institutions than legal origins and ethnic fragmentation. Dependence on primary resources also appears to have a negligible effect after controlling for wars and

disease environment. Finally, the equation estimated in table 15 does not include per-capita income as a possible regressor. In fact, it has been occasionally argued that richer countries can generally afford better institutions.[128] The institutional quality regression has therefore been re-estimated, including log per-capita GDP on the right hand side. The full set of results are reported in the bottom half of the table. The coefficients of the war variables maintain their sign and level of statistical significance and the coefficient of per-capita GDP is insignificant. Consequently, the conclusion that war has a negative effect on institutions still holds.

E. TRANSMISSION CHANNELS II: CONFLICT AND TRADE

The trade equation draws on the previous literature on the determinants of international trade in a gravity model context.[129] The key problem in using the gravity model as a reference to specify the trade equation in this report is that the gravity model is meant to explain bilateral trade flows, while the trade equation is here meant to explain the total trade of a specific country, i, with the rest of the world. Therefore, such variables as geographical distance and common language (for instance) that can be easily defined for pairs of countries are difficult to capture in a multilateral framework. Nevertheless, it is possible to represent the key elements of the gravity equation through the following variables: a dummy variable that takes value 1 if country i is landlocked, the aggregate real GDP of country i, the per-capita GDP of country i, and the land area of country i. The landlocked dummy is a rough measure of how easy (or difficult) it is for country i to trade with other countries.[130]

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[128] See, for instance, La Porta et al., op. cit.

[129] The gravity model expresses the volume of bilateral trade between two economies as a function of the following: (a) the geographical distance between the two countries; and (b) their joint economic size (as measured by the product of their aggregate GDPs).

[130] In the original gravity equation, countries that are closer to each other are expected to trade more. This is because the closer the countries are, the lower transport costs are likely to be, which in turn makes trade more convenient. Landlocked countries usually experience higher transport costs than costal countries. In this sense, being landlocked implies the existence of significant barriers to trade and hence smaller volumes of trade.

Aggregate GDP (GDP) and land area (Area) proxy for the size of a country. In the gravity model, bigger countries tend to trade more. However, much of the theoretical and empirical research on open economy macroeconomics emphasizes that big economies tend to be less open to international trade than small economies. The sign of the coefficients of these two variables is therefore ambiguous ex-ante. Finally, per-capita GDP is used to proxy for the demand and supply-side potential of a country. Richer economies tend to demand more of foreign products while at the same time they are able to produce more (and more efficiently) for international markets. This means that a higher per-capita GDP should determine a larger volume of international trade.

The estimates of the trade equation are reported in table 16.

TABLE 16. CONFLICT AND TRADE
(*Dependent variable: trade as percentage of GDP*)

Variable	Estimate
Lagged trade	0.89 (0.05)[c/]
Civil war	-1.51 (0.70)[b/]
Inter-State war	0.96 (0.83)
Civil war (ESCWA)	1.43 (2.93)
Inter-State war (ESCWA)	14.19 (28.00)
ESCWA	4.30 (5.00)
GDP	6.22 (2.52)[b/]
Per-capita GDP	-6.88 (3.52)[a/]
Landlocked	-23.84 (16.62)[b/]
Area	-5.12 (1.64)[c/]
Constant	54.78 (22.79)[b/]
Observations	696

Notes: Robust standard errors in parenthesis.

a/ denotes estimate is significant at the 10-per-cent level.

b/ denotes estimate is significant at the 5-per-cent level.

c/ denotes estimate is significant at the 1-per-cent level.

Endogenous variables: civil war, inter-State war, civil war (ESCWA), inter-State war (ESCWA), GDP, per-capita GDP.

ESCWA is a dummy variable when included (not interacted with the war duration variables).

There is evidence of a trade-reducing effect of civil wars. This effect does not seem to be different between ESCWA and non-ESCWA

countries. However, while statistically significant, the effect is not particularly strong in economic terms. The estimated coefficients imply that one additional year of war would reduce the trade to GDP ratio by 1.5 percentage points. This is indeed a rather small amount given that the average value of the trade variable in the full sample is around 55 per cent. Certainly more relevant from an economic perspective are the marginal effects associated with the other control variables. In particular, being landlocked determines a reduction in trade by almost 24 percentage points of GDP. Interestingly, the two variables that are meant to capture the size of a country, namely, GDP and Area, display coefficients of opposite sign, thereby confirming the ambiguities of the theoretical predictions. More surprising is the negative coefficient on per-capita GDP. This finding might reflect the fact that some of the highest income economies generally tend to be relatively close, at least when trade volumes are scaled by overall GDP.

F. TRANSMISSION CHANNELS III: CONFLICT AND PHYSICAL CAPITAL ACCUMULATION (INVESTMENT)

For the investment equation, the choice of controls to be included is based on a simple microeconomic representation of the profit maximization problem of firms. As well known, under perfect competition, firms invest in physical capital up to the point where the marginal product of capital is equal to its marginal cost. Therefore, any factors that increase the marginal product and/or decrease the marginal cost will positively affect the dynamics of physical capital accumulation. The marginal product of capital can then be linked to the quality of institutions and the volume of international trade. Better institutions increase the expected return on capital by providing a more reliable enforcement of property and economic rights and hence a more conducive business environment. International trade instead opens up new market opportunities, thereby making investment generally more profitable. The cost of capital is instead a function of the depth and efficiency of domestic financial intermediation, so that less liquid financial systems tend to result in lower investment.

In addition, there are two other relevant theoretical arguments that need to be taken into account. One focuses on the role of uncertainty and how it affects investment.[131] Here the idea is that, in a more volatile macroeconomic environment, uncertainty about the rate of return of physical capital reduces the incentive to invest. In other words, when uncertain about macroeconomic conditions, firms and individuals prefer to wait and hence postpone risky investment. The other relevant argument concerns international financial integration; that is, the liberalization of capital account transactions. By increasing international risk sharing opportunities, allowing capital to flow from capital rich to capital scarce countries, and fostering competition and efficiency in domestic financial intermediation international financial integration should boost domestic investment and growth.[132] A possible counter-argument is that international capital flows are generally unstable.[133] Consequently, a more financially open economy might be more vulnerable to sudden stops and capital reversals (and/or speculative attacks), which would in turn increase uncertainty and hence depress rather than promote investment.

Drawing on these considerations, the set of controls in the investment equation includes inflation volatility as a proxy for macroeconomic volatility, the indicators of institutional quality and trade integration, the ratio of M2 to GDP (M2) as a proxy for the liquidity of the domestic financial system, and Chinn and Ito's index of capital account liberalization (Financial openness). In addition, the equation controls for the same time-invariant factors that were used in the per-capita income regression. Results are reported in table 17.

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[131] See, among others, M. Demers, "Investment under Uncertainty, Irreversibility and the Arrival of Information Over Time", *Review of Economic Studies*, vol. 58 (1991), pp. 333-350; A. Dixit and R. Pyndick, *Investment under Uncertainty* (Princeton University Press, 1994).

[132] The literature on the macroeconomic effects of international financial integration on investment and growth has grown exponentially over the past few years. See bibliography for the full references of the following studies: Obstfeld (1994), and Acemoglu and Zilibotti (1997) for seminal theoretical formalizations. Some empirical results are provided by, among others, Chinn and Ito (2002 and 2006); Edison et al. (2002 and 2004); Kalemli-Ozcan, Sorensen and Yosha (2003); Imbs (2004); Kose, Prasad and Terrones (2007); and Carmignani (2008).

[133] See, for example, Eichengreen (2001).

TABLE 17. CONFLICT AND PHYSICAL CAPITAL
ACCUMULATION (INVESTMENT)
(*Dependent variable: gross fixed capital
formation as percentage of GDP*)

Variable	Estimate
Lagged investment	0.53 (0.07)[b/]
Civil war	-7.25 (3.55)[a/]
Inter-State war	0.61 (0.41)
Civil war (ESCWA)	-2.55 (0.69)[b/]
Inter-State war (ESCWA)	-1.13 (7.99)
ESCWA	-0.61 (1.04)
Volatility	-0.00 (0.00)[b/]
Financial openness	0.03 (0.24)
M2	-0.08 (0.02)[b/]
Institutions	0.54 (0.60)
Trade	0.42 (0.15)[b/]
Latitude	4.24 (3.33)
Landlocked	-1.24 (1.69)
Malaria	-0.34 (0.12)[b/]
Constant	7.91 (2.98)[b/]
Observations	551

Notes: Robust standard errors in parenthesis.

a/ denotes estimate is significant at the 5-per-cent level.

b/ denotes estimate is significant at the 1-per-cent level.

Endogenous variables: civil war, inter-State war, civil war (ESCWA), inter-State war (ESCWA), volatility, financial openness, M2, institutions, trade.

ESCWA is a dummy variable when included (not interacted with the war duration variables).

There is again evidence of a significant negative effect of civil wars. Economically, this effect is relatively weak worldwide, but rather strong in the ESCWA region.[134] The estimated coefficients imply that for the average ESCWA member country, an extra year of civil war can reduce fixed capital formation by almost 10 points of GDP. To provide a concrete benchmark, consider that the average of the investment ratio in the ESCWA region is 22.17 per cent, with a standard deviation of 7.07. A reduction by 10 points would therefore bring this average to around 12 per cent, which is equivalent to the investment ratio of least developed, war-torn sub-Saharan African economies.

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[134] The effect for the ESCWA region is the total sum of the significant worldwide effect (-7.25) plus the total of the significant ESCWA effect (-2.55), which yields a figure of -9.80, or rounded off to -10.

The other coefficients indicate that conditional convergence in investment occurs at a very fast rate if compared to the speed of convergence estimated for per-capita income. Macroeconomic volatility reduces investment, while, as expected, capital account liberalization, institutional quality and international trade increase it. However, only the coefficients of volatility and trade are significant. Very surprising is the finding that a higher M2 to GDP ratio reduces investment. A possible explanation is that M2 is a poor proxy for domestic financial development. Probably, a better proxy of financial development is the proportion of M2-M1 as a percentage of M2.[135]

G. CONFLICT AND MDG-RELATED DIMENSIONS OF DEVELOPMENT[136]

So far, per-capita income has been used as the relevant proxy of development. Obviously, as the MDG-based approach shows, development is not merely about per-capita income. This section therefore looks at the impact of war on various MDG-related, non-income dimensions of development. Several possible indicators of social development are considered, as follows:[137]

(a) Human capital (Human), which is a summary indicator of human capital development and it is equal to the product of average years of schooling times life expectancy;

(b) Immunization rate (Immunization), which is defined as the percentage of children aged 12-23 months who have been immunized against measles;

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[135] See C. Clague et al., "Contract Intensive Money: Contract Enforcement, Property Rights, and Economic Performance", *Journal of Economic Growth*, vol. 1 (1999), pp. 363-389. The problem in using this variable is that it highly correlates with the indicator of institutional quality. In any case, the estimated coefficients of the war variables are robust to changes in the empirical definition of financial development.

[136] For the sake of brevity, in the rest of the report non-income indicators of development are referred to as social development indicators. See F. Carmignani and D. Avom, "The Social Development Effects of Primary Commodity Export Dependence", *Ecological Economics*, vol. 70 (2010), pp. 317-330.

[137] See annex table.

(c) Life expectancy (Life), which is the number of years that the average individual in the population is expected to live;

(d) Average number of years of schooling in the total population (Average school), which is the total number of years of formal education completed by the average individual in the population;

(e) Socio-economic development (Social), which is another summary indicator of development constructed as the first principal component of education and health outcomes.[138] More specifically, the index is defined as a weighted average of (i) average number of years of education in the population, (ii) life expectancy, and (iii) rate of children immunization. The weights are determined from a statistical procedure in such a way that the weighted average explains the largest possible fraction of the common variation of the individual indicators;

(f) Child mortality (Child mortality), which is the number of deaths per 1000 population under five years of age;

(g) Access to improved sanitation facility (Access sanitation), which is measured by the percentage of individuals in the population with access to improved sanitation facilities;

(h) Income inequality (Gini): the Gini coefficient is a statistical measure of the dispersion of income distribution within a country. Higher values of the coefficient indicate greater income inequality across individuals in a country.

Results are reported in table 18. The estimated coefficients of log per-capita income and the war variables are separately reported in a column for each of the eight dependent variables.

The effect of per-capita income on social development is significant and positive, in the sense that higher income is associated with better development outcomes (i.e. lower poverty, higher immunization rates and longer life expectancy). The only exception is the positive coefficient in the inequality equation, which implies that richer countries tend to be characterized by less equal

income distribution.[139] Focusing on the effect of conflict, it is clear that wars do have a social development cost: several coefficients of the war variables are statistically significant even after controlling for per-capita GDP. This means that war negatively affects social development over and above any effect it has on per-capita income.

There are two additional important things to stress. First, the negative effect is sometimes associated with international wars and sometimes with civil wars.[140] Second, there is evidence that the development cost of war is often higher in the ESCWA region than in the rest of the world. Again, the specific ESCWA effect is sometimes associated with international wars (this is the case when the dependent variable is socio-economic development) and other times with civil wars (this is the case of life expectancy, inequality and immunization rate). The estimated coefficients imply that one additional year of civil war in ESCWA determines a reduction of around 1.5 years in life expectancy and an increase in inequality of 15 percentage points (this is about equivalent to 1.5 standard deviations). Moreover, one additional year of international war in the region causes a decrease of 2.7 points in the socio-economic development, corresponding to about 2 standard deviations of the indicators.

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[139] It is important to note that the coefficient is significant only at the 10-per-cent confidence level. Moreover and perhaps more importantly, the economic theory does predict a possible inequality-increasing effect of per-capita income. Following the traditional Kuznets hypothesis, inequality tends to increase with per-capita income at least up to a certain level of income. Past this threshold level, the relationship turns negative and further increases in income are associated with declining inequality. The positive coefficient of income could therefore stem from the fact that most observations in the sample refer to countries at relatively earlier stages of development, that is, countries that are still on the upward sloping part of the Kuznets curve. In order to shed a bit more light on this issue, the inequality estimation has been re-estimated adding the square of log per-capita GDP so to allow for an inverted U shaped relationship of the type predicted by the Kuznets hypothesis. It turns out, however, that the coefficients of both the linear and the squared term are statistically insignificant.

[140] In this respect, more work will be needed in the future in order to provide theoretical foundations to the findings in table 18. For instance, why does human development respond negatively to inter-State war and not to civil war while the opposite is true for socio-economic development?

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[138] F. Carmignani and D. Avom, op. cit.

The estimates of the tables above can be used to provide some (approximate) measures of the cost of war in terms of development variables. More specifically, table 19 reports the predicted percentage change in the development indicators across a quinqiennium (per-capita income, human development, social development, immunization rate, life expectancy and inequality) generated by an additional year of war.

TABLE 18. WAR AND SOCIAL DEVELOPMENT

	Human	Social	Immunization	Life expectancy	Average schooling	Access sanitation	Child mortality	Inequality
Civil war	-0.00	-0.09[***]	-1.53[a/]	0.30	-0.01	-0.41	-1.32	-0.32
Inter-State war	-0.02[c/]	-0.03	-4.12	-0.55[c/]	-0.21[b/]	0.32[c/]	-3.34[b/]	-4.12
Civil war (ESCWA)	-0.13	0.13	1.94	-1.38[c/]	-0.03	-0.88	-2.43[b/]	15.23[c/]
Inter-State war (ESCWA)	-1.63	-2.73[c/]	-26.47	-1.78	-0.27	-0.03[c/]	-0.02	-0.06
Per-capita GDP	10.63[c/]	1.96[c/]	30.19[c/]	8.14[c/]	2.33[c/]	-0.81	-0.01	2.36[a/]
Observations	656	413	595	898	656	871	602	271
Average	20.11	0.00	72.48	61.50	5.35	55.45	75.23	40.60
Std. Dev.	12.58	1.52	25.10	11.77	4.96	31.09	36.34	10.52

Notes: Dependent variables are indicated in the headings of each column.

Estimation is by fixed effect panel with robust standard errors.

Average denotes the full sample average.

Std. Dev. denotes the standard deviation of each dependent variable.

a/   denotes estimate is significant at the 10-per-cent level.

b/   denotes estimate is significant at the 5-per-cent level.

c/   denotes estimate is significant at the 1-per-cent level.

TABLE 19. EFFECTS OF ONE ADDITIONAL YEAR OF WAR

	Civil war (%)		Inter-State war (%)	
	All countries	ESCWA region	All countries	ESCWA region
Per-capita GDP (without investment)	-14.70	-17.40	-8.03	-8.03
Per-capita GDP (with investment)	-15.15	-18.50	-7.06	-7.06
Per-capita GDP (direct war effect)	-1.70	-1.70	-1.90	-1.90
Human Development Index	-7.80	-9.20	-8.85	-8.85
Socio-economic development	-24.67	-27.44	-10.36	-19.32
Immunization rate	-8.24	-9.35	-3.31	-3.31
Life expectancy	-1.98	-2.93	-1.96	-1.96
Average years of schooling	-4.56	-4.56	-6.34	-6.34
Access to sanitation facilities	-6.86	-6.86	-9.01	-12.12
Child mortality	12.11	14.02	15.02	15.02
Income inequality	-0.80	37.5	-0.40	-0.40

Notes: For human development, immunization rate, life expectancy, average years of schooling, access to sanitation facilities, child mortality and income inequality the percentage is computed on the sample mean value of the indicator. For social development, the percentage is computed on the sample standard deviation of the indicator.

These calculations refer to "one" additional year of war; that is, they assume that after the year of war the country remains at peace.

Table 19 illustrates that the approximate effect of an additional year of civil war is a decrease of almost 15 per cent in per-capita GDP in the following quinquennium. In the ESCWA region, the marginal effect of civil war is slightly higher and determines a decrease in per-capita income of around 17.5 per cent. Given the average per-capita income in the region, this loss can be quantified at around $1,200 per capita. The cost of an additional year of inter-State war is about half that of the cost of a civil war and there are no significant differences between ESCWA and rest of the world. Perhaps a bit surprisingly, the inclusion of physical capital in the structural model does not lead to significantly higher cost, even though for the specific case of civil wars in the ESCWA region, the predicted decrease in per-capita income from an extra year of war is about 1 percentage point higher than what is estimated without physical capital. The direct marginal effects of war are generally low, thereby suggesting that most of the effect of war on per-capita income is transmitted via institutions, trade and/or physical capital accumulation.

It must be stressed that the estimated effects refer to a five-year period. This means that the figure of 17.5 per cent is the effect of one year of civil war on the five-year period average of per-capita GDP of a generic ESCWA member country. The question is then to what extent the effect persists beyond the first quinquennium. A suitable approach to answer this question is to re-estimate the set of equations by using lagged values of the war variables and see how the coefficients change as the number of lags increases. It turns out that the coefficients estimated at the one period lag (again, recall that one period here is equivalent to five years) are not different from the contemporaneous coefficients. The coefficients at longer lags instead are much smaller and hardly statistically significant. This suggests that the figure of 17.5 per cent refers to a time span of five to ten years: one year of civil war lowers the ten-year period average of per-capita GDP by something close to 17.5 per cent, but the effect on the average GDP of the subsequent decade is statistically negligible. In other words, the effect of one year of war has long-term effects (as long as two quinquennia), but is not permanent. There is therefore evidence of a rebound of per-capita GDP, but only several years after the war episode.

How does the figure of 17.5 per cent (or the other figures reported concerning the per-capita income loss) compare against existing estimates? Quantitative estimates of the GDP cost of war vary considerably across studies. Moreover, many of these estimates are obtained from growth, rather than level, regressions and hence are not directly comparable to the figures reported in table 19. For instance, the popular estimate of Collier (1999) suggests that if a civil war lasts only one year, then for the five subsequent years per-capita GDP declines at an annual rate of 2.2 per cent relative to its counterfactual.[141] To translate this figure into a corresponding percentage decline in the level of per-capita GDP, one has to specify the initial level of per-capita GDP and the counterfactual growth rate. Yet, for a broad range of values of the counterfactual, the loss implied by Collier's estimates is considerably smaller than 17.5 per cent. Most likely this difference owes to the fact that Collier is estimating the direct effect of war on growth, without accounting for the possible indirect effects that work through the other determinants of growth.

A more immediate comparison can be done with the estimates of Lopez and Wodon, who suggested that GDP in Rwanda in 2001 would have been between 25 and 30 per cent higher if there had not been a civil war in 1994.[142] Their estimated cost is therefore higher than what is implied in the table. Again, a possible explanation is that they focussed on a very specific and particularly violent conflict, while the figure of 17.5 per cent represents an average obtained over a large group of conflicts, which as a whole were therefore less intense than the war in Rwanda. Overall, it appears that the estimates reported in table 19 sit in the top range of the distribution of estimates available from the literature.

Turning to the other development variables in table 19, the estimated marginal effects are quite sizeable. For instance, based on those estimated effects, the progress made on social

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[141] P. Collier, "On the Economic Consequences of Civil War", *Oxford Economic Papers*, vol. 51 (1999), pp. 168-183.

[142] H. Lopez and Q. Wodon, "The Economic Impact of Armed Conflict in Rwanda", *Journal of African Economies*, vol. 14, No. 4 (2005), pp. 586-602.

development by the Syrian Arab Republic, for example (whose values of development indicators are reasonably close to the sample average), over about a decade would be lost in a year of war, especially if the war is a civil war. The marginal effect of civil war on income inequality in the ESCWA region is particularly large. Given that the dynamics of inequality together with the dynamics of income determine the change in absolute poverty, the inequality increasing effect of civil war clearly implies a very large and negative elasticity of poverty with respect to any civil conflict.

H. SUMMARY ON THE DEVELOPMENT
COSTS OF CONFLICT

This chapter aimed to provide an assessment of the development costs of war. This was done by implementing a structural model where war was allowed to affect development both directly and indirectly through its effects on other determinants of development. In order to provide a more comprehensive picture of the costs of war, the report analysed monetary and non-monetary indicators of development, allowing for differential effects between inter-State and civil wars and between ESCWA member countries and war-torn economies in other regions.

The key finding is that war is costly. This cost can be approximately estimated as a loss of around 17.5 per cent of per-capita GDP in the average ESCWA member country spread over a period of five years for every year of civil war. This effect is marginally stronger than in conflict-affected countries in other regions. The cost of a year of inter-State war is instead about half of the cost of a civil war and does not significantly differentiate between ESCWA and non-ESCWA countries.

The effects of conflict on the non-income dimensions of the development process are also quite sizeable. Specifically, a year of war today would push the average ESCWA member country five to 10 years backwards in terms of the level of a broad range of social development indicators (including life expectancy, immunization rate and human development). Consequently, for instance, one year of civil war causes a decline in average life expectancy of roughly 1.5-2 years, which is the typical gain in life expectancy that a developing country would make over a period of five years in the absence of any conflict. Similarly, one year of civil war would cause an increase in child mortality by approximately 12-15 percentage points, depending on the type of conflict. Again, this is equivalent to more than the average decrease in child mortality achieved every five years since 1990 by a typical developing country without war.

The use of a structural model allows disentangling the transmission channels of the effects of war on development. It turns out that war affects per-capita income mostly by affecting institutional quality, openness to international trade and physical capital accumulation. At the same time, a large part of the effect of war on social development indicators occurs through per-capita income. These findings are clearly relevant in designing the "recovery" strategy for a post-conflict economy. In the aftermath of a conflict, governments and policymakers are faced with a very tight resource constraint, namely, many interventions are required and human and financial resources are scarce. A prioritization of the various interventions is therefore necessary. The evidence provided in this report helps in setting these priorities: to minimize the development cost of war governments will have to focus on rebuilding institutions that are conducive to economic activity, promoting international trade, and encouraging savings and investment.

With respect to public policy for the achievements of MDGs, the results in this paper clearly indicate the importance of strengthening public goods supply in the aftermath of a war. Conflict quickly erodes the gains that countries have made in terms of MDG indicators during several years of peace. It is therefore important that, in the aftermath of a conflict, government action is directed at reactivating the channels through which public goods are delivered, including education, health and reconstruction of infrastructure. This could require an increase in public consumption, but also in public investment. In fact, the increase in public investment could be dynamically more efficient in the sense that it would stimulate the socio-economic recovery and also strengthen the peace process.

Some evidence in support of this recommendation comes from the empirical literature on the determinants of peace in the aftermath of a civil war. In 2010, Carmignani showed that the more resources the government allocates to public consumption in the post-conflict years, the lower the risk of a new war.[143] He explained this result by stressing that public investment creates beneficial effects which can be shared by all parties and factions, but only if peace is preserved. This provides everybody with a sufficiently strong incentive to stay at peace. The recommendation to the government to reallocate the scarce resources available in the public budget from current expenditure and consumption to investment therefore has a twofold motivation, namely: to preserve peace and to minimize the adverse development consequences of conflict.

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[143] F. Carmignani, "Public Consumption and the Stabilization of Peace After a Civil War", *International Journal of Development and Conflict*, Demo Issue (2010), pp. 57-74.

IV. ACHIEVING MDGs USING BUDGETARY LEVERS

The Millennium Development Goals were created out of a desire by humanity to eliminate poverty, hunger, gender discrimination, preventable diseases and environmental degradation. The tools (resources) required to achieve these Goals are, however, in limited supply. One cannot simply mass-produce well-trained doctors, teachers and plant crops, and end cultural and historical discrimination against women overnight. Both finance and political will are constrained in the face of competing demands and interest that are doled out according to formulas that rarely, if ever, satisfy all competing parties.

Such is the situation faced by governments (especially those in conflict countries and territories) when it comes to handling the budgetary levers available to them. Sound public financial management of the budget would mean focusing on effective and efficient use of revenues and expenditures. However, the dilemma facing policymakers is the growing need for more services, against a slower pace in revenue increases (at least at present), thereby necessitating expenditure reduction, tax increases or, in worst-case scenarios, government debt. The budgetary expenditure required to achieve MDGs are thus limited, sometimes extremely so given that governments must balance development agendas against such competing interests as maintaining peace, stability, political imperatives and other socio-economic goals. A government could attempt to achieve all its targets if it only viewed its contextual life in the short term. In such a scenario, trade-offs can be suspended as the authorities in charge eschew the issues of both inter-generational welfare and "squaring the ledger".[144] A multitude of health facilities can be built, doctors trained or brought in from overseas, education standards can begin to be raised and water and sanitation facilities improved, all while also satisfying security establishments and meeting all political demands of various actors. Such massive spending can be funded by running down savings and/or borrowing funds. Ultimately, however, the government in charge must begin to consider the long term. The running down of funds and the need to repay debt will lead to a curtailing of expenditures; services will be cut, infrastructure will decay and tough choices will have to be made. In the world of economics, while trade-offs can be postponed, they can never be avoided.

Table 20 shows the possible crowding-out effect that military expenditure can have on social expenditure in the region, particularly in countries with a limited budget envelope. In fact, the average military expenditure in the ESCWA and wider Arab region has constantly been more than double the world average and more than triple the average of the emerging economies from such comparator regions as East Asia and the Pacific (EAP) and Latin America and the Caribbean (LAC). At the same time, public health expenditures have been less than half than the world average and remarkably lower than those in EAP and LAC. In 2007, seven out of the ten countries with the highest military spending to GDP worldwide were from the region.

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[144] Essentially, they need not worry about balancing rising expenditures with an increase in revenue.

TABLE 20. MILITARY EXPENDITURE VERSUS SOCIAL EXPENDITURE
(*Percentage of GDP*)

Country/territory	Military expenditure average		Public education expenditure average		Public health expenditure average	
	2000-2004	2005-2009	2001-2004	2005-2008	2000-2004	2005-2009
Bahrain	4.40	3.36	..	3.10	2.79	2.66
Egypt	3.24	2.50	4.80	4.06	2.32	2.12
Iraq	2.38	4.54	..	..	1.01	2.58
Jordan	5.74	5.22	..	..	4.86	5.30
Kuwait	6.92	3.79	6.30	4.24	2.49	1.92
Lebanon	4.91	4.29	2.64	2.46	3.44	3.93
Oman	11.89	9.86	4.05	3.72	2.56	1.99
Palestine	..	..	..	..	..	..
Qatar	3.88	2.25	2.14	..	2.37	2.07
Saudi Arabia	9.80	8.93	7.27	5.97	2.99	2.78
The Sudan	3.77	4.24	..	..	1.07	1.88
Syrian Arab Republic	5.49	4.22	..	5.09	2.21	1.45
United Arab Emirates	8.40	5.73	1.84	1.09	2.44	1.81
Yemen	6.16	4.62	9.63	5.15	2.42	1.62
ESCWA average	5.92	4.89	4.83	3.88	2.71	2.67
Arab region	6.40	5.28	5.07	3.95	2.57	2.44
EAP	1.49	1.58	3.98	3.79	4.69	4.28
LAC	1.35	1.36	4.18	3.96	3.19	3.51
World average	2.39	2.48	4.33	4.45	5.64	5.76

Source: The World Bank Development Indicator (WDI) database (2011).

Note: Two dots (..) indicate that data are not available or are not separately reported.

The MDG situation of the five conflict-affected countries and territories of the ESCWA region is set forth in chapter II. Clearly, four out of the five ESCWA member countries under review face a significant MDG deficit, which can be partially corrected via the use of budgetary tools. Nevertheless, the fiscal position of these countries and territories is also fragile, thereby making it extremely difficult for them simply to increase MDG expenditure without making trade-offs.[145] This chapter calls for a three-pronged budgetary approach to increase the chances of achieving MDGs in these ESCWA member countries, namely:

(a) Improving expenditure efficiency, particularly by re-weighting the share of expenditure towards the provision of public goods and services as opposed to the maintenance of a bureaucracy;

(b) Increasing the budgetary share devoted to MDGs (creating an MDG-friendly budget) via budgetary re-prioritization in favour of the MDG targets;

(c) Reforming revenue systems, inducing fewer burdens on the tax-payers and increasing revenues for governments.

In other words, an unchanging allocation should begin to favour the provision of services and infrastructure over salaries and other recurrent expenditure. These steps can be undertaken with no or limited change in the size of expenditure budget.

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[145] A fragile fiscal position intimates that revenue is struggling to keep up with expenditures, resulting in borrowing to fund the gap. This eventually leads to a high level of debt and an increase in total interest repayments that crowd out other activities, including pro-MDG activities. Data from the CIA Factbook, which is available at: www.cia.gov/library/publications/the-world-factbook/index.html/, provides estimates for 2010 of the excess of budgetary expenditure over budgetary revenue as follows: Iraq, 37.12 per cent; Lebanon, 21.65 per cent; Palestine, 65.78 per cent; the Sudan, 18.90 per cent; and Yemen, 23.27 per cent. The estimates of public debt as a percentage of GDP (2010 estimate) are, on the other hand mixed. Lebanon (150.70 per cent) has little room for manoeuvre, the Sudan's level is near unity (94.2 per cent), while Yemen has more scope for borrowing (39.10 per cent). Data for Iraq and Palestine were unavailable.

A. DATA LIMITATIONS

As noted in the introduction, MDG achievements can be accelerated by making better use of existing expenditure allocations and by increasing the allocations and combining it with the former. This section will begin with an identification of data limitations with respect to budgetary information before entering into a discussion of the budgetary allocation in the conflict-affected ESCWA member countries. Unfortunately, the available budgetary information is characterised by acute data paucity. Differences across countries range from variability in years, comprehensiveness of the budgetary information as well as the ability to distinguish between pro-MDG expenditure and (re-) current expenditures. This is summarized in table 21.

TABLE 21. BUDGET AVAILABILITY AND QUALITY, 2005-2014

	Years	Comprehensive data	Re-current and development information[a/]
Iraq	2008-2010	Yes	Yes
Lebanon	2005, 2009-2010	No	No
Palestine	2009-2011	Yes	Yes
South Sudan	2006	No	No
The Sudan	2007	Somewhat	No
Yemen	2010-2012	No	Yes

Source: ESCWA.

Note: a/ This refers to budgetary information being detailed enough to allow this study to identify the amount of expenditure provided for the provision of goods and services, infrastructure and development, on the one hand and the expenditure for re-current expenditure on the other.

The ideal was to have annual budgetary information from 2005 and future projections into 2014 so as to fit in with MDGs and their projected progress until 2015. The situation for the Sudan is particularly poor given that there is only one data point (2007) at the federal level and another one (2006) for the Government of South Sudan. Moreover, these data points are relatively old and given the dynamic political situation in that region, the budgetary situation presented may be

far removed from current realities. Another issue worth mentioning is that budgetary expenditures do not neatly fit into MDG categories. For example, the allocations for the Ministry of Labour and Social Affairs in Iraq can be spent on MDG1 and MDG3, while the budgets for the ministries for health as well as education encompass MDG2 to MDG6.

Further impediments include the failure of some of these governments to pass budgets for long periods of time. An example of this is Lebanon where the last approved budget was in 2005. Consequently, it is impossible to state in any shape or form the actual MDG budget for any of these countries. Given that there is considerable missing data, a total lack of detailed statistics as well as no way to discover specific MDG budgets, this section will report budgetary information with the caveat that the budgetary-MDG relationship for these countries are to be treated with extreme caution.

B. PUBLIC SPENDING IN THE GREATER ARAB REGION

Government spending as a share of GDP in the greater Arab region is the highest in the world and is rapidly expanding.[146] It stood at 26 per cent in 2007, as opposed to 21 per cent in Europe and Central Asia, 18 per cent in sub-Saharan Africa as well as Asia and the Pacific, and 16 per cent in Latin America and the Caribbean. Total expenditure per capita in the region expanded by an average of 10.2 per cent per annum during the 1990s and while slowing the following decade, it still grew at an average annual rate of 5.3 per cent, though one should note the existence of significant variation across countries.[147] Latest data during the global financial crisis suggests that most governments in the Middle East and North Africa region increased public spending in 2008-2009 in order to cushion the negative impact of the crisis. Beginning in 2010, however, most governments in the region were expected to contract total expenditure as a percentage of GDP

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[146] The Greater Arab Region in this sub-section encapsulates all ESCWA and LAS countries as well as Iran and Turkey.

[147] C. Breisinger et al., *From Arab Summer to Equitable Growth and Poverty Reduction* (International Food Policy Research Institute, 2011).

under current policy directions in 2011-2012 when compared to 2008-20009.[148]

This high rate of public expenditure should not be taken to mean that the expenditure is either effective or efficient. Neither should it be assumed that this spending is geared towards pro-MDG budget allocations. Indeed, countries in the greater Arab region spend approximately 2.3 per cent of GDP on health, which is substantially less than Latin America. Equally worrying is the fact that health budgets have been shrinking in recent years. The region does however spend more on education than the average of low- and middle-income countries, even if education budgets have also decreased over recent years. Finally, it is important to note that these averages mask considerable variation between countries, owing partially to the fact that the region includes both high-income countries and LDCs.[149]

C. COUNTRY-LEVEL BUDGETARY SITUATION VIS-À-VIS MDG PROGRESS

As noted above, the resources required to attain MDG progress are limited. This section investigates the proportion of the budget spent on pro-MDG activities for Iraq and Palestine, which represent the two ESCWA member countries among the five under review for which there is more reliable budgetary information.[150] Pro-MDG expenditures, as defined in this study, refers to budgetary allocations that lead to the provision of public goods and services as well as development and capital (infrastructure) expenditures that are used in those sectors that, by nature, stimulate development towards MDG achievement, including, among others, health, education, environment and water, and social and women's affairs. Such indirect expenditures as recurrent expenditures (for example, salaries) are expenditures that do not have a direct bearing on MDG achievements, even when located within ministries that are directly responsible for

activities that have a high MDG content.[151] Moreover, there are expenditures on the provision of goods and services as well as development and capital expenditures for activities that are not directly related to or even compete with MDGs, including defence.[152]

Table 22 highlights the contribution of the provision of goods and services as a percentage of the total budget accruing to each ministry or main account for Iraq between 2008 and 2010. We note that these figures are almost certainly an underestimate of the total pro-MDG expenditure given that it excludes information on salaries (some of which are "productive"). However, owing to the lack of information related to development and capital expenditures, some of it can be assumed to come under the purview of the provision of public goods and services.

Two immediate statements can be made in relation to table 22. First, the percentage of a given ministerial account budget devoted to the provision of goods and services is volatile, which makes projections untenable. Secondly, the ministries accounts that are responsible for MDG activities are underrepresented in terms of budgetary weight allocated to the provision of goods and services. Looking at the top ten contributors annually, the pro-MDG ministries' accounts are present only three times in each year. Nevertheless, the weight attached to the provision of goods and services in some of the pro-MDG ministries accounts do suggest an increase as a

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[148] For more information, see R. Benes, "UNICEF's Advocacy and Policy Agenda on Fiscal Space for Children", which was presented at the Expert Group Meeting on Sustainable Development under Crisis Conditions: Conflict and the MDGs (Beirut, 27 September 2011).

[149] C. Breisinger et al., op. cit.

[150] Having said that, it is still difficult to isolate with any degree of confidence their "pro-MDG expenditures".

[151] For instance, the part of the budgetary allocation for the ministry of health in a hypothetical country that is used to furnish and maintain the ministerial building is not part of "pro-MDG expenditure". It is part of the health expenditure (budget) that must be distinguished from its "pro-MDG" component. The issue of salaries is not so clear-cut, however, given that while it is generally acknowledged in the literature that the emphasis should be realigned towards expenditures on public goods and services rather than on salaries, this tends to assume that salaries are accruing to the bureaucracy rather than staff who directly contribute to the provision of goods and services. This is not so obvious in the case of health and education, where the salaries for teachers, doctors and nurses are paramount in the provision of such goods and services. For more information, see N. Alexander, "The Elusive Quest for Fiscal Space", *Bretton Woods Project* (the World Bank, IMF and UNDP, 2 April 2007).

[152] Note also that current and capital expenditures tend to be lumped together (budgetary data for Palestine however, separates them). Ibid.

whole, particularly for comparatively more important issues, such as health and education. Nevertheless, there is clear scope for greater efficiency in the provision for better pro-MDG expenditures.

TABLE 22. GOODS AND SERVICES BUDGET IN IRAQ, 2008-2010
(*Percentage of ministerial/ main account budget*)

	Annual contribution (%)		
Ministry/main accounts	2008	2009	2010
Parliament	26.22	30.69	34.27
Presidency of the Republic	19.55	25.81	20.96
Cabinet	18.56	16.06	15.12
External Affairs	40.83	34.27	31.91
Finance	8.85	0.38	0.35
Interior	11.15	9.18	12.78
Labour and Social Services[a]	14.56	2.02	8.43
Health[a]	20.12	43.20	39.78
Defence	38.66	34.36	34.32
Justice	34.04	24.94	38.52
Education[a]	3.64	3.80	6.37
Youth and Sports	7.83	7.16	3.62
Trade	27.89	0.24	0.25
Culture	14.49	9.46	10.71
Transport	43.80	11.33	19.94
Municipal and Public Works[a]	3.26	0.84	0.61
Construction and Housing[a]	17.01	11.52	16.89
Agriculture	9.56	2.35	2.07
Water Resources[a]	5.59	5.72	5.33
Oil	0.98	29.71	33.82
Planning	14.34	48.54	43.36
Industry	4.11	0.34	1.65
Higher Education and Research[a]	5.25	5.44	9.05
Electricity	1.78	30.00	16.99
Science and Technology	7.36	6.55	5.90
Telecommunications	29.60	0.47	0.88
Environment[a]	26.10	36.60	39.18
Displaced[a]	7.03	6.01	1.75
Human Rights[a]	36.58	33.59	26.95
Kurdistan Region	3.20	14.17	14.38
Departments that are not part of a ministry[b]	1.79	2.53	4.39
Supreme Judicial Council	12.40	7.82	12.28

Source: ESCWA, adapted from data from the Ministry of Finance in Iraq, which is available at: www.mof.gov/iq/.

Notes: a/ These refer to ministries/main accounts that, in the opinion of the authors, are direct contributors to pro-MDG expenditures.

b/ Such departments include, for example, governorate and local councils.

TABLE 23. DEVELOPMENT AND CAPITAL EXPENDITURES BUDGET IN PALESTINE, 2009-2011
(*Percentage of ministerial/ organizational budget*)

	Annual contribution (%)		
Ministry/organizations	2009	2010	2011
Government sector	10.15	9.37	50.35
Refugee Affairs Bureau	7.22	12.45	50.94
Public Expenditures	18.18	20.00	62.50
Infrastructure sector	73.14	79.20	51.56
Palestinian Water Authority	86.00	87.25	50.36
Ministry of Energy and Natural Resources	89.22	96.71	51.02
Ministry of Transportation	48.64	43.67	50.27
Ministry of Communication	33.10	35.03	50.44
Ministry of Public Works and Housing	81.29	77.47	57.54
Environmental Quality Authority	32.97	48.28	50.86
Economic sector	58.90	52.66	50.65
Investment Improvement Public Council	61.13	21.39	50.90
Social sector	12.64	12.40	50.36
Ministry of Education	14.85	15.81	50.33
Ministry of Health	12.81	10.19	50.39
Ministry of Women's Affairs	66.32	2.45	50.99
Ministry of Labour	62.45	12.73	50.71

Source: ESCWA, adapted from unpublished documents from the Ministry of Finance in Palestine.

Table 23 summarizes development and capital expenditures of each sector and selected ministries/organizations in Palestine for the financial years 2009-2011. It is important to note that specific information on public goods and services is unavailable.[153] Moreover, the projected figures for 2011 need to be treated with caution given the significant divergence from the statistics

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[153] However, the term 'development' in Palestine budget is left unexplained and may feasibly encompass the provisions of public goods and services.

for 2010, thereby raising questions as to the ability of the relevant authorities to realize their estimates. Despite this caveat and assuming that projections for 2011 come to fruition, variability in outcome by year is evident, much as in Iraq. In particular, development and capital expenditure as a proportion of total ministerial/organizational expenditure is projected to increase massively in 2011, compared to 2010 in terms of both the government and social sectors, and decrease significantly for the infrastructure sector.

Similar to Iraq, volatility tends to make it difficult to predict trends accurately. More promising are the figures for the infrastructure sector; befitting its name, development and capital expenditure is relatively high, thereby indicating that capacity is being built up or, perhaps more realistically, rebuilt to replace that damaged by conflict and occupation. Given the parlous state of education in Palestine, including the state of schools themselves, the development and capital expenditure for the Ministry of Education does seem rather low.[154] Additionally, given the less than ideal access to health services, perhaps more expenditure could be directed to its capital expenditure by reducing instead its relative current expenditures (that encompass salaries, subsidies and transfers and "working expenditures").

In sum, there is indicative evidence of improvement in the "efficiency" of the Iraqi budgetary allocation to the provision of public goods and services. Nevertheless it can be realigned further in favour of these provisions at the expense of (re-)current expenditures. Should this prove impossible owing to political, security and other considerations, then it would be necessary to increase the total size of budgetary expenditures. For Palestine, development and capital expenditure tend to indicate that on average the allocation to development and capital expenditure is high, thereby suggesting that further improvements are marginal. However, such expenditures for education and health are relatively low and can be increased. Indeed, the projections for 2011 do suggest that the authorities are aware of this shortcoming. It is important to stress that caveats are necessary in this context. Specifically, there is a need to know whether the provision of public goods and services are included in the term "development", and to disentangle the replacement of obsolete capital to maintain the capital stock from new capital (investment) in order to increase the capital stock.

Data from the International Monetary Fund (IMF) also highlight the potential for a more efficient allocation of budgetary allocations.[155] Government-led capital expenditure is dwarfed by current expenditure, especially that of wages and salaries as well as subsidies and transfers (see table 24). Part of this current expenditure, however, is expenditure for the provision of goods and services, which, unfortunately, usually has the lowest percentage of current expenditure allocated. However, in the case of two high-income ESCWA member countries with good MDG attainments, namely, Qatar and the United Arab Emirates, the percentage allocation is far higher, especially for the former. Their capital expenditure as a percentage of GDP is also higher than the other countries. One interpretation of these overall results tend to indicate that a budgetary allocation geared more favourably towards the provision of goods and services as well as capital expenditures will, with other conditions remaining the same, produce better MDG outcomes. Nevertheless, one should not eschew an alternate interpretation; one in which wealthier countries can allocate more funds to these MDG-friendly allocations.

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[154] Office for the Coordination of Humanitarian Affairs (OCHA), *The Humanitarian Monitor* (September 2010).

[155] UNDP, "Arab Development Challenges Report: Understanding and Responding to Demands for Transformative Change in Arab Countries" (2011).

TABLE 24. GOVERNMENT EXPENDITURE, 2010
(*Percentage of GDP*)

	Egypt	Jordan	Lebanon	Qatar[a/]	The Sudan	Syrian Arab Republic	United Arab Emirates	Yemen
Total expenditure	28.8	29.2	34.1	34.2	21.4	26.0	29.8	28.4
Current expenditure	26.1	24.3	31.4	22.5	17.7	16.4	26.1	22.4
Wages and salaries	7.1	4.3	11.3	6.7	5.4	5.7	3.9	8.9
Interest payments	5.9	2.3	13.1	0.8	1.3	0.4	0.0	2.6
Goods and services	2.4	1.8	0.5	12.9	1.4	1.1	6.9	2.9
Subsidies and transfers	8.3	7.0	1.6	0.0	8.9	5.9	4.8	7.0
Others	2.4	8.8	4.9	2.1	0.7	3.3	10.5	1.0
Capital expenditure	2.7	4.9	2.7	11.7	3.7	9.6	3.7	6.0

Source: United Nations Development Programme (UNDP), "Arab Development Challenges Report: Understanding and Responding to Demands for Transformative Change in Arab Countries" (2011).

Note: a/ Data for Qatar relate to 2009.

D. GAINS OF HEIGHTENED EFFICIENCY AND INCREASES IN PRO-MDG EXPENDITURE

Breisinger et al. stated unequivocally that education was part of key public expenditure for poverty reduction, food security and equitable economic growth.[156] Equally, UNESCO emphasised greater education expenditure or, at least, an increase in the effectiveness and efficiency of its delivery noting unambiguously that "accelerated progress in education is critical for the achievement of the wider MDGs in areas such as poverty reduction, nutrition, child survival and maternal health".[157] These pronouncements by UNESCO are consistent with findings in the literature and in this study that MDGs are interrelated and that boosting the provision of one MDG could well lead to improvements in other Goals as well. As briefly noted in chapter II, conflict-affected countries and territories are falling behind in terms of educational goals, not just because service delivery (the effectiveness and efficiency argument) is limited and piecemeal but equally because the education budget is marginalized relative to the security budget. Yemen, for example, spends about two times as much on military expenditure compared to education expenditure. Indeed, a cut of 10 per cent in Yemen's military expenditure could potentially lead to an increase of 840,000 children in primary education.[158]

UNESCO also suggests that the education-conflict relationship is endogenous, rather than exogenous as commonly perceived, where conflict is seen as being a protagonist for poor educational outcomes. It portends the potential significant losses to society from education being used as a tool for spreading hatred and animosity. According to UNESCO, limited or poor quality education provision can lead to unemployment and poverty, especially if a "youth bulge" is present.[159] Unequal access to education, interacting with wider disparities, also breeds grievances and a sense of injustice that further heightens the risk of conflict. Furthermore, UNESCO noted the potential of school systems to reinforce prejudice and intolerance. Consequently, it is not just the provision of education but its effectiveness that can tip a country into conflict or, indeed, to maintain peace.

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[156] Other important expenditure according to Breisinger et al., op. cit., include health, infrastructure, social protection and subsidies.

[157] UNESCO, op. cit., p. 4.

[158] Ibid.

[159] Ibid.

However, the effectiveness of education is not merely a theoretical construct even if its direct effects are sometimes unobservable. For example, Thyne found that achieving universal primary school enrolment from 77 per cent halved the likelihood of civil war.[160] The gains from increasing male enrolment in secondary schooling were even greater; an increase from 30 to 81 per cent enrolment reduce the probability of civil war by an estimated two-thirds.

While data for conflict countries are difficult to obtain, figures alone can mask efficiency. For example, Yemen, at 5.7 per cent, had a higher total public expenditure on education as a percentage of GNP compared to the Arab average of 4.2 per cent in 2008, while Lebanon lagged behind with 2.2 per cent. Yet educational outcomes are far superior in Lebanon and are relatively poor in Yemen. This fits in well with the cautionary advice dispensed by Breisinger et al. who also noted disparities between expenditure and actual outcomes in the Arab region.[161]

Despite the undoubted societal and spillover benefits of greater pro-MDG expenditure, realigning the budget in favour of the provision of pro-MDG expenditure requires political will on the part of the authorities. This is a particularly difficult task to undertake at the best of times, and indeed gargantuan in a conflict setting. Competing interests that could lose out may engage in rhetoric and actual actions that may lead to instability and conflict relapse. At times, it may even be preferable for protagonists to postpone some pro-MDG expenditures in order to maintain (and prioritize) peace.[162] If the immediate task of efficiency proves untenable owing to these constraints, it could be necessary

to concentrate on increasing total expenditure so that both pro-MDG and other expenditures can be increased.[163] At the very least, the former can be increased without eating away at the absolute value of the latter. In other words, a relative increase in pro-MDG expenditure can be achieved not by cutting the budget for other activities, but by simply maintaining the levels of the other activities while increasing it for pro-MDG activities. However, increasing total expenditure requires fiscal prudence to ensure that the long-term trajectory of the economy is upward-trending and stable. This requires increasing external grants, domestic revenue mobilization, deficit financing (borrowing) and re-prioritization and efficiency of expenditures.[164] These four fiscal instruments are part of a theory known as fiscal space, which is further articulated below.

E. FISCAL SPACE: FINANCING BUDGETARY EXPENDITURES IN ADVERSE CONDITIONS

While there is a vacuum in the literature on how conflict-affected countries can specifically manage their budgets efficiently and prudently in order to meet both their short- and longer-term goals, research has been undertaken with respect to developing countries – an encapsulation that encompasses the five conflict-affected countries and territories under review. Posited views are, as expected, heterogeneous but can be summarized to fall into two camps that both use the term "fiscal space", albeit in differentiated manners. One definition of the term can be attributed to the adherents of the international financial institution (IFIs), whereas a second variant is usually traced to UNDP, as follows:[165]

(a) *IMF definition:* Fiscal space is room in a government's budget that allows it to provide

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[160] C.L. Thyne, "ABC's, 123's, and the Golden Rule: The Pacifying Effect of Education on Civil War, 1980-1999", *International Studies Quarterly*, vol. 50, No. 4 (2006), pp. 733-754.

[161] See Breisinger et al., op. cit.

[162] This study certainly suggests that given extremely limited resources, the need to prioritize in conflict-affected countries is particularly pressing and, as such, environmental targets (MDG7) should probably be sacrificed at the altar of peace and emphasis be placed instead on targets that have both immediate benefits and longer-term multiplier effects, including, for example, education and health.

[163] In essence, this would postpone the trade-offs. Nevertheless, in reality, constraints remain too significant to postpone such trade-offs. In the region for example, the trade-off between "pro-MDG expenditures" and unproductive military/security expenditure (that is, above and beyond that required to maintain peace and stability) remains a live issue.

[164] UNDP, *Primer: Fiscal Space for MDGs* (June 2007); and K. Seeta Prabhu, "Fiscal Policy: Issues, Dimensions and Dilemmas" (Oxford Human Development Course, 24 September 2008).

[165] The definitions and explanations are from UNDP, *Primer: Fiscal Space for MDGs* (June 2007), p. 1.

resources for a desired purpose without jeopardizing the sustainability of its financial position or the stability of the economy;

(b) *UNDP definition:* Fiscal space is the financing that is available to government as a result of concrete policy actions for enhancing resource mobilization, and the reforms necessary to secure the enabling governance, institutional and economic environment for these policy actions to be effective, for a specified set of development objectives.

The IMF approach denotes the primacy of short-term fiscal solvency and macroeconomic stability considerations. It is these factors that determine the possibility of mobilizing additional resources for development. Consequently, emphasis must be centred on ensuring that fiscal expenditures do not adversely affect fiscal solvency and macroeconomic stability in the short term. The approach by UNDP, on the other hand, posits that securing human development outcomes (such as MDGs) should be the primary consideration, which need to be weighed against fiscal sustainability and macroeconomic stability considerations. Consequently, fiscal requirements can be relaxed in the short term.

This then requires governments to choose between the two approaches. At times, the choice is set depending on financing arrangements. For countries receiving structural adjustment programmes (SAPs) from IFIs, the former definition is usually applied based on the conditionalities imposed by those programmes. At other times, governments have the option of choosing. In the latter scenario, governments should not treat the two approaches in a mutually exclusive manner given that both ultimately call for responsible fiscal financing. The first simply calls for prudence as an initial base from which MDG targets can then be achieved, whereas the other calls for fiscal prudence to be ultimately applied, while allowing for fiscal flexibility in the short term so as to expedite MDG attainments. Consequently, fiscal prudence is inescapable. The issue of application may well be determined by circumstance and ideology, and this is where choices need to be made.

This study is able to take from both strands. It maintains a consistency with the UNDP approach by prioritizing development and pro-poor growth, without eschewing the IFI approach to fiscal prudence as an important and inherent target. Only short- and medium-term deviations into the realm of excess, with the express purpose of delivering set goals, should be countenanced. Nevertheless, the UNDP approach also recommends fiscal prudence, albeit less stringently and, as such, is not mutually exclusive with the IFI approach. Its approach has been codified and is presented below.[166]

1. *Domestic revenue mobilization*

The main issues to be considered include whether the tax-to-GDP ratio can be increased (or indeed, should be increased) and, if so, whether it can be done without disproportionately burdening the poor.[167] According to UNDP, the tax-to-GDP ratio hovers around 10 to 15 per cent in low- and lower-middle-income countries but exceeds 20 per cent in middle-income countries.[168] Table 25 below suggests that, while tax-to-GDP ratio can vary considerably between conflict-affected countries, it does not differ greatly compared to countries in the Arab region that are not directly affected by conflict. Specifically, Lebanon, which is a middle-income, conflict-affected country, has a ratio that is far below what would be expected, as opposed to Tunisia. Egypt, on the other hand, yields the expected ratios. Whether the former situation owes to conflict or whether conflict induces lower tax-to-GDP ratios is unknown. However, in all likelihood, the relationship is endogenous.

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[166] See UNDP, *Primer: Fiscal Space for MDGs* (June 2007); and K. Seeta Prabhu, "Fiscal Policy: Issues, Dimensions and Dilemmas" (Oxford Human Development Course, 24 September 2008).

[167] Between 1996-2002, the ratio stood at 19.2 per cent for developing countries. For developed countries, it was 33.8 per cent. One-third of tax revenues derive from income taxes, whereas this figure exceeds 50 per cent for developed countries. K. Seeta Prabhu, op. cit.

[168] UNDP, "Arab Development Challenges Report: Understanding and Responding to Demands for Transformative Change in Arab Countries" (2011).

	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average
Egypt		13.41	13.35	13.84	14.07	15.83	15.35	15.32	15.66	14.60
Jordan	18.67	17.48	18.21	21.00	24.42	23.63	23.78	17.12	16.17	20.05
Lebanon	11.88	14.43	15.38	16.02	14.93	14.73	14.81	15.89	17.09	15.02
Morocco		19.93	19.64	19.87	21.97	22.43	25.12	27.57	23.85	22.55
Tunisia	21.63	21.48	20.59	20.70	21.04	20.55	20.84	22.52	19.88	21.03

Source: The World Bank Development Indicator (WDI) database (2011).

Historically, developing countries have relied on indirect taxation systems with tax bases consisting of a sales tax and consumption of goods. By contrast, direct taxation in developed countries relies mainly on personal income and corporate profits. It is important to note that indirect systems are perceived as unfair to the poorest categories that are taxed an equivalent amount to those in higher income brackets. However, developing countries have large informal sectors that can be "formalized" and from which taxes can be levied, employment created and capital sought. However, it is important to remain watchful of human capacity and the institutional framework that is required to impose and collect taxes from such informal sectors.

Moreover, given that tax revenues are extremely volatile in developing countries, it is imperative that a stable tax base is created. This may mean the introduction of value added tax (VAT), a more comprehensive income tax base and a lessening of reliance on indirect taxation.[169] However, given that indirect taxation is an important source of revenue for low-capacity economies, this matter requires careful planning and management. Indeed, in some cases, it may not even be prudent to pursue it. Privatization should also be seen as an option, but only insofar as it is feasible without undermining MDGs. Finally investments and savings should be encouraged, though this depends on the strength of the financial institutions.

Overall, the domestic resource base can be enhanced in the following ways: (a) encouraging savings and investments in the domestic economy; (b) increasing employment intensity and capital accumulation; and (c) using privatization revenues and, where applicable, revenues from commodity price booms for pro-poor initiatives.

Information of the gross national savings rate as a percentage of GDP is presented in table 26. There is a low gross savings rate for the focus countries of Lebanon, the Sudan and Yemen. The rate for Yemen is particularly worrying given its progressive drop over time. Overall, the rates of the focus countries in the past decade and projected for 2011 rank behind both counterparts in the region and countries in sub-Saharan Africa. Clearly, a push towards a higher savings rate in order to finance investments is necessary. Nevertheless, one should be mindful of curtailing consumption beyond what is necessary to finance these investments.[170] If the scope for cutting consumption is heavily constrained (as is probably the case given low levels of private consumption) then investments will need to be financed from other sources until the size of their economies grow substantially, thereby increasing the savings rate without unduly depressing consumption.

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[169] However, VAT is a regressive tax in that it disproportionately burdens the poor. Consequently, any steps towards the creation of VAT should consider mechanisms to compensate the poor. See R. Benes, op. cit.

[170] Note that in a theoretical closed economy, investments (I) are funded by savings (S) so that I = S, and that savings is the difference between income (GDP) and consumption (C), such that S = GDP – C.

TABLE 26. GROSS NATIONAL SAVINGS,
1990-2011
(*Percentage of GDP*)

Country	1990-2000	2001-2011	2011 (projection)
Bahrain	14.9	32.0	40.3
Egypt	22.0	19.5	15.3
Jordan	22.7	19.9	15.8
Kuwait	5.2	47.0	48.4
Lebanon[a/]	15.0	13.2	14.6
Oman	15.4	34.6	45.6
Qatar	13.7	56.9	60.5
Saudi Arabia	14.3	38.4	43.5
The Sudan[a/]	2.1	11.9	16.3
Syrian Arab Republic	24.3	18.7	20.0
United Arab Emirates	31.4	28.3	29.4
Yemen[a/]	20.2	15.7	8.3
Arab countries	23.2	35.2	38.3
Oil exporters	19.9	38.7	42.3
Oil importers	21.7	20.3	18.3
Newly industrialized Asian economies	34.2	32.2	33.0
Emerging and developing economies	22.8	30.6	34.2
Developing Asia	31.6	40.5	45.7
Latin America and the Caribbean	18.2	20.9	20.8
Sub-Saharan Africa	15.6	19.8	22.3

Source: United Nations Development Programme (UNDP), "Arab Development Challenges Report: Understanding and Responding to Demands for Transformative Change in Arab Countries" (2011).

Note: a/ Three out of the five focus countries and territories under review are highlighted.

2. *Reprioritization and efficiency of expenditures*

This matter has been partially dealt with earlier in this chapter when it was suggested that pro-MDG expenditures in the form of greater efficiency should be prioritized. According to the *Human Development Report* of 1991, there are four particular ratios that governments intending to meet their MDGs should concentrate on, as follows:[171]

(a) Public expenditure ratio, which is the ratio of public expenditure to national income.[172] A rate of 25 per cent is considered adequate;

(b) Social allocation ratio, which is the ratio of public expenditure earmarked for social services (including essential infrastructure). The report suggests a rate of 40 per cent;

(c) Social priority ratio, which refers to the percentage of social expenditure devoted to human priority concerns. The recommended rate is 50 per cent;

(d) Human expenditure ratio, which is the percentage of national income devoted to human priority concerns. A ratio of at least 5 per cent is posited.

In order to ensure efficiency, "leakages" must be plugged. Consequently, the transparency and accountability of government structures are important. Seeta Prabhu provided two recent examples of efficiency gains, namely:[173] (a) in Uganda where a public expenditure tracking survey supported by the World Bank led to the reduction in leakages in primary education grants from 90 per cent between 1991-1995 to 20 per cent in 2001; and (b) in India, where a grassroots "Right to Information" campaign led to detections in leakages from government programmes.

3. *Deficit financing (borrowing)*

Borrowing to plug a gap between revenues and expenditures can be sourced from both within and beyond national borders. However, a lack of a vibrant and robust financial sector can lead to a heavier emphasis on external borrowing, which in turn leads to greater degrees of uncertainties arising from exchange rate fluctuations.[174] Prior to borrowing, governments must first gain a better understanding of the needs of public investment, the case and capacity for additional borrowing, the level of internal and external debt and access to capital markets, and the level of investments and savings. Nevertheless, it is important to bear in mind that ex-ante responses to these issues can produce ex-post outcomes far removed from initial expectations owing to the inherent uncertainties of financial markets. Moreover, an optimal decision based on initial information could well produce suboptimal outcomes given that information and situations alter over time.

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[171] UNDP, *Human Development Report 1991* (New York: Oxford University Press, 1991).

[172] However, it is necessary to distinguish between current and capital expenditure. For a short debate on this delineation, see N. Alexander, op. cit.

[173] K. Seeta Prabhu, op. cit.

[174] However, domestic borrowing can also be subject to external effects, especially if the domestic lender sources income externally, as is increasingly the case.

Following the prognosis by UNDP, Seeta Prabhu suggested that the (re-)current budget deficit should be zero over the economic cycle.[175] This would allow for fiscal flexibility whenever necessary, including, for example, during the global financial crisis as governments significantly increased their role in the world economy. Within that context, China, Cambodia, Mongolia and Vietnam experienced deflation or near deflation during the 1990s and early 2000s despite running fiscal deficits ranging between four to nine per cent.[176] In fact, they ran fiscal deficits as they accelerated public investments that resulted in favourable outcomes for the poor. In Vietnam, poverty decreased from 58 to 37 per cent and its per-capita income growth averaged 5 per cent over the period 1993-1998.

4. *External grants*

External grants encapsulate grant aid in the form of ODAs as well as debt relief.[177] The latter is a one-time measure that cannot be relied on for long-term planning, though its express purpose is to free up space for development expenditures. Hence, its long-term effect is indirect. Additionally, the question of whether debt relief benefits a country must also be posed. The answer to this query will lead to superior formulations that make the best use of this relief. After all, relief that merely reduces interest repayments but do not lead to better developmental outcomes do little to promote pro-MDG outcomes.[178] While ODAs are more visible, they are also extremely volatile.[179] Heller et al. cautioned against using

ODAs either too profligately or too watchfully, and suggested rather that short- and medium-term plans needed to be enacted in full consultation with the international community, thereby ensuring a smoother flow of funds that better matched the interests of both the poor in the recipient country and the objectives of the donors.[180]

F. OPPORTUNITY COST OF CONFLICT ON FISCAL SPACE: A BRIEF DISCUSSION

Chapters I and III present evidence of the cost of conflict. Specifically, most but certainly not all studies, find that conflicts have both negative growth and level effects on national GDP. This negative effect obviously impinges upon fiscal space, particularly on domestic revenue mobilization and deficit financing. A slowing or, even worse, a regressing economy will be severely restricted in terms of the former, while struggling to persuade lenders to extend credit to a sick economy. This places further pressure on expenditure reprioritization, which may well be nigh impossible to achieve while either conflict or the near certainty of conflict is present, as the priority will be on security and military expenditure.

Consequently, authorities will be left highly dependent on ODAs and this, in itself, is problematic for several reasons, including as follows: (a) ODAs are highly fungible, which decries efforts of medium- to long-term fiscal planning; (b) issues of conditionalities arise and national authorities may have to initiate policies that meet donor expectations rather than the needs of the population; and (c) aid dependency can become a significant issue.[181] As such, policymakers should avoid providing prescriptions based on theoretical work without

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[175] A typical economic cycle will go through a growth spurt and a recession. Consequently, it would be feasible to run a deficit during a recession and a surplus during a growth spurt, so long as the budget is balanced over the economic cycle. See K. Seeta Prabhu, op. cit.

[176] Ibid.

[177] For an encompassing review of the issue of external grants, see P.S. Heller et al., "Managing Fiscal policy in Low Income Countries: How to Reconcile a Scaling up of Aid Flows and Debt Relief with Macroeconomic Stability", which was presented to the United Nations-WIDER Conference on Aid: Principles, Policies and Performance (Helsinki, 16-17 June 2006).

[178] The freed-up revenues could instead be used for inefficient activities.

[179] African Development Bank (AfDB) et al., *Assessing Progress in Africa towards the Millennium Development Goals: MDG Report 2011* (2011).

[180] P.S. Heller et al., op. cit.

[181] Ibid. For more information, see also, International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA), "Fiscal Policy for Growth and Development: Further Analysis and Lessons from Country Case Studies" (22 March 2007); and Economic Commission for Africa (ECA), "Enhancing the Effectiveness of Fiscal Policy for Domestic Resource Mobilization: Issues Paper", which was presented at the Meeting of the Committee of Experts of the Second Joint Annual Meetings of the AU Conference of Ministers of Economy and Finance and ECA Conference of Ministers of Finance, Planning and Economic Development (Cairo, 2-5 June 2009).

considering the specific country situation. Conflicts have opportunity costs; one of them is the foregone fiscal space that could help to achieve the MDG targets.

G. A REGIONAL APPROACH TO DONOR ASSISTANCE

Aid remains highly fragmented, volatile and focused on the short term in the very same countries that need it most and over longer periods (in other words, the conflict-affected LDCs). Aid still does not show suitable timing, sequencing and prioritization of reforms in many conflict-related contexts which inhibit the development of partnership and trust between donors and recipients and hinder flexibility and continuous adaptation. Figure VIII below shows the volatility of aid, which is a phenomenon that must be taken into account when using aid as a significant resource in framing national budgets. For example, as can be seen, aid originating from the Gulf States is volatile given that it has been closely correlated with movements in the price of oil since the 1970s.

Figure VIII. Deviation of ODA from Gulf States and crude oil price, 1970-2007
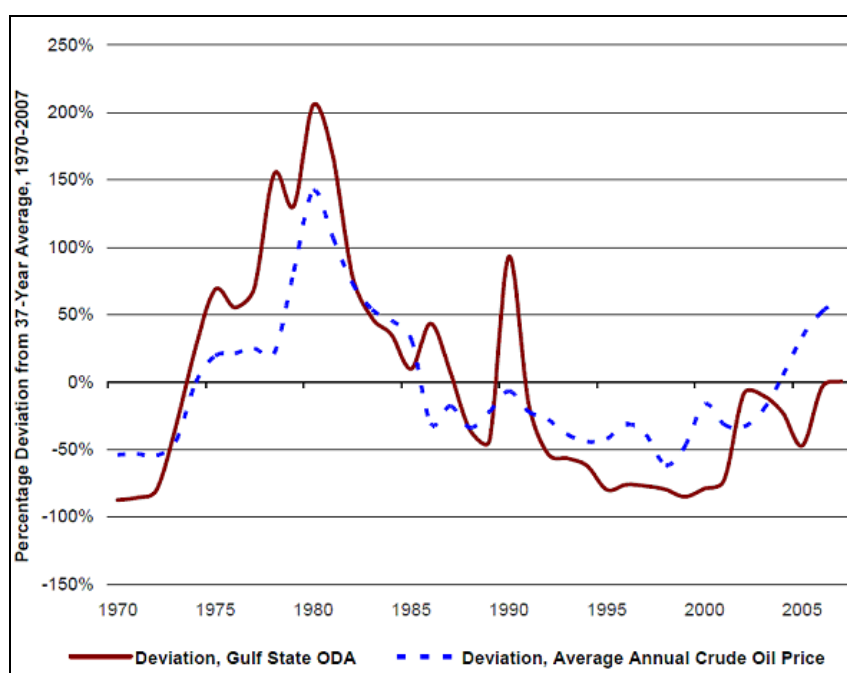
Source: ESCWA, based on data by the Organisation for Economic Co-operation and Development (OECD), which is available at: http://sstats.oecd.org/qwids/.

Significantly, international assistance needs to be a concerted/coordinated effort with a long-term commitment by donors and development practitioners. Building effective and efficient State institutions that are in line with a national development vision and aspirations is a long-term process. Moreover, technical support needs to ensure the development of indigenous good governance practices that are tailored to local needs and aspirations.

A middle way that combines the needed elements of the big-scale or standardized approach with the small-scale or contextual one is increasingly sought in the emergency and development aid arena.[182] A regional approach to addressing the vicious circle of conflict and governance deficit can help to strike such a balance. For a long time, the governance discourse has been seen as an instrument for the application of international or Western values and principles to the developing world, thereby resulting too often in cosmetic reforms in the

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[182] L. Pritchett and F. de Weijer, "Fragile States: Stuck In A Capability Trap?", background paper in the *World Development Report 2011* (the World Bank, 2010).

national legal frameworks. However, governance is multifaceted and while its principles of transparency, inclusivity and accountability are universal, each country or region may apply them differently without jeopardizing these very same principles. Regional institutions can bridge the perceived distance between universal concepts and their practical implementation.

A holistic regional approach can also benefit a more integrated approach to development policies and programmes where these are not fragmented at project levels and compartmentalized by donors, implementing agencies or ministries, with their respective bureaucratic, procurement and financial procedures. A regional approach can help to establish regional development priorities that are harmonized with the national ones and, subsequently, can create a programmatic platform for State-building and institution-building in such critical areas as criminal investigations, security sector reform, police and justice reform, infrastructure, finance, food security, land policy,

climate change adaptation, migration, trade and cross-border cooperation and institutionalized early warning systems to prevent emerging stresses, where countries sharing similar cultures, history, geography, can support each other more consistently, proactively and effectively.

Regional support initiatives could be considered in order to strengthen governance mechanisms, particularly those addressed to economies based on natural-resources. Initiatives, including Extractive Industries Transparency Initiative (EITI) and Publish What You Pay (PWYP), could help the regional public opinion and policymakers to advocate greater revenue and expenditure transparency. Regional capacity-building and mediation activities are slowly increasing and include experiences from ASEAN and the African Union-ECOWAS. In the Caribbean, there are experiences of shared court systems among its countries, while, in West Africa, central banks have provided capacity-buildings to their neighbouring counterparts.

Fiscal space and the special case of Palestine

The ability of the Palestinian Authority to increase fiscal space is heavily constrained by occupation. This owes directly to the occupation's restrictions that prevent Palestinians from accessing significant portions of their lands and from making full use of their natural resources. Additionally, the occupation significantly limits Palestinians from accessing global markets and fragments Palestine into poorly connected areas. Indeed, these restrictions are the main impediment for any prospects of a sustainable economy within national borders. Estimates by the Palestinian Authority for 2010 suggest that the total costs of these impediments amounted to $6.897 billion or 84.9 per cent of the total estimated economy.

In other words, without occupation, the economy of Palestine today would be almost twice its current size. The impact of this upon the ability of the Palestinian Authority to expand fiscal space is both sizeable and deleterious. The fiscal cost of occupation is posited at $1.795 billion, of which $406 million accrues out of direct fiscal costs and the remainder ($1.389 billion) from indirect fiscal costs. An implication of this is that Palestine is beholden on foreign aid to plug its fiscal deficit that is largely an outcome of low revenues[a]. This heavy dependence on ODA makes it difficult for the Palestinian Authority to engage in credible medium- to long-term fiscal forecasts and planning.

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Note: [a] Direct fiscal costs include the inability to have efficient tax collection, especially at international borders, while indirect fiscal costs are created out of the impact of the occupation in reducing the size of the economy. See Ministry of National Economy in Palestine and the Applied Research Institute – Jerusalem, *The Economic Costs of the Israeli occupation for the occupied Palestinian territory* (2011).

H. INSTITUTIONAL IMPEDIMENTS IN ACHIEVING FISCAL SPACE

The abovementioned arguments assume that the necessary institutional frameworks required to achieve fiscal space either exist or can be built. The reality on the ground, however, can be far removed from the theoretical prescriptions of fiscal space. This is especially true for conflict-affected countries and territories where broken and weak institutions are more the norm than the exception. This can lead to failures in the delivery of essential services, which, this study has argued, is an important and necessary component of MDG achievement.[183] In other words, the governance of institutions matter in terms of providing a national authority with the ability to carry out the requisite actions to achieve fiscal space.[184] This is a particularly pressing issue in the ESCWA region where governance is low relative to most regions of the world and, moreover, has remained largely stagnant over the past 25 years, particularly in the conflict-affected countries and territories.[185] Consequently, any application of fiscal space theory must take into account the need for strong institutions by building up the efficacy of governance in the targeted country. This will necessitate significant coordinated effort between domestic and external partners in order to ensure that fiscal space can be created and executed within conflict or fragile settings. Table 27 presents the potential contributions of such programmes to MDGs.

I. SOCIAL PROTECTION PROGRAMMES AS A MECHANISM TO HELP ACHIEVE MDGs

Accelerating progress towards achieving MDGs can be aided by using social protection programmes.[186] The World Bank noted the danger to the MDG targets that could stem from ignoring downside risks to the developmental process and eschewing appropriate social risk management mechanisms.[187] However, social protection programmes require significant funding, which is another reason that this study argues in favour of creating and expanding fiscal space. Consequently, fiscal space creates positive spillovers that have the potential to accelerate progress to MDGs above and beyond that brought about by expanding the national revenue base and increasing efficiency. It can also help to launch such reprioritization programmes as social protection that can be defined as being part of a pro-MDG budget.[188]

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[183] ESCWA, "The Governance Deficit and Conflict Relapse in the ESCWA Region: An Overview" (2011).

[184] Governance and institutions are complementary as effective governance is needed to build strong and capable institutions. Ibid.

[185] ESCWA, "The Developmental Costs of Conflict in the ESCWA Region: A Composite MDG Index for Conflict-Affected Countries" (2011).

[186] Social protection is "more than a safety-net that protects people from risks and shocks. It is about addressing the main causes of poverty by allowing the marginalised or vulnerable groups to benefit from and productively participate in the economic growth process. For social protection to impact directly on human development, it has to be protective and preventive, and to serve as an instrument of social justice". AfDB et al., op. cit., p. 101.

[187] The World Bank, *Social Risk Management: The World Bank's Approach to Social Protection* (Washington DC, 2003).

[188] Within that context, an overview of successful social protection programmes in Africa that can be replicated with localized alterations in the ESCWA region is provided in AfDB et al., op. cit.

TABLE 27. POTENTIAL CONTRIBUTIONS TO MDGS FROM VARIOUS SOCIAL
PROTECTION INTERVENTIONS

Interventions	MDG 1	MDG 2	MDG 3	MDGs 4-6	MDG 7
Pensions	Reduces poverty among the aged and disabled			Increases access to health services for the aged.	Increases access to water and sanitation.
Unemployment benefits	Reduces transient poverty among the unemployed		Provides temporal financial empowerment to women, enhancing their consumption and access to basic services	Ensures health status and employability	Reduces poaching in game reserves and depletion of other natural resources

Increases access to water |
| Fee waivers for health, education and related services | Allows families to access services without a drop in income | Contribute to increased school enrolment | As girls' education is sensitive to fees in some communities, a waiver contributes immensely to girls' enrolment | Patronage of health facilities is sensitive to user charges, so a waiver improves access and general health status | Increases access to water and sanitation |
| Safety nets | Evens out/raises incomes

Cash transfers to vulnerable children can reduce inter-generational poverty | Support to physically challenged people and vulnerable children increases enrolment and school attendance

Benefits (cash/food) conditional upon school enrolment

Creates incentives for families to send children and wards (especially girls) to school | Contributes to girls' enrolment

Special support to women increases their skills and productivity | Increases heath status of orphans and vulnerable children

Transfers to poor households enhance nutrition, resulting in gains in children's weight and height as well as nutritional and health status of women | |
| School feeding programme | Reduces child poverty, especially hunger | Contributes to enrolment rate, attendance, and pupil performance | Contributes to girls' enrolment and performance | Reduces child morbidity | |

TABLE 27 (*continued*)

Interventions	MDG 1	MDG 2	MDG 3	MDGs 4-6	MDG 7
Social funds, including waiving of user fees	Empowers the extremely poor communities to build social infrastructure Increases available household income for basic consumption	Contributes to girls' attendance in schools through attention to appropriate sanitation, security, etc. in the construction of school buildings Construction and rehabilitation of school facilities boost enrolment, attendance and reduce class sizes	Increases girls' access to schools through the creation of girl-friendly environments (e.g. provision of girls' toilets and special support to female pupils)	Construction and rehabilitation of health facilities through social funds increase access to primary health services Social funds that focus on building awareness and advocacy on HIV and AIDS, basic hygiene enhance behavioural changes and health outcomes Social funds targeted at infants and pregnant women contribute to improved child and maternal health through reduction in morbidity and mortality	Social funds targeted at tree planting, bio-diversity management, and erosion control promote environmental sustainability
Self-help projects	Contribute to construction of feeder roads, bridges, and culverts which increases accessibility to markets and inputs	Construction and rehabilitation of schools increase enrolment, attendance and performance Parent-teacher associations contribute to school management and quality of education Construction of boreholes/wells increases attendance and learning for children who spend hours on water collection	Creation of multi-functional platforms in remote communities increases women empowerment Community support to out-of-school children enhances skills and employment status Construction of boreholes/wells reduces the time women spend on water collection, which can then be diverted to more productive activities	Construction and rehabilitation of clinics and maternity centres and drug revolving schemes increase access and make basic health services affordable Construction of boreholes/wells reduces eater-borne diseases and increases household hygiene	Community management of local forest reserves reduces deforestation and creates carbon sinks

TABLE 27 (*continued*)

Interventions	MDG 1	MDG 2	MDG 3	MDGs 4-6	MDG 7
Labour market policies	Can create a more conducive environment for job creation, productivity and wage growth Public employment programmes provide temporary employment, especially in times of economic stress, thereby increasing the income of households in transient poverty Support to informal workers in the form of skills and access to markets enhances their productivity Workers' compensation policies and occupational safety policies protect the occupational health (and productivity) of workers and guard against work-related disability	Addressing child labour can increase school enrolment and literacy rate Wage increases can boost household spending on education and reduce child labour, thereby increasing primary school enrolment	Encouraging women's labour force participation creates incentives for female education Elimination of discrimination against women, physically challenged and ethnic minorities' participation in the labour market and public offices enhances empowerment and gender equality Labour market policies that encourage women's participation in non-agricultural production can narrow the gap between men and women in recruitment and remuneration policies	Gender-sensitive labour policies (maternity and paternity leave) promote childcare and give more attention to pre- and post-natal care Maternity leave allows women to keep their jobs during pregnancy and child-caring stages Provision of crèches in the workplace enhances exclusive breast feeding and childcare	Income policy that favours forestry can lead to a better enforcement of environmental laws and regulations
Disability insurance (DI) and social insurance (SI)	DI regularises income for those temporarily or permanently unable to work Sick leave safeguards a level of income during periods of illness and facilitates an ability to pay for treatment	SI evens out household incomes (protecting them from shocks) SI increases school enrolment and reduces child labour	SI targeted at women reduces the impact of vulnerability and promotes gender equality	Health insurance makes medical treatment more accessible	

Source: African Development Bank (AfDB) et al., *Assessing Progress in Africa towards the Millennium Development Goals: MDG Report 2011* (2011).

J. SUMMARY ON USING BUDGETARY LEVERS TO ACHIEVE MDGS

Overall, the probability of MDG attainment and fiscal prudence need not be incompatible as long as fiscal space is properly applied, which requires the presence and/or creation of strong and effective institutions that can carry out essential public service delivery. This requires cooperation from all interested parties, including civil society, NGOs, governments, the international community and IFIs. Nevertheless the greatest burden must fall on the domestic actors as the implementers of the plans that feasibly aid in achieving MDG targets. This is particularly true of governments, which must ensure that the political and security environments are conducive to pro-MDG developments. However, even in the absence of such guarantees, pro-MDG development can take place, albeit more narrowly and with greater trade-offs.[189]

Foremost in government plans aimed at ensuring development must be their ability to produce pro-MDG budgets that, as much as possible, accentuate development, especially pro-poor development (including social protection programmes) over other competing priorities. This is where political will becomes essential. Indeed, while the impediments are significant and great, that should not be used as an excuse not to try and improve the standard of living of the poorest and most marginalized. Despite all the difficulties inherent in achieving it, a firm and credible commitment towards pro-MDG development is both necessary and sufficient, even if just in order to give it a chance to succeed as opposed to a guarantee of success.

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[189] F. Stewart, op. cit.

V. CONCLUSIONS AND RECOMMENDATIONS

All five governments of the conflict-affected countries and territories under review are committed to achieving the MDG targets despite facing considerable challenges. Chapter II highlighted the fact that the current situation of these ESCWA member countries with regard to MDG targets is varied, with some countries progressing better in some targets relative to others. Nevertheless, the overall picture suggests that, with the exception of Lebanon, achieving MDGs by 2015 will require heroic efforts from all concerned parties, namely, governmental authorities, civil society, NGOs, IFIs and the broader international community.

Simply put, 2015 is too much too soon. This should not, however be viewed as a clear case of failure. The promulgation of MDGs and the use of the year 2015 as an end date were constructed within a contextual vacuum. Such an endeavour has no historical precedent and no case studies to fall back on.[190] It was made in an uncertain post-Cold War period were anarchy reigned supreme in the international arena and where the future was clouded in deep uncertainty. Both the targets and end date were educated guesses or "guesstimates". What is more pertinent and important is that progress has been made above and beyond that expected due to natural economic progress, and that the entire process has managed to improve the lives of millions of the world's poorest. A vision rather than a concrete codified project was realised in the 1990s. Criticisms and negative evaluations are easy to make (justified or otherwise); rather harder to recall is that in the face of such limited resources and uncertainty, this vision has already achieved so much in such a short space of time. Whether one feels the proponents of these targets are sitting on thorns or can proudly wear laurels on their heads, it would be safe to suggest that the vast majority of protagonists agree that the task to improve the development of the poorest members of the human race must go on.

The following sections provide summary information as well as highlighting

recommendations that conflict-affected countries and territories in the ESCWA region need to consider in order to accelerate their progression towards meeting MDGs.

A. CONCLUSIONS AND POLICY IMPLICATIONS

The breadth and depth of available data require immediate and significant improvements. Almost all the research and analytical work in this study has been hampered by missing, poor quality and/or inconsistent reporting of data. This extends to data held by the United Nations and IFIs. However, insofar as the data held by the latter are sourced domestically, the primary initiator of data improvement and availability remains the governments of conflict-affected countries. In order to expedite their work in the face of considerable constraints, they need to be ably assisted by the international community. Assistance can take various forms (for example training or financial) and must be coordinated with host governments in order to ensure suitable applicability to local conditions.

The cost of conflict on development cannot be summarized into a single figure. While a certain amount of parsimony is inevitable, broad conclusions drawn should nevertheless entertain the fact that not only are conflicts multifaceted, but equally that their costs are borne both upon economic and development measures.[191] This is not always obvious given that the costs of conflicts are often transmitted via intermediate proxies, which underestimates the effect of conflict on development.

The cost of conflict on the ESCWA region is not systematically distinct from that of the rest of the world. The concept of "Middle East exceptionalism" in terms of conflict has previously been questioned and largely (though

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[190] However, the Marshall Plan could be construed as being one such endeavour, though the context of its implementation was radically different.

[191] The impact upon the economy can be seen, for instance, from the growth and level effects of conflict on GDP, as well as from the impact of conflict on trade and foreign direct investment (FDI). In terms of development, there is a discernible impact of conflict on such developmental indicators as life expectancy and immunization rates.

not entirely) debunked.[192] Specifically, this study reinforces the argument that this region does not always behave differently from the rest of the world. Nevertheless, one important deviation occurs where the region does seem to bear a disproportionate cost to one year of civil war relative to the global average.

Conflicts in the region are costly. This cost can be approximately estimated as a loss of around 17.5 per cent of per-capita GDP in the average ESCWA member for a year of civil war. This effect is stronger than in non-ESCWA war-torn countries. By contrast, the cost of a year of inter-State war is about half of the cost of a civil war and is not significantly different between ESCWA and non-ESCWA countries. The effects of conflict on non-income dimensions of the development process are also quite sizeable: a year of war today would push the average ESCWA member 5 to 10 years backwards in terms of the level of a broad range of social development indicators, including life expectancy, immunization rate and human development.

The use of a structural model allows disentangling the transmission channels of the effects of war on development. It turns out that war affects per-capita income mostly by affecting institutional quality, openness to international trade, and physical capital accumulation. At the same time, a large part of the effect of war on social development indicators occurs through per-capita income. These findings are clearly relevant in designing the "recovery" strategy for a post-conflict economy. In the aftermath of a conflict, governments and policymakers are faced with a very tight resource constraint: many interventions are required and human and financial resources are scarce. A prioritization of the various interventions is therefore necessary. The evidence provided in this report helps in setting these priorities: to minimize the development cost of war governments will have to focus on rebuilding institutions that are conducive to economic activity, promoting international trade, and encouraging savings and investment.

[192] See, chiefly, M.E. Sørli, N.P. Gleditsch and H. Strand, "Why is There So Much Conflict in the Middle East?", *Journal of Conflict Resolution*, vol. 49, No. 1 (2005), pp. 141-165.

For each of these three priority areas of intervention, some more specific recommendations can be proposed, as set forth below.

(a) *Rebuilding institutions that are conducive to economic activity*

Re-starting business activity in the aftermath of a conflict is a matter of restoring confidence in the institutional as well as the macroeconomic environment. With respect to the institutional aspect, it appears that such areas as the protection of property rights, the rule of law and an independent judiciary are of primary importance to strengthen people's incentive to engage in productive activities (i.e. labour, entrepreneurships). By assuring that contracts are enforced, that the court system is impartial and that laws are generally observed the government will favour the efficient allocation of the scarce resources available in the country, thereby creating the basis for a more rapid recovery in output and consumption and hence in social welfare.

The process of rebuilding institutions needs to be accompanied by a progressive disengagement of the military from any political and institutional role. A country that has been involved in an inter-State or civil war is likely to have experienced a very active role of the military in all aspects of the legal, political and institutional process, including decision-making and enforcement of the rule of law. While possibly justified during the war period, this active role of the military is likely to become a damaging interference in the post-conflict period and could well slow down institutional, legal and regulatory reforms.

(b) *Promoting international trade*

International trade provides a post-conflict economy with a number of opportunities. In a macro-perspective, it can provide the domestic economy with a much needed market for exports (and hence with an equally much needed inflow of foreign currency) as well as a supply of goods and services to overcome production bottlenecks and increase the consumption opportunities of individuals. In a micro-perspective, international trade provides incentives to domestic producers to

rationalize their production and to invest in efficiency in order to exploit the potential profit from selling on richer, foreign markets (especially in consideration of the fact the domestic demand is likely to be weak).

From a public finance perspective, it gives the government the possibility to raise revenues at a time when the domestic tax base is small and the tax administration still inefficient. Clearly, one has to be aware of the possible side-effects of international trade on a still fragile post-conflict economy. Competition from abroad could make it too difficult for domestic business to emerge. Similarly, the attempt of the government to raise as much revenues as possible could lead to the decision to increase tariffs up to the point where international trade is significantly discouraged. In taking action to promote international trade, the government must therefore strike the right balance between the potential benefits and costs of liberalization. In this sense, it seems that governments should focus more on removing the non-tariff barriers to trade that might have emerged during the conflict. Insecurity, lack of physical connectivity and inefficient bureaucratic procedures are examples of such non-tariff barriers which must be addressed as priorities in the post-conflict phase. Clearly, the rebuilding of institutions discussed above is going to contribute to the promotion of trade, thereby implying strong complementarity between the institutional and the trade priority.

(c)   *Encouraging savings and investment*

Physical capital accumulation is a matter of savings and investments. Again, there is a clear connection between encouraging savings and investment and rebuilding an institutional environment that is conducive to business. Moreover, good institutions increase a country's attractiveness for international investors, which in turn results in greater foreign direct investment (FDI) and/or other types of international capital flows that can significantly top-up scarce domestic capital flows.

However, in addition to creating a good business environment, governments could consider additional policies to stimulate domestic savings and investment. In a long-term perspective, governments should undertake

actions to develop the domestic financial system and to deepen the degree of domestic financial intermediation. These actions include the introduction of laws to discipline bankruptcy and protect creditors' rights, the adoption of international operational standards for the banking sector, the creation of mechanisms to ensure transparency of corporate accounts and to facilitate the circulation about credit worthiness of potential borrowers. In a shorter term perspective, the government should consider the use of fiscal policy as a way to crowd-in private savings and investment. This requires increasing the share of public capital expenditure (as opposed to current expenditure) in order to finance public investment (as opposed to public consumption). The idea is that by providing infrastructures and possibly certain types of public goods, the government can increase the marginal productivity of "private" inputs, including labour and physical capital, thereby stimulating investment and growth.

Some evidence in support of this recommendation comes from the empirical literature on the determinants of peace in the aftermath of a civil war. For example, Carmignani showed that the more resources the government allocates to public consumption in the post-conflict years, the higher the risk of a new war.[193] He explained this result by stressing that public investment creates beneficial effects which can be shared by all parties and factions, but only if peace is preserved. This provides everybody with a sufficiently strong incentive to stay at peace. The recommendation to the government to reallocate the scarce resources available in the public budget from current expenditure and consumption to investment therefore has a twofold motivation, namely: to preserve peace and to minimize the adverse development consequences of conflict.

Policymakers need to be aware of the potential of an endogenous relationship between conflict and development. The potential presence of endogeneity suggests an existence of a feedback-loop whereby the process of conflict and de-development, or development and diminishing

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[193] F. Carmignani, "Public Consumption and the Stabilization of Peace After a Civil War", *International Journal of Development and Conflict*, Demo Issue (2010), pp. 57-74.

conflict feed on each other as suggested in the writings of such prominent authors as Collier and Sachs. In such instances, a "circuit-breaker" is required to break this symbiotic vicious cycle and to turn it instead into a virtuous cycle. The literature on poverty traps is full of prescriptions and less so on conflict traps. Much more effort needs to be concentrated on understanding the exact nature of the conflict-development nexus so as to maximise the impact of both preventative and ameliorative policies. Unfortunately, owing mainly to data restrictions, this study is also largely silent on this issue, but strongly recommends that further investigation be carried out on this matter.

In the area of MDGs and other development goals, governments and other organizations working in conflict-affected countries must continue to make efforts despite ongoing conflicts. There is evidence that public service delivery, particularly to education and health, need not necessarily suffer during conflict given political will and sufficient capacity.[194] However, in general, one should expect deleterious impacts upon MDG targets at a greater rate than in countries unaffected by conflict, especially if the conflict is particularly intense or covers the majority of the country and its population. Developmental efforts in such scenarios require significant coordination between those in power in the conflict areas (whether government or opposition forces), the donor community, NGOs, IFIs and civil society at large. Development projects need not stop, though severe capacity, financial and security constraints may limit the scope of action. If so, then development targets with the greatest pay-off and positive spillover effects, such as education and health, should be prioritized. It should be stressed that continuing developmental efforts could be a catalyst for ending conflict, especially if the abovementioned nexus is characterised by feedback-loops.

Nevertheless, the mass of developmental efforts can usually only be realized in the post-conflict phase. Similar to the period during conflict, development in the aftermath of conflict can be especially important to avert a return to armed strive. Great importance should be attached to strengthening the provision of public goods in the post-conflict phase so as to achieve MDGs. Governmental action can be directed at reactivating the channels through which public goods are delivered. This could require a relative increase in public investment. In fact, the increase in public investment might be dynamically more efficient in the sense that it could stimulate the socio-economic recovery and also strengthen the peace process.[195]

The fiscal space available to policymakers in conflict and post-conflict countries is heavily constrained. As such, great thought should be given to the planning and implementation of national budgets in order to maximise their impact on attaining MDGs. This study recommends a two-pronged budgetary approach, namely: (a) improving expenditure efficiency, particularly by re-weighting the share of expenditure towards the provision of public goods and services as opposed to the maintenance of a bureaucracy; and (b) increasing the relative budgetary share devoted to MDGs (creating an MDG-friendly budget).

The process underlying an increase in fiscal efficiency, while primarily a matter for governments, also requires coordination with relevant organizations, including civil society, the private sector, NGOs, IFIs and the donor community. This is especially relevant given the danger inherent in concentrating rather than diversifying the sources that allow for rises in revenues. Governments should avoid being overly dependent on one main source of revenue-raising given the fragility of the political, security and economic situation in the face of conflict or the potential of renewed conflict.

Moreover, a holistic regional approach can benefit a more integrated approach to development policies and programmes where these are not fragmented at project levels and compartmentalized by donors, implementing agencies or ministries, with their respective bureaucratic, procurement and financial procedures. A regional approach can help to

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[194] F. Stewart, op. cit.

[195] F. Carmignani, "Public Consumption and the Stabilization of Peace After a Civil War", *International Journal of Development and Conflict*, Demo Issue (2010), pp. 57-74.

establish regional development priorities which are harmonized with the national ones and, subsequently, can create a programmatic platform for State-building and institution-building.

Having summarized the results of the report and outlined the policy implications of these results, what remains to be discussed are the directions of future research. The research on causes and consequences of wars is rapidly expanding and there are several questions that still need to be addressed and answered. With respect to the issues specifically raised in this report, future research should provide an even more comprehensive account of cross-regional differences in the development costs of war. Is ESCWA a particularly "unlucky" region where war is more costly than anywhere else? Or are there other regions, including, for instance, sub-Saharan Africa, that experience particularly high costs of war? A corollary question that needs to be addressed both empirically and theoretically is why war is more costly in some countries and regions than in others. Does it depend solely on the "intensity" of the conflict or do initial socio-economic conditions also matter? Along these lines, more analysis of the interrelations between causes and consequences of wars is needed. Do the development effects of war somehow depend on why a war was started?

B. SPECIFIC RECOMMENDATIONS
FOR CONFLICT-AFFECTED
ESCWA MEMBER COUNTRIES

The recommendations for conflict-affected countries and territories in the ESCWA region can be summarized as follows:

(a) There is a need to enhance education curricula and quality of services provided by educational institutions;

(b) Family programmes must be expanded, especially in rural areas, in order to improve maternal health and promote education with a specific focus on the education of girls;

(c) Agriculture in these countries and territories is trapped in low value-added activities and mainly characterized by low productivity farming. It is therefore vital to increase rain-fed agriculture and to promote market linkages.

Addressing all these constraints will require investments in research and in extension services, rationalization of taxes and fees, and reforms in the management of the irrigation schemes;

(d) Aid interventions need to establish a nexus and coordination mechanism in the transition from the humanitarian phase to the recovery and development phase and, consequently, between the agencies specialized in economic development, humanitarian and security issues in order to better address livelihoods at an early stage and particularly in protracted conflict settings;

(e) Donors need to move towards multi-year budgeting for their transfers to the relief agencies that operate in conflict-affected countries so that they can improve their planning and increase efficiency gains in their operations. Owing to absorptive capacity constraints, aid disbursements should gradually rise during the first three to five years and then gradually revert back;

(f) National poverty reduction strategy programmes (PRSPs) and sector wide approach programmes (SWAPs) need to mainstream MDGs and be drafted in a participative manner;

(g) Closer regional integration and better business environments can increase the peace dividend on these countries and territories;

(h) In Iraq, the absence of broad-based economic opportunities keeps the opportunity costs of engaging in conflict relatively low. War and sanctions have isolated Iraq both internationally and within the region. Greater regional integration efforts in general through, for example, regionally funded highways, railways, telecommunications, electricity and water projects are therefore particularly promising for that country, which is still substantially affected by the destruction of the physical infrastructure. However, the most critical condition for post-war recovery is reversing violence and insecurity by building up law enforcement and strengthening a representative form of government. Iraq's policy platform should focus on three main approaches, namely:

(i) Generating growth and employment in the private sector by rebuilding needed services and reforming incentive systems;

(ii) Protecting the poor and the vulnerable by establishing strong formal safety nets and a sustainable pension system;

(iii) Improving public management and accountability, especially for oil revenues and other public resources by strengthening governance, reforming public finance and human resources management, and increasing anti-corruption efforts;

(i) A strategy setting a coherent reform programme is needed for Lebanon, which must contain fiscal adjustment measures, increased attention to the social sectors and reprioritization of infrastructure policies in order to enable that country to move beyond reconstruction to recovery and sustainable growth;

(j) With regard to Palestine, the building of strong governmental institutions in the areas of security and justice, revenue and expenditure management, economic development and service delivery are essential to enable positive and sustainable socio-economic growth that is independent of donor aid. Israeli restrictions and control of all international borders, coupled with the lack of access to natural resources, inhibit free trade and the movement of exports and imports, thereby discouraging foreign investments and the initiation and development of local investments. The lifting of Israeli restrictions is necessary for economic and social growth in Palestine;

(k) After recent political events and the secession of South Sudan, the Sudan has a huge development promise which remains conditional upon the reduction of conflict. The Sudan's development potential would lever on private and agriculture sector growth in order to contribute to the dissolution of potential relapse into conflict;

(l) Conflict in Yemen is mainly of a domestic nature, albeit with some neighbouring spillover, and coincides with extreme poverty, shortages of natural resources, limited fiscal capacity and fast population growth. Yemen is faced with a poverty trap of low income, low savings and low investment, which again cause low income. In order to break this vicious cycle, the gender aspect is particularly important. A substantial reduction of fertility rates can lead to a much greater empowerment of women, which in turn leads to economically more rational household decisions. Reducing poverty in rural Yemen requires village-level basic infrastructure, better access to quality social services, the protection of poor-people assets, enhancing and securing the productivity of those assets, improving access to more and better employment opportunities, and enhancing the social protection system.

Econometric framework

1. Structural relations

Development and war are linked through a set of structural relations that can be theoretically summarized by the following system of equations:

$$(1) \quad y_{i,t} = \mathbf{A'X}_{i,t} + \mathbf{B'Z}_{i,t} + \beta w_{i,t} + \varepsilon_{i,t}$$

$$(2) \quad x_{i,t}^{(1)} = \mathbf{C}^{(1)'}\mathbf{M}_{i,t}^{(1)} + \vartheta^{(1)}w_{i,t} + \epsilon_{i,t}^{(1)}$$

$$(3) \quad x_{i,t}^{(2)} = \mathbf{C}^{(2)'}\mathbf{M}_{i,t}^{(2)} + \vartheta^{(2)}w_{i,t} + \epsilon_{i,t}^{(2)}$$

$$(4) \quad x_{i,t}^{(n)} = \mathbf{C}^{(n)'}\mathbf{M}_{i,t}^{(n)} + \vartheta^{(n)}w_{i,t} + \epsilon_{i,t}^{(n)}$$

where i denotes a generic country and t is time, y is the empirical measure of development (i.e. the level of per-capita GDP), w is the war duration variable, $\mathbf{X}$ and $\mathbf{Z}$ are sets of other determinants of y, $x^{(j)}$ is a generic item of $\mathbf{X}$ ($j=1, 2,\ldots n$), $\mathbf{M}$s are set of additional controls, ε and ϵ s are error terms, and β, ϑ s, $\mathbf{A}$, $\mathbf{B}$, $\mathbf{C}$s are all coefficients to be estimated.

Equation (1) defines the development as a function of war time and various controls. These controls are for convenience divided in two sets. Set $\mathbf{Z}$ encapsulate controls that are unaffected by war (i.e. geographical location, distance from equator, etc). Set $\mathbf{X}$ instead includes controls that are affected by war. Examples of variables that are in $\mathbf{X}$ include policy indicators, the stock of physical capital, the quality of institutions, and, possibly, the degree of international trade integration. Equations (2)-(4) then capture the relationship between war and the $\mathbf{X}$ variables.

Most of the empirical work on the effects of war is based on the estimation of an equation like (1). In this case, the development cost of war is captured by the estimated parameter β. However, if the set $\mathbf{X}$ is not empty; that is, if there are effectively some determinants of development which are also affected by war, then the estimate of β is likely to be biased. The problem is actually even subtler: the w and the $\mathbf{X}$ are likely to be highly correlated and therefore there is multi-collinearity on the right hand side of (1). Multi-collineairty in turn implies that the coefficient β (and probably also the coefficients $\mathbf{B}$) are imprecisely estimated. The consequence is an increase in the likelihood of not rejecting the null hypothesis of the test of significance of β. In other words, one is more likely to erroneously conclude that there is no significant effect on development.

The methodological approach taken in this report is to estimate all of the equations of the structural model. In this way, it is possible to disentangle between the direct and the indirect effects of war. More specifically, the indirect effects result from the combination of (a) the direct effect of war on the $\mathbf{X}$ variables of development (captured by the parameters $\vartheta^{(1)}$, $\vartheta^{(2)}$, ..$\vartheta^{(n)}$ in equations (2)-(4)); and (b) the direct effect of the $\mathbf{X}$ variables on development (captured by the parameters $\mathbf{A}$ in equation (1)). The residual effect of war on development (that is the effect of war on development after accounting for effects transmitted via the $\mathbf{X}$s) is instead captured by β in equation (1). This structural representation is not just econometrically more appropriate than a single equation reduced form model, but it also provides policymakers with more exhaustive information about the channels through which war affects the dynamics of development. As a matter of fact, from the estimation of the structural model, one can know whether war retards development because of its deleterious effect on, say, trade rather than the depletion of physical capital or the deterioration of institutions. Such knowledge can then be used to design appropriate policy responses to foster

development in the aftermath of a conflict. In fact, system estimation has been used in various areas of applied macroeconomics.[196] However, the assessment of the development costs of war by means of a system of structural equations is quite novel.[197]

2. *Estimation issues*

The estimation of the equations of the structural model poses two main econometric challenges. First, it is customary in empirical applications to view the error term of a panel regression equation (such as those in the structural model above) as the sum of two separate components: a country fixed-effect δ_i, which accounts for unobserved heterogeneity across countries (or individuals, depending on the unit of observation of the panel) and a white noise $u_{i,t}$. The inclusion of a country-fixed effect does not make ordinary or generalised least squares inconsistent as long as δ_i can be assumed to be uncorrelated with the other regressors. However, such an assumption is necessarily violated if the regressions include a lagged dependent variable. To see this, consider for instance the dynamic specification of equation (1):

$$(5) \quad y_{i,t} = \rho y_{i,t-1} + \mathbf{A'X}_{i,t} + \mathbf{B'Z}_{i,t} + \beta w_{i,t} + \delta_i + u_{i,t}$$

Then:

$$(6) \quad E[\delta_i, y_i(t-1)] = E[\delta_i (\rho y_i(t-2) + [\mathbf{A}^{\mathbb{T}'}\mathbf{X}]_i(t-1) + \mathbf{B}^{\mathbb{T}'}\mathbf{Z}_i(t-1) + \beta w_i(t-1) + \delta_i + u_i(t-1))] \neq 0$$

where the last inequality follows from the fact that at least $E(\delta_i^2) \neq 0$. Now, lagged dependent variables are generally included in regressions of macro variables in order to account for conditional convergence and other forms of mean reversion. The issue in estimating the structural model (1)-(4) is therefore to identify an appropriate estimation procedure that provides a consistent treatment of the correlation between the country-fixed effect and lagged dependent variable.

The second econometric challenge has to do with the issue of endogeneity. War duration is likely to be endogenous to most measures of development and possibly also to several of the other determinants of development. For instance, suppose that development is measured by per-capita income. Then it is reasonable to assume that richer countries face a lower risk of war, especially intrastate war. This would be because of the comparatively higher opportunity cost of war and the existence of alternative economic activities that are more profitable than fighting. Therefore, there would be endogeneity in equation (1). However, the issue would extend to the other equations. Institutional quality is certainly a determinant of per-capita income and it is likely to be a channel through which the effect of war on income is transmitted. In this respect, institutional quality would be the dependent variable of equation (2).

Similarly, trade and physical capital are among the determinants of income that are affected by war and hence they would appear as dependent variables in equations (3) and (4). However, war is in theory endogenous to institutions, trade, and possibly even physical capital. Better institutions can be expected to reduce the risk of war because they provide the conditions for a peaceful settlement of grievances and complaints. Trade creates economic links that are likely to improve diplomatic relations. Physical capital, similarly to per-capita income, increases the opportunity cost of war.

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[196] For instance, to analyse the endogenous evolution of income and inequality, see M. Lundberg and L. Squire, "The Simultaneous Evolution of Growth and Inequality", *Economic Journal*, vol. 113, No. 487 (2003), pp. 326-344; F. Carmignani, *The Making of Pro-poor Growth* (Macroeconomics Research Group, University of Queensland, 2009); and H.C. Huang, Y.C. Lin and C.C. Yeh, "Joint Determinants of Inequality and Growth", *Economic Letters*, vol. 103, No. 3 (2009), pp. 163-166.

[197] As already pointed out, the standard approach in the literature is to use a single equation model. A notable exception is Gupta et al. who use a system of equations to test the effect of war on growth through fiscal policy variables. See S. Gupta et al., "Fiscal Consequences of Armed Conflict and Terrorism in Low- and Middle-Income Countries", *European Journal of Political Economy*, vol. 20, No. 2 (2004), pp. 403-421.

The problem of endogeneity exists not only for war. As an example, consider again equation (1) when development is measured by per-capita income. A reasonable set of regressors would include, in addition to war, institutional quality and policy variables. However, both good institutions and good policies are more likely to occur in richer countries. This means that the relationship between institutions and per-capita income and between policies and per-capita income is two-ways and hence that regressors and dependent variable are simultaneously determined. More generally, as suggested by Caselli, Esquivel and Lefort in 1996, one wonders whether the very notion of exogenous variables is at all useful in an income regression framework, the only exception being perhaps the morphological structure of a country's geography.[198]

Arellano and Bond proposed a general framework that deals with both issues.[199] In what follows, the general estimation procedure is presented for equation (5), which is simply equation (1) rewritten in order to explicit the lagged dependent variable and the country-fixed effect. Clearly, the procedure can be applied to all the other equations in the structural model. The first step is to eliminate the individual effects via a first difference transformation of the equation in levels:

$$(7) \quad y_{i,t} - y_{i,t-1} = \rho([y]_{i,t-1} - y_{i,t-2}) + [A'(X]_{i,t} - X_{i,t-1}) + B'(Z_{i,t} - Z_{i,t-1}) + \beta(w_{i,t} - w_{i,t-1}) + (u_{i,t} - u_{i,t-1})$$

First-differencing eliminates the country-fixed effect (and any time invariant variable in X or Z). However, equation (7) cannot be directly estimated by an OLS or GLS given the following: (a) the problem of endogeneity is still present; and (b) the lagged dependent variable is now correlated with the composed-error term through the contemporaneous terms in period t-1.

Hence, an instrumental variable (IV) procedure must be used. Arellano and Bond proposed an IV estimator that uses lagged values of the endogenous variables as instruments.[200] More specifically, two identifying assumptions are made. First, there is no first order serial correlation of the residuals in levels; that is, $E(u_1(i,t), u_1(i,t-1)) = 0$. Note that if this assumption is valid, then $(u_{i,t} - u_{i,t-1})$ is correlated with $(u_{i,t-1} - u_{i,t-2})$, but not with $(u_{i,t-k} - u_{i,t-k-1})$ for $k \geq 2$. It is therefore possible to test for the validity of the first identifying assumption by testing for the presence of second (or higher) order serial correlation in the first-differenced errors. Arellano and Bond developed the appropriate statistical test.

The second identifying assumption is that the variables measured at time $t - 1$ are predetermined for $u_{i,t+1}$. Under these two assumptions, then the lagged levels of y, w, X, and Z are valid instruments for the equation in first differences. That is, $y_{i,0}$, $w_{i,0}$, $X_{i,0}$, and $Z_{i,0}$ can be used as instruments in the regression of $([y]_{i,2} - y_{i,1})$ on $([y]_{i,1} - y_{i,0})$, then $y_{i,1}$, $w_{i,1}$, $X_{i,1}$, and $Z_{i,1}$ can be used as instruments in the regression of $([y]_{i,3} - y_{i,2})$ on $([y]_{i,2} - y_{i,1})$ and so forth. A standard Hansen or Sargan test of over-identifying assumptions can be performed in addition to the test of serial correlation in order to confirm the validity of the instrumenting procedure.

In subsequent work, Arellano and Bover, and Blundell and Bond showed that by using additional moment conditions it is possible to obtain an estimator with greater precision and better finite-sample properties.[201] In particular, this improved procedure estimates both the level equation (5) and the first-

[198] F. Caselli, G. Esquivel and F. Lefort, "Reopening the Convergence Debate: A New Look at Cross-Country Growth Empirics", *Journal of Economic Growth*, vol. 1 (1996), pp. 363-389.

[199] M. Arellano and S. Bond, "Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations", *Review of Economic Studies*, vol.58, No. 2 (1991), pp. 277-297.

[200] Ibid. See also F. Caselli, G. Esquivel and F. Lefort, "Reopening the Convergence Debate: A New Look at Cross-Country Growth Empirics", *Journal of Economic Growth*, vol. 1 (1996), pp. 363-389.

[201] See M. Arellano and O. Bover, "Another Look at the Instrumental Variable Estimation of Error Components Models", *Journal of Econometrics*, vol. 68 (1995), pp. 29-51; and K. Blundell and S. Bond. "Initial Conditions and Moment Restrictions in Dynamic Panel Data Models", *Journal of Econometrics*, vol. 87, No. 1 (1998), pp. 115-143.

differenced equation (7) jointly as a system. The lagged levels are used as instruments for the first-differenced equation and the lagged first-differences are used as instruments for the level equation. By retaining the level equation, this procedure also allows to obtain estimated coefficients for time invariant variables in **X** or **Z**.

This is particularly useful for two reasons. First of all, in order to disentangle the effect of war between ESCWA and other war-torn countries, interactive terms and ESCWA dummy variables will have to be added on the right hand side of the equations of the structural model. Without the level equation, it would not be possible to estimate a coefficient on the ESCWA dummy. Secondly, some of the key determinants of development in general and of income in particular are time-invariant. This is, for instance, the case of some geographical factor. Again, without the level equation, it would not be possible to estimate the effect of these time invariant factors. Taking all of this into account, the procedure of Arellano and Bover, and Blundell and Bond is chosen as the preferred estimator and hence applied to each of the equations of the structural model.[202] Given that this estimator uses two-step generalized methods of moments (GMM) to exploit optimally the linear-moment restrictions implied by the dynamic specification of the regression model, it will be referred to as the dynamic-GMM estimator.[203]

Both the "difference" estimator of Arellano and Bond and the "system" estimator of Arellano and Bover and Blundell and Bond are not immune from problems. In particular, as the time dimension of the panel grows large, the number of instruments used in the estimation grows exponentially, thereby causing a risk of over-fitting the model.[204] In fact, this study uses five-year averages of annual data over a period of 40 years. This means that the time dimension of the panel is effectively $T = 8$. This is not large: the Monte Carlo simulations provided by Roodman indicate that instrument proliferation becomes a problem when T grows above 15.[205] However, formal statistical tests or even generally accepted rules of thumb, are not yet available and hence the risk of over-fitting cannot be excluded a priori.

In order to deal with this problem, the following approach is taken:[206] after obtaining results from the system GMM using all the instruments that are automatically generated by the procedure, new estimates are produced using only certain lags (instead of all lags) for instruments. In this way, the number of instrumented is capped and the risk of over-fitting further reduced. Subsequently, the estimates from the model with all the lags are compared to those from the model with only certain lags. Differences between the two sets of estimates turn out to be minimal. In fact, the p-values of the estimated coefficients are very close and the results in the two cases are qualitatively very similar. This in turn indicates that the system GMM estimates reported in the sections below are reasonably robust to the proliferation of instruments.

The structural model is initially estimated using per-capita GDP as the dependent variable in equation (1). The dependent variables of the other equations will be those significant determinants of per-capita income which are also likely to be influenced by war. In order to identify them, it is therefore necessary to estimate equation (1) first. The analysis is carried out in two stages. In the first stage, the equation is estimated without including the war variable. The purpose is to assess the baseline determinants of income. In the second stage, war is added to the baseline specification and potential transmission channels identified. The other equations of the structural model are then estimated.

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[202] Ibid.

[203] The specification is dynamic in the sense that it includes a lagged dependent variable.

[204] A thorough discussion of this and related issues is provided in D. Roodman, "A Note on the Theme of Too Many Instruments", *Oxford Bulletin of Economics and Statistics*, vol. 71, No. 1 (2009), pp. 135-158.

[205] Ibid.

[206] As suggested by D. Roodman, ibid.

In order to identify the specific effect of war in ESCWA countries, war variables are interacted with a dummy variable that takes value 1 if country i is a member of the ESCWA region. The income equation in levels is therefore written as:

$$(8) \quad y_{i,t} = \rho y_{i,t-1} + \mathbf{A}'\mathbf{X}_{i,t} + \mathbf{B}'\mathbf{Z}_{i,t} + \beta_1 w_{i,t}^{(civil)} + \beta_2 w_{i,t}^{(intl)} + \beta_3 w_{i,t}^{(civil)} d_i + \beta_4 w_{i,t}^{(intl)} d_i + \delta_i + u_{i,t}$$

where $w_{i,t}^{(civil)}$ and $w_{i,t}^{(intl)}$ denote the years of civil and international war of country i in quinquennium t, d_i is a dummy variable that takes value 1 if country i is in the ESCWA region, and all of the other variables are as in equation (1). The use of the interactive term allows disentangling the effect of wars in ESCWA from other countries as follows. For the generic country i in the sample, the marginal effect of civil war is β_1 and the marginal effect of international war is β_2. For the generic ESCWA country, instead, the marginal effect of a civil war is $(\beta_1+\beta_3)$ and the marginal effect of an interstate war is $(\beta_2+\beta_4)$. Therefore, β_3 and β_4 respectively measure the differential effect of civil and interstate war in the ESCWA region.

From equation (8), the first-differenced equation is:

$$(9)$$
$$y_{i,t} - y_{i,t-1} = \rho(y_{i,t-1} - y_{i,t-2}) + \mathbf{A}'(\mathbf{X}_{i,t} - \mathbf{X}_{i,t-1}) + \mathbf{B}'(\mathbf{Z}_{i,t} - \mathbf{Z}_{i,t-1}) + \beta_1(w_{i,t}^{(civil)} - w_{i,t-1}^{(civil)}) + \beta_2(w_{i,t}^{(intl)} - w_{i,t-1}^{(intl)}) + \beta_3 d_i(w_{i,t}^{(civil)} - w_{i,t-1}^{(civil)}) + \beta_4 d_i(w_{i,t}^{(intl)} - w_{i,t-1}^{(intl)}) + (u_{i,t} - u_{i,t-1})$$

The dynamic-GMM estimator therefore estimates equations (8) and (9) as a system.
The structural model includes a total of four equations, including the income equation (1). The remaining three equations have institutional quality, trade, and investment as the dependent variables. The rest of this section is devoted to the estimation of these other three equations. The general form of this other three equations is:

$$(10)$$
$$x_{i,t}^{(g)} = \sigma x_{i,t-1}^{(g)} + \mathbf{C}^{(g)'}\mathbf{M}_{i,t}^{(g)} + \vartheta_1^{(g)} w_{i,t}^{(civil)} + \vartheta_2^{(g)} w_{i,t}^{(intl)} + d_i \vartheta_3^{(g)} w_{i,t}^{(civil)} + d_i \vartheta_4^{(g)} w_{i,t}^{(intl)} + \delta_1 + \epsilon_{i,t}^{(g)}$$

where $x^{(g)}$ simply denotes the generic variable g in vector $\mathbf{X}$; that is $x^{(1)}$ = institutions, $x^{(2)}$ = trade, and $x^{(3)}$ = investment. All of the other variables are as in the previous equations (2) and (8). The corresponding first-differenced equation is:

$$(11)$$
$$x_{i,t}^{(g)} - x_{i,t-1}^{(g)} = \sigma(x_{i,t-1}^{(g)} - x_{i,t-2}^{(g)}) + \mathbf{C}^{(g)'}\left(\mathbf{M}_{i,t}^{(g)} - \mathbf{M}_{i,t-1}^{(g)}\right) + \vartheta_1^{(g)}\left(w_{i,t}^{(civil)} - w_{i,t-1}^{(civil)}\right) + \vartheta_2^{(g)}\left(w_{i,t}^{(intl)} - w_{i,t-1}^{(intl)}\right) + d_i \vartheta_3^{(g)}\left(w_{i,t}^{(civil)} - w_{i,t-1}^{(civil)}\right) + d_i \vartheta_4^{(g)}\left(w_{i,t}^{(intl)} - w_{i,t-1}^{(intl)}\right) + (\epsilon_{i,t}^{(g)} - \epsilon_{i,t-1}^{(g)})$$

So far, per-capita income has been used as the relevant proxy of development. Obviously, development is not just about per-capita income. Therefore, this section looks at the impact of war on various non-income dimensions of development. The structural model in this case takes the following form:

$$(12) \quad h_{i,t} = \varphi y_{i,t} + \omega_1 w_{i,t}^{(civil)} + \omega_2 w_{i,t}^{(intl)} + d_i \omega_3 w_{i,t}^{(civil)} + d_i \omega_4 w_{i,t}^{(intl)} + \delta_i + \mu_{i,t}$$

$$(13) \quad y_{i,t} = \rho y_{i,t-1} + \mathbf{A}'\mathbf{X}_{i,t} + \mathbf{B}'\mathbf{Z}_{i,t} + \beta_1 w_{i,t}^{(civil)} + \beta_2 w_{i,t}^{(intl)} + \beta_3 w_{i,t}^{(civil)} d_i + \beta_4 w_{i,t}^{(intl)} d_i + \delta_i + u_{i,t}$$

where h is a non-income indicator of development, φ, and ω are all coefficients to be estimated along with ρ, β, $\mathbf{A}$, and $\mathbf{B}$, and all of the other variables are as in equation (8).

Equation (12) expresses non-income development as a function of log of per-capita income y, war and country-fixed effects. The justification for the adoption of parsimonious specifications of this type in estimating regressions of social development indicators is provided by Carmignani.[207] Basically, different from income and other macroeconomic variables such as trade and investment, social development indicators are not expected to exhibit strong conditional convergence dynamics and therefore the use of a lagged dependent variable becomes redundant.[208] This in turn allows estimating equation (12) using a standard panel fixed-effect estimator. Equation (13) is instead the same as equation (8) and is a standard income model. Taken together, the two equations represent a structural model where war is allowed to affect social development both directly and indirectly via its effect on income.

VARIABLES, DEFINITIONS AND DATA SOURCES

Variable	Definition	Data sources
Civil war duration	Number of years of civil war in a given quinquennium	Correlates of War (COW) project
International war duration	Number of years of inter-State war in a given quinquennium	Correlates of War (COW) project
Per-capita GDP	Log of per-capita GDP, $ constant prices for the year 2000	Penn World Tables
Institutions	Composite index of quality of the legal system and quality of regulation	Fraser Institute
Fuels	Exports of fuels and minerals in per cent of total merchandise exports	WDI
Trade	Exports plus imports of goods and services in percentage of total GDP	Penn World Tables
Education	Average number of years of schooling in the population	Barro and Lee (2010)
Volatility	Standard deviation of the rate of inflation in each quinquennium	Computed from WDI data
Government consumption	Government consumption in per cent of GDP	Penn World Tables
Latitude	Distance of the capital city from the equator	La Porta et al. (1999)
Landlocked	Dummy variable taking value 1 if the country does not have any direct access to the sea	La Porta et al. (1999)
Malaria	Composite index of malaria ecology	Sachs (2003)
Investment	Gross fixed capital formation in per cent of GDP	Penn World Tables
Legor	Dummy variable taking value 1 if country's legal system originates from English Common Law	La Porta et al. (1999)
Ethnic	Probability that two randomly selected individuals do not belong to the same ethnic group	La Porta et al. (1999)
Area	Log of land area	WDI
GDP	Log of GDP, United States dollar constant prices for 2000	WDI

[207] See F. Carmignani, *The Making of Pro-poor Growth* (Macroeconomics Research Group, University of Queensland, 2009).

[208] Ibid. See also S. Gupta et al., "Fiscal Consequences of Armed Conflict and Terrorism in Low- and Middle-Income Countries", *European Journal of Political Economy*, vol. 20, No. 2 (2004), pp. 403-421.

Variable	Definition	Data sources
Human Development Index	Education Life expectancy	Computed from WDI data and Barro and Lee (2010)
Social development	Principal component of education, immunization, and life expectancy	Carmignani and Avom (2010)
Immunization	Percentage of children that have received immunization against measles	WDI
Life expectancy	Number of year that an average individual is expected to live	WDI
Average number of years of education	Number of years of formal education completed by the average individual in the population	Barro and Lee (2010)
Access to improved sanitation	Percentage of population with access to improved sanitation facilities	WDI
Child mortality	Number of deaths of children (aged five and under) per 1000	WDI
Inequality	Gini index of inequality of income distribution across individuals within a country	UNU-WIDER inequality dataset
ESCWA	Dummy variable indicating the 14 ESCWA member countries and territories	
M1	M1 includes currency held by the public, plus travelers' checks, demand deposits, other checkable deposits (including negotiable order of withdrawal (NOW) accounts, automatic transfer service (ATS) accounts, and credit union share draft accounts	
M2	M1 plus savings and small denomination time deposits, money market demand accounts, shares in money market mutual funds held by individual investors	

Source: ESCWA.

BIBLIOGRAPHY

Abadie, A. and J. Gardeazabal, "The Economic Costs of Conflict: A Case Study of the Basque Country", *American Economic Review* (March 2003).

Acemoglu, D., S. Johnson and J. Robinson, "The Colonial Origins of Comparative Development: An Empirical Investigation", *American Economic Review*, vol. 91, No. 5 (2001), pp. 1369-1401.

Acemoglu, D. and F. Zilibotti, "Was Prometheus Unbound by Change? Risk, Diversification, and Growth", *Journal of Political Economy*, vol. 105 (1997), pp. 709-751.

African Development Bank (AfDB) et al., *Assessing Progress in Africa towards the Millennium Development Goals: MDG Report 2011* (2011).

Aldernam, H., J. Hoddinott and B. Kinsey, "Long Term Consequences of Early Childhood Malnutrition", *Oxford Economic Papers*, vol. 58 (2006), pp. 450-474.

Alexander, N., "The Elusive Quest for "Fiscal Space", *Bretton Woods Project* (the World Bank, IMF and UNDP, 2 April 2007), which is available at: www.brettonwoodsproject.org/.

Annan, J., C. Blattman and R. Horton, "The State of Youth and Youth Protection in Northern Uganda" (UNICEF: Kampala, 2006).

Arellano, M. and S. Bond, "Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations", *Review of Economic Studies*, vol.58, No. 2 (1991), pp. 277-297.

Arellano, M. and O. Bover, "Another Look at the Instrumental Variable Estimation of Error Components Models", *Journal of Econometrics*, vol. 68 (1995), pp. 29-51.

Barakat, S. and S.A. Zyck, Gulf State Assistance to Conflict-Affected Environments (Kuwait Programme on Development, Governance and Globalisation in the Gulf States, 2010).

Barro, R., "Economic Growth in a Cross Section of Countries", *Quarterly Journal of Economics*, vol. 106, No. 2 (1991), pp. 407-473.

_____, "Human Capital and Growth", *American Economic Review*, vol. 91, No. 2 (2001), pp. 381-385.

Barro, R. and Lee, "A New Data Set of Educational Attainment in the World, 1950-2010", Working Paper 15902, *National Bureau of Economic Research*, (April 2010).

Barro, R. and X. Sala-i-Martin, *Economic Growth* (MIT Press: Cambridge, 1995).

Benes, R., "UNICEF's Advocacy and Policy Agenda on Fiscal Space for Children", which was presented at the Expert Group Meeting on Sustainable Development under Crisis Conditions: Conflict and the MDGs (Beirut, 27 September 2011).

Besley, T. and T. Persson, "The Incidence of Civil War: Theory and Evidence", LSE STICERD Research Paper No. EOPP 005 (2009), which is available at: http://sticerd.lse.ac.uk/dps/eopp/eopp05.pdf.

Bhattacharyya, S., "Root Causes of African Underdevelopment", *Journal of African Economies*, vol. 18, No. 5 (2009), pp. 745-780.

Blattman, C. and E. Miguel, "Civil War", *Journal of Economic Literature*, vol. 48 (2010), pp. 3-57.

Bleaney, M. and A. Dimico, "Geographical Influences on Long-Run Development", *Journal of African Economies*, vol. 19, No. 5 (2010), pp. 635-656.

Blomberg, B., G. Hess and S. Thacker, "On the Conflict-Poverty Nexus", *Economics and Politics*, vol. 18 (2006), pp. 237-267.

Blundell, R. and S. Bond. "Initial Conditions and Moment Restrictions in Dynamic Panel Data Models", *Journal of Econometrics*, vol. 87, No. 1 (1998), pp. 115-143.

Bosker, M. and H. Garretsen, "Economic Development and the Geography of Institutions", *Journal of Economic Geography*, vol. 9 (2009), pp. 295-328.

Breisinger, C. et al., *From Arab Summer to Equitable Growth and Poverty Reduction* (International Food Policy Research Institute, 2011).

Bruck, T., "War and Reconstruction in Northern Mozambique", *The Economics of Peace and Security Journal*, vol. 1 (2006), pp. 30-42.

Bundervoet, T., P. Verwimp and R. Akresh, "Health and Civil War in Rural Burundi", *Journal of Human Resources,* vol. 44 (2009), pp. 536-563.

Carmignani, F., "Does Capital Account Liberalization Promote Economic Growth? Evidence from System Estimation", *Economics Bulletin*, vol. 6 (2008), pp. 1-13.

_____, *The Making of Pro-poor Growth* (Macroeconomics Research Group, University of Queensland, 2009).

_____, "Public Consumption and the Stabilization of Peace After a Civil War", *International Journal of Development and Conflict*, Demo Issue (2010), pp. 57-74.

Carmignani, F. and D. Avom, "The Social Development Effects of Primary Commodity Export Dependence", *Ecological Economics*, vol. 70 (2010), pp. 317-330.

Carstensen, K. and E. Gundlach, "The Primacy of Institutions Reconsidered: Direct Income Effects of Malaria Prevalence", *World Bank Economic Review*, vol. 20 (2006), pp. 309-339.

Caselli, F., G. Esquivel and F. Lefort, "Reopening the Convergence Debate: A New Look at Cross-Country Growth Empirics", *Journal of Economic Growth*, vol. 1 (1996), pp. 363-389.

Cerra, V. and S.C. Saxena, "Growth Dynamics: The Myth of Economic Recovery", *American Economic Review*, vol. 98 (2008), pp. 439-457.

Chassang, S. and G. Padro i Miquel, "Economic Shocks and Civil War", *Quarterly Journal of Political Science*, vol. 4, No. 3 (2009), pp. 211-228.

Chinn, M. and H. Ito, "Capital Account Liberalization, Institutions and Financial Development: Cross-Country Evidence", NBER Working Paper No. 8967 (2002).

_____, "What Matters for Financial Development? Capital Controls, Institutions, and Interactions", *Journal of Development Economics*, vol. 81 (2006), pp. 163-192.

Chirinko, R. S., "Investment under uncertainty: A review essay", *Journal of Economic Dynamics & Control*, 20 (1996) 1801-1808.

Clague, C. et al., "Contract Intensive Money: Contract Enforcement, Property Rights, and Economic Performance", *Journal of Economic Growth*, vol. 1 (1999), pp. 363-389.

Collier, P., "On the Economic Consequences of Civil War", *Oxford Economic Papers*, vol. 51 (1999), pp. 168-183.

_____, *The Bottom Billion: Why The Poorest Countries Are Failing and What Can Be Done About It* (New York: Oxford University Press, 2007).

Collier, P. et al., *Breaking the Conflict Trap: Civil War and Development Policy* (Washington: World Bank and Oxford University Press, 2003).

Collier, P. and A. Hoeffler, "Greed and Grievance in Civil War", *Oxford Economic Papers*, vol. 56, No. 4 (2004), pp. 563-595.

_____, "The Challenge of Reducing the Global Incidence of Civil War" (2004), which was presented to the Copenhagen Consensus Project.

_____, "Resource Rents, Governance, and Conflict", *Journal of Conflict Resolution*, vol. 49, No. 4 (2005), pp. 625-633.

Collier, P. and D. Rohner, *Democracy, Development and Conflict* (2007).

Demers, M., "Investment under Uncertainty, Irreversibility and the Arrival of Information Over Time", *Review of Economic Studies*, vol. 58 (1991), pp. 333-350.

Department for International Development (DFID), *Why We Need to Work More Effectively in Fragile States* (January 2005).

DiAddario, S., "Estimating the Economic Costs of Conflict: An Examination of the Two Gap Estimation Model for the Case of Nicaragua", *Oxford Development Studies*, vol. 25 (1997), pp. 124-136.

Dixit, A. and R. Pyndick, *Investment under Uncertainty* (Princeton University Press, 1994).

Doppelhofer, G., R. Miller and X. Sala-i-Martin, "Determinants of Long Term Growth: A Bayesian Averaging of Classical Estimates (BACE) Approach", *American Economic Review*, vol. 94 (2004), pp. 813-835.

Easterly, W. and R. Levine, "Africa's Growth Tragedy: Policies and Ethnic Divisions", *Quarterly Journal of Economics*, vol. 112, No. 4 (1997), pp. 1203-1250.

Economic Commission for Africa (ECA), "Enhancing the Effectiveness of Fiscal Policy for Domestic Resource Mobilization: Issues Paper", which was presented at the Meeting of the Committee of Experts of the Second Joint Annual Meetings of the African Union Conference of Ministers of Economy and Finance and ECA Conference of Ministers of Finance, Planning and Economic Development (Cairo, 2-5 June 2009).

Economic and Social Commission for Western Asia (ESCWA), "The Third Arab Report on the Millennium Development Goals 2010 and the Impact of the Global Economic Crises" (E/ESCWA/EDGD/2010/3).

_____, "The Developmental Costs of Conflict in the ESCWA Region: A Composite MDG Index for Conflict-Affected Countries" (2011).

_____, "The Governance Deficit and Conflict Relapse in the ESCWA Region: An Overview" (2011).

Eichengreen, B., "Capital Account Liberalization: What Do Cross-Country Studies Tell Us?" *The World Bank Economic Review*, vol. 15, No 3 (2001), pp. 341-365.

Edison, J. et al., "International Financial Integration and Economic Growth", *Journal of International Money and Finance*, vol. 6 (2002), pp. 749-776.

Edison, J. et al., "Capital Account Liberalization and Economic Performance: Survey and Synthesis", *IMF Staff Paper*, vol. 51, No. 2 (2004), pp. 220-256.

Fearon, J.D., "Primary Exports and Civil War", *Journal of Conflict Resolution*, vol. 49, No. 4 (2005), pp. 483-507.

Fearon, J.D. and D.D. Laitin, "Ethnicity, Insurgency, and Civil War", *American Political Science Review*, vol. 97, No. 1 (2003), pp. 75-90.

Fitzgerald, E., "An Evaluation of the Economic Costs to Nicaragua of US Aggression: 1980-1984", in *The Political Economy of Revolutionary Nicaragua*, R. Spalding (ed.) (Boston: Allen and Unwin, 1987), pp. 195-213.

Fortna, V.P., *Peace Time Cease-fire Agreements and the Durability of Peace* (Princeton and Oxford: Princeton University Press, 2004).

Glaeser, E. et al., "Do Institutions Cause Growth?", *Journal of Economic Growth*, vol. 9 (2004), pp. 271-303.

Gleditsch, N.P. et al., "Armed Conflict 1946–2001: A New Dataset", *Journal of Peace Research*, vol. 39, No. 5 (2002), pp. 615-637.

Glick R. and A. Taylor, "Collateral Damage: Trade Disruption and the Economic Impact of War", *Review of Economics and Statistics*, vol. 92 (2010), pp. 102-127.

Grobar, L.M. and S. Gnanaselvan, "The Economic Effects of the Sri Lankan Civil War", *Economic Development and Cultural Change*, vol. 41 (1993), pp. 395-405.

Gupta, S. et al., "Fiscal Consequences of Armed Conflict and Terrorism in Low- and Middle-Income Countries", *European Journal of Political Economy*, vol. 20, No. 2 (2004), pp. 403-421.

Heller, P.S. et al., "Managing Fiscal policy in Low Income Countries: How to Reconcile a Scaling up of Aid Flows and Debt Relief with Macroeconomic Stability", which was presented to the United Nations-WIDER Conference on Aid: Principles, Policies and Performance (Helsinki, 16-7 June 2006).

House of Commons International Development Committee, *Conflict and Development: Peacebuilding and Post-conflict Reconstruction*, vol. 1 (October 2006), which is available at: www.publications.parliament.uk/pa/cm200506/cmselect/cmintdev/923/92302.htm.

Huang, H.C., Y.C. Lin and C.C. Yeh, "Joint Determinants of Inequality and Growth", *Economic Letters*, vol. 103, No. 3 (2009), pp. 163-166.

Hudson, M.C., *The Precarious Republic: Political Modernization in Lebanon* (New York: Random House, 1968).

Humphreys, M. and A. Varshney, "Violent Conflict and the Millennium Development Goals: Diagnosis and Recommendations", CGSD Working Paper No. 19 (2004).

Imbs, J., "Trade, Finance, Specialization and Synchronization", *Review of Economics and Statistics*, vol. 86 (2004), pp. 723-734.

International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA), "Fiscal Policy for Growth and Development: Further Analysis and Lessons from Country Case Studies" (22 March 2007).

Justino, P. and P. Verwimp, "Poverty Dynamics, Violent Conflict and Convergence in Rwanda", HiCN Working Paper No. 16 (Households in Conflict Network, Institute of Development Studies at the University of Sussex, Brighton, 2006).

Kalemli-Ozcan, S., B. Sorensen and O. Yosha, "Risk Sharing and Industrial Specialization: Regional and International Evidence", *American Economic Review*, vol. 93, No. 3 (2003), pp. 903-918.

Kose, A., E. Prasad and M. Terrones, "How Does Financial Globalization Affect Risk Sharing? Patterns and Channels", IMF Working Paper No. 07/238 (2007).

La Porta, R. et al., "The Quality of Government", *Journal of Law and Economic Organizations*, vol. 15 (1999), pp. 222-279.

Levine, R. and D. Renelt, "A Sensitivity Analysis of Cross-Country Growth Regressions", *American Economic Review*, vol. 82, No. 4 (1992), pp. 942-963.

Lopez, H. and Q. Wodon, "The Economic Impact of Armed Conflict in Rwanda", *Journal of African Economies*, vol. 14, No. 4 (2005), pp. 586-602.

Lundberg, M. and L. Squire, "The Simultaneous Evolution of Growth and Inequality", *Economic Journal*, vol. 113, No. 487 (2003), pp. 326-344.

Marshall, M.G., *Major Episodes of Political Violence, 1946-2009* (2009), which is available at: www.systemicpeace.org/warlist.htm.

Marwah, K. and L. Klein, "Lost Productivity and Defense Burden of the Southern Corn of Latin America: A Page from History", *Peace Economics, Peace Science and Public Policy*, vol. 11 (2005), pp. 1-28.

Ministry of National Economy in Palestine and the Applied Research Institute − Jerusalem, *The Economic Costs of the Israeli occupation for the occupied Palestinian territory* (2011).

Ministry of Planning and Administrative Development in Palestine, *Millennium Development Goals, Progress Report* (August 2010).

Ministry of Planning in Iraq, *National Development Plan 2010-2014* (2010).

Ministry of Planning in Iraq and the United Nations Country Team in Iraq, *The Millennium Development Goals in Iraq, 2010* (2010).

Ministry of Welfare and Social Security in Sudan and National Population Council General Secretariat (NPC/GS), *Sudan Millennium Development Goals Progress Report 2010* (2010).

Mohamed Nour, S.S., "Labour Market and Unemployment in Sudan", United Nations University Working Papers Series No. 2011-007 (2011).

Nunn, N., "The Long-Term Effects of Africa's Slave Trades", *Quarterly Journal of Economics*, vol. 123, No. 1 (2008), pp. 139-175.

Obstfeld, M., "Risk-Taking, Global Diversification, and Growth", *American Economic Review*, vol. 84, No. 5 (1994), pp. 1310-1329.

Office for the Coordination of Humanitarian Affairs (OCHA), *The Humanitarian Monitor* (September 2010).

Olson, M., *The Rise and Decline of Nations: Economic Growth, Stagflation, and Social Rigidities* (New Haven: Yale University Press, 1982).

Pritchett, L. and F. de Weijer, "Fragile States: Stuck In A Capability Trap?", background paper in the *World Development Report 2011* (the World Bank, 2010).

Qatar Statistics Authority, *The Millennium Development Goals in the State of Qatar* (2008).

Richardson, J.M. and S.W. Samarasinghe, "Measuring the Economic Dimension of Sri Lanka's Ethnic Conflict", in *Economic Dimension of Ethnic Conflict*, S.W. Samarasinghe and R. Coughlan (eds.) (New York: St Martin's Press, 1991), pp. 194-223.

Rodrik, D., "Where Did All the Growth Go? External Shocks, Social Conflict, and Growth Collapses", *Journal of Economic Growth*, vol. 4 (1999), pp. 385-412.

Rodrik, D., A. Subramanian and F. Trebbi, "Institutions Rule: The Primacy of Institutions Over Geography and Integration in Economic Development", *Journal of Economic Growth*, vol. 9 (2004), pp. 131-165.

Ron, J., "Paradigm in Distress? Primary Commodities and Civil War", *Journal of Conflict Resolution*, vol. 49, No. 4 (2005), pp. 443-450.

Roodman, D., "A Note on the Theme of Too Many Instruments", *Oxford Bulletin of Economics and Statistics*, vol. 71, No. 1 (2009), pp. 135-158.

Rotberg, R.I., "The New Nature of Nation-State Failure", *The Washington Quarterly* (Summer 2002), pp. 85-96.

_____, "Failed States, Collapsed States, Weak States: Causes and Indicators", in *When States Fail: Causes and Consequences*, R.I. Rotberg (ed.) (Princeton: Princeton University Press, 2004), pp. 1-50.

Sachs, J.D., "Institutions Don't Rule: Direct Effects of Geography on Per Capita Income", NBER Working Paper 9490 (2003).

Sachs, J.D. et al., "Ending Africa's Poverty Trap", *Brookings Papers on Economic Activity*, vol. 1 (2004), pp. 117-240.

Sala-i-Martin, X., "I Just Ran Two Million Regressions", *American Economic Review*, vol. 87 (1998), pp. 178-183.

Seeta Prabhu, K., "Fiscal Policy: Issues, Dimensions and Dilemmas" (Oxford Human Development Course, 24 September 2008).

Sen, A., *Development as Freedom* (Oxford: Oxford University Press, 1999).

Sevastianova, D., "Impact of War on Country per Capita GDP: A Descriptive Analysis", *Peace Economics, Peace Science and Public Policy*, vol. 15, No. 1 (2009).

Shafir, G., *Land, Labour and the Origins of the Israeli-Palestinian Conflict, 1882-1914* (Cambridge: Cambridge University Press, 1989).

Shemyakina, O., "The Effect of Armed Conflict on Accumulation of Schooling: Results from Tajikistan", *Journal of Development Economics*, vol. 95 (2011), pp. 186-200.

Sørli, M.E., N.P. Gleditsch and H. Strand, "Why is There So Much Conflict in the Middle East?", *Journal of Conflict Resolution*, vol. 49, No. 1 (2005), pp. 141-165.

Stewart, F., "Conflict and the Millennium Development Goals", *Journal of Human Development and Capabilities*, vol. 4, No. 3 (2003), pp. 325-351.

Thyne, C.L., "ABC's, 123's, and the Golden Rule: The Pacifying Effect of Education on Civil War, 1980-1999", *International Studies Quarterly*, vol. 50, No. 4 (2006), pp. 733-754.

Toft, M., "Peace Through Victory: The Durable Settlement of Civil Wars" (unpublished), which is available at: www.yale.edu/macmillan/ocvprogram/papers/OCV_Toft.pdf.

Trading Economics, *World Bank Indicators, Lebanon* (2011), which is available at: http://tradingeconomics.com.

United Nations, *The Millennium Development Goals Report 2010* (New York, 2010).

United Nations Development Programme (UNDP), *Human Development Report 1991* (New York: Oxford University Press, 1991).

_____, *Primer: Fiscal Space for MDGs* (June 2007).

_____, *Millennium Development Goals Lebanon Report 2008* (2009).

_____, *Beyond the Midpoint: Achieving the Millennium Development Goals* (January 2010).

_____, *Millennium Development Goals Yemen Report 2010* (2010).

_____, "Arab Development Challenges Report: Understanding and Responding to Demands for Transformative Change in Arab Countries" (2011).

UNDP and ESCWA, *Your Reference Guide to Best Practices in Public Financial Management* (2009).

United Nations Education, Scientific and Cultural Organization (UNESCO), *The Hidden Crisis: Armed Conflict and Education* (2011).

United Nations Millennium Project, *Investing in Development – A Practical Plan to Achieve the MDGs* (London: Earthscan, 2005).

Vandemoortele, J., "The MDG Conundrum: Meeting the Targets Without Missing the Point", *Development Policy Review*, vol. 27, No. 4 (2009), pp. 355-371.

Yamarik, S., N. Johnson and R. Compton, "War! What is it Good For? A Deep Determinants Analysis of the Cost of Interstate Conflict", *Peace Economics, Peace Science and Public Policy*, vol. 16 (2010).

The World Bank, *Social Risk Management: The World Bank's Approach to Social Protection* (Washington DC, 2003).

_____, *World Development Report 2011: Conflict, Security and Development* (Washington DC, 2011).