

# CHALLENGES TO ECONOMIC GROWTH IN POST-CONFLICT ENVIRONMENTS

NEW TRENDS IN HUMAN CAPITAL LOSS,  
AID EFFECTIVENESS, AND TRADE LIBERALIZATION



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Abril 2018*



## **Abstract:**

The UNDP estimates that 526,000 people die each year as a result of violent conflict, making conflict deterrence a top priority for the international community. Immediately following a major conflict, countries that stagnate in economic growth have a 40% risk of conflict recurrence, yet those who successfully maintain high economic growth see their risk reduced to 25%. Due to this, stimulating growth should be a top priority in any economic reconstruction model. This paper aims to measure the effectiveness and efficiency of selected stimulants of economic growth: foreign direct investment, trade and financial liberalization, developmental assistance, and humanitarian aid. The subsequent macroeconomic responses are evaluated throughout the sample of 30 conflicts terminated between 1989 and 2014. This paper also explores the social and economic impacts of conflict and violence and develops a new indicator, the Human Capital Loss index, to quantify conflict intensity levels within the sample. Post-conflict countries require strong surges of investment, aid, and debt relief immediately following war, and those in the low income country (LIC) grouping require substantially greater efforts on the part of the international community to sustain growth.

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Cover Photo: *Rebuilding after the war in Jaffna, Sri Lanka*, courtesy of Theodore Kaye

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## Summary Findings

(Only Statistically Significant \*\*\* Are Listed)

- Conflict death totals, direct and indirect, are inconsistent or incomplete across all external data sources. This necessitates multiple source reporting and estimation. The **Human Capital Loss** Index is developed in this paper to quantify relative conflict intensity.
- Conflicts that experience higher degrees of human capital loss see faster recovery rates as measured by increases in access to electricity and water, human development index (HDI) value, and growth of GDP per capita.
- GDP growth during reconstruction in post-conflict countries is positively correlated with trade openness and negatively correlated with financial openness across the sample of post-conflict income groupings (Low, Lower Middle, Upper Middle ) (LICs, LMICs, and UMICs).
- GDP growth is positively correlated with foreign direct investment (FDI) in UMICs and with natural resource consumption in both LICs and UMICs.
- Income inequality (GINI) in LICs is increased by explanatory variables: GDP growth, government expenditure, and trade openness; while FDI and official development assistance (ODA) decrease income inequality across the sample.
- Massive spikes of ODA immediately post-conflict likely create lasting market distortions as reflected in sharp increases in real effective exchange rates.
- During the first five years of economic reconstruction, initial imports surge, and after export industries reconstitute from conflict, average trade balance returns by End of Conflict (E) +5.
- Half the sample demonstrates humanitarian aid-dependence as defined by maintaining a >5% allocation of total ODA by E+10; this is assessed to be due to inefficient programming.

**Methodological note on this study:**

To compile a sample of conflicts from such diverse countries presents extraordinary challenges. First, conflict itself must be defined, which in itself is highly subject to debate in the literature. One's definition of conflict logically leads to the selection criteria in a given study, i.e. the parameters or coding of sample inclusion. Therefore, empirical results are highly dependent upon this initial process of selection. Not being methodical regarding the defining of conflict creates a random, highly heterogeneous sample that will skew econometric analysis; unfortunately, this has become a common-place practice observable in many studies as identified by Gersovitz and Kriger (2013). The concordance and goodness of fit of my sample, which demonstrates similar reconstruction patterns across the majority, provides a vital step in future conflict analyses. Regardless of time and economic composition differences, the macroeconomic effects of conflict are highly measurable and comparable globally.

In order to arrive at the stage of evaluating international aid effectiveness (Section III) and economic stimulants that produce growth and inequality (Section II), relative intensity of each conflict was required to be measured. However, quantitative measures of real conflict intensity are currently deficient in conflict analysis literature. The majority of economists have relied on battle-deaths as the primary measure for defining intensity levels of conflicts, yet the often-cited Uppsala Conflict Data Program, originating from Gleditsch et al (2002), is limited in demonstrating *economic effects* of conflict. Due to this, the **Human Capital Loss Index (HCL)** has been developed in this study to better gauge the labor force shock to an economy in the midst of conflict. With *HCL*, results from regression analysis can be better interpreted as higher *HCL* values signify an increased social deficit from which economic reconstruction begins.

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## SECTION I: Defining Economic Reconstruction and Conflict Intensity

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*This section reviews the trends in conflict analysis literature and how both **conflict** itself and its subsequently-needed **reconstruction** have evolved, taking on new roles. Each recovering economy responds according to its own **composition** as well as to the degree of **conflict intensity endured**. This section presents the methodology utilized to code and select each conflict in this study. Finally, this section develops and implements a new indicator, the **Human Capital Loss** index, to better evaluate intensity levels of conflict and its economic effect as a shock to the labor force.*

### REVIVING ACADEMIC RIGOR IN POST-CONFLICT ANALYSIS

Post-conflict economic reconstruction has traditionally been a breeding ground for scholarly papers, political science debates, economic regression models, and even game-theory testing. Academicians alike have theorized how economic reconstruction could look and should look ever since the idealistically-successful European Recovery Plan that pumped financial aid into the veins of the European economy and lifted its countries collectively from the ashes of war and into becoming industrial powerhouses in little more than a decade, as noted by Eichengreen et al (2000).<sup>1</sup> Yet within the past decade, a review of current literature reveals that academic interest in the discipline has waned, shifting priorities to more globally-minded goals. Given that several countries are currently in various forms of economic reconstruction, why the sudden disinterest?

Historically, the mainstream discourse on economic reconstruction maintained a relatively constant course from the Marshall Plan up to the 90s, primarily ascribing to the merits of large-scale donor funding for state-building,<sup>2</sup> a concept completely appropriate within the context of clear-cut interstate wars with winners and losers. In the early 2000s, academic interest saw a peak as the international community and numerous international organizations turned to the United Nation's Millennium Developmental Goal (MDG) 8, Global Partnership for Development to answer lingering state-building questions such as increased volume and transparency of official development assistance (ODA), and the positive macroeconomic effects of trade liberalization.<sup>3</sup>

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<sup>1</sup> Eichengreen, Marc, Crafts, and Hellwig (1992) "The Marshall Plan: Economic Effects and Implications for Eastern Europe and the Former USSR." *Economic Policy*, 7(14).

<sup>2</sup> Markovits, Daniel; Strange, Austin; Tingley, Dustin (2017) "Foreign Aid and the Status Quo: Evidence from Pre-Marshall Plan Aid" Harvard School of Government.

<sup>3</sup> According to Way, Catherine (2015) "UN's Millennium Development Goals Report 2017", official development assistance from developed countries increased by 66% in real terms between 2000 and 2014, reaching \$135.2 billion.

Academicians alike volleyed theoretical reconstructions of destitute, war-torn economies, injecting various forms of stimulus, whether ODA or foreign direct investment (FDI) and monetary policy measures to see what effect each may have on the patient. The results were confounding. No single patient was exactly alike, and their responses were naturally different. Some patients, Afghanistan for example, seemed impervious to the application of theorized reconstruction frameworks and still has never arrived to an effective post-conflict transition mainly due to lack of dynamic economic growth, political inclusion, and national reconciliation as Del Castillo (2008)<sup>4</sup> acknowledges. These types of reconstruction efforts were seen by the international community as collective failures,<sup>5</sup> and such failures may indeed be responsible for the present day academic fatigue in furthering reconstruction analysis.

The principle issue, the thorn in the theorist's side, has always been the difficulty in putting a theoretical framework into *practice*, and the failures of many one-size-fits-all models have proven that each reconstruction effort is unique, needing solutions to be applied within the context of each unique conflict.<sup>6</sup> Economies are formed by more than producers and consumers; they are collections of distinct people groups as Fearon and Laitin (2003)<sup>7</sup> note, collaborating, dissenting, creating, destroying, and evolving – a frustration shared by reconstruction practitioners alike. Whether from topic fatigue or from the ever-pervasive search for breakthrough research in other fields of study, economic reconstruction has received little scholastic interest.<sup>8</sup>

Another reason for waning interest may come from the changing nature of conflict itself. The evolution from interstate to intrastate conflicts with unconventional, transnational non-state actors, embodied by the designation of international terrorism, ushered in a “new normal” in how we define conflict. The once-easily identifiable inter-state wars with winners, losers, and peace agreements morphed into the post-cold war era of nebulous intrastate conflicts with greater occurrences of protracted

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<sup>4</sup> Del Castillo, Graciana (2008) “Economic Reconstruction of War-Torn Countries: The Role of the International Financial Institutions” *Seton Hall Law Review* Vol. 38:1265.

<sup>5</sup> Vicenç Fisas (2009) *Anuario Procesos de Paz 2009*. Icaria editorial / Escola de Cultura de Pau, UAB, ISBN: 978-84-9888-076-2.

<sup>6</sup> John F.E. Ohiorhenuan and Frances Stewart (2008) highlight the importance of seeking out local indigenous driving factors to stimulate economic activity, and to adapt solutions to each unique environment and culture.

<sup>7</sup> Fearon, J. D., & Laitin, D. D. (2003) “Ethnicity, insurgency, and civil war” *American political science review*, 97(1), 75-90.

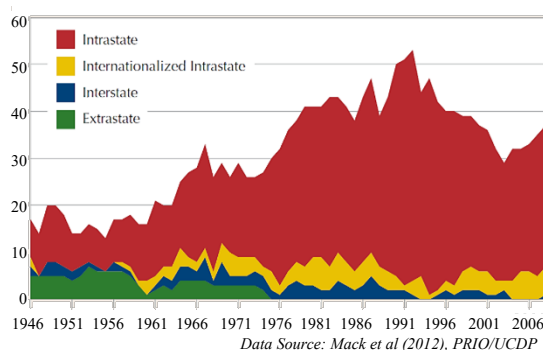
<sup>8</sup> Sambanis, Nicholas (2001) “A Review of Recent Advances and Future Directions in the Quantitative Literature of on Civil War” *Defence and Peace Economics*, 13:3, 215-243.



insurgencies, as noted by several authors: De Long (1991),<sup>9</sup> Gleditsch et al (2002),<sup>10</sup> Mack (2007).<sup>11</sup> Although in a different form presently, conflict-affected situations nevertheless continue to grow; and as a further complication, an expected 60% of the world's extreme poor will be living in conflict-affected situations by 2030.<sup>12</sup>

Consequently, the new context of reconstruction has also become less clear. Situations characterized by indeterminate statuses of security situations and unstable rule of law ultimately lead to greater reliance on humanitarian aid in lieu of developmental assistance as governments struggle to provide basic social services (further discussed in Section III of this study.) Since the Marshall Plan, the makeup of warfare has transitioned to a large majority of intrastate conflicts, and since 2000, a slight decline in major armed conflicts has been noted by Mack (2007). According to the metrics published by the Uppsala Conflict Data Program (UCDP), discussed later in this section, no large-scale interstate armed conflicts have transpired since 2010.<sup>13</sup>

Figure 1.1 Evolution of Conflict 1946 - 2009



Despite this, it would be remiss to think that the international community is trending towards perfect peace and harmony - far from it. It is more likely, however, that large-scale reconstruction efforts will be required in the near future. Already the international community is on edge<sup>14</sup> not just due to potential rogue state wars (e.g. Iran, North Korea) but mainly due to looming great-power wars, as conflict metrics like the International Crisis Group have seen intense increases in saber-rattling among the U.S., Russia, and China.<sup>15</sup> Now, more than ever, the international community must anticipate solutions for the next major reconstructions on the horizon. Immediate economic

<sup>9</sup> De Long, Bradford; Eichengreen, Barry (1991) "The Marshall Plan: History's Most Successful Structural Adjustment Program" National Bureau of Economic Research, Harvard University.

<sup>10</sup> Gleditsch, N. P., P. Wallensteen, M. Eriksson, M. Sollenberg, and H. Strand. 2002. "Armed Conflict 1946–2001: A New Dataset." *Journal of Peace Research* 39:615–37.

<sup>11</sup> Mack, Andrew (2007) "Global Political Violence: Explaining the Post-Cold War Decline." International Peace Academy.

<sup>12</sup> OECD, 2015 "Development Co-operation Report 2015" Development Assistance Committee (DAC).

<sup>13</sup> Within the historical definition of conventional interstate conflict being force on force between or among state actors. Present day examples of internationalized intrastate conflicts, including the ongoing Syrian Civil War, cloud the definition of modern conflict but could be a catalyst to the return of "great-power war" once again. See The Economist article, *The Next War*, Jan 27<sup>th</sup> 2018.

<sup>14</sup> Colucci, Lamont (2015) "Great Power Conflict: Will It Return?" *World Affairs*, January 2015.

<sup>15</sup> CrisisWatch Database (2018) International Crisis Group [www.crisisgroup.org](http://www.crisisgroup.org).

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reconstruction after a major conflict cannot be replaced by sustainable development efforts either.

Although post-conflict economic reconstruction is a cross-discipline topic, its study nonetheless has been surprisingly compartmentalized by either highly technocratic macroeconomic studies or often abstract and theoretical political science journals. Due to this, a large focus of this paper in particular is to create a certain hybrid analysis between disciplines, providing not just macroeconomic panel analysis to identify tendencies, but also how to correlate them with the solutions that international actors are currently providing.

This study does not prescribe any one solution, but instead intends to identify tendencies in post-conflict economies with the aim of warning of potential future hazards that may not have been exhaustively considered before. Any positive trend or effective policy emplaced from one country in the sample does not necessarily signify that it can or should be applied to another. The grade of financial liberalization in Liberia, for example, should not be automatically prescribed in Chad, a relatively closed market, rather, each economy must be prescribed steps appropriate to their starting market orientations.

#### THE ROLE OF ECONOMIC RECONSTRUCTION

With so many definitions floating about academic circles, it is crucial to clarify the term **economic reconstruction**; in this study, it is defined as:

*The sum of activities that aim to reestablish, but not necessarily replace, the healthy functioning of an economy where losses in physical and non-physical capital were brought about by either war devastation or governmental transition as a result of a recently ceased armed conflict.*

This particular definition of economic reconstruction emphasizes two key components. First, by the end of any reconstruction process it is clear that restored economic activities will likely look different than their pre-conflict composition in general.<sup>16</sup> This is a natural rebuilding process where optimizing agents re-orient to new markets as the business environment is transformed and different consumer preferences emerge, regardless of the degree of transition undertaken by the central government. Firms establish new contacts, developmental aid produces lasting distortions in demand, and

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<sup>16</sup> Ohiorhenuan, John F.E.; Stewart, Frances (2008) "Post-Conflict Economic Recovery: Enabling Local Ingenuity" United Nations Development Programme.

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unstable commodity prices and sharp rises in inflation can push even mature market segments into supply-side shocks.

Second, to achieve the subjective “healthy functioning” of a given post-conflict economy, the length of time and grade of recovery has varied immensely among selected countries in this study due to each unique pre-conflict economic context. For many low income countries (LICs), the context of *economic reconstruction* can quickly become blurred with *sustainable development* efforts due to the presiding methodology of international efforts. Many economies that were already *dysfunctional* pre-conflict, that is to say replete with high degrees of policy and taxation inefficiency, poor institutional framework, and undermining shadow economies, will require additional long-term resources.

For example, Burundi rated weakest in the sample in aggregated worldwide governance indicators at the onset of conflict,<sup>17</sup> and leading up to the Burundian Civil War in 1991/1992 had seen sluggish GDP growth, and was a relatively closed economy with diminished trade openness of only 34.5% of GDP.<sup>18</sup> Consequently, the country has traveled a difficult road in recovery, but is not seen as abnormal compared to pre-conflict economic activity. The healthy functioning of a recovering economy is in large part measured by the original level of development of the country.

Graciana Del Castillo (2015)<sup>19</sup> recognizes that in many instances, the act of economic reconstruction can also be referred to by a variety of names or as a sub-category of a larger operation, depending on the organization. The United States Department of State generally refers to it as *stabilization and reconstruction operations*, while the United Nations Development Programme (UNDP) utilizes *peacebuilding* and *sustaining the peace* as seen in the Sustainable Development Goals (SDG). Bretton-Woods organizations like the International Monetary Fund (IMF) and International Bank of Reconstruction and Development (IBRD) utilize *recovery*, while various media outlets mention *nation-building* or *state-building* in everyday vernacular. In general, the overall aims are the same; however, each naming convention reveals each organization’s bias towards the tools they have at their disposal.

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<sup>17</sup> Kaufmann, Daniel; Kraay, Aart; Mastruzzi, Massimo (2010) "The Worldwide Governance Indicators: A Summary of Methodology, Data and Analytical Issues" World Bank Policy Research Working Paper No. 5430.

<sup>18</sup> World Development Indicators (2018) World Bank Group. Unless specified otherwise, any following reference to GDP related data will come from this source.

<sup>19</sup> Del Castillo, Graciana (2015) “Economic Reconstruction and Reforms in Post-Conflict Countries” Centre for Research on Peace and Development, Working Paper 25.

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The U.S. State Department sees stabilization and reconstruction operations as a mission frequently linked with security forces conducting military stability operations or foreign internal defense, prioritizing the non-failure of a central government's power as a means to prevent conflict resurgence. Additionally, coordinated donor efforts fit within the framework of economic diplomacy as "resources to bolster like-minded states" as the U.S. National Security Strategy explains.<sup>20</sup> The UN's available physical asset, peacekeeping forces or blue helmets, is an intervention measure aimed to force a cessation of hostilities, protect human rights, and eventually open the door to the potential of conflict resolution or reconciliation. The IMF, less occupied with security measures, sees the dip in performance and output of a post-conflict country as requiring policy measures to recover growth.

This paper defines the period of reconstruction as immediately following the de facto, not de jure, cessation of hostilities, and defines the scope of analysis as the reconstruction of economic capacities within a conflict-affected state. Second-order effects of peacekeeping or social reconciliation are not analyzed in this paper, although the role of economic policy as a conflict deterrent is continuously highlighted.

A post-conflict country is not automatically designated a "fragile state,"<sup>21</sup> even though both categories share perils of extreme volatility. This is also an important point of clarification as economic reconstruction can be conducted across the spectrum from poor to rich countries and is not always conducted in destitute regions. Numerous countries in this study, including Nepal, Sri Lanka, and Uganda (conflicts ending in 2006, 2009, and 2005 respectively), underwent economic reconstruction after cessation of hostilities without ever receiving the World Bank's designation "Fragile and Conflict Affected Situations." The reason is that this definition includes IDA-eligible countries and those that received lower than a 3.2 harmonized Country Policy and Institutional Assessment (CPIA) rating or have been subject to an official international peacekeeping mission.<sup>22</sup> Within this study, however, a majority of the 30 conflicts utilized (listed below in Table 1.1) are on the World Bank's fragile country list. Certainly within the subsequent years following conflict, post-conflict countries are highly prone to remain in fragile situations with weak rule of law, inefficient policy promulgation, and poor institutional frameworks.

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<sup>20</sup> U.S. National Security Strategy (2017).

<sup>21</sup> See World Bank's Fragility, Conflict and Violence (FCV) for further information on the classification.

<sup>22</sup> Defined by the Global Center on Conflict, Security and Development through the World Development Report 2011, World Bank.

**Table 1.1 – List of Selected Conflicts 1989 - 2014**

ID	Country	Recent Conflict Short Title*	“In Conflict” Period		Conflict Type <sup>e</sup>	Termination Type***	
			Begin	End		Nominal	Real
1	Angola	Angolan Civil War	1997 <sup>abcd</sup>	2002 <sup>abce</sup>	Internationalized Intrastate	1	3
2	Azerbaijan	Nagorno-Karabakh War	1991 <sup>abe</sup>	1994 <sup>abde</sup>	Intrastate	1	3
3	Bosnia and Herz.	Bosnian War	1992 <sup>abde</sup>	1995 <sup>abde</sup>	Internationalized Intrastate	1	2
4	Burundi	Burundian Civil War	1991 <sup>abce</sup>	2005 <sup>c</sup>	Intrastate	2	4
5	Cambodia	Cambodian War (Kampuchea)	1978 <sup>ad</sup>	1991 <sup>ab</sup>	Internationalized Intrastate	1	1
6	Chad	Chadian Civil War	2005 <sup>e</sup>	2010 <sup>e</sup>	Intrastate	2	2
7	Congo, Republic	Republic of Congo Civil War	1993 <sup>abce</sup>	1999 <sup>abcde</sup>	Internationalized Intrastate	1	2
8	Côte d'Ivoire	First Ivorian Civil War	2002 <sup>ace</sup>	2007 <sup>g</sup>	Intrastate	2	4
9	Croatia	Croatian War of Independ.	1991 <sup>a</sup>	1995 <sup>bde</sup>	Internationalized Intrastate	1	2
10	El Salvador	Salvadoran Civil War	1979 <sup>abde</sup>	1991 <sup>ae</sup>	Intrastate	2	2
11	Eritrea	Eritrean-Ethiopian War	1998 <sup>e</sup>	2001 <sup>eg</sup>	Interstate	2	4
12	Ethiopia	Eritrean-Ethiopian War	1998 <sup>e</sup>	2001 <sup>eg</sup>	Interstate	2	4
13	Georgia	Georgian Civil War	1991 <sup>abe</sup>	1994 <sup>ad</sup>	Intrastate	1	4
14	Guatemala	Guatemalan Civil War	1965 <sup>ae</sup>	1995 <sup>ae</sup>	Intrastate	2	2
15	Guinea-Bissau	Guinea-Bissau Civil War	1998 <sup>abcde</sup>	1999 <sup>abce</sup>	Internationalized Intrastate	1	1
16	Indonesia	Free Aceh Movement	1990 <sup>abe</sup>	2006 <sup>a</sup>	Intrastate	1	2
17	Kosovo	Kosovo Conflict	1998 <sup>a</sup>	1999 <sup>a</sup>	Internationalized Intrastate	3	4
18	Lebanon	Lebanon War	1975 <sup>abd</sup>	1990 <sup>ade</sup>	Internationalized Intrastate	3	4
19	Liberia	Liberian Civil War	1992 <sup>ab</sup>	2003 <sup>ace</sup>	Intrastate	2	4
20	Mozambique	Mozambican Civil War	1976 <sup>abd</sup>	1992 <sup>abce</sup>	Internationalized Intrastate	2	4
21	Namibia	Namibian War of Independence	1973 <sup>ab</sup>	1989 <sup>ab</sup>	Internationalized Intrastate	1	2
22	Nepal	Nepalese Civil War	1996 <sup>abe</sup>	2006 <sup>ae</sup>	Intrastate	2	2
23	Nicaragua	Nicaraguan Revolution	1978 <sup>abd</sup>	1990 <sup>abe</sup>	Intrastate	1	2
24	Papua New Guinea	Bougainville Conflict	1989 <sup>ae</sup>	1996 <sup>ae</sup>	Intrastate	2	2
25	Rwanda	Second Congo War <sup>h</sup>	1990 <sup>abcde</sup>	2001 <sup>ac</sup>	Internationalized Intrastate	2	2
26	Sierra Leone	Sierra Leone Civil War	1991 <sup>abcde</sup>	2001 <sup>abe</sup>	Internationalized Intrastate	1	2
27	Sri Lanka	Sri Lankan Civil War	1983 <sup>abd</sup>	2009 <sup>e</sup>	Intrastate	1	1
28	Tajikistan	Tajikistan Civil War	1992 <sup>abde</sup>	1997 <sup>abd</sup>	Intrastate	2	2
29	Timor-Leste	Indonesian Occupation	1975 <sup>abde</sup>	1999 <sup>abde</sup>	Intrastate	1	1
30	Uganda	LRA Insurgency	1979 <sup>ace</sup>	2005 <sup>f</sup>	Internationalized Intrastate	3	4

\* Recent Conflict refers to the common name of the most recently terminated conflict only. For countries in prolonged periods of conflict, for example Uganda, the recent conflict title is the LRA insurgency, however, the country has been in a conflict status ever since 1979 from the Uganda-Tanzania War to a civil war 1980-1986, a coup d'état in 1986, the Second Congo War, and follow-on conflicts with the Lord's Resistance Army (LRA). The end date of 2005 is marked as the beginning date of measurable economic reconstruction where deaths in the following years meets the threshold of 4, low activity in its territory (LRA still continued operations in the DRC however).

\*\* Termination type categories are adapted from the UCDP database and Kreutz, Joakim (2010) where (1) is victory, (2) is peace agreement, (3) is ceasefire agreement, and (4) is low activity. “Nominal” indicates the initial satisfying of termination conditions, and “Real” indicates those cases where a new category superseded the previous – e.g. both Eritrea and Ethiopia signed the Algiers agreement (2) in Dec 2000 but continued fatalities defer to condition (4) low activity beginning in 2001 as real termination.

<sup>a</sup> Ohiorhenuan and Stewart (2008)

<sup>b</sup> Doyle and Sambanis (2006)

<sup>c</sup> Gleditsch and Lacina (2005) Uppsala / PRIO Armed Conflict Dataset (UCDP)

<sup>d</sup> Fearon and Laitin (2003)

<sup>e</sup> Kreutz, Joakim (2010)

<sup>f</sup> Vicens Fisas (2009). UGANDA Specific: Vicens recounts the emplacement of a ceasefire with the LRA while peace talks never concluded for several years as violence continued. 2005 is the first year that meets the battle death threshold following a ceasefire.

<sup>g</sup> Armed Conflict Location & Event Data Project (ACLED) confirms first year of battle deaths number <25 following a peace agreement reported by UNOCI, Reuters and Associated Press in 2007.

<sup>h</sup> UCDP Battle-Related Deaths database records the opposing dyad to the Rwandan government as Army for the Liberation of Rwanda (ALiR) operating in Rwandan territory during the Second Congo War.

### CONTEXT-BASED RESPONSES OF RECOVERING ECONOMIES

Every major conflict throughout history has occurred within its own unique context. While certain common traits exist and economic effects share similarities, at the core of a conflict, each situation is unique. The set of pre-conditions leading up to any given conflict, also referred to as a grievance or incompatibility by Collier and Hoeffler (2000),<sup>23</sup> is a proprietary blend of social, political, religious, economic and ideological tensions that vary in combination, size and scope. Conflict by its very nature is devastating, and economic activity will be slowed, or in some cases halted altogether, due to a deteriorated security situation, damaged infrastructure, migration, civilian casualties, closed schools, and a debilitated healthcare systems. The context of each conflict then becomes essential to estimating recovery options post-conflict. In post-conflict analysis it is remiss to apply a quantitative regression without measuring the qualitative implications, which places the asterisk of immeasurable, lasting and deep-rooted second and third-order effects.

A prime example of country-specific recoveries is the Second Congo War (also known as the Great War of Africa) from 1999-2003, noted for the highly convoluted context in which multiple states were implicated. This conflict presented drastic death tolls with both inter and intra-state clashes that ravaged infrastructure and placed generations and social groups throughout Sub-Saharan Africa in the midst of genocide. On top of the dynamic intensity of a conflict that spanned the continent, the starting positions of each economy for the majority of belligerents was in the low income country (LIC) grouping according to the World Bank's GDP Per Capita estimate. The addition of a devastating conflict like the Second Congo War on top of an already present *development deficit* produces extremely strained economic conditions and provokes further challenges in future reconstruction and conflict prevention. Therefore it is vital to compare post-conflict countries appropriately with others in the same income grouping in order to evaluate responses (e.g. Sierra Leone and Rwanda). Likewise, inter-grouping analysis can be useful to evaluate the macroeconomic effects of conflict in general (e.g. post-conflict LICs and non-conflict LICs). This comparison will be covered in Section III and will aid in establishing fundamental differences between economic reconstruction and "development as usual," Del Castillo (2008).

Previous economic reconstruction successes adapted to the market economy of their time, whether bolstering productive capacity in manufacturing during the European Recovery Plan of 1945 or adapting to the 1990s Mediterranean tourism boom as Croatia

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<sup>23</sup> Collier, Paul; Hoeffler, Anke (2000) "Greed and Grievance in Civil War" World Bank Development Research Group, Policy Research Working Paper 2355.

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did in 1994. Optimizing agents, consumers and producers alike, will naturally drive markets towards efficiency. An efficiency response to a crisis traverses cultural lines, and here the mentality of getting the job done, though each country and people group may define and use vastly different methods and timelines, generally exists across the spectrum.

Neither consumers nor producers require perfect market conditions to maintain economic activity during or after a conflict. Like water that cannot be channeled, economic activity chugs along even during conflicts and recessions despite negative outlooks. Mankind is ingenious and always finds a way; if certain transactions become blocked by the governing state, activity simply slides into the illicit economy and continues apace. Ohiorhenuan and Stewart (2008) recognize that “civil war does not destroy economic life altogether...it pushes production, trade, and commerce from the formal into the informal sector.” This said, it is likely in many cases that a given “restoration” of economic activity post-conflict is often bringing pre-existing activity back into the formal sector, which, pragmatically speaking, implies having institutions capable enough to enforce regulation and taxation. It is crucial that the dynamics of a country’s policies are taken into consideration, as will be done in Section III, in order to understand whether or not economic stimulants will be effective during reconstruction.

In summary, there is no one-size-fits-all solution, no formulaic amount of aid, ideal monetary policy nor exact flow of foreign investment that can be applied across such a diverse sample of 30 conflict countries within a 26-year selection. The only useful result in analyzing these economies and their responses is the identification of positive correlation trends. From the outcome of correlation, and not causation, certain aspects can be highlighted - not as solutions, per se, but as potential economic guidelines that can be useful in steering a central government’s fiscal and monetary policy and its views towards protectionist barriers to include tariff regiments and capital controls.

**GROWTH AS A CONFLICT DETERRENT**

In the midst of an extremely complex problem set, as the process of modeling an economy often is, a macro-level approach can serve to view the forest through the trees. All international participants in the reconstruction playing field hold various motives for their inclusion and donations, but the grand majority desire to prevent conflict recurrence, which can utterly erase any previous progress. The focus should always be placed, as it is present day, in the immediate cessation of hostilities in order to save lives. This is followed by augmented peacekeeping security and should go hand-in-hand with restoring basic services and a reestablishment of rule of law, eventually

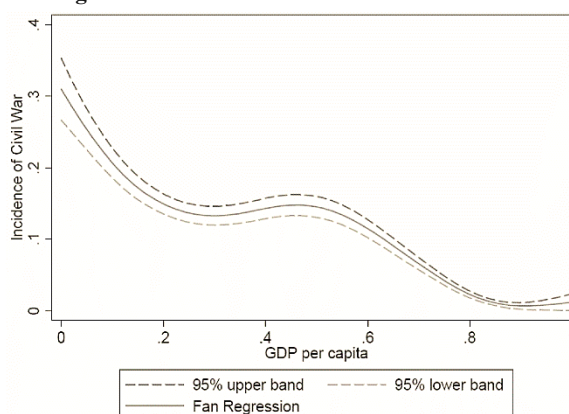
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renewing the “social contract” that a central seat of power has with its citizens. Doyle and Sambanis (2000) found through his panel study of 124 conflicts that positive correlation exists between interventionism and preventing conflict recurrence through increasing the UN Peacekeeping forces variable, and furthered the notion that UN operations empower democratization processes of central governments.<sup>24</sup>

Blattman and Miguel (2008)<sup>25</sup> identify the pattern of economic growth as a deterrent in his panel data, and highlights stagnation as notably dangerous in the sense of heightening risk for conflict recurrence. Figure 1.2 graphs the regression of the logarithm of GDP per capita on the logarithm of incidence of civil war, showing significant correlation between higher income gains and lasting peace in conflict situations. Without entering into turbulent waters of inequality and wealth distribution, the empirical evidence of growth and deterrence appears well accepted throughout conflict analysis literature – see Collier and Hoeffler (2000), Doyle and Sambanis (2000, 2006), Ohiorhenuan and Stewart (2008), Lim (2014), Schwartz et al (2004), Gleditsch et al (2002), Fearon and Laitin (2003), and Mack et al (2012), to name a few.

The UNDP characterized post-conflict economies in terms of groupings of relative economic growth by “strong growth recovery” (SGR) or “weak growth recovery” (WGR). SGRs easily outpaced their counterparts by receiving lower probabilities of conflict resurgence through notable increases in GDP per capita growth.<sup>26</sup> Ohiorhenuan and Stewart (2008) find: “post-conflict countries whose growth rate remains stagnant over a 10-year period following a civil war have a high risk (over 40 percent) of conflict recurring. If the growth rate averages 10 percent over the same period, the risk of renewed armed conflict is reduced to 25 percent.” It seems clear then, from an analysis standpoint, that **variables which more rapidly accelerate growth, must become essential to maintain peace.** This is the focus of the growth and inequality study in Section II.

Figure 1.2 Income as a Conflict Deterrent



Source: Blattman and Miguel (2008)

<sup>24</sup> Doyle, M., & Sambanis, N. (2000). International Peacebuilding: A Theoretical and Quantitative Analysis. *American Political Science Review*, 94(4), 779-801.

<sup>25</sup> Blattman Christopher; Miguel, Edward (2008) “Civil War” *Journal of Economic Literature* 48 (1): 3-57.

<sup>26</sup> Ohiorhenuan and Frances Stewart (2008).



However, for countries in this study (Table 1.1), several recovering economies appear to “get stuck” in certain phases where economic activity should become restored, yet instead stagnates for several years. For many cases, the majority of grievances that drove a country into conflict in the first place will most likely remain in the post-conflict setting as well. Both incompatibilities (religious, ethnic, border disputes, etc.) and potential conflict accelerants (poverty, inequality, poor education, weapon proliferation, illicit markets, etc.) will remain as burdens that impede legitimate economic activity.<sup>27</sup> These factors will always carry an innate risk of conflict recurrence and are therefore measured as exogenous variables in this study.

While incompatibilities and conflict accelerants will threaten a stalling recovery, however, employment, though not a solution in itself, can serve as a numbing agent to the stinging grievance that often leads back to a recurrence of violence. Even in post-conflict LDCs, surging employment immediately during recovery aids in preventing conflict recurrence especially in areas of high youth unemployment rates.<sup>28</sup> The most volatile time of a post-conflict era are the first following years, where surges in economic activity must take place to decrease the chances of conflict recurrence.<sup>29</sup> Additionally, macroeconomic policies directly affect aid absorption and market orientations of production sectors and can become the deciding factor in easing or blocking investment by foreign firms. The reception and implementation of economic stimulants are paramount in economic reconstruction. The explanatory variables, Trade Openness (*To*), Foreign Direct Investment (*If*), and Net ODA received per capita (*Ifa*) and their relationship on economic growth (*Yg*) are further explored through regression analysis in Table 2.4 of Section II.

The efforts of international actors in reconstruction within the first few years of conflict end (E) should be prioritized to prevent conflict recurrence where possible. USAID’s state building model (2009) provides a priorities list over time from E to E+10, heavily focused in the early years on restoration of basic services, establishing rule of law, and stimulating job growth artificially. As humanitarian aid phases out, investment both public and private should increase, focusing on sustainable development projects in infrastructure and the education system.

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<sup>27</sup> Fearon and Laitin (2003).

<sup>28</sup> Crocker, Chester A.; Hampson, Fen Osler; Aall, Pamela (2007) “Leashing the Dogs of War: Conflict Management in a Divided World” United States Institute of Peace Press.

<sup>29</sup> USAID (2009) “A Guide to Economic Growth in Post-Conflict Countries” Bureau for Economic Growth, Agriculture and Trade, US Agency for International Development.

In Doyle and Sambanis' (2006)<sup>30</sup> Peacebuilding Triangle, economic growth is identified in one of the variables, Local Capacities (LC). The resiliency that a given country has to recover from a devastating conflict can allow fruitful peacebuilding efforts through restoring economic output and providing rapid employment; however, "local capacities" appear to be a challenging set of indicators, especially in locations like the Democratic Republic of Congo where extreme poverty, underdevelopment, low rates of electricity consumption, and sluggish economic growth require enormous *external*, international efforts to build peace.

In the Human Security Report 2012, Mack et al (2012)<sup>31</sup> utilized the PRIO/UCDP dataset and estimated that for all conflict termination types between 1950 - 2004, *Peace* had a 32.4% recurrence rate within 5 years (37 observations), *Ceasefires* a 38.2% recurrence rate (34 observations), *Victory* a 18.3% recurrence rate (93 observations) and all *Other* categories a 58.3% (132 observations that include indeterminate statuses, low fatality rates, and non-negotiated cessations). Apart from victories, which have sharply declined in recent years, international intervention through peacekeeping and negotiated ceasefires has proved more effective in conflict recurrence than non-negotiated *Other* types. The case for interventionism and employing coordinated reconstruction efforts appears to remain strong.

#### DYNAMICS OF CONFLICT: PREVIOUS APPROACHES

Undoubtedly, any post-conflict analysis must present upfront its pre-conceived idea of conflict and establish the boundaries for inclusion and exclusion of quantitative data analysis. Defining conflict itself is subject to debate among academic circles, but is a vital foundation to begin any argument. Specifically, armed conflict should be defined in light of the present day confusion given that international terrorism can blur the lines of once-traditional categories. First, we begin with a definition of the *state*, which is a human community that successfully claims the monopoly of the legitimate use of physical force within a given territory (Weber, 1919),<sup>32</sup> We then understand that every state is founded on the monopoly of force, and any subsequent contest to that monopoly results in the immediate friction of conflict – the violent clash between two wills, each

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<sup>30</sup> Doyle, Michael W.; Sambanis, Nicholas, (2006), "Making War and Building Peace: United Nations Peace Operations." Princeton University Press.

<sup>31</sup> Mack, Andrew; Mertz, Sebastian; Bui, Mai; Cooper, Tara; Echlin, Gwen; Gray, John Laidlaw; Harris, Kala; Ridgeway, Lindsey, (2012), "Human Security Report 2012," Human Security Research Group. School for International Studies.

<sup>32</sup> Weber, 1919, "Politics as a Vocation," *Weber's Rationalism and Modern Society*, ed. By Tony Waters and Dagmar Waters. Palgrave Macmillan. 2015.

trying to impose itself on the other (Von Clausewitz, 1940).<sup>33</sup> That clash varies in its makeup of warring parties, hereafter referred to as dyads, whether governments of state against each other (*interstate*) or a government of state against rebel groups and insurgencies (*intrastate*).

Since the end of the Cold War in the early 1990s, *intrastate* conflicts, synonymously referred to as internal conflicts or civil wars, have come to prominence (Del Castillo, 2008) and have been characterized by internally-based armed participants that contest the central government's monopoly of force from the inside working upwards. Doyle and Sambanis (2006) define civil war as a "state against one or more opposition groups able to mount effective resistance...and that recruit locally, controlling some part of the country's territory." Gersovitz and Kriger (2013)<sup>34</sup> make the distinction that the "challengers" to the central authority must be numerically significant, and that they may seek to replace the incumbents in control of the monopoly of force or may seek to secede from the territory. This definition assists in differentiating the role of a rebel group or insurgency, who generally desire one of these two outcomes (removing incumbents or territorial secession), from other generic destabilizing actors like crime syndicates, anarchists, or ideologically-driven international terrorism.

Civil wars never exist within a vacuum, cut off from external dimensions of power, influence, or ideologies. Rather, they are highly influenced by the international community and its actors. Therefore, a simply-constructed dyad of a central government fighting against rebel separatists with a grievance of territory and secession, as in the case of the Namibia War of Independence (1973-1989), quickly can become complicated with external international actors arriving on scene as belligerents. Angola and Cuba both were directly involved in hostilities in the territory of South Africa,<sup>35</sup> yet active support does not necessarily shift the conflict into an interstate as the root of the conflict remains centered on a local grievance against an internal opposition group. In this case, civil war becomes an *internationalized intrastate conflict* (Gersovitz and Kriger 2013, Gleditsch et al 2002, Kruetz 2010<sup>36</sup>), where intervention may occur through dyads with actors external to the territory. Table 1.1 lists the type of conflict as either Intrastate, Internationalized Intrastate, or Interstate.

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<sup>33</sup> Von Clausewitz, Carl. *On war*. Jazzybee Verlag, 1940.

<sup>34</sup> Gersovitz, Mark; Kriger, Norma, (2013), "What Is a Civil War? A Critical Review of Its Definition and Econometric Consequences" *The World Bank Research Observer* Vol. 28:159–190.

<sup>35</sup> UN Security Council, Security Council Resolution 628, (1989), 16 January 1989.

<sup>36</sup> Kruetz, Joakim, (2010), "How and When Armed Conflicts End: Introducing the UCDP Conflict Termination Dataset," *Journal of Peace Research* 47(2): 243-250.

Beyond the central definition of armed conflict, the components of conflict - namely, commencement, intensity, and termination - also must be sharply defined and clearly understood as they form the context for follow-on reconstruction efforts. However, no single standard exists in literature. Rather, each conflict-related study codes data inclusion differently depending on the scope and objective. Across the spectrum of conflict, from minor civil disturbances to protracted world war, determining how to quantify a particular conflict's start and end date may be the most challenging task for any analyst. The deep-rooted driving factors that led to the conflict in the first place will likely persist beyond any cessation of hostilities, resurging violence in many cases. As this blurs the lines of the continuum of conflict, many economists are forced to apply the variable of battle-related deaths to assist in differentiating between a de jure cessation of hostilities and a de facto continuance of violence. Nonetheless, Gersovitz and Kriger (2013) warn of the shortcut dangers of haphazardly defining conflict solely based off of battle deaths and not capturing the large-scale violence produced in a conflict and its following economic effects.

Doyle and Sambanis (2006) code 121 civil wars, minus ongoing conflicts and cases of resurgence, from 1945-1999 as observations in their conflict analysis pertaining to effectiveness of UN peacekeeping operations. The key variables of conflict inclusion in their list are both human deaths and displacements whereby they categorize level of severity of the conflict by total battle deaths, combatants and civilians alike, and the displacement percentage of the population as migrants. Previously, Sambanis (2001) maintained a list in their war econometrics panel study that coded a slightly broader definition of conflict to arrive at 124 observations over the same period of time.

Ohiorhenuan and Stewart (2008) code 36 countries considered to be post-conflict since 1989; this database serves as a foundational reference in this study. In their study, conflict end years are conditioned through a qualitative analysis of peace milestones which include cessation of hostilities, peace agreements, demobilization, disarmament and reintegration (DDR), return of refugees and Internally Displaced Persons (IDP), rule of law and institutions, and measures of social integration and economic recovery.

The State Failure Taskforce Report, Etsy et al (1996)<sup>37</sup>, selected 116 failure cases of revolutionary and ethnic wars, genocides, and disruptive regime changes. Their study provided new insight on the role of democratization and the powerful role it plays alongside trade openness and growth to prevent state failure.

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<sup>37</sup> Etsy et al (1998) "Failed States and International Security: Causes, Prospects, and Consequences."

Gleditsch, Wallensteen, Eriksson, Sollenberg, and Strand (2002) collaborated to create the Uppsala Conflict Database (UCDP) at the Peace Research Institute Oslo (PRIO), which measures conflicts worldwide by low, high, and best estimates of battle-related deaths annually and has become a valuable tool for many econometric studies as it assists in quantifying battle intensity through aggregation. The database characterizes each conflict as one of three types: *Minor* as having at least 25 battle-related deaths in a given year of the period, *Intermediate* as having at least 25 battle-related deaths in a given year within a total conflict history tally of more than 1,000 deaths, and *War*, at least 1,000 battle deaths in a given year (Kreutz, 2010).

#### CODING CONDITIONS OF TERMINATED CONFLICTS 1989 – 2014

Utilizing an adaptation of the previous methodologies listed above, this study focuses the population sample to the conditions listed below in Figure 1.3 for inclusion in the study. As a point of clarification, only battle-related deaths (BDs) are utilized as an *entrance condition* for the observations in this study. High BDs, greater than 1,000 total during a conflict between two or more entities, signify the potential jeopardy to the monopoly of force of a government as well as imply a certain degree of weakening to institutions by armed opposition. From the conflict's conclusion by means of victory, peace, or ceasefires, reconstruction actions can begin to be measured holistically. Additionally, major armed conflicts have a tendency to produce a post-conflict transition whether political, social, economic, or security (Del Castillo, 2008). For example, intra-communal fighting like the sectarian violence seen throughout pockets of Indonesia in the 1990s produced damaging economic effects, but did not necessarily create on its own a post-conflict transition within the state's territory. However, a major armed conflict like the Free Aceh movement in the 1990s, forced a peace treaty in 2005 that enabled a small political transition whereby Aceh-based political parties were established and included in the Indonesian political system (Doyle and Sambanis, 2006). Therefore, utilizing direct battle-related deaths as a coding condition is intrinsically linked with this paper's definition of conflict as the contestation of the monopoly of force. Indirect battle-related deaths, to include deaths from famine and starvation, will be included in the economic model as they are by-products of a conflict, however these do contribute to inclusion criteria.



### DEATH TOTALS: TERMINATED CONFLICTS 1989 – 2014

In this study, the previously mentioned PRIO Uppsala Conflict Data Program serves as a primary source of direct deaths in a conflict, whether battle-related or one-sided violence. The analytical rigor placed by Gleditsch et al (2002) and Eck and Hultman (2007)<sup>38</sup> prevented the often-inflated conflict tolls seen haphazardly quoted in open source media and allows conflict deaths to be validated in quantitative studies. The negative aspect of using stringent coding guidelines is that if a conflict-ridden country lacks telecommunications infrastructure or is a highly closed economy, lack of information to serve as validating references produces astonishingly low conflict death estimates in some of the poorest countries.

An immediate example of this disparity is evident in Table 1.2 where the UCDP One-Sided Deaths for Rwanda records the Tutsi genocide by state-sponsored Hutu militias with over 800,000 killings; however, during the Mozambique civil war only 1,638 one-sided deaths are recorded during the 17-year civil war, yet extrajudicial state-sponsored killings against suspected RELIMO supporters were frequently reported by human rights watchdogs.<sup>39,40</sup> Gleditsch et al (2002) recognizes that holding to a state-based, organized counting requirement produces an “enduring controversy” over the database as it cannot account for indirect deaths caused by famine, disease or deaths from intra-communal fighting. Lacking this information in battle death estimates becomes even more significant in certain conflicts as seen in the Cambodian Civil War between the Kampuchea and the Kingdom of Cambodia, where it was discovered that the infamous “killing fields” held a large number of the estimated 1.7 million<sup>41,42</sup> Cambodians that were executed or had died from disease or starvation.<sup>43</sup> Since these figures do not meet the state actor condition, they cannot be tallied in the UCDP dataset.

To bridge this vital death toll statistic between direct and indirect conflict-related deaths, Table 1.1 provides a box of direct death categories from the UCDP database

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<sup>38</sup> Eck, Kristine; Hultman, Lisa, (2007), “Violence Against Civilians in War,” *Journal of Peace Research* 44.

<sup>39</sup> Human Rights Watch, (1992), “Conspicuous Destruction: War, Famine, and the Reform Process in Mozambique,” Africa Watch Report. HCR.

<sup>40</sup> Liga Moçambicana Dos Direitos Humanos, (2003) “Torturas, tratamento degradante e execuções sumárias,” IESE.

<sup>41</sup> Leitenberg, Milton, (2006) recounts an estimate of 1.79 million civilians through his personal archives.

<sup>42</sup> UNESCO, (2007) “Promoting Human Security: Ethical, Normative and Educational Frameworks in South-East Asia” references 1.7 million deaths by the Khmer Rouge.

<sup>43</sup> Human Rights Watch, (2009) “Cambodia: 30 Years After Fall of the Khmer Rouge, Justice Still Elusive” January 5, 2009, citing the Extraordinary Chambers of the Courts of Cambodia.

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next to the box of additional sources that estimate both direct and indirect fatalities. Each column is averaged between UCDP and an additional source and compiled as the total adjusted conflict death variable, *Tot\_Adj\_Con\_Dth*. The majority of the sample received large increases in death total through multiple sourcing; however 7 of the 30 observations' *Tot\_Adj\_Con\_Dth* are lower than the original UCDP direct deaths estimate.

By basing death totals in confirmed battle deaths, often-highly inflated indirect deaths can be prevented from heavily skewing the totals in each country. The generally recognized problem with using indirect deaths in estimations is that widespread famine and disease, while exacerbated by war, is not the sole by-product of conflict. Consequently, underdeveloped countries have the tendency to see far greater indirect death tolls attributed to conflict, although attributable causation tends to be weak. As conflict estimate data tend to be imprecise in general, this approach to aggregate such data is admittedly not definitive, but it does provide a stop-gap estimate from multiple sources in order to have a starting point for analysis until more robust databases can be compiled by international organizations.



**Table 1.2 – Estimated Death Totals in Selected Conflicts**

ID	Country	“In-Conflict” Duration (years)	Average Population During Conflict <sup>a</sup>	UCDP <sup>b</sup> Direct Estimates			Additional Sources			Total Adjusted Conflict Death	As % Pop
				One-Sided Death (Direct)	Battle Deaths (Direct)	Total Deaths (Direct)	Civilian Deaths (Indirect)	Military Deaths (Direct)	War-Related Deaths (Ind/Dir)		
1	Angola	6	16,256,651	6,587	30,218	<b>36,805<sup>b</sup></b>			<b>100,000<sup>d</sup></b>	<b>68,400</b>	<b>0.42%</b>
2	Azerbaijan	4	7,436,250	763	4,880	<b>5,643<sup>b</sup></b>		10,000	<b>10,000<sup>d</sup></b>	<b>8,200</b>	<b>0.11%</b>
3	Bosnia	4	4,029,920	14,026	13,457	<b>27,483<sup>b</sup></b>			<b>101,000<sup>e</sup></b>	<b>64,200</b>	<b>1.59%</b>
4	Burundi	15	6,312,247	21,605	8,247	<b>29,852<sup>b</sup></b>	200,000		<b>200,000<sup>d</sup></b>	<b>119,100</b>	<b>1.89%</b>
5	Cambodia	14	7,710,586		136,000	<b>136,000<sup>b</sup></b>	1,790,000	75,000	<b>1,865,000<sup>d</sup></b>	<b>1,895,500</b>	<b>24.58%</b>
6	Chad	6	10,964,694	27,113	2,583	<b>29,696<sup>b</sup></b>			<b>7,000<sup>f</sup></b>	<b>18,300</b>	<b>0.17%</b>
7	Republic of Congo	7	2,885,250	3,422	14,123	<b>17,545<sup>b</sup></b>			<b>20,000<sup>g</sup></b>	<b>18,800</b>	<b>0.65%</b>
8	Côte d'Ivoire	6	18,194,215	731	810 <sup>f</sup>	<b>1,541<sup>b</sup></b>			<b>2,700<sup>h</sup></b>	<b>2,100</b>	<b>0.01%</b>
9	Croatia	5	4,587,800	371	1,329	<b>1,700<sup>b</sup></b>			<b>12,000<sup>i</sup></b>	<b>6,900</b>	<b>0.15%</b>
10	El Salvador	13	4,920,590		55,000	<b>55,000<sup>b</sup></b>	50,000	23,000	<b>73,000<sup>d</sup></b>	<b>89,000</b>	<b>1.81%</b>
11	Eritrea	4	3,354,103		98,192	<b>98,192<sup>b</sup></b>		100,000	<b>100,000<sup>d</sup></b>	<b>99,100</b>	<b>2.95%</b>
12	Ethiopia	4	65,615,948		98,192	<b>98,192<sup>b</sup></b>		100,000	<b>100,000<sup>d</sup></b>	<b>99,100</b>	<b>0.15%</b>
13	Georgia	4	4,870,525	178	2,586	<b>2,764<sup>b</sup></b>		2,500	<b>2,500<sup>d</sup></b>	<b>2,700</b>	<b>0.06%</b>
14	Guatemala	31	7,671,920	2,325	46,300	<b>48,625<sup>b</sup></b>	210,000	17,500	<b>227,500<sup>d</sup></b>	<b>138,100</b>	<b>1.80%</b>
15	Guinea-Bissau	2	1,210,355		2,000	<b>2,000<sup>c</sup></b>			<b>1,000<sup>j</sup></b>	<b>1,500</b>	<b>0.12%</b>
16	Indonesia	17	205,702,159	3,288	3,338	<b>6,626<sup>b</sup></b>	5,000		<b>5,000<sup>d</sup></b>	<b>7,500</b>	<b>0.00%</b>
17	Kosovo	2	1,864,000		2,639	<b>2,639<sup>b</sup></b>	10,000		<b>10,000<sup>d</sup></b>	<b>12,600</b>	<b>0.68%</b>
18	Lebanon	16	2,499,944		144,000	<b>144,000<sup>b</sup></b>			<b>131,000<sup>d</sup></b>	<b>137,500</b>	<b>5.50%</b>
19	Liberia	12	2,499,944	14,752	3,051	<b>17,803<sup>b</sup></b>	100,000		<b>100,000<sup>d</sup></b>	<b>60,400</b>	<b>2.42%</b>
20	Mozambique	17	12,487,512	1,638	4,361	<b>5,999<sup>b</sup></b>			<b>900,000<sup>dl</sup></b>	<b>453,000</b>	<b>3.63%</b>
21	Namibia	17	1,060,309	388	25,000	<b>25,388<sup>b</sup></b>			<b>13,000<sup>d</sup></b>	<b>19,200</b>	<b>1.81%</b>
22	Nepal	11	24,069,590	3,301	9,916	<b>13,217<sup>b</sup></b>			<b>5,000<sup>d</sup></b>	<b>9,100</b>	<b>0.04%</b>
23	Nicaragua	13	3,611,923		30,000	<b>30,000<sup>b</sup></b>	25,000	10,000	<b>35,000<sup>d</sup></b>	<b>45,000</b>	<b>1.25%</b>
24	Papua New Guinea	8	4,601,966	59	2,000	<b>2,059<sup>b</sup></b>			<b>15,000<sup>k</sup></b>	<b>8,500</b>	<b>0.18%</b>
25	Rwanda	4	7,752,040	817,448	4,246	<b>821,694<sup>b</sup></b>			<b>1,000,000<sup>d</sup></b>	<b>910,800</b>	<b>11.75%</b>
26	Sierra Leone	11	4,383,364	20,049	11,473	<b>31,522<sup>b</sup></b>	50,000		<b>50,000<sup>d</sup></b>	<b>46,500</b>	<b>1.06%</b>
27	Sri Lanka	27	18,055,000	4,650	60,640	<b>65,290<sup>b</sup></b>			<b>65,000<sup>d</sup></b>	<b>65,100</b>	<b>0.36%</b>
28	Tajikistan	6	5,720,909	96	8,372	<b>8,468<sup>b</sup></b>			<b>100,000<sup>d</sup></b>	<b>54,200</b>	<b>0.95%</b>
29	Timor-Leste	25	723,566		18,000	<b>18,000<sup>b</sup></b>	120,000	11,000	<b>131,000<sup>d</sup></b>	<b>134,500</b>	<b>18.59%</b>
30	Uganda	27	19,170,532	6,635	11,156	<b>17,791<sup>b</sup></b>	450,000	6,000	<b>456,000<sup>d</sup></b>	<b>236,900</b>	<b>1.24%</b>

Tot Adj\_Con\_Dth Con\_Dth\_%\_Pop

<sup>a</sup> Population statistics are from the World Development Indicators at databank.worldbank.org. In-Conflict population is derived as the mean population of all years in which the country was in the observed conflict

<sup>b</sup> Gleditsch and Lacina (2005) Uppsala / PRIO Armed Conflict Dataset (UCDP)

<sup>c</sup> Lacina, Bethany (2009) explains in her coding interpretation that due to lack of best estimates, the range of BDs is between 1,000 - 2,000

<sup>d</sup> Leitenberg, Milton (2006)

<sup>e</sup> Marie-Janine Calic (2013)

<sup>f</sup> Vicenç Fisas (2009)

<sup>g</sup> UNHCR (2002) Death estimates were derived from a country wide questionnaire with a specific scope to estimate refugees and IDPs and the numbers are likely to be civilian deaths

<sup>h</sup> Armed Conflict Location & Event Data Project (ACLED) (2018) determines both civilian and military casualties from an event tracker and the estimate provided is derived from multiple reporting sources

<sup>i</sup> Research and Documentation Center (2006) “Transitional Justice in Post-Yugoslav Countries,” Sarajevo

<sup>j</sup> Nielsen, Jensen, Kragh, Andersen and Aaby (2006)

<sup>k</sup> Braithwaite, John (2010)

<sup>l</sup> Human Rights Watch (1992) cited a 600,000 total deaths estimate

#### INTENSITY ESTIMATES: TERMINATED CONFLICTS 1989 – 2014

Quantifying conflict intensity is challenging for analysts as innumerable factors drive actors to war, and their complexity becomes difficult to express in equations. These driving factors are tangent upon human rationale, emotion, and willpower and often cannot be quantified. Additionally, scale of conflict holds a relative value to each community with distinct parameters for what is considered a minor or major conflict in their country.

Curiously, when intensity is attempted to be measured, as it must be and cannot be ignored, any assigned value will naturally take on a comparative role among other conflicts whether or not comparison was the original intention. Assigning a “major” or “minor” in terms of severity of destruction (Gleditsch et al, 2002) implicitly links to a preconceived notion of what is more or less standard from historical conflict numbers, which is to offer an implied comparison among other conflicts. A “minor” conflict, defined by less than 1,000 battle deaths, may be, relative to a smaller country, far more damaging to the respective economy than a conflict over 1,000 battle deaths in a larger country.

Foreign assistance, measured by net ODA received per capita, follows a similar pattern of relative valuation as well. When donor countries are impacted by the perceived intensity of conflict A, emergency funding is funneled to it, which implies that conflict B is, by de facto terms of aid, less severe.<sup>44</sup> Therefore, a conflict intensity estimate, although a theoretical comparison of disaggregated samples of apples and oranges, is still a necessary academic endeavor due to the international community’s overreliance on analytic tools and indexes to simplify extremely complex problem sets.

Another approach in intensity estimation is to analyze major institutional changes as a direct result of a conflict’s termination and then estimate its impact in real terms. Mozambique, Nepal, and Nicaragua reshaped the political landscape through their civil wars by either establishing multi-party politics, ending a long-tenured monarchy, or overthrowing a dictator, respectively. However, the outcomes of other conflicts may see little transition at all. Sri Lanka achieved a decisive victory against the Tamil Tigers in 2009, ending its 27-year long civil war<sup>45</sup> with an estimated conflict death toll of

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<sup>44</sup> This remains true throughout the sample for total net ODA variable with the exception of humanitarian assistance flow, as discussed extensively in Section III. In the sample, humanitarian assistance surprisingly had a higher allocation in reconstructions with less human suffering, and was not significantly related to poverty or developmental levels. This discrepancy derives from inefficient programming of aid by donor countries and countries that may exhibit tendencies to have developed aid dependence as explained later.

<sup>45</sup> See Table 1.1 for conflict dates.

65,100<sup>46</sup> that resulted in few transitional changes to the central government except for new national security policies.<sup>47</sup> Transformational transitions may imply a greater need for of extensive reconstruction efforts than by simply measuring battle destruction.

Conflict intensity can also be characterized by a variety of metrics: as increases in battle deaths, flow and stock of migrants and displaced persons, extent of infrastructure damage, political or security transitions in the government, and the extent of dysfunctional rule of law / breaking of the social contract. While physical infrastructure can be restored or replaced, human capital however, from a population standpoint, requires much greater investment and can take a generation's time to restore in the aftermath of a violent conflict.

Due to the lack of a standardized indicator, this study has developed the *Human Capital Loss Index*, which is a harmonized index across all 30 country observations. A significant interpretation of both the panel data in Section II and reconstruction stimulants in Section III is dependent on explaining the degree of intensity of a particular conflict. Human Capital Loss, or *HCL*, is compiled from a range of migration and death estimates from each conflict, then weighted by each observation's population statistics, and finally harmonized through a relative group value. It is understood that both war deaths and migration statistics are estimates only and vary amongst all sources; however, when combined together, even as an estimate, they can provide a better understanding of perceived conflict intensity and its impact on the domestic economy.

Human capital loss during a conflict must be reflected both as total volume and proportionally as a percentage of population. Volume as a variable, *Tot\_Adj\_Con\_Dth*, represents the intensity or depth of the conflict-originating grievance among dyads.<sup>48</sup> This assessment is derived from the psychological nature of killing as studied by Grossman (1995)<sup>49</sup> who identifies that the innate nature of mankind is to initially resist the act of killing as a species survival mechanism. Grossman analyzes instances of killing conditioning whereby soldiers, placed on firing lines in order to increase response efficiency, still experienced resistances to killing, despite being ordered to fire.

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<sup>46</sup> See Table 1.2

<sup>47</sup> Öglund, Kristine H and Orjuela, Camilla, (2011), "Winning the Peace: conflict and prevention after a victor's peace in Sri Lanka" Contemporary Social Science, 6:1, Routledge Taylor and Francis Group

<sup>48</sup> Doyle and Sambanis (2006) refer to *grievances* while Gleditsch et al (2002) refer to *incompatibilities*. Both are used synonymously in this paper.

<sup>49</sup> Grossman, Dave. (1995). *On Killing: The Psychological Cost of Learning to Kill in War and Society*. Boston: Little, Brown.

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With this psychological principle in mind, cases of one-sided state violence against a semi-armed or unarmed people group such as the Rwandan genocide against the Tutsi in 1994 would require a deep grievance that pushes soldiers and militiamen beyond basic killing conditioning. In this case, the grievance derived from centuries of tribal fighting, power shifts, and deeply-implanted ethnic hatred that resulted in more than 800,000 men, women, and children slaughtered viciously in a matter of months.<sup>50</sup>

While conflict death total, both military and civilian, provides insight into conflict intensity from both a grievance standpoint and a loss of human life standpoint, it is limited in one particular role. That is, it does not measure the relative effect to the population as a whole. A ratio of conflict-related deaths to total population, *Con\_Dth\_%\_Pop*, when compared to total output and other variables, better explains the macroeconomic impact as a labor force supply shock.

In many cases, harmonized labor statistics are not capable of accounting for the ebb and flow of forced migration, and can often lead econometric studies astray, offering higher confidence intervals derived from more stable theoretical variables than the volatile ones actually found during and after a conflict. There is a notable disparity between migration statistics and labor and unemployment data in current online databases. As an example, the maximum amount of internally displaced persons (IDP) in the borders of Ethiopia during the war with Eritrea between 1998 and 2001 is estimated to be 143,000, but only represents 0.22% of the large Ethiopian population of 65.6 million.<sup>51</sup> Meanwhile, similar numbers of IDPs in Eritrea, 207,000 represented 6.17% of the population as a much smaller country. All other variables being equal, this signifies that the less than a quarter percent added temporarily to the unemployment rate in Ethiopia is of minimal consequence compared to the massive unemployment shock produced in Eritrea, despite both countries having similar total IDPs.

### Economic Effects of Forced Migration

Forced migration in any form can produce lasting damage to economies in conflict, even in the case of IDPs.

Distortions to productivity can be both temporary and long-term with many never returning home at all.

For IDPs that resettle, entire households become uprooted and are forced to implant themselves in unfamiliar settings, increasing inefficiency in social services and employment.

Intra-regional imbalances are produced as the conflict-affected region experiences a demand shock as migrants flee and a new region's supply system becomes overloaded.

<sup>50</sup> Eck and Hultman (2007)

<sup>51</sup> Table 1.3

However, unemployment rises during these conflicts are not accurately recorded in many cases due to lack of national reporting and the temporary inaccessibility of surveys – both of which exacerbate the acknowledged limitations of international modeled labor estimates. According to the International Labor Organization’s (ILO) modeled estimates during the same period, Eritrea’s unemployment rate improved from 6.8% to 6.6%<sup>52</sup> from 1998-2001 despite an additional 6.17% of the population becoming dislodged and a large portion being temporarily unemployed. If not accounted for in unemployment rates, then a massive shift in the labor supply curve should be apparent in the data as it can be argued that IDPs are temporarily removed from the total workforce. ILOSTAT, however, record an average annual increase in labor force total of 3.6% (1998-2001), higher than the 2.2% growth in the same period pre-conflict (1994-1997)<sup>53</sup>. Therefore, the human capital inefficiency derived from forced migration in temporary conflict situations is often not recorded.

The same can be seen throughout other conflicts in this study. Côte d'Ivoire endured an increase (flow) of 671,100 IDPs (3.7% of population) from 2005 to 2006 during the First Ivorian War (2002–2007),<sup>54</sup> yet ILO modeled estimates see improvements in total unemployment rate from 3.50% to 3.41% during the same period and continually improves every year following.<sup>55</sup> In 2011, an estimated 602,000 finally returned, which yields a five-year average length of displacement, and likely five-year unemployment, for more than 3% of the affected population.

This disparity of IDPs missing in labor data is not explained through population statistics either. The increase of total population during the six-year war from 17.36 million to 19.09 million had only a slight 0.8% reduction of average population growth between pre-conflict rates and intra-conflict rates, which may account for refugee flow and conflict-related direct and indirect deaths, but not IDPs as they still categorically remain part of the national population. Due to this, nominal labor statistics may mislead econometric models attempting to evaluate conflict or crisis studies, whereas *HCL* is more apt at measuring human capital inefficiency in economies after conflict, as seen in Table 1.3 below.

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<sup>52</sup> Worldbank, ILO labor force estimates.

<sup>53</sup> ILOSTAT, International Labor Organization Database.

<sup>54</sup> Table 1.3.

<sup>55</sup> Worldbank, ILO labor force estimates.

**Table 1.3 – Estimated Human Capital Loss in Selected Conflicts**

ID	Country	“In-Conflict” Duration (years)	Average Population During Conflict <sup>a</sup>	Max Refugees (Flow)		Max IDPs (Stock)		Conflict Deaths		Human Capital Loss Index
				Outward Flow (Conflict Year High)	As % of Population	High Stock (Conflict Year High)	As % of Population	Total Adjusted Conflict Death	As % of Population	
1	Angola	6	16,256,651	188,800 <sup>b</sup>	1.16%	257,500 <sup>b</sup>	1.58%	68,400	0.42%	1.61
2	Azerbaijan	4	7,436,250	127,500 <sup>b</sup>	1.71%	778,000 <sup>b</sup>	10.46%	8,200	0.11%	1.80
3	Bosnia	4	4,029,920	993,900 <sup>b</sup>	24.66%	1,290,000 <sup>b</sup>	32.01%	64,200	1.59%	3.15
4	Burundi	15	6,312,247	679,800 <sup>b</sup>	10.77%	882,900 <sup>b</sup>	13.99%	119,100	1.89%	2.62
5	Cambodia	14	7,710,586	116,000 <sup>b</sup>	1.50%	124,100 <sup>b</sup>	1.61%	1,895,500	24.58%	3.13
6	Chad	6	10,964,694	19,400 <sup>b</sup>	0.18%	170,500 <sup>b</sup>	1.55%	18,300	0.17%	1.48
7	Republic of Congo	7	2,885,250	21,100 <sup>b</sup>	0.73%	89,700 <sup>b</sup>	3.11%	18,800	0.65%	1.53
8	Côte d'Ivoire	6	18,194,215	32,900 <sup>b</sup>	0.18%	709,200 <sup>b</sup>	3.90%	2,100	0.01%	1.64
9	Croatia	5	4,587,800	245,600 <sup>b</sup>	5.35%	344,000 <sup>bc</sup>	7.50%	6,900	0.15%	1.78
10	El Salvador	13	4,920,590	213,200 <sup>c</sup>	4.33%	600,000 <sup>c</sup>	12.19%	89,000	1.81%	2.16
11	Eritrea	4	3,354,103	57,800 <sup>d</sup>	1.72%	207,000 <sup>d</sup>	6.17%	99,100	2.95%	1.68
12	Ethiopia	4	65,615,948	20,000 <sup>d</sup>	0.03%	143,000 <sup>d</sup>	0.22%	99,100	0.15%	1.43
13	Georgia	4	4,870,525	47,800 <sup>b</sup>	0.98%	260,000 <sup>b</sup>	5.34%	2,700	0.06%	1.54
14	Guatemala	31	7,671,920	100,000 <sup>e</sup>	1.30%	1,000,000 <sup>e</sup>	13.03%	138,100	1.80%	2.60
15	Guinea-Bissau	2	1,210,355	8,100 <sup>b</sup>	0.67%	195,600 <sup>b</sup>	16.16%	1,500	0.12%	1.65
16	Indonesia	17	205,702,159	26,600 <sup>f</sup>	0.01%	120,000 <sup>f</sup>	0.06%	7,500	0.00%	1.68
17	Kosovo	2	1,864,000	40,100 <sup>g</sup>	2.15%	209,000 <sup>g</sup>	11.21%	12,600	0.68%	1.63
18	Lebanon	16	2,499,944	33,100 <sup>g</sup>	1.32%	1,000,000 <sup>g</sup>	40.00%	137,500	5.50%	2.82
19	Liberia	12	2,499,944	110,600 <sup>b</sup>	4.42%	531,616 <sup>b</sup>	21.27%	60,400	2.42%	2.25
20	Mozambique	17	12,487,512	1,410,700 <sup>b</sup>	11.30%	3,000,000 <sup>b</sup>	24.02%	453,000	3.63%	3.80
21	Namibia	17	1,060,309	75,600 <sup>b</sup>	7.13%	---	---	19,200	1.81%	1.87
22	Nepal	11	24,069,590	---	---	200,000 <sup>g</sup>	0.83%	9,100	0.04%	1.57
23	Nicaragua	13	3,611,923	81,100 <sup>h</sup>	2.25%	600,000 <sup>h</sup>	16.61%	45,000	1.25%	2.11
24	Papua New Guinea	8	4,601,966	20,000 <sup>i</sup>	0.43%	60,000 <sup>i</sup>	1.30%	8,500	0.18%	1.49
25	Rwanda	4	7,752,040	1,938,100 <sup>bc</sup>	25.00%	625,000 <sup>bc</sup>	8.06%	910,800	11.75%	3.53
26	Sierra Leone	11	4,383,364	179,100 <sup>b</sup>	4.09%	782,000 <sup>b</sup>	17.84%	46,500	1.06%	2.20
27	Sri Lanka	27	18,055,000	145,400 <sup>b</sup>	0.81%	731,800 <sup>b</sup>	4.05%	65,100	0.36%	2.22
28	Tajikistan	6	5,720,909	107,500 <sup>b</sup>	1.88%	520,000 <sup>b</sup>	9.09%	54,200	0.95%	1.80
29	Timor-Leste	25	723,566	260,000 <sup>cj</sup>	35.93%	---	---	134,500	18.59%	3.22
30	Uganda	27	19,170,532	297,300 <sup>b</sup>	1.55%	1,586,200 <sup>b</sup>	8.27%	236,900	1.24%	2.66

Max\_Ref\_Flw Ref\_Flw\_%\_Pop Max\_IDP\_Stk IDP\_Stk\_%\_Pop Tot\_Adj\_Con\_Dth Con\_Dth\_%\_Pop HCL

<sup>a</sup> Population statistics are from the World Development Indicators at databank.worldbank.org. In-Conflict population is derived as the mean population of all years in which the country was in the observed conflict  
<sup>b</sup> United Nations High Commissioner for Refugees (UNHCR) Population Statistics Database (2015)  
<sup>c</sup> Doyle and Sambanis (2006)  
<sup>d</sup> Dessalegn, Bezalet (2004) FMO Country Guides. Statistics from ForcedMigration.org and UNECA  
<sup>e</sup> Costello, Patrick (1995)  
<sup>f</sup> Howard, Caroline (2014) *Indonesia: Durable solutions needed for protracted IDPs as new displacement occurs in Papua*, IDMC  
<sup>g</sup> IDMC (2013)  
<sup>h</sup> Tucker, Spencer (2016)  
<sup>i</sup> Braithwaite, John (2010)  
<sup>j</sup> UNHCR (2005) UNHCR Country Operations Plan 2006 - Timor-Leste  
 --- Distinction between refugees and IDPs was not clear in any source, rather, the term displacement was frequently used

HCL is calculated utilizing a harmonized index of all 30 observations in each variable seen in Table 1.3. The standard indexing format utilized by the United Nations Populations Division is:

$$I_x = 100 \times \frac{(x - x_{min})}{(x_{max} - x_{min})} \quad (1)$$

Then the aggregate index is adjusted to a scale of 1 to 4, where 1 is the low amount of human capital loss and 4 is the possible high in the given sample. The maximum score mathematically is -6.5, but the sample maximum is effectively -3.80 with Mozambique. Where  $t$  is the time period for each conflict, *HCL* (Human Capital Loss) is measured as the adjusted mean of seven variables:  $B$  (*Tot\_Adj\_Con\_Dth*),  $BP$  (*Con\_Dth\_%\_Pop*),  $D$  (*Conflict Duration*),  $R$  (*Max\_Ref\_Flw*),  $RP$  (*Ref\_Flw\_%\_Pop*),  $I$  (*Max\_IDP\_Stk*), and  $IP$  (*IDP\_Stk\_%\_Pop*).

$$HCL_{it} = (5) \times (.25 + \bar{x} (B_{it} + BP_{it} + D_{it} + R_{it} + RP_{it} + I_{it} + IP_{it})) \quad (2)$$

With the inclusion of the HCL in the economic reconstruction model, correlations can be estimated with HCL as an explanatory variable that harmonizes the sample and demonstrates, in effect, one interpretation of conflict intensity. This does not mean that other variables such as capital flight or infrastructure damage are excluded. Rather, they are analyzed separately in the model explained in Section II since harmonization presented complexities due to data disparity and incompleteness.

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## SECTION II: Post-Conflict Macroeconomic Responses

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### *Inequality, Growth, and Trade Liberalization*

Despite the contextual uniqueness of each conflict and its outcome, certain macroeconomic tendencies, and more specifically, market orientations, can be measured, and through the panel data and estimates conducted in this section, it is proven that **conflict-recovering economies are progressively liberalizing, generating inequality, and growing at a faster rate than their respective income group averages**. The methodology utilized in this section employs both correlation coefficients through fixed effects estimates to evaluate the relationship among selected variables and economic growth and inequality as well as comparative cross-sectional analysis among all 30 country (*i*) observations to highlight tendencies. The indicators seen in Table 2.1 conform to basic economic theory and avoid the pitfalls discussed in Verbeek and Nijman (1996)<sup>56</sup> regarding selection bias in panel data as the stringent coding rules were outlined in Figure 1.3. This section centralizes the focus of efforts in **stimulating economic growth**, following the Section I explanation of its role in **preventing conflict recurrence** during a reconstruction period. The group will be measured in their responses to absorbing and utilizing “post-conflict stimulants” and will be evaluated according to paces of recovery or stagnation.

#### METHODOLOGY AND SELECTED INDICATORS

For all panel data, the time series (*t*) is standardized among observations and configured as the conflict end date as calculated in Table 1.1. As an example, for coding El Salvador’s GDP growth rate in 1992 during its second year of reconstruction, ( $Yg_{it}$ ) represents the GDP annual growth rate of country (*i*) during reconstruction year (*t*) with a corresponding value of  $(Yg_{it}) = 7.54\%$ . Coding time series according to conflict end dates rather than by years allows the synchronization of reconstruction activities in collective groupings. This time synchronization was also utilized by the United Nations Development Program (UNDP) in the 2008 Post-Conflict Economic Reconstruction Report<sup>57</sup> and allowed comparative analysis within their sample.

Seeing countries’ responses in terms of post-conflict years, in lieu of actual years, permits quantitative comparison. As Timor-Leste emerged from civil war in 1997, its reconstruction process in terms of economic growth, capital flow, foreign investment, and development assistance etc., is truly not directly comparable with that of El Salvador in 1997, as El Salvador’s reconstruction was already well in-stride and in its sixth year. A more apt comparison is Timor-Leste E through E+1 (1997-1998) with El Salvador E through E+1 (1991-1992) as both economies initiated recovery after a major conflict. While distinct differences exist across the sample of 30 post-conflict countries, all pass through quantitatively similar episodes of reconstruction together. This serves

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<sup>56</sup> Verbeek M.; Nijman, T. (1996). “Incomplete Panels and Selection Bias.” *The Econometrics of Panel Data*. Advanced Studies in Theoretical and Applied Econometrics, vol 33.

<sup>57</sup> Ohiorhenuan and Stewart (2008).



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as a quasi-common denominator among all the countries in the sample, and from here, individual (unique) responses can be measured.

Utilizing time offset carries the inherent risk of creating distortions across the sample, especially during periods of global crises where financial sector and commodity price shocks can greatly alter interpretation as exogenous variables; however, result-altering distortions were not noted in the sample. In the selected period of 1989 – 2014, the majority of post-conflict countries were relatively unaffected by several global crises mainly due to having initially closed economies. The early 90s recession for several OECD countries appears to have little to no impact on the 5 countries ending their conflicts during that timeframe; the dot-com bubble (1995-2000) had almost no impact on the sample; and the oil price bubble (2003-2009) only affected a handful of petroleum exporting countries, to include Azerbaijan, but the sample as a whole did not see major shocks.

The global financial crisis (2007-2009) had marginal impacts on the more developed countries in the sample, Croatia, Bosnia and Herzegovina, and Georgia; however, the majority of post-conflict countries maintained or even improved annual GDP growth rate during the period. It appears that post-conflict countries operate on a trajectory separate from regional and global averages, as they move from the undefined window of reconstruction into longer-term sustainable development.

Regarding the dataset created for this study, a combination of sources has been utilized; however sources are not mixed within a given variable in order to avoid skewing data. Currency denominators are maintained or converted (constant US\$ 2010, current international \$, local currency unit 2010) within each set of variables. A list of raw data sources can be found in the bibliography under datasets.

Given the scope of the data used (more than 7,600 observations), it can be correctly assumed that a panel study specifically targeting the short-term rebound and long-term development transition will note large standard errors due to inherent heteroscedasticity of each country. In these cases, robust standard error (RSE) is utilized in fixed estimates that showed high heteroscedasticity following a White test. Standardized regression coefficients (betas) have not been utilized as each variable across time and each country has already been standardized either in terms of % of GDP, per capita natural logarithm, or as percentage of population total. Statistically significant *t*-distribution levels are indicated in each panel by an (\*) next to a coefficient to indicate percentage level where (\*) is at the 10% level (90% confidence level), (\*\*) is at 5% (95% confidence level) and (\*\*\*) is at the 1% (99% confidence level). For both Table 2.1 and Table 2.2, the null hypothesis was rejected through a Hausman test and a joint test of significance on

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an auxiliary regression of time-varying independent variables. Consequently, fixed effects have been chosen over random effects estimation in each case.

This study does not build a generalized model for economies in reconstruction, given that the time variance among each observed conflict would create systemic distortions. The study does, however, focus on the use of fixed effects estimation, incorporating both *within* and *between* values to comparatively view how each economy responded differently during episodes of reconstruction. Specifically, the relative values extrapolated from particular indicators related to aid per capita (*Ifap*), trade openness (*To*), financial openness (*Fo*), and the Gini coefficient of income inequality demonstrate statistically significant correlations during economic reconstruction periods and have been selected for display.

**Table 2.1 – Macroeconomic Indicators: Conflict End to E+15 (sample 1989-2014)**

Variable	Short Title	Long Title	Data Source
<i>Aep</i>	AccessElectricPop	Access to electricity (% pop)	World Bank
<i>Awp</i>	AccessWaterPop	Access to water source (% pop)	World Bank
<i>Id</i>	CapFormationFixed	Gross fixed capital formation (% GDP)	WB / OECD
<i>Ck</i>	ConFixedCap	Consumption of fixed capital (% GNI)	WB / UNSDNAS
<i>Cg</i>	ConGovExpen	Government consumption expenditure (% GDP)	WB / UNSDNAS
<i>Chg</i>	ConHousegrth	Household final consumption (annual % growth)	WB / OECD
<i>Cn</i>	ConNatRes	Natural resources depletion (% GNI)	World Bank
<i>If</i>	FDInetflow	Foreign direct investment, net inflows (% GDP)	IMF
<i>Fo</i>	FinOpen	Net financial assets and liabilities (% GDP)	Lane, Milesi IMF
<i>Yg</i>	GDPgrowth	GDP growth (annual %)	World Bank
<i>Ypl</i>	GDPPCPPP_LN	Natural log GDP per capita, PPP (constant 2011)	World Bank
<i>Gini</i>	GINIndex	GINI index	World Bank
<i>Sd</i>	GrsSavgs	Gross savings (% GNI)	World Bank
<i>HCL</i>	HumCapLoss	Human Capital Loss Index	Author's Calculations / Multiple Sources
<i>Rpi</i>	InflationPr	Inflation, consumer prices annual (%)	IMF
<i>Ifa</i>	NetODA	Net ODA received (% GNI)	DAC OECD
<i>Ifap</i>	NetODA_PC	Net ODA received per capita (Current US\$)	DAC OECD
<i>Prp</i>	PopPoverty	National poverty headcount ratio (% population)	WB / GPWG
<i>Pru</i>	PopUrban	Urban Population (% Total)	UNPD
<i>Re</i>	REER	Real effective exchange rate index (2010 = 100)	IMF
<i>M</i>	Trd_MportOp	Imports of goods and services (% GDP)	WB / OECD
<i>Rxm</i>	Trd_ToT	Net barter terms of trade index (2000 = 100)	UNCTAD
<i>Sxm</i>	Trd_XMServ	Services value added (% GDP)	WB / OECD
<i>X</i>	Trd_XportOp	Exports of goods and services (% GDP)	WB / OECD

Aggregate supply and demand functions of each economy are not selected, rather, the selected indicators listed in Table 2.1 are designed to identify positive / negative correlations through a series of multiple linear regressions. As an example, gross fixed

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capital formation  $Kd$  is utilized in lieu of total capital formation, also referred to as total domestic investment, in order to measure its correlation with official developmental aid  $Ifa$  and foreign direct investment flow  $If$ , which likely hold strong relationships in creating domestic physical productive capacities. In Section III a more detailed relationship of type and volume of foreign aid among post-conflict recipients is discussed further.

Summarized statistics of each variable across observations are listed below for reference in Table 2.2.

**Table 2.2 – Summary Statistics (24 Variables) (30 Countries 1989 – 2014)**

Variable	<i>Access_Electric</i> <i>Aep</i>	<i>Access_Water</i> <i>Awp</i>	<i>CapForm</i> <i>Id</i>	<i>ConFixCap</i> <i>Ck</i>	<i>ConGovExpen</i> <i>Cg</i>	<i>ConHousegrth</i> <i>Chg</i>	<i>ConNatRes</i> <i>Cn</i>	<i>FDInet</i> <i>If</i>
<i>Observations</i>	404	389	368	394	373	317	347	380
<i>Mean</i>	52.29	69.27	20.74	10.79	18.05	4.98	9.18	5.31
<i>Standard Dev.</i>	37.54	18.61	8.60	6.84	19.07	10.47	13.28	9.55
<i>Minimum</i>	0.02	23.50	4.01	0.88	3.46	-34.14	0.00	-5.98
<i>Maximum</i>	100	99.20	69.36	46.25	163.58	92.51	64.54	89.48

Variable	<i>Fin_Open</i> <i>Fo</i> <sup>60</sup>	<i>GDP_growth</i> <i>Yg</i>	<i>GDPPCPPP_LN</i> <i>Ypl</i>	<i>GINI_index</i> <i>Gini</i>	<i>GrsSavgs</i> <i>Sd</i>	<i>HumCapLoss</i> <i>HCL</i>	<i>InflationPr</i> <i>Rpi</i>	<i>ODAnet</i> <i>Ifa</i>
<i>Observations</i>	390	399	402	90	304	30	334	391
<i>Mean</i>	-0.81	6.03	7.97	40.08	17.31	2.15	8.90	12.42
<i>Standard Dev.</i>	1.57	7.85	0.94	9.68	16.11	0.680	14.28	18.64
<i>Minimum</i>	-12.84	-30.15	5.87	16.20	-40.68	1.43	-35.84	-0.04
<i>Maximum</i>	2.83	88.96	10.00	63.30	107.87	3.80	162.72	192.03

Variable	<i>NetODA_PC</i> <i>Ifap</i>	<i>PopPoverty</i> <i>Prp</i>	<i>PopUrban</i> <i>Pru</i>	<i>REER</i> <i>Re</i> <sup>58</sup>	<i>Trd_Imports</i> <i>M</i> <sup>59</sup>	<i>Trd_Terms</i> <i>ToT</i>	<i>Trd_XMServ</i> <i>Sxm</i>	<i>Trd_Exports</i> <i>X</i> <sup>59</sup>
<i>Observations</i>	397	65	375	103	379	331	327	379
<i>Mean</i>	73.94	35.67	37.95	98.82	50.57	116.26	24.34	30.11
<i>Standard Dev.</i>	71.78	17.96	18.68	12.67	29.94	43.17	31.00	20.39
<i>Minimum</i>	-1.50	6.70	9.38	59.60	20.05	49.02	5.71	4.43
<i>Maximum</i>	444.02	69.40	86.58	142.24	236.39	432.93	266.73	98.76

**INEQUALITY EFFECTS IN POST-CONFLICT COUNTRIES**

Much literature focuses on the dynamic relationship between economic growth and rising inequality primarily due to the controversial merits of globalization. Both

<sup>58</sup> *Re* is utilized in place of the traditional symbol  $\epsilon$ , which is utilized in this paper to represent the error term in regressions

<sup>59</sup> Trade Openness (*To*) = Total Imports (*M*) + Total Exports (*X*) / GDP. (*To*) is substituted for the sum of (*M*) and (*X*) in some panel estimates.

<sup>60</sup> *Fo* is derived from the Lane and Milesi-Ferretti (2014) dataset, calculated as Total Assets + Total Liabilities / GDP

directions - inequality to growth and growth to inequality - have been thoroughly analyzed in post-conflict literature, with statistical results highly dependent on selection criteria of countries, years, and explanatory variables. The range is immense, from studies centered on “gotcha” / one-off examples to more robust aggregate studies over thousands of observations measuring the slightest change in coefficients to claim victory as king of theory hill. The traditional arguments have repeated themselves ever since the bombshell publication of the Kuznets (1955)<sup>61</sup> inverse-U curve where inequality sharply rises as economic growth increases, and then inequality slowly decreases over time. Kaldor (1957)<sup>62</sup> explained this phenomenon in terms of savings and investment and that the wealthy are more Pareto-efficient while mounds of recent evidence suggest that wealth accumulation is incentive-based and that the lack of investment in poorer countries can be explained better by aggressive rent-seeking (Benhabib and Rustichini, 1996).<sup>63</sup>

For the Gini-Growth direction, Cingano (2014) explains that income inequality is on the rise within advanced economies as well as globally and that it negatively affects economic growth in the mid to long term.<sup>64</sup> Alesina and Rodrik (1994)<sup>65</sup> demonstrate how inequality directly decreases economic growth principally through policies and taxation, stifling demand. For the Growth-Gini direction, Benabou (1996)<sup>66</sup> and Barro (2000)<sup>67</sup> echo similar findings that inequality is on the rise partly due to economic growth. Forbes (2000)<sup>68</sup> argues that this correlation is rendered insignificant when constructed holistically with human capital factors, and Lim (2014)<sup>69</sup> finds economic growth significantly *decreases* income inequality while other factors, to include government spending, are more to blame for rising inequality. Other interpretations, Milanovic (2005),<sup>70</sup> categorize the rise of global inequality and its disparate effects on poorer countries, namely that inequality is exacerbated by growth. Ironically, the effects of inequality are also unequal themselves.

With the current and everlasting debate mentioned, this section focuses not on the general relationship between growth and income inequality, but instead identifies how

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<sup>61</sup> Kuznets, Simon. (1955). “Economic growth and income inequality.” *American Economic Review* 45.

<sup>62</sup> Kaldor, Nicholas. (1957). “A model of economic growth.” *Economic Journal* 57.

<sup>63</sup> Benhabib, Jess; Rustichini, Aldo. (1996). “Social Conflict Growth.” *Journal of Economic Growth* vol. 1, issue 1.

<sup>64</sup> Cingano, F. (2014). “Trends in Income Inequality and Its Impact on Economic Growth”, OECD SEM Working Paper No. 163.

<sup>65</sup> Alesina, Alberto and Rodrik, Dani. (1994). “Distributive Politics and Economic Growth”, *The Quarterly Journal of Economics*, Volume 109, Issue 2.

<sup>66</sup> Bénabou, Rolan. (1996). “Inequality and Growth,” *NBER Macroeconomics Annual 1996*, Volume 11.

<sup>67</sup> Barro, R.J. (2000). “Inequality and Growth in a Panel of Countries” *Journal of Economic Growth* 5: 5.

<sup>68</sup> Forbes, Kristin J. (2000). “A Reassessment of the Relationship Between Inequality and Growth.” *American economic review* 90.4: 869-887.

<sup>69</sup> Lim, Guay C. and McNellis, Paul D. (2014). “Income Inequality, Trade and Financial Openness.” *International Monetary Fund*.

<sup>70</sup> Milanovic, Branka. (2005). “Measuring International and Global Inequality.” *Princeton University Press*.

income inequality moves during an economic reconstruction period and the conflict-specific inputs that affect it. As poverty reduction is a primary sustainable development goal of the international community, for economic reconstruction to be successful, drastic inequalities that last long periods of time must be avoided to promote inclusive growth, but also, pragmatically speaking, to prevent conflict recurrence.

Lim (2014) uses a robust panel study centered on income inequality and defines its relationship with trade and financial openness. He argues that trade and financial openness are viable means both to increase economic growth and to reduce income inequality according to his panel estimates of 42 countries with varying levels of income as GDP per capita in a fifteen year period 1992 – 2007.<sup>71</sup> He concludes that the differences among income groupings are varied, showing one positive relationship for one, a negative for the other. In his results, relative income growth (by world GDP per capita) had a positive correlation to inequality in LICs whereas income growth through overall GDP growth ( $Yg$ ) strongly reduced income inequality (negative relationship). Additionally, his results show government expenditure as increasing inequality, particularly in the LMICs, but not in the LICs or UMICs.

How do conflict-recovering economies differ regarding inequality? Simply stated, the macroeconomic effects on income distribution are much more dynamic immediately post-conflict than they are within the non-conflict income peer groups. Section III explains how economic reconstruction is not “development as usual” (Del Castillo, 2008), especially in countries that experienced high degrees of human capital loss (*HCL*).

On average, conflict-recovering economies tend to see spikes in humanitarian and developmental assistance, FDI, and external financing within the first five years of reconstruction. These large inward flows are paramount to restoring basic services, and stimulating economic activity, but they can, and do, spur distortions in income inequality. This flood of wealth is also disproportional across income groupings. First, the distribution of net ODA (*Ifa*) as a percentage of GNI is inversely proportional to the level of development, especially in low income countries. Second, the mean volume of annual ODA received as percentage of GNI from end (E) of conflict to E+15 for the full sample (30 countries, 410 observations) is immense and represents 12.4% of average national income.

*Post-Conflict  
GDP Growth Peaks*  
Bosnia: **88.96%**  
(E+1)(1996)  
Timor-Leste: **58.08%**  
(E+2)(2000)  
Lebanon: **38.20%**  
(E+1)(1991)  
Kosovo: **26.97%**  
(E+2)(2001)  
Mozambique: **26.85%**  
(E+4)(1996)  
Sierra Leone: **26.25%**  
(E+1)(2002)  
Angola: **22.59%**  
(E+5)(2007)

<sup>71</sup> Only 7 countries from Lim’s study coincide with the 30 conflict countries presented in this study.

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As a broader measure, overall GDP growth ( $Yg$ ) and GDP per capita ( $Ypl$ ) income relative to the world average also see substantial shifts immediately post-conflict as economic activity fully resumes, although figures may be deceiving as nominal increases often represent a restoration of previous activity and not necessarily a creation of new. In total, this influx creates challenges for weak central government institutions that initially lack regulatory capacities to effect taxation or emplace labor policies, and as a result, such surges in economic growth are unable to be harnessed. This is readily seen through the coefficients in Table 2.3.

Utilizing the same methodology as Lim (2014), but within the post-conflict sample, Table 2.3 compares how independent variables  $GDP_{growth}$  ( $Yg$ ),  $GDP_{rel}$  ( $Ypl$ )<sup>72</sup>,  $ConGovExpen$  ( $Cg$ ),  $TrdOp$  ( $To$ ),  $FDInetflow$  ( $If$ ),  $NetODA$  ( $Ifa$ ) affect dependent variable  $Gini$ , which is a measure of income distribution utilizing the Lorenz curve (0 being perfect equality and 100 perfect inequality). The following equation is applied for Table 2.3:

$$\widetilde{Gini}_{it} = \beta_1 \widetilde{Yg}_{it} + \beta_2 \widetilde{Ypl}_{it} + \beta_3 \widetilde{Cg}_{it} + \beta_4 \widetilde{To}_{it} + \beta_5 \widetilde{If}_{it} + \beta_6 \widetilde{Ifa}_{it} + \beta_7 \widetilde{\omega}_{it} + \tilde{\varepsilon}_{it} \quad (3)$$

Where  $\sim$  indicates that each variable has been transformed to their time-demeaned versions in order to standardize for the fixed effects model and observe each individual country's "within" values. Unobservable variable  $\tilde{\omega}$  remains and is not assumed to be constant over time, and  $\tilde{\varepsilon}_{it}$  is the error term.

**Table 2.3 – Fixed Effects Estimate: Income Inputs on Inequality (Lim, 2014 Methodology)**

	$R^2$	$GDP_{growth}$	$GDPPC(rel)$	$ConGov$	$Trd_{Open}$	$FDInet$	$ODAnet$
Y = GINI	(Within)	$Yg$	$Ypl$	$Cg$	$To$	$If$	$Ifa$
Full Conflict Sample (30)	0.378	-0.077	-0.334	0.188*	-0.032	<b>-0.248***</b>	0.036
Low Income (11)	0.743	<b>1.217***</b>	<b>4.524***</b>	<b>3.984***</b>	<b>0.564***</b>	<b>-0.679*</b>	<b>-0.683*</b>
Lower Middle Income (14)	0.093	-0.013	-0.032	0.110	-0.033	0.105	0.022
Upper Middle Income (5)	0.840	<b>-0.423***</b>	<b>-0.123***</b>	<b>-2.342***</b>	0.073	<b>-0.381**</b>	<b>-1.740*</b>

*Units are in percentage values*

While the results of the full sample are not substantial, the regressions yield statistically significant results when separating samples by income groups. The results indicate that for low income conflict-recovering economies, all four independent variables: economic growth, relative GDP per capita, government expenditure, and trade

<sup>72</sup> Not outlined in Table 2.3, GDP per capita relative value is the annual value of country and time GDP per capita divided by the world average from databank.worldbank.org, methodology from Lim, 2014.

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openness highly correlate to increases in income inequality (*Gini*). This is not surprising as the international fight against inequality has centered on major discrepancies in low income countries due to rising inequality coupled with growth as many studies have proven.<sup>73,74,75</sup>

Growth aside, government spending shows interesting results across groupings. The empirical evidence indicates that if governments of LICs trend towards an expansionary fiscal policy during economic reconstruction, stimulating output through social spending (assuming taxation is relatively ineffective), the side effect is a sharp rise of 3.984% of income inequality; while on the contrary, UMICs that increase government spending see a corollary coefficient decrease of 2.342% of income inequality. Institutional effectiveness plays a key role in the interpretation of these results. LICs emerging from conflict likely have experienced shocks or sudden changes to already underdeveloped policy management capacities. It follows then that increases of government spending when institutions are largely inefficient will lead to wasteful use of public funds. UMICs tend to have more developed institutions that can legislate and enforce policies, meaning that more efficient government spending distributes wealth in the form of services to the poor. For LMICs, the result is statistically insignificant.

*Low income countries are most susceptible to increases in income inequality immediately post-conflict due to positive correlations with increases in government expenditure and surges of economic growth.*

Trade openness (*To*), in terms of Gini, tends to produce higher inequality in low income countries. *To* has marginal effects on inequality in other samples and overall was not statistically significant in the full sample. Foreign direct investment (*If*) is seen as an inequality reducer in both LICs and UMICs within the context of post-conflict economic reconstruction. Conflict-affected economies require large investment to spur growth, and when decoupled from mineral extraction industries, private sector investment can be an immediate job stimulant providing much needed income, which reduces short-term inequality and works hand-in-hand with peacekeeping operations to provide incentive for belligerents to continue disarmament. For UMICs, demand for higher-skilled laborers may contribute to their investment's inequality-reduction effect.

Another explanation of Gini reduction attributed to FDI is the controversial presence of mineral extraction industries. While economic effects of depleting natural resources in

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<sup>73</sup> Cornia, Giovanni Andrea. (2017). "An econometric analysis of the bifurcation of within-country inequality trends in Sub-Saharan Africa, 1990–2011" UNDP, Regional Bureau for Africa. UNDP-RBA/WPS 4/2016.

<sup>74</sup> Mishra, Prachi and Montiel, Peter. (2014). "How Effective Is Monetary Transmission in Low-Income Countries? A Survey of the Empirical Evidence." IMF Working Paper/12/143.

<sup>75</sup> Ohiorhenuan and Stewart (2008).

a fragile country are substantially negative in the long-run, significant reduction in measured inequality in the short term has been noted in this particular sample. Using a threshold of consumption of natural resources ( $Cn$ ) of greater than 10% in terms of GDP to indicate those countries with mature extraction industries, the data shows a significant average reduction of the Gini coefficient by 2.67% during the reconstruction period. These resource-rich post-conflict countries, however, have a greater tendency to see poor resource management and financial flow from weak institutions that lack social capital,<sup>76</sup> placing them at risk for commodity price volatility, and eventually returning shocks back to the workers that initially profited from receiving a new job in the first place. Table 2.4 demonstrates that  $Cn$  has a statistically significant positive relationship with  $Yg$  (GDP growth) through its correlation coefficient of (1.045\*\*\*). Although a “gold-rush” operation temporarily generates largescale economic growth, the effects are not usually sustainable.

In Azerbaijan’s post-conflict petroleum rush at the turn of the century, net FDI inflows of only 14.36% of GDP in 2001 (E+7) rose to 54.4% in 2004 (E+10). This type of FDI also was oriented to extraction and refinement industries that flipped a national commercial deficit of -23.93% of GDP in 2004 to a positive trade balance of 27.75% of GDP within two years. The short term labor demand increased wages and decreased income inequality from 36.50 in 2001 down to 16.50 in 2004. Since the peak of Azerbaijan’s petroleum export quota of 86% in 2008, Gini has risen back to 31.80, confirming a U-shaped inequality curve primarily due to the temporal income surge of natural resource depletion. Long-term financial gains are either dominated by rent-seeking governments who nationalize extraction industries or by foreign firms through financial flows back to advanced economies.

### STIMULANTS TO ECONOMIC GROWTH

Market orientation, traditionally understood by varying degrees of trade openness and financial openness, has demonstrated unique effects in post-conflict countries. The trade measure of aperture,  $To$  is influenced by the terms of trade  $ToT$  and conflict-specific foreign inflows which are official development assistance  $Ifa$  received and foreign direct investment  $If$  growth.  $Fo$  is included due to the continual increase of international financial integration, and capital flight is noted in all countries in the sample. Additionally sub-categories of aggregate demand, consumption of natural resources  $Cn$  and consumption of fixed capital  $Ck$ , are national income-altering variables specifically seen in conflict-recovering economies as relevant to the sample.

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<sup>76</sup> Ohiorhenuan and Stewart (2008)



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This measure of orientation stabilizes often over-inflated trade and financial openness due to mineral export industries  $Cn$  or firm inefficiency  $Ck$ , giving in a sense, a real value of  $To$  and  $Fo$ .

The following equation is applied for the fixed effects panel estimate:

$$\widetilde{Y}g_{it} = \beta_1\widetilde{T}o_{it} + \beta_2\widetilde{T}o\widetilde{T}_{it} + \beta_3\widetilde{F}o_{it} + \beta_4\widetilde{I}f_{it} + \beta_5\widetilde{I}f\widetilde{a}_{it} + \beta_6\widetilde{C}n_{it} + \beta_7\widetilde{C}k_{it} + \beta_8\widetilde{\omega}_{it} + \varepsilon_{it} \quad (4)$$

**Table 2.4 – Fixed Effects Estimate: Post-Conflict Stimulants to GDP Growth**

	$R^2$	$Trd\_Open$	$Trd\_Terms$	$Fin\_Open$	$FDInet$	$ODAnet$	$ConNatRes$	$ConFixCap$
Y = GDP Growth ( $Yg$ )	(Within)	$To$	$ToT$	$Fo$	$If$	$Ifa$	$Cn$	$Ck$
Full Conflict Sample (30)	0.279	<b>0.087***</b>	<b>0.012**</b>	<b>-0.015***</b>	-0.043	-0.020	<b>0.257**</b>	-0.220
Low Income (11)	0.396	<b>0.090***</b>	-0.020	-0.028***	<b>-0.089***</b>	-0.034***	0.089	<b>-0.357**</b>
Lower Middle Income (14)	0.254	0.040*	0.017***	-0.011***	-0.006	0.038	<b>0.194*</b>	-0.221
Upper Middle Income (5)	0.443	<b>0.142*</b>	0.053*	-0.005***	<b>0.231***</b>	0.234	<b>1.045***</b>	<b>0.436*</b>

*Units are in percentage values*

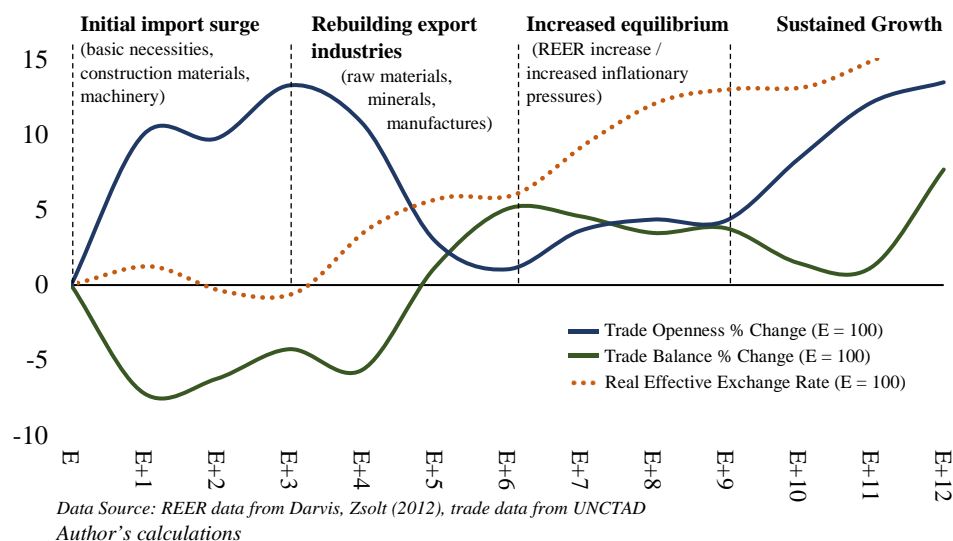
In order to balance real trade effects on the economy, terms of trade ( $ToT$ ) has been included in the panel.  $ToT$  is expressed as an index of 100 with a base year of 2000 in order to standardize all 30 groupings and accounts for a liberalization effect of international trade whereby the ratio rises when export prices increase relative to import prices. In recovering economies, the sample shows that the majority of economies with more open market orientations experienced a loss of competitiveness due to increasing price ratio, beginning at conflict end on average at 109.0 and reaching 121.3 by E+15. This increase correlates with trade openness  $To$  in post-conflict countries during the same time period, where the group average moved from 76.92% of GDP to 83.42%. While the FE estimate confirms statistical significance of  $ToT$ , the magnitudes of the coefficients are not significant in regards to overall GDP growth.

**Trade Openness.** Both trade openness ( $To$ ) and financial openness ( $Fo$ ) are statistically significant in each income grouping but have contrasting effects on economic growth.  $To$  positively correlates with GDP growth at a significant magnitude in low income and upper middle income countries with a coefficient of .090 and .142, respectively. All other variables remaining constant, during the E to E+15 reconstruction period an 11 percentage point increase of trade openness in post-conflict LICs theoretically would increase total domestic output by 1%. For post-conflict UMICs, only a 7 point increase is required to yield the same result.

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Conflict-recovering economies tend to see a marginal increase in trade relations during reconstruction, mainly due to the flood of imports from international markets initially,<sup>77</sup> and as firms increase domestic investment and as workers return home from either

**Figure 2.1: Trade Trends in Post-Conflict Countries (sample average)**



being displaced or from fighting during the conflict, production gradually restores, eventually leading to increases in exports that offset the initially high trade imbalance. In general, a pooled cross-sectional regression<sup>78</sup> of trade openness on trade balance reveals a negative correlation coefficient of  $(-0.803^{***})$  indicating that post-conflict countries that open trade aperture on average will tend to acquire proportionally more imports than they will export, all other variables excluded.

In practice, however, this ratio highly depends on both the terms of trade ( $ToT$ ) and real effective exchange rate ( $Re$ ) that underwrite the implied trade value and competitiveness from which recovering economy can usually profit from. As the linear graphic Figure 2.1 indicates, a flood of imports is experienced immediately post-conflict, followed by a period of domestic production increase and subsequent export, then a return to equilibrium as both total trade increases and trade remains balanced. At the period of E+8, E+9 and E+10, the sample shows high inflation rates (6.4%, 6.8%, and 7.5% respectively) from both rapid growth and increases in broad money supply due to seigniorage. This money-printing overreliance in recovering economies stems from high external debt pressures and poor monetary discipline.

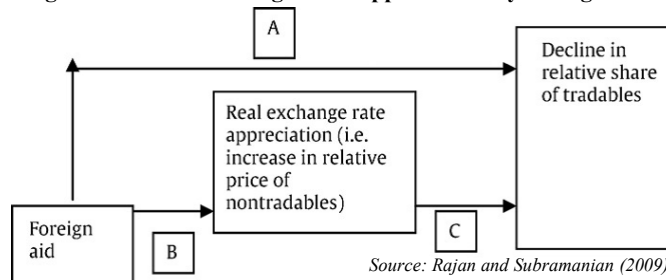
<sup>77</sup> From E+1 to E+2, Liberia experienced a wave of imported goods valued at 223% of annual GDP, where quantities of medium-technology machinery and machinery-related manufactures doubled and food products quadrupled within one year. A large focus of imports by firms was rebuilding fisheries and related shipping vessels.

<sup>78</sup> Conducted separately and is not included in the fixed effects estimate of Table 2.4

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Consequently,  $Re$ , which began at 97.2, has jumped to 108.7 by the end of E+9, making competitiveness difficult for developing economies. This is attributable to both monetary policy and large inflows of foreign aid  $Ifa$ , as Rajan and Subramanian (2009)<sup>79</sup> identify in

Figure 2.2: Real Exchange Rate Appreciation by Foreign Aid



Source: Rajan and Subramanian (2009)

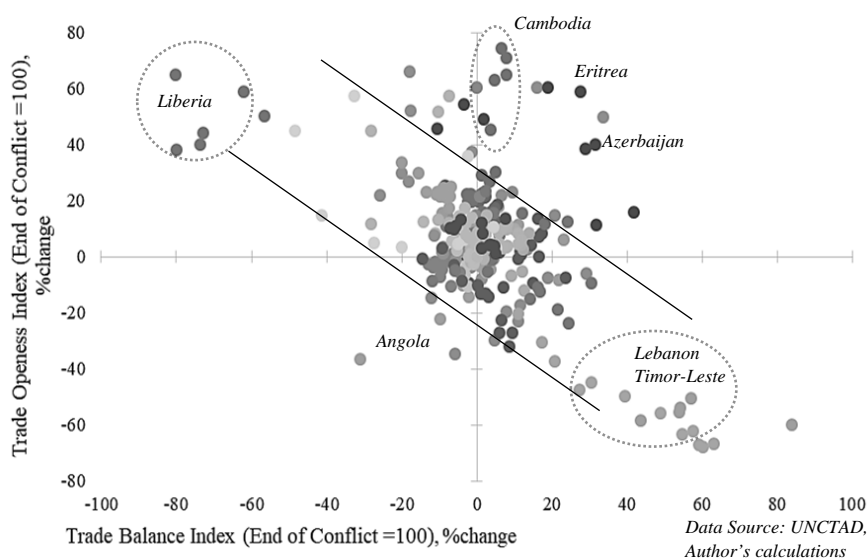
Figure 2.2. The prices of non-tradeable goods increase as donors pump cash into the domestic financial system, which directly and indirectly damages export competitiveness, i.e. tradeable goods. While  $To$  is opening domestic producers to external demand and growing domestic industries,  $Ifa$  is working in the opposite direction. Although, not all post-conflict economies respond similarly in this manner; richer countries in the study, as seen in the UMICs, tend to escape this trap during reconstruction. However, countries with smaller quantities of foreign reserves, typically LICs, have little flexibility to maintain low rates. This corresponds with the statistically significant negative correlation of  $Ifa$  on GDP growth  $Yg$  at (-0.034<sup>\*\*\*</sup>) for LICs from the regressions in Table 2.4, meaning aid is actually *decreasing* potential GDP growth. This spiral in LICs, from having poor monetary policies to receiving large sums of aid, to failing to control  $Re$ , and to creating trade deficits as  $To$  is increased by international community pressure – is a complicated trap that many post-conflict LICs have yet to escape.

Terms of trade  $ToT$  increase briefly during this period likely due to additional production costs endured by high inflation, but firms quickly adjust due to the erosion of real wages and increase export quantity by E +12. Around half of the post-conflict countries in the sample are raw material exporters and experience commodity price shocks that largely affect trade balances in any given year. This vulnerability can become especially pronounced after conflicts where balance of payments slide into deficits and foreign reserves are critically low and unable to absorb shocks.

The scatterplot of Figure 2.3 places indexed values of trade openness against trade balance in conflict-recovering economies from E to E+12. End of conflict is indexed at 100 for both values, and each subsequent year for each of the 30 countries record the value change from end of conflict. The pooled averages indicate greater increases to

<sup>79</sup> Rajan and Subramanian (2009) “Aid, Dutch disease, and manufacturing growth” *Journal of Development Economics* 94 (2011) 106–118.

Figure 2.3: Trade Openness vs Trade Balance E: E+12



trade openness at an average of 6.5% and trade balance improved by 1.47% despite the negative corollary relationship. Liberia demonstrated a large facilitation of trade during the period; Lebanon, however, oriented more inwardly, met a large household demand which surged to 139.6% of GDP at the end of the civil war as families resumed their lives and household savings flowed back into domestic banks.

From a demand-driven reconstruction perspective, Goovearts et al (2005)<sup>80</sup> identifies the positive impact of connecting local economic activities and livelihoods within an economy through sustainable strategies and local resources. While expansionary policy of increased domestic consumption seems logical to push a stalling economy, ultimately, the question remains regarding the types of imports and foreign investment that are attracted. Imports which undercut nascent industries and startups that have yet to industrialize, can face challenging competition.

Cheap food imports, vital immediately post-conflict in a humanitarian sense, can over prolonged periods threaten local agriculture production and call into question national food sovereignty. On the other hand, influxes of imports that augment local productive capacity through technology, machinery or manufactures that could facilitate improved efficiency would in turn bolster the production economy. However, in a free market orientation, the risk of certain industries collapsing will always be a potential threat. This places both the central government of a post-conflict country and the international community in a challenging position between balancing immediate economic growth by increasing trade openness and supporting measures aimed to immediately reduce

<sup>80</sup> Goovaerts P; Gasser M; Belman Inbal A. (2005). "Demand Driven Approaches to Livelihood Support in Post-War Contexts" ILO, World Bank.

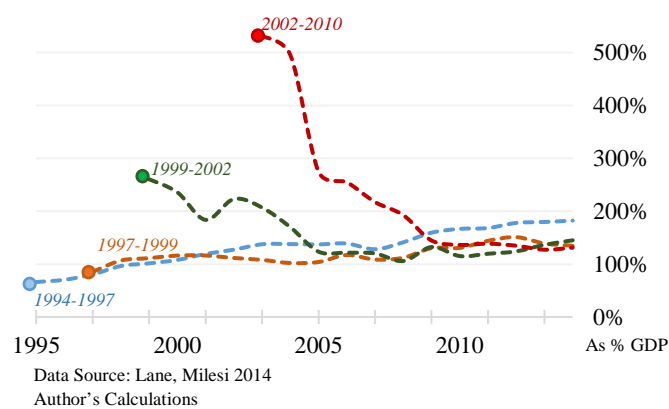
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poverty as Sustainable Development Goal 1 mandates. Essentially, reconstruction today places Bhagwati (2005)<sup>81</sup> against Stiglitz (2002)<sup>82</sup> in the practical application of liberalizing post-conflict markets.

**Financial Openness.** In economic reconstruction the financial sector can be configured in a variety of ways – from closed sectors dominated by nationalized banks with heavy capital controls to free market orientations with relatively few restrictions. Despite this assortment, the equalizing factor for all is having to endure a major armed conflict, and with it, the proximate risk of capital flight and even a potential collapse of the banking system altogether. Firms and households alike grow uneasy during the pre-conflict period as tensions rise, and when hostilities are on the horizon, they look towards emergency investment in foreign currencies. This financial run, whether due to mistrust of the central government, physical displacement, fears of depreciation due to inflation, or fears of inconvertibility, ultimately becomes a top priority for a central bank to prevent. Doing so, i.e. imposing stringent capital controls on outflows, becomes increasingly more difficult with the advent of technology and with the increasingly liberalized global financial sector that connects domestic firms to foreign banks with ease. Corresponding banking relationships continue to grow, even in cases of crisis or conflict and can be circumvented when shut-down.

Figure 2.4 reveals that for the sample of conflicts studied, a trend emerges whereby the starting financial openness position of economies by the end of conflict, in year groupings, is progressively liberal. As a regional example, sub-Saharan countries, on average, each began their respective conflicts with a higher financial openness. Uganda in the 70s had a 10-year average  $Fo$  of 11% of GDP before their conflicts resurged in the 80s, Sierra Leone in the 80s averaged a 69.5%  $Fo$ , Ethiopia in the 90s a 102.3%  $Fo$ , and recently, Chad from 1995-2005 before the Chadian Civil War averaged 115.5%  $Fo$ <sup>83</sup>.

Figure 2.4 Financial Openness Average by Conflict End Date



<sup>81</sup> Bhagwati, Jagdish "In Defense of Globalization" Oxford University Press.

<sup>82</sup> Stiglitz, Joseph 2002 "Globalization and its Discontents" W. W. Norton & Company.

<sup>83</sup> Data source of author's calculations is from Lane, Philip R. and Milesi-Ferretti, Gian Maria, (2007) (2014). "The External Wealth of Nations Mark II", Journal of International Economics, November 2007 WP/06/69. Updated in 2014.

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Some outliers like Guinea-Bissau, Liberia, and the Republic of Congo inflate the grouping average due to having relatively smaller, open economies; however, proportionally for each country in the study, the trend of increasing  $Fo$  is valid across the sample.

The fixed effects estimate in Table 2.4 shows that  $Fo$  has a negative correlation on GDP growth across each income grouping that is statistically significant, although the magnitude of each coefficient is minimal, at -0.015 for the full sample. The likely-associated capital flight appears to impact low income countries more strongly than the other groupings, which is logical given that least developed countries tend to begin their respective conflicts with already debilitated, immature financial institutions. Additionally, those governments with fixed exchange rates quickly encounter difficulties with the “trilemma,” where a fixed exchange rate cannot coexist with both freely moving capital and sovereign monetary policy.

**Figure 2.5 Capital Account Openness: Change (1996 to 2013)**

Country	2013	Chg	Country	2013	Chg
Angola	0.09	+0.07	Indonesia	0.50	+0.02
Azerbaijan	0.73	+0.23	Lebanon	0.25	-0.68
Burundi	0.09	+0.09	Liberia	1.00	0.00
Cambodia	0.86	+0.86	Mozambique	0.00	0.00
Chad	0.05	+0.05	Namibia	0.30	+0.30
Congo, Rep	0.05	+0.05	Nepal	0.07	+0.07
Cote d'Ivoire	0.20	+0.20	Nicaragua	0.77	-0.18
Croatia	0.73	+0.61	Papua N.G.	0.95	+0.95
El Salvador	0.86	0.00	Rwanda	1.00	+0.73
Ethiopia	0.00	0.00	Sierra Leone	0.25	+0.25
Georgia	0.82	-0.11	Sri Lanka	0.02	+0.02
Guatemala	1.00	+0.09	Tajikistan	0.41	+0.32
Guinea-Bissau	0.32	+0.32	Uganda	0.91	+0.48

Data Source: Wang, 2017 IMF  
Author's Calculations

(1=Fully Liberalized)

For countries in the process of economic reconstruction, easing capital controls has been encouraged, if not mandated, by international financial institutions (IFI) and donors alike. While the majority of the sample were actively receiving poverty reduction funding in the reconstruction period, structural conditionality from various donors often promoted increased private sector efficiency along with financial sector efficiency as core conditions to maintain receipt of funds like the Poverty Reduction and Growth Facility (PRGF).<sup>84</sup> This in turn has promoted increases in foreign investment and, working hand in hand with the restructuring of central government external debt, increased additional international dependency. As figure 2.5 demonstrates, the majority of post-conflict countries in the sample vastly relaxed capital

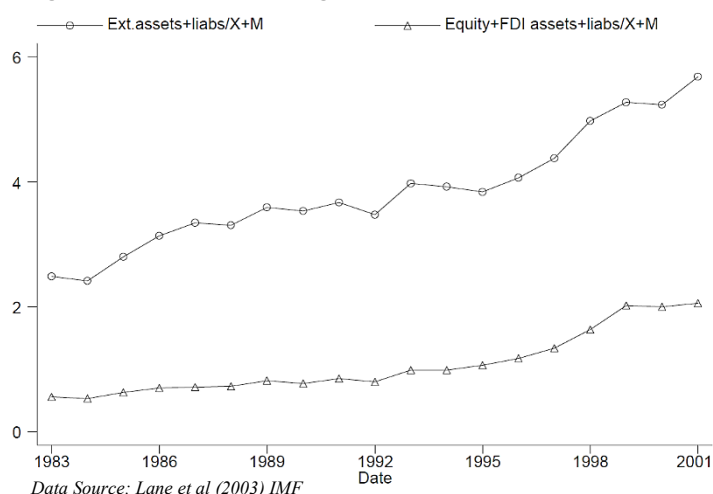
<sup>84</sup> Allen, Mark 2005 “Review of the 2002 Conditionality Guidelines” IMF.

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controls from 1996<sup>85</sup> to 2013, according to the database published by Jahan and Wang (2017) at the IMF.

The analysis by Lane et al (2003)<sup>86</sup> indicates that the global trend of financial liberalization using net external assets and liabilities as a percentage of trade has grown at an incredible rate, meaning that financial sectors are further integrating. Based on this tendency, one can estimate that for future conflicts, central banks in fragile states will see increasingly diminished power in controlling capital flow during crisis periods, which implies new challenges that could increase risks of financial institution failure during future economic reconstructions.

**Figure 2.6 International Integration: Finance vs Trade**



### WHAT IS DIFFERENT? POST-CONFLICT COUNTRIES VS INCOME GROUP AVERAGES

The series of graphs in Figure 2.7 demonstrates a considerably constant pattern regarding this study's sample of 30 conflict-recovering economies. That is that they are trading more, growing more, developing human capital faster and attracting more investment than their averaged income peer groups. One explanation offered for a portion of this excess is that firms may find easier *restoring* or *repairing* activities rather than *creating* brand new ones, essentially off-setting the dips in productivity during conflict with large initial gains post-conflict. This sudden return of activity is confirmed by initial peaks of growth within the first five years of reconstruction on average; however, it is doubtful that this alone can explain the continued growth trends

<sup>85</sup> The first date of data availability.

<sup>86</sup> Lane, Philip R. and Milesi-Ferretti, Gian Maria. (2003) "International Financial Integration." IMF Working Paper /03/86.

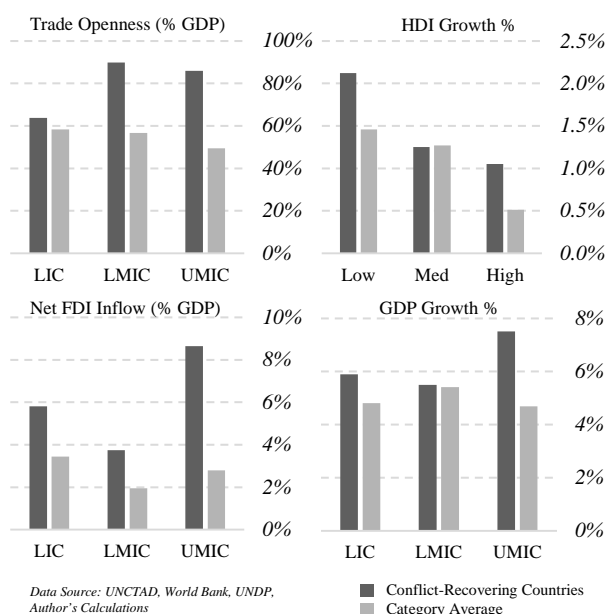
**POST-CONFLICT  
COUNTRIES VS.  
INCOME GROUP  
AVERAGES**

over a prolonged period. As explained in Section I, markets change due to conflict and the post-conflict landscape is highly altered if not entirely different in many cases. A more compelling argument is the role that external developmental aid and increased FDI play in bolstering growth and increasing the human development index (HDI) value. Yet for LDCs, increasing ODA (*Ifa*) shows a negative correlation on economic growth (*Yg*) as seen in Table 2.2, due to potential domestic production being supplanted by free aid that creates challenging price distortions. For the rest of the groupings, ODA is better converted into long-term growth through infrastructure projects and much needed external debt-relief. Still, lingering questions over the distribution, allocation, and effectiveness of such aid are not always clear cut in empirical data, and a shadow has been recently cast over the debate. As Section III discusses, some portions of ODA may actually be borderline ineffective in regards to long-term developmental projects depending on their aims.

While conflict-affected populations have been particularly challenged by inequality as previously noted, it is important to highlight that in terms of human development score, on average, they are improving faster than the non-conflict average whether from developmental assistance, increased foreign investment, or trade openness. The follow-on question that will require further analysis is whether these economies maintain their unique trajectory, or if, in the process of development, they normalize and fall into step with other developing countries.

A single variable that keeps appearing in each part of this analysis is trade openness. Across every income grouping, the common variable is relaxing trade barriers and allowing a freer market flow. In reconstruction, this allows domestic producers to count on foreign demand in the midst of vacillating domestic markets and bolsters incentive for developing the much debilitated private sector.

**Figure 2.7 Income Group Comparison (E: E+15) yr avg**





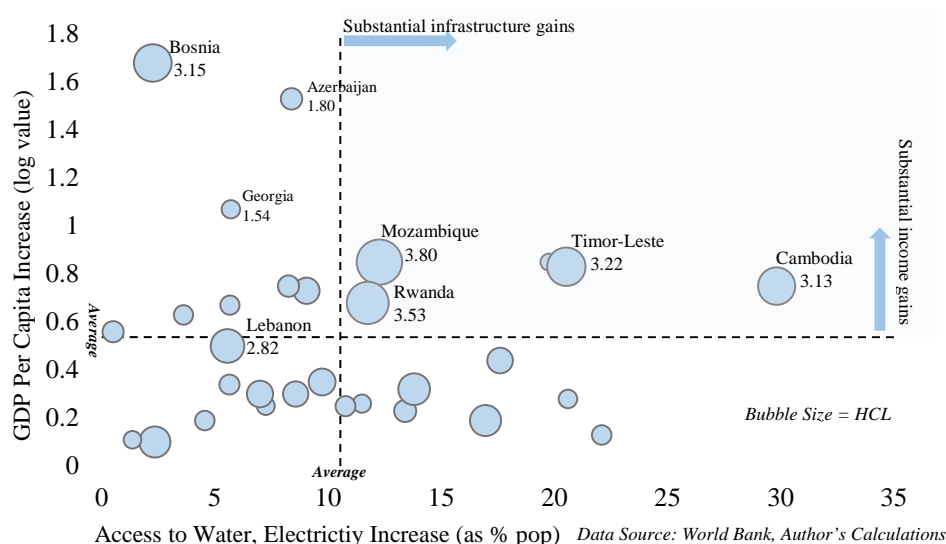
## SECTION III: Dynamics of Developmental Assistance

For OECD countries, financial assistance the primary tool for helping in the long, arduous journey of sustainable development in many developing countries. When programmed correctly, ODA can be a **powerful driving force** that can lift up communities and bolster economic growth. Yet, there is no consensus in Aid Effectiveness Literature (AEL) as to ODA's role, whether positive or negative in the long-term. This section explores certain **inconsistencies** that have been found in both **distribution** and **allocation** of aid immediately post-conflict as well as explores the role of **aid-dependency**, which can lead to economic stagnation.

### CONFLICT INTENSITY AND DEVELOPMENTAL ASSISTANCE

As Section I explained, the human capital loss index is useful in evaluating the comparative impacts on a population that conflicts can create. Whether refugees, displaced persons, or fatalities, all are exacerbated by the duration of a conflict, which perpetuates the continual conflict-originating grievance and tears the social fabric of a country. By conflict end, each of the measured observations' estimated *HCL* score placed Mozambique, Rwanda, Timor-Leste, Bosnia and Cambodia as the top 5 most human capital damaging conflicts in the sample, signifying an intense social deficit from which reconstruction must begin.

**Figure 3.1 Economic Reconstruction Effects and Human Capital Loss (E: E+15)**



As a measure of intensity, HCL shows logical relationship with increased recovery efforts as seen in Figure 3.1. That is to say that reconstruction progress as the natural logarithm of GDP per capita in purchasing power parity (*Ypl*) and improvement of basic services, measured by access to electricity (*Aep*) and access to water (*Awp*), are positively correlated with the value of HCL at statistically significant levels. Bubble sizes represent HCL value. Four of the five countries with the highest human capital loss grew in their reconstruction processes faster than the average on both axes; the

exception was Bosnia, which achieved maximum value of 100% *Aep* and *Awp* and therefore could not improve beyond the average.

Doyle and Sambanis (2006) found similar results regarding the role of capacities in their Peacebuilding Triangle, which estimates peacebuilding success via the utilization of three indices: international capacities (IC), local capacities (LC), and hostility (H). IC is measured by UN peacekeeping operations statistics and through effective foreign assistance; LC includes increases in GDP per capita, primary commodity exports and oil-export dependence, and electricity consumption; and H is measured by number of actors, ethnic fractionalization, and types of conflict outcomes, which essentially measures a de-facto intensity level through historical averages. The results of this analysis demonstrate increased challenges in regards to low amounts of “peace-building space” in Timor-Leste and Rwanda where local capacities were devastated, correlating with this paper’s *HCL* index.

While the average reconstruction of these war-torn economies outpaced, proportionally, their respective non-conflict income grouping averages, the most stagnant reconstruction observations in Figure 3.1 were Burundi, Chad, and Côte d’Ivoire. Not surprisingly, these three were near bottom in each of the income inputs of Table 2.4. All three relied significantly on mineral exports *Cn*, received below average foreign aid *Ifa*, were in the bottom third in both the political stability index and the capital account openness index, averaged low inflows of FDI as % GDP *If* of 0.07%, 1.82% and 1.40% respectively, and actually *decreased* trade openness *To* during reconstruction by 0.34%, 3.76%, and 9.36% respectively from conflict end to 2014.

In these cases, the factors identified as economic growth accelerants in Section II apply here, representing examples of how inwardly-orienting economies, when combined with poor institutional framework and high rates of poverty, retrogress in development goals, essentially rendering reconstruction infeasible, and increasing probabilities of future conflict recurrence. Specifically in the case of Côte d’Ivoire, the trend foretold a relapse into civil war which it manifested in 2010-2011 as the Second Ivorian War due to exacerbated ethnic fractionalization and perceived horizontal inequalities<sup>87</sup>.

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<sup>87</sup> Analysis of the social effects of inequality have yielded separations between two types of distribution: vertical (traditional income inequality by population standards) and horizontal (disproportionate wealth by ethnolinguistic/religious social groupings). In the case of tribal feuding, the more caustic variable of horizontal inequalities pits social groups at odds with one another and is seen as a greater conflict recurrence stimulant than vertical (Gini coefficient) inequality. See Stewart (2010), Cornia (2016) and Collier and Hoeffler (2004)

Another aspect corresponding to aid and human capital loss is the international community's preferential response to those conflicts deemed "worse" than others. Since numerous factors regarding aid distribution are calculated by donor countries, perceived conflict intensity is not necessarily a prime factor; however, as Figure 3.2 illustrates using basic OLS, we see strong correlations with both the political stability index score at end of conflict<sup>88</sup> *PST* and the human capital loss index *HCL* on the annual average of net ODA received per capita *Ifa*. All 30 countries have been time demeaned and averaged over the course of the reconstruction period (E: E+15) in order to regress both *PST* and *HCL* on *Ifa* as:

$$\overline{Ifa}_i = \beta_0 + \beta_1 PST_i \quad \text{and} \quad \overline{Ifa}_i = \beta_0 + \beta_1 HCL_i \quad (5) (6)$$

In a simplistic, straightforward relationship accounting for no exogenous variables, *HCL* strongly correlates with ODA per capita received *Ifa* (a theoretical increase of \$20.63 per capita per percentage of *HCL*) and political stability follows a similar pattern, namely that more politically stable environments under a lesser threat of active violence are correlated with more foreign aid received. Chauvet and Guillaumont (2013) observe this significant negative correlation as well stating that in all regressions in their panel analysis, aid is less effective in politically unstable countries. In practice, these results are logical. Certainly the challenges of directing developmental aid into the most desperate regions are evident. The more tenuous a situation, the higher the propensity to have a violent armed faction nearby exerting a monopoly of force. International efforts consistently encounter difficulties surpassing these social and sometimes violent obstacles.

Doyle and Sambanis (2007) count different *ecologies*<sup>89</sup> as levels of transitional challenges in peacekeeping with the most insurmountable being the fifth, or highest, level of hostile and incoherent factions exerting control through violence within a state's territory as seen in Somalia and the Democratic Republic of Congo, where reconstruction efforts never materialized due to failures in peacekeeping. Conversely, a reduction in violence and an increase in political stability (an implied strengthening of the central government's monopoly of force, see Section I) allows international aid freedom of movement into rural areas and NGOs feel safer by not placing workers at

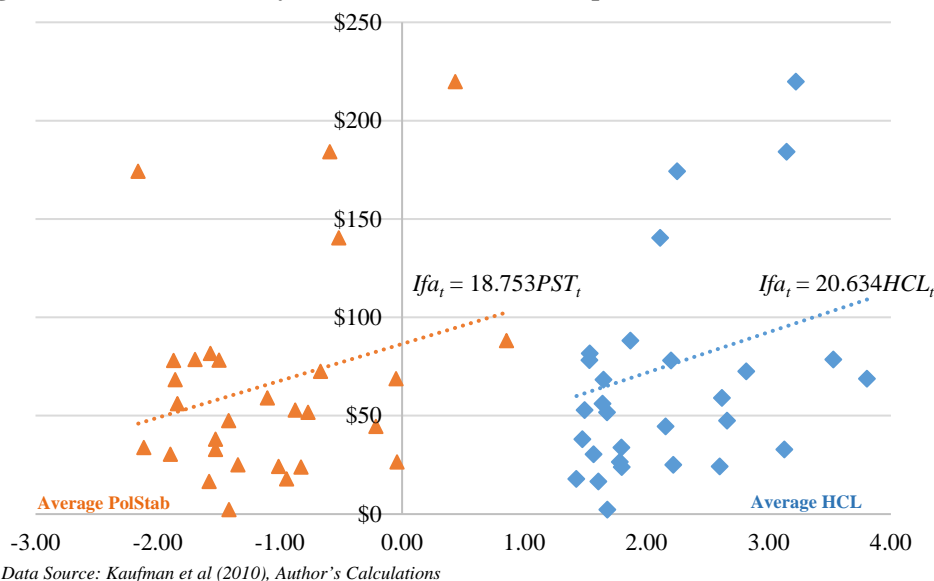
<sup>88</sup> One of the six measures from the Worldwide Governance Index (WGI) Daniel Kaufmann, Aart Kraay and Massimo Mastruzzi (2010). "The Worldwide Governance Indicators : A Summary of Methodology, Data and Analytical Issues". World Bank Policy Research Working Paper No. 5430

<sup>89</sup> In this context ecology refers to the relationship and responses among social groups and their environment

risk. Bosnia and Namibia serve as examples of this, noted by extended periods of zero battle-related fatalities post-conflict.<sup>90</sup>

Threats to security not only prevent effective distribution of aid but also can interrupt rebuilding operations in general, and with enough pressure, shift peacekeeping personnel from a progressive development role back to a role as active intermediaries

**Figure 3.2 Political Stability and HCL on ODA Per Capita (E: E+15)**



and security forces. Côte d'Ivoire experienced this as UNOCI, the UN peacekeeping mission in Côte d'Ivoire, frequently saw the dissolution of peace proceedings and upticks of violent clashes among factions, essentially stalling reconstruction activities<sup>91</sup>.

In regard to *HCL* and foreign aid as seen in Figure 3.2, the greater the loss of human life and the greater the displacement of persons, the larger the perceived intensity of a given conflict. While this reasoning is simplistic and perhaps common sense, quantitatively supporting this claim is challenging. As *HCL* increases, average *Ifa* increases, representing a portion of international community action. The countries with an *HCL* above 2.0 (14 countries) received on average \$89.24 per capita compared to the below 2.0 grouping (16 countries) of \$62.59.

Coupled together, we see several examples of HIGH *PST* and HIGH *HCL* correlated with HIGH *Ifa*. Three of the five largest *Ifa* recipients scored, not coincidentally, in the top ten of *PST* and top five *HCL*; these were Bosnia, Mozambique, and Timor-Leste (3.15, 3.80, 3.22 *HCL* respectively). All three were also in the top ten of aid received

<sup>90</sup> According to the PRIO/Uppsala Conflict Data Program online dataset

<sup>91</sup> UN Security Council (2004) S/2004/697 Second report of the Secretary-General on the United Nations Operation in Côte d'Ivoire

as % GNI. This confirms the linkage of trends of aid flow in that, all variables remaining constant, aid flows preferentially to higher conflict intensity levels where political stability is being restored.

### THE DEBATE ON AID EFFECTIVENESS

Aid effectiveness literature (AEL) has centered itself in the past two decades as a focal point among economists, arguing in support of different programs and organizations by disputing the correlation with economic growth, whether directly from aid inputs or indirectly through accumulation of savings and investment as a result of aid. Throughout all literature, however, government policy, both good and bad, are deemed critical to the outcome of any form of aid. It can be assumed that any country exiting a violent conflict, especially those in this study with large fatalities, will tend to struggle with enacting effective policies and to have those policies enforced in all parts of its territory.

If economic reconstruction is not development-as-usual (Del Castillo, 2008), then measuring aid effectiveness must be unique in conflict situations also. Chauvet and Guillaumont (2013)<sup>92</sup> find that aid effectiveness should be defined differently for unstable environments. They show that aid in unstable environments positively correlated with economic growth on the condition of strong current economic policies or the expectation of improvements in future policies. On one hand, this relationship indicates a positive direction for aid, tangent upon a positive direction of policy-making and institutional health. On the other hand, it dances around the fact that in unstable environments where policy frameworks are frequently lacking, aid shows negligible relation with economic growth, just as Table 2.4 shows in this study's estimates.

Numerous economists have evaluated this phenomenon. Rodrik (1996)<sup>93</sup> and Collier (2001)<sup>94</sup> agree on the hazard of funneling large amounts of aid to countries with poor economic institutions and underdeveloped policies and that doing so will likely hamper economic growth. Burnside and Dollar (2000, 2004) also point out the potentially hazardous negative correlation with growth in poor policy environments. This is intuitive in that post-conflict countries tend to be undergoing political or social transitions resulting in political and financial structure being altered or even entirely abolished and replaced.

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<sup>92</sup> Chauvet, Lisa and Guillaumont, Patrick. (2004). "Aid effectiveness in an unstable environment"

<sup>93</sup> Rodrik D. (1996). "Understanding Economic Policy Reform." *Journal of Economic Literature* 34(1), 9-41.

<sup>94</sup> Collier P. and Dehn J. (2001). "Aid, Shocks and Growth." World Bank, Development Research Group

THE DEBATE  
ON AID  
EFFECTIVE-  
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This makes recent aid guidelines from both the Paris Declaration and the Accra Agenda additionally challenging for post-conflict countries in that it is directed that aid flows shall be channeled through the country's public financial management and procurement systems to assist in financial capacity development in lieu of parallel programs that circumvent host nation management.<sup>95</sup> Methodologically, this makes sense. However in practice, donors in the midst of economic reconstruction find themselves in a dilemma; mountains of econometric analysis shows that increased aid in countries with poor institutions may hinder economic growth, but funneling the aid through parallel channels may undermine the authority of the recipient's government. Recipients desire to reduce aid dependency and begin gaining greater control over their own government policies.

Doucouliaos and Paldam (2007)<sup>96</sup> published an astonishing meta-analysis of all aid effectiveness literature in recent history, noting significant organizational and personal biases in most results. This challenges the objectivity of previous empirical results that evaluate the effectiveness of aid and even calls into question the once-undisputable axiom from the Marshall Plan: aid is a positive force for helping a post-conflict country in economic reconstruction. Doucouliaos and Paldam assess that it is likely that out of the 104 authors publishing econometric papers on aid effectiveness in their sample, the 73 living in the Washington DC area were likely linked to donating organizations, including the OECD, where evaluations to improve organizational funding efficiency served as the basis for research. This bias is so palpable in literature that many authors will be surprisingly upfront about their allegiances and motives. For example, Jean-Claude Berthélemy's (2006)<sup>97</sup> well-crafted argument published in the Swedish Economic Policy Review explains how bilateral aid allocation is heavily influenced by commercial interests of donor countries; that is, except "for a few Nordic donors."

The aid game competes not just in assisting trade linkages as seen in the Aid for Trade program, an OECD flagship, but can also be teeming with political motivation, shape military and security operations, and, due to the countless non-governmental organizations serving as intermediaries, remain relatively unaccounted for by either the recipient or donor. All this leads many critics to argue utilizing T.E. Lawrence's

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<sup>95</sup> Paris Declaration on Aid Effectiveness and the Accra Agenda for Action (2005/2008), OECD

<sup>96</sup> Doucouliaos, Hristos and Paldam, Martin. (2007). "The aid effectiveness literature: The sad results of 40 years of research."

<sup>97</sup> Berthelemy, Jean-Claude. (2006) "Aid allocation: Comparing donor's behavior" Swedish Economic Policy Review 13:75-109.

**DISTRIBUTION  
DISTORTIONS  
OF AID BY  
COUNTRY**

dictum, that “it is better for them to do it than to try to do it better for them,” as Del Castillo (2012)<sup>98</sup> points out.

Another concept that potentially sways mainstream understanding of the issue is that at the core of developmental assistance funds are usually good intentions. Simply put, we want aid to be effective. Sometimes it may be the only action a richer country can take. Doucouliagos and Paldam (2007) note that either from almost any organizational bias, or from the human nature standpoint of wanting to do good for people who are suffering, the act of publishing papers that show negative correlations or ineffectiveness of foreign aid, is journalistic self-damnation. Whether or not it is true seems to be less relevant.

**DISTRIBUTION DISTORTIONS OF AID BY COUNTRY**

As ODA is the international community’s primary mechanism for achieving developmental goals in poorer countries, as articulated by Haynes and Scott (2013), it must also be measured in the very unique context of economic reconstruction. Orientations of aid both by population and by sector have been noted as inefficient in stimulating much-needed economic growth in low-income countries emerging from conflict.

First, the orientation of aid flows has been inefficient in terms of both country targeting and aid per capita. This is noted by post-conflict cases of Bosnia, Georgia, Kosovo, and Timor-Leste, who received the highest aid per capita ratio during the reconstruction period, yet none are considered a least developed country. This is a frequent sticking point addressed by the UN, namely that directing aid towards small percentages of populations living in poverty in countries not considered to be extremely poor is ineffective at reducing overall poverty.<sup>99</sup> Regarding macro-level orientation, ODA has largely been ineffective in reducing poverty globally. Using proportional poverty defined by persons living in poverty as a percentage of total population, Strawson and Lonsdale (2015) magnify the discrepancy:

*There are 20 countries where ODA is less than US\$100 per poor person per year (27 US Cents per day); these 20 countries account for over three-quarters of the world’s poor. Conversely, ODA exceeds US\$1,000 per poor person*

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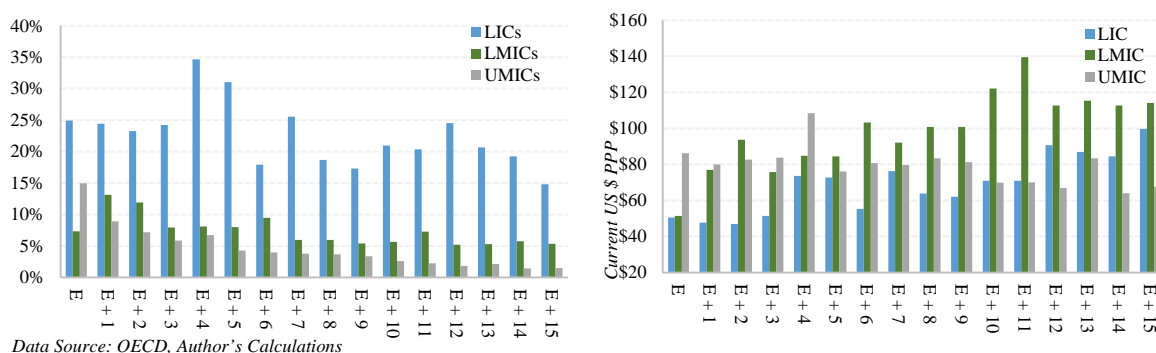
<sup>98</sup> Del Castillo, Graciana. (2012) “Rebuilding war-torn states: tomorrow’s challenges for post-conflict reconstruction.” Australian Civil-Military Centre, Paper 04/2012.

<sup>99</sup> Strawson, Tim; Lonsdale, Cordelia (2015) “Improving ODA Allocation for a Post-2015 World,” UNDESA, UKAID and ECOSOC, United Nations.

*in 33 countries, yet these countries account for less than 1% of the world's poor.*

In this sample of post-conflict countries, net ODA received (*Ifa*) as a percentage of GNI is inversely proportional to the level of development. This is a positive statistic, and used frequently in analysis of aid programs. Year average ODA received as percentage of GNI, and not per capita, from end (E) of conflict to E+15 for LICs (23.5%), LMICs (7.7%), UMICs (4.66%), had traditionally been thought of as the demonstration that international donors' efforts are responsive to the immediate developmental need as seen in Figure 3.3. LICs over time would transition from immediate assistance to steady-state flows of developmental aid, while both LMICs and UMICs appear to have the welfare tap slowly tightened over time. However, these statistics can be better explained by a simple concept - that the annual GDP of an average low-middle income country is 8 times the output of LICs, and that of upper-middle income countries, 27

**Figure 3.3 Net ODA Received as % GNI (left) and US \$ Per Capita (right) (E: E15)**



times the output. As % of GNI, the dollar amounts of aid are therefore misleading.

When placed in terms of ODA received per capita, UMICs initially receive the largest amounts of aid per capita during the first two years post-conflict and then LMICs successively are invested in over time by donor countries, resulting in large per capita aid receipts. Both conflict-affected LMICs and UMICs received significantly more than LICs in per capita aid received. For conflict-recovering UMICs, averaging a smaller population of 3.9 million per country, the high per capita ratio is easily explained. For conflict-recovering LMICs, however, the average country population is 21.6 million compared to the LICs' 13.9 million, yet LMIC citizens indirectly receive far more than their poorer counterparts, \$140 per capita compared to \$70.2 in the most drastic year of reconstruction of E+11.

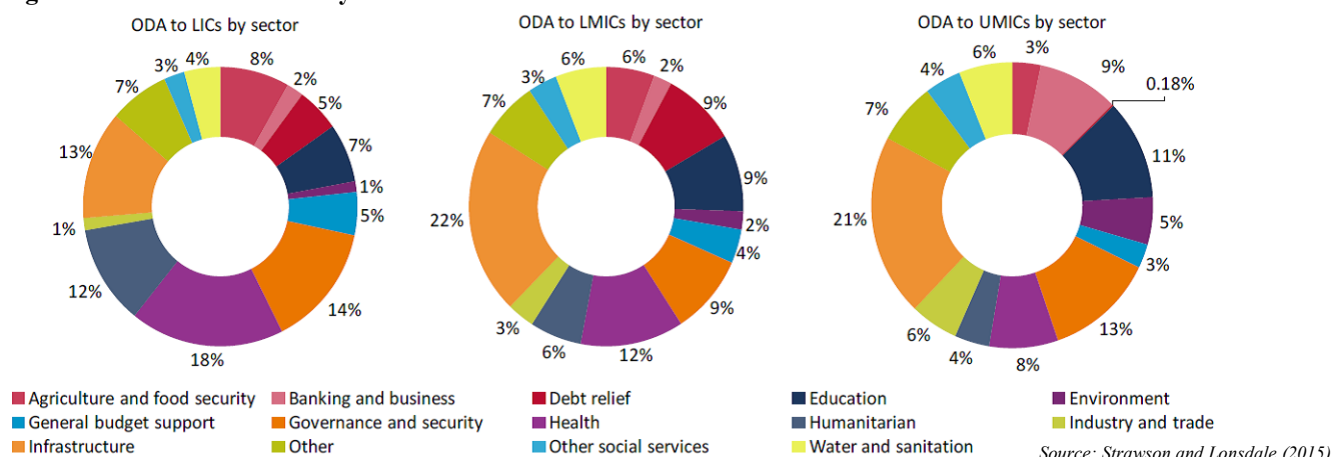
Numerous theoretical explanations can be offered for the LMIC tendencies, but the most apparent is a combination of three overarching factors - overall economic growth, investment attractiveness, and long-term development programs.



### ALLOCATION DISTORTIONS BY SECTOR

Current and projected distributions by sector, largely influenced by the sustainable development goals, may inadvertently exacerbate stalled economic growth, thereby increasing risk of conflict recurrence. As Figure 3.4 illustrates, sector distortions

**Figure 3.4 ODA Allocations by Sector**



appear in regards to LICs in general, where over 12% of assistance received is designated as humanitarian aid while infrastructure investment represents only 13% of allocation, barely half of other income groupings (22% and 21%).

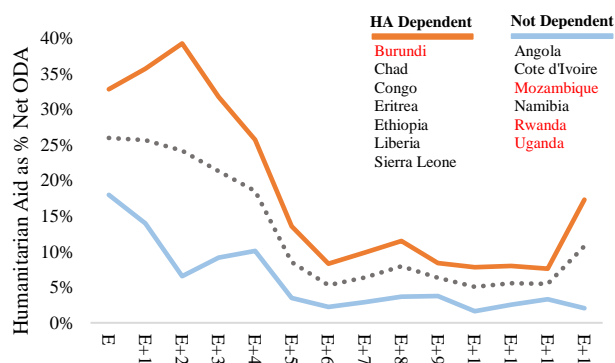
The focus of allocation to relieve immediate suffering, and address sub-standard or non-existent medical capabilities, in LICs is recognized as an imminent priority. The issue emerges when less-accountable cash distributions from emergency funds fail to transition into structured financial flows through the public management system of a host country. Essentially this tendency of re-approving humanitarian flows during the early stages of reconstruction rather than forecasting structured development plans beyond E+5 can delay meaningful economic investment.

While forcible displacement patterns, according to the UNHCR database, reveal that relocation of displaced persons can average between 2-5 years if relocation even occurs at all, and basic services can languish and become restored to pre-conflict levels after several years of reconstruction. Therefore the majority of humanitarian aid beyond E+4/5 is not necessarily contributing to an economic reconstruction, per se, but to other objectives, like parallel projects against poverty or food assistance programs as humanitarian relief. This is seen as a particular trend in Sub-Saharan Africa, where the

**ALLOCATION  
DISTORTIONS  
BY SECTOR**

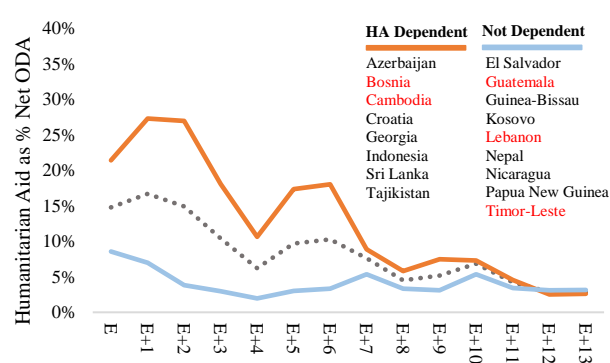
majority of post-conflict developing countries have greater rates of multidimensional poverty and lower rates of access to water and electricity.

**Figure 3.5 Humanitarian Aid Distortions: Sub-Sahara**



Data Source: OECD, Author's Calculations Red denotes HCL > 2.60

**Figure 3.6 Humanitarian Aid Distortions: Rest of Sample**



Data Source: OECD, Author's Calculations Red denotes HCL > 2.60

The argument can be made that significant levels of humanitarian aid beyond E+5 is only a temporary relief of symptoms rather than applying a solution to the systemic causes of inequalities and lack of social services provided by the central government. According to Figures 3.5 and 3.6, the majority of humanitarian aid-dependent countries, defined in this paper as those countries that have maintained a greater than 5% humanitarian aid to total ODA ratio through E+10, appear to experience inefficient programming of developmental aid that could be better destined to building host nation capacities. Del Castillo (2008) identifies the systemic risk of aid not transitioning to build sustainable private sector entrepreneurship and holding an over-reliance on humanitarian aid, which ultimately discourages domestic production.

Ethiopia, whose average humanitarian assistance allocation was 20.5% of total ODA from 2005-2010 (E+4 to E+9), encountered continually elevated levels of emergency food assistance at 79.87% of total humanitarian aid assistance during the same period. While Ethiopia managed an estimated 107,000 refugees<sup>100</sup> during the period, emergency funds were undoubtedly needed; however as time passed, questions have loomed over the efficiency of programming as the max number of refugees only represented one-tenth of one percent of the population (.0012). During the course of reconstruction and development from 2001 to 2014, Ethiopia received, on average, humanitarian assistance equal to 2 – 5% of nominal GDP. Others follow this pattern as well in Africa as seen in Figure 3.4. This inefficiency is plagued by two key notions - the value of capital formation in the process of economic recovery and the long-term benefits of raising an economy's aggregate demand. In both cases, humanitarian

<sup>100</sup> UNHCR Population Division estimate, period average.

ALLOCATION  
DISTORTIONS  
BY SECTOR

assistance, when outside the scope of its original design,<sup>101</sup> potentially can hamper reconstruction efforts. Consumables do nothing to increase fixed capital formation or productive capacity, nor do they raise aggregate demand as NGOs bypass the channeling of funding through the central government, thereby satisfying needs through a parallel economy.

A surprising detail that surfaced when compiling the data for the Human Capital Loss index is that the majority of countries which proportionally experienced higher amounts of human suffering during conflict, either through direct and indirect deaths, displacements, or refugees, were not considered humanitarian aid-dependent post-conflict (Mozambique, Rwanda, Uganda, Guatemala, Lebanon, Timor-Leste) in comparison to other conflicts in the sample.

If the impact of deaths and displacement is a foundational aspect of measuring how the international community should respond, higher correspondence between human suffering from conflict and receipt of humanitarian aid should exist in the sample. While HCL has a significant, positive relationship with receiving ODA in general, especially within the first few years of reconstruction, it shows a negative correlation with the subset of humanitarian aid, indicating that human suffering may have less to do with aid allocation than is generally thought. Several examples point towards increased spending in infrastructure – Mozambique experienced near 40% destruction of fixed capital in agriculture, communication, and administrative sectors, while Timor-Leste saw more than two-thirds of all infrastructure demolished after the independence referendum of 1999.<sup>102</sup>

Official development assistance certainly should be shifted toward longer-term investment strategies during the reconstruction process. Humanitarian aid and consumables can only be temporarily sufficient as they do little to contribute to the much-needed economic growth during the course of reconstruction. Programming priorities are set by donor countries, and an emphasis should be renewed in reestablishing and improving infrastructure and basic services through both public and private channels.

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<sup>101</sup> OECD utilizes “short-term” and “emergency” in all the subordinate code definitions of humanitarian assistance and even states in 730: **“Longer-term activities to improve the level of infrastructure or social services should be reported under the relevant economic and social sector codes”** <http://www.oecd.org/dac/stats/humanitarian-assistance.htm>

<sup>102</sup> Ohiorhenuan and Stewart (2008)

## CONCLUSION

Clearly the goal of stimulating growth as part of comprehensive economic reconstruction is an evident necessity both to prevent conflict recurrence and to support the healthy restoration of lost GDP and lost human capital. Trade openness has proven in this study to be a catalyst for growth, and it carries with it inherent risks of increased short-term income inequality, contrary to the aims of the UN's sustainable development goals. Though in terms of short-term surges of economic activity that greatly reduces violence recurrence and preventing further loss of human life, increased trade openness in post-conflict countries is a vital tool that must be employed. From a global perspective, liberalization is a power on its own, growing every year in conflict and non-conflict countries alike – a tendency that cannot be ignored when deciding the best means to stimulate post-conflict growth. The continued oversight and emphasis of “fair trade” by investing firms will be vital to avoid aggravated levels of a naturally rising income inequality, and aggressive rent-seeking through extractive industries must be curtailed through international oversight. An additional requirement will exist in future for economic reconstruction scenarios to shield (not insulate) war-torn countries from asymmetric shocks in the financial sector, as international financial integration continue to deepen.

The effects and allocation of official development assistance must be reevaluated as long-term economic growth can be hindered by improper programming. Additionally, if donors are reorienting aid to combat poverty, the current distributions of net ODA per capita in conflict recovering countries must be adjusted as the current distribution is grossly unbalanced between poor and richer countries. Finally, human capital loss, as a calculation, will require further refinement to be applicable to other conflicts outside this sample, and hopefully, with drastic increases in technology and communication in the past decade, migration and death reporting will improve globally, allowing for better quantitative estimates.

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- Country Policy and Institutional Assessment, World Bank
- OECD Stat, Organisation for Economic Co-operation and Development
- World Development Indicators, World Bank
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- Trade Statistics Database, UN Conference on Trade and Development
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