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The Economic Crisis, Violent Conflict, and Human Development

A UNDP/ODS Working Paper

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1. Introduction

The unfolding global economic crisis is expected to bring the world economy into recession in 2009. Figure 1 shows the population weighted real GDP growth from 1991 to 2009 (estimates for 2008 and projection for 2009) for the world economy and for different groups of countries. The annual real GDP growth rate of the global economy was 5.1% in 2007 but the world economy is projected to shrink by -1.3% in 2009 (IMF, 2009). Emerging and developing economies are also projected to suffer a sharp slowdown as a result of the crisis, with a projected growth rate of 1.6% in 2009 compared to 8.3% in 2007. For many developing countries, the sharp economic slowdowns will translate into deep recessions. The UN projects that 15 developing countries will have negative per capita growth in 2009¹, while projections from the World Bank adjusting for terms-of-trade changes increase this to 50².

A recent strand of literature, reviewed in some detail in this paper, suggests that economic conditions are important determinants of the outbreak and recurrence of conflict. In particular, wars often start following growth collapses (Collier et al, 2009, p.15). Sharp economic slowdowns and low levels of income per capita appear to increase the likelihood of conflicts. In this context, it is opportune to explore insights from this literature, linking it also with the human development implications of both growth slowdowns and conflict. In particular, the paper highlights the risks of the emergence of low-human-development/conflict traps.

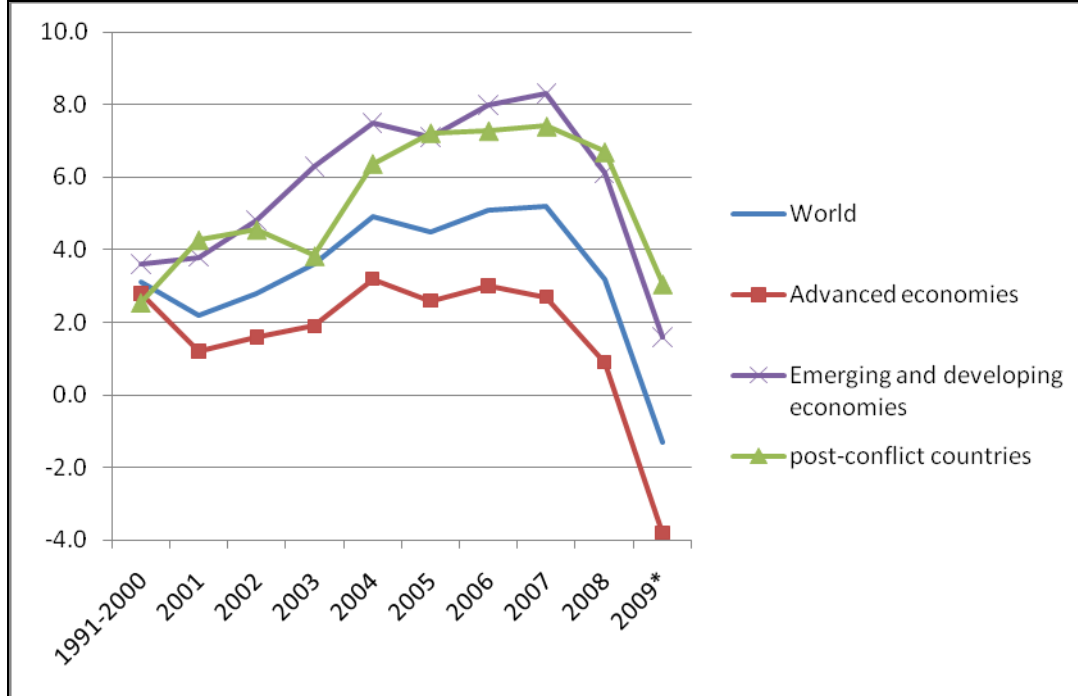
Given that the probability of conflict recurrence is high, as elaborated upon below, post-conflict countries – those that have experienced armed conflicts until recent years – may be particularly vulnerable.³ As Figure 1 shows, post-conflict countries are projected to have a substantial decrease in the economic growth, from 7.4% in 2007 to 3.1% in 2009. Advanced economies may have a sharper slowdown (2.7% in 2007 and -3.8% in 2009), but they have well-developed social protection, and stable political systems that may facilitate the recovery and absorb the pressures for social instability and conflict. In contrast, post-conflict countries, may be more vulnerable to a more protracted and slower recovery from the slowdown, given the higher risks of conflict recurrence.

¹ <http://www.un.org/esa/policy/wess/wesp2009files/wesp2009.pdf>

² http://siteresources.worldbank.org/INTGLOMONREP2009/Resources/5924349-1239742507025/GMR09_overview.pdf

³ A post-conflict country refers to a country with armed intra-state conflicts that ended, or significantly diminished, after the end of the Cold war (see UNDP 2008a, p.7).

Figure 1. Real GDP growth (annual percentage change)



Note: 2009* is a projected value.

Source: Real GDP growth rate is obtained from IMF (2009); The list of post-conflict countries is from UNDP (2008a, Table 1.2); The population weight is from World Bank (2009).

Drawing on a review of both theoretical and empirical literature, this paper frames the the connection between economic factors and conflict within a conceptual framework in which levels of human development and the risk of conflict are linked. Violent conflict is one of the most extreme forms of suppressing choices and advancing rights, and therefore a major threat to human development (UNDP, 2005, p.151). Since 1990, more than 3 million people have died in armed conflicts in developing countries (Marshall, 2005). The total war deaths are far more than the battle deaths. For example, the total war deaths are estimated as 1.2 million in Ethiopia during 1976-1991, but only 2% of them were directly engaged in the battles. (Bethany and Gleditsch, 2004) Conflict has also non-lethal consequences that may last across generations (UNDP, 2008a).

As far as drivers of conflict are concerned, one of the most robust findings in the literature is that many economic conditions (low income, slow growth, and especially severe economic downturns) are correlated with the outbreak of conflict, with some evidence strongly suggesting that the causal direction runs from economic conditions to conflict (Collier and Hoeffler, 2004). There is also a rich literature on the impact of horizontal inequality and dependence on natural resources as drivers of increases in the risk of conflict. This paper however focuses only on the economic factors, reviewing the findings in light of the current economic crisis and the severe economic downturn that it now occurring.

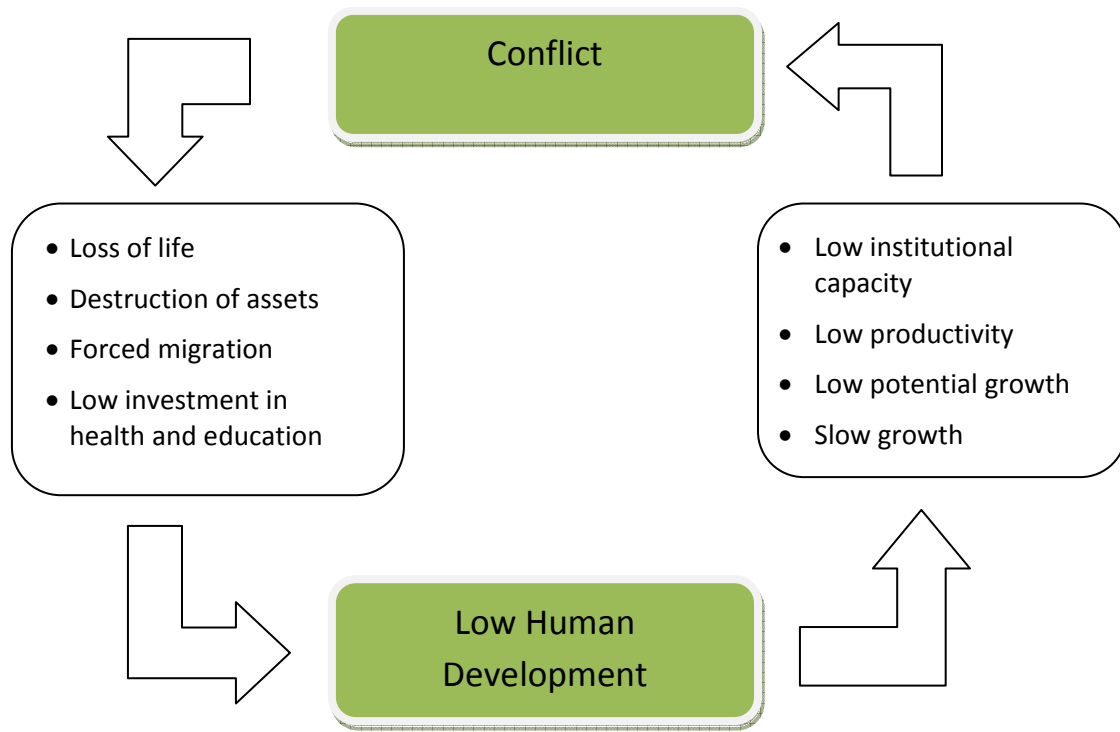
When it comes to the consequences of conflict, there is no doubt that it is harmful to human welfare, but it becomes even more hazardous if conflict results in a persistent low human

development/conflict trap. A typical country reaching the end of a civil war faces a 44 percent risk of returning to conflict within five years (Collier et al, 2003, p. 83). Whether or not a country will experience a new civil war can be best predicted by whether the country experienced wars in the past (Collier, et al, 2004).

The high rates of recurrence of conflict, along with the economic determinants of conflict, suggest the possibility of the existence of poverty-conflict traps (Collier et al, 2003; Bloomberg and others 2000). Given that poverty and low per capita income are also correlated with worse health and education outcomes, and also that these outcomes suffer as a result of conflict, the conflict trap can be conceptualized in the framework of a low human development – conflict trap (Collier and Hoeffler, 2004; Justino and Verwimp, 2006; Alderman, Hoddinott and Kinsey, 2004).

A self-reinforcing circle from conflict to low human development, and vice versa, is suggestively illustrated below (Chart 1). Conflict destroys accumulated physical and human capital, forces replacement of labor, deteriorates institutional capacity. A country experiencing conflict cannot secure long term returns for investments in both in physical and human capital, resulting in low investment in health and education. All of these factors lead to low levels of human development. A country with low levels of human development has more difficulty in improving institutions, and in increasing productivity and potential growth. In turn, lower growth rates heighten the risk of conflict, potentially trapping a country in the loop.

Chart 1. Low Human Development – Conflict Trap

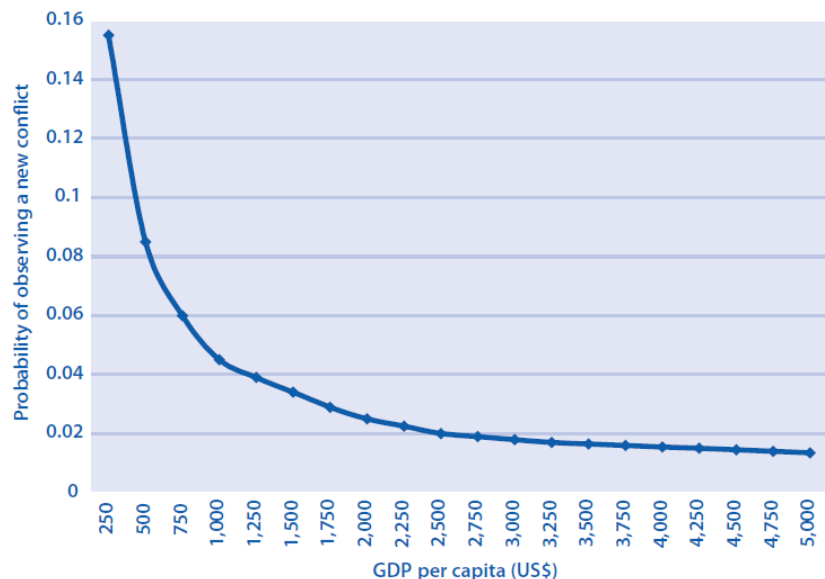


The remainder of the paper discusses the empirical findings and theoretical background for linkage between the low-human development and conflict. Section 2 considers how low levels of human development can affect the risk of violent conflict. Section 3 shows how the conflict can result in low human development, completing the vicious circle. Section 4 concludes the paper with a brief discussion on the policy responses.

2. From Low Human Development to Conflict

While there are number of factors that could cause conflict, empirical studies find that poor economic performance is associated with higher incidence of conflict. Being a poor country is correlated with most forms of violence (UNDP, 2008a). Figure 2 shows that economic development and conflicts are observed to be clearly related. The level of GDP is negatively correlated with observing a new conflict. Collier et al (2009) find that the predicted risk for a hypothetical country with characteristics set at the study's sample mean was 4.6 per cent. If the level of per capita income were to be halved from this level, the risk would be increased to 5.3 per cent.

Figure 2. GDP per capita and the probability of observing a new conflict



Note: The graph is based on data and a model from Collier and Hoeffler, 2002, pp. 13–28. Humphreys and Varshney, “use[d] the Collier-Hoeffler (2002) model to predict the expected probability of civil war onset conditional upon different income levels ranging from US\$250 to US\$5,000. To make these predictions [they held] all other variables constant at their means”.

Source: Humphreys (2003, p.2), as reported d in UNDP (2008a).

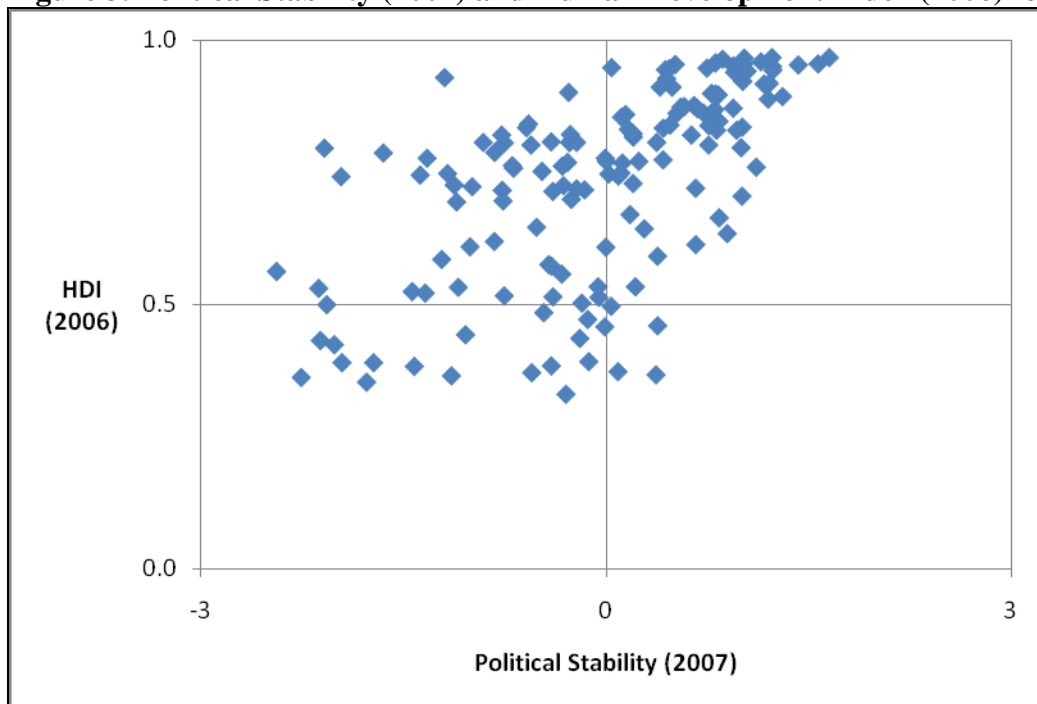
Growth rates are also strongly associated with risks of conflict in developing countries. If the growth rate in developing countries is increased by one percentage point from the mean, the risk of conflict decreases by 0.6 percentage points to 4.0 per cent (Collier et al, 2009). Kang and Meernik (2005) show that the growth rate in conflict countries in the five years prior to conflict, including cases of conflict recurrence, was on average 0.5 percent compared to 2 percent in countries that remained peaceful.

Empirical analysis of growth and conflict has inherent data limitations, but some recent studies using more careful methodology shows a strong causal link running from poor economic performance to conflict. One problem is that the direction of impact between the income per capita and conflict can run both ways. Assuming a priori one-way causality – that is, ignoring endogeneity – in regression analysis can result in biased estimates. Other information used in the empirical studies, such as income inequality, population, ethnic distribution, are also subject to difficulties of econometric identification and data quality (Hegre and Sambanis, 2006; Sambanis, 2004). To address the endogeneity problem, some studies adopt instrumental variable analysis, using a strictly exogenous variable that moves with income per capita, but not with conflict. For instance, Miguel, Satyannath and Sergenti (2004) use annual changes in rainfall data as an instrument for income growth. The rainfall data predicts growth fluctuation in agricultural economies in Africa. They find that income shocks are drive conflict. Besley and Persson (2008) and Bazzi and Blattman (2008) use international commodity price and trade shocks as the exogenous variables, but they find that the evidence on the relationship between economic shocks as drivers of conflict is mixed.

Other components of human development other than income levels/growth rates may also affect the risk of conflict. Education outcomes are closely linked with the outbreak of conflict. Collier and Hoeffler (2004) find strong evidence that higher levels of secondary school attainment are associated with a lower risk of civil war. If the enrollment rate is 10 percentage points higher than the average in their sample, the risk of war is reduced by about three percentage points (a decline in the risk from 11.5 percent to 8.6 percent). This draws on data that refers to the period between 1960 and 1999 for developing countries.

Very few countries with low Human Development Index (HDI) show high levels of political stability (the higher the indicator, the higher the level of political stability). Figure 3 plots one political stability indicator and HDI for 178 countries. High values of this political stability indicator imply that the country suffers less violence. The figure suggests that high HDI (say, above 0.5) does not guarantee high political stability. However, low HDI (below 0.5) is clearly associated with political instability.

Figure 3. Political Stability (2007) and Human Development Index (2006) for all countries



Note: Political Stability is obtained from World Bank (2008); Human Development Index is from UNDP (2008b). Number of countries is 178.

Going now to the theory behind the outbreak of conflict, a great number of potential channels and mechanisms have been studied through which social, political and economic factors can cause conflict. Following Blattman and Miguel (2009), four distinctive models are briefly reviewed in this section: 1) Contest model; 2) Rational behavior with asymmetric information or imperfect bargaining; 3) Collective action and selective incentives; 4) Feasibility hypothesis.

The most well-known framework is the contest model where two competing parties allocate resources to production and appropriation (Garfinkel, 1990; Skaperdas, 1992). Garfinkel and

Skaperdas (2007) employs conventional optimization techniques and game-theoretic tools to study the allocation of resources among competing activities - productive and otherwise appropriative, such as grabbing the product and wealth of others as well as defending one's own product and wealth.

When the conflict is regarded as a deviation from equilibrium between players, it could occur when the players either act irrationally, or act rationally with asymmetric information or incomplete bargaining (Fearon, 1995). Acemoglu and Robinson (2006) demonstrated the existence of an equilibrium in a bargaining process between the rich and the poor. A number of studies, including Powell (2007), Esteban and Ray (2008), Chassang and Pedro-i-Miquel (2008), and Dal Bo and Powell (2007), show how conflict is sometimes unavoidable with asymmetric information or in multi player settings. Conflict can also occur when the bargaining process is incomplete, that is, credible commitment to maintain peace cannot be made (Powell, 2006; Walter, 2006; Garkinfel and Skaperdas, 2000).

Even if contest or rational behavior models are close to reality that there exists underlying tension between two groups, the formation of coalition and participation in conflict of each individual is a different problem (Olson, 1971, 1982). Grossman (1999) and Fearon (2007) consider monetary incentives to motivate participation in conflict. Walter (2004) shows the absence of alternative to conflict (non-violent change) could form rebel groups, while Gates (2002) and Mkandawire (2002) argue that organization of selective punishment/treat can be the critical force of individual participation. Ethnic nationalism is often argued to be the leading cause of conflict, but sometimes it is strategically used to coordinate and enforce cohesion even when it is not the cause of conflict (Fearon, 2006).

Economic drivers matter in part because it is economic characteristics that make a rebellion/conflict feasible. They enable fighting parties to buy the weapons, to maintain a private army over long periods, and to perpetrate large scale killing without endangering themselves (Collier, 2006). This theory, so called, the “feasibility hypothesis” is being tested with aggregate and micro level data.

In summary, many dimensions of human development affect the risk of conflict through behavior of economic agents and institutional capacity. Blattman and Miguel (2009), after extensively surveying literature on this topic, concluded that low per capita incomes, slow economic growth and geographic conditions favoring insurgency are the factors most robustly linked to civil war.

3. From Conflict to Low Human Development

There is a huge literature on the consequence of conflict for economic growth. Rodrik (1999) argues that domestic social conflicts are key to understanding why growth rates lack persistence and why so many countries have experienced a growth collapse after the mid-1970s. Econometric evidence shows that countries that experienced the sharpest drops in growth after 1975 were those with divided societies (as measured by indicators of inequality, ethnic

fragmentation etc) and with weak institutions of conflict management (proxied by indicators of the quality of governmental institutions, rule of law, democratic rights, and social safety nets). Cerra and Saxena (2008) show that, compared to the average recession, those that are associated with civil wars are ten percentage points deeper and last for ten more months (Table 1). They also show that economic contractions are not always followed by offsetting fast recoveries and adverse shocks may lead to absolute divergence and lower long-run growth. Chen et al (2008) also provides rich analysis on the effect of war on changes in the level and growth of GDP.

Table 1. Civil Wars lead to Deeper and Longer Recessions

	Cumulative loss (percent of GDP)	Duration (years)	Number of recessions
All episodes	-7.5	1.62	637
Low income	-7.1	1.58	259
Low-middle income	-10.0	1.84	163
Upper-middle income	-8.6	1.67	97
High income	-4.1	1.38	118
Financial crisis	-6.8	1.64	182
Banking crisis	-11.7	2.19	104
Civil wars	-17.4	2.42	60

Source: Cerra and Saxena (2008)

Conflict leaves severe impacts on poverty. Civil war and genocide in the 1990-2000 period in Rwanda caused convergence between provinces following the conflict shocks: previously richer provinces in the east and in the north of the country experienced lower, even negative, economic growth compared to the poorer western and southern provinces. This has in turn affected significantly the dynamics of household poverty in Rwanda in the same period (Justino and Verwimp, 2006).

Conflict has major consequence in all aspects of human development, not only on income poverty. A simple illustration in Table 2 shows that life expectancy, infant and under-5 mortality, and secondary school enrollment are worse during war, and improve during post-war periods (three subsequent years after the end of war) on average.

Table 2. Selected Human Development Indicators, 1960-2006, Global Average

War/peace	Life expectancy (at birth)	Infant mortality (per 1,000 live birth)	Under-5 mortality	Secondary school enrollment rate
During War	59.6	84.2	121.2	57.2
During Post-war	59.2	75.2	113.1	57.8
During peace	67.1	39.8	52.5	66.6
Total	66.1	47.6	59.7	65.9

Source: Population weighted sample averages. Identification of war is obtained from Collier and Hoeffler (2001, p.21-22). Human development indicators are from World Bank (2009).

Some evidence suggests that the human development impact of conflict is significant in the long-run. Alderman, Hoddinott and Kinsey (2004) find that the war in Zimbabwe had a permanent effect of malnutrition on children, resulting in lower labor productivity. Bundervoet, Verwimp, and Akresh (2008) also show that young children affected by civil wars display much worse health-scores relative to non-affected children. The study examines the impact of Burundi's civil war on children's health status and finds that children exposed to the war have on average 0.515 standard deviations lower height-for-age z-scores than non-exposed children.

Conflict has negative impact on education attainment. Shemyakina (2006) finds that from 1992 to 1998, exposure to the conflict, as measured by past damage to household dwellings, had a significant negative effect on the enrollment of girls of ages 12-15. Girls who were of school age during the conflict and lived in conflict affected regions were 13% less likely to complete mandatory schooling as compared to girls who had the opportunity to complete their schooling before the conflict started, and 7% less likely to complete school than girls of the same age group who lived in regions relatively unaffected by conflict.

Many studies considered transmission channels through which conflict can affect growth rates. Grossman and Kim (1996) and Gonzalez (2003) argue that the diversion of resources from productive to unproductive activities caused by conflict limits potential economic growth. Lloyd-Ellis and Marceu (2003) points out that the return to investment in physical and human capital is not secured when conflict is present. Derger and Sen (1983) argue that military spending against possible conflict crowds-out investment in more productive activities (see also Kalyoncu and Yucel 2005).

Conflict has severe social and economic consequences. People lose their physical or social assets, they often flee and become refugees, and lose opportunities to invest in the health and education of younger generations.

4. Conclusion

An adverse economic shock can be dangerous because its impact may be long-lived if countries are forced into a vicious cycle of low human development and conflict.

It is important to pursue policies that mitigate the risks of conflict outbreak, especially when countries are facing, as in the context of the current crisis, sharp economic slowdowns. International efforts on peacekeeping can play significant role in peace building. Doyle and Sambanis (2006) review the evidence on United Nations peacekeeping missions and find that they are associated with a higher likelihood of peace two years after the end of the war. Their multivariate regressions show that international capacity and hostility variables are very robust and local capacity variables less so due to their competitive interaction with other covariates. Fortna (2008) also demonstrates that peacekeeping is an extremely effective policy tool, dramatically reducing the risk that war will resume. Relatively small and militarily weak

consent-based peacekeeping operations are often just as effective as larger, more robust enforcement missions.

Foreign aid and development support can also have an impact in reducing the risk of civil war. Collier and Hoeffler (2002) suggest that aid and policy do not have direct effects upon conflict risk, but both directly affect the growth rate and the extent of dependence upon primary commodity exports, and these in turn affect the risk of conflict. Simulating the effect of a package of policy reform and increased aid on the average aid recipient country, they find that after five years the risk of conflict is reduced by nearly 30%. De Ree and Nillesen (2006) propose GDP levels of donor countries as new and powerful instruments for foreign aid flows in the conflict regression for sub-Saharan Africa. They find a ten percent increase in foreign aid decreases the risk of civil conflict by about six percent.

The possibility of countries entering low human development – conflict traps implies that policies that sustain human development will eventually contribute to reduction of the risk of conflict. It suggests that there exists an additional benefit of policies that enhance human development, to the extent that enhanced human development reduces risks of conflict. The consideration of these benefits may lead to a re-assessment of policies that appear very costly when these benefits are ignored.

The current global economic crisis may endanger political stability in developing countries. Violent conflict is the most extreme outcome of a breakdown in stability. While conflict might be caused by many factors, low levels of human development increase the risks of conflict outbreaks and recurrence. Conflict, in turn, destroys the accumulated physical, social and human capital. The linkage between conflict and human development may form a self reinforcing cycle.

The current economic crisis, in addition to the potential devastating economic and human development impacts that it may originate, also increases the risk of pushing some developing countries into a low human development – conflict trap. And consequently, policy measures to sustain human development would also have an additional indirect impact in lowering the risk of conflict.

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