Macroeconomics and Violence

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Abstract: This chapter considers macroeconomic aspects of violence. It moves beyond the usual focus on war to argue the economic importance of all forms and aspects of armed and unarmed violence. Violence refers to acts of self-harm, interpersonal violence, and collective violence. Self-harm includes suicide; interpersonal violence includes organized criminal violence as well as domestic and workplace violence. Collective violence generally denotes political entities that are in, or at risk of, internal or external violent conflict as well as those that are in an insecure postwar predicament or wracked by pervasive armed criminal violence. In the past these different aspects of violence have been studied by different academic disciplines, with political scientists and defense economists tending to study the causes, consequences, and, lately, potential remedies of large-scale collective violence; and criminologists, public health experts, and crime economists tending to study interpersonal violence and self harm.

Recognizing the economic importance of all aspects of violence means that macroeconomic policy cannot be considered in isolation from microeconomic developments or from regional, sectoral, distributional, and other economic policies, nor from the social contexts in which violence takes place. The increasing complexity and interrelatedness of the various aspects of the economics of violence means that any discussion of the macroeconomic issues has to consider the cost of conflict and violence more broadly conceived. The chapter reviews violence, measures and measurements of the cost of violence, the economic causes and consequences of violence, some macroeconomic aspects of recovery from violence and postwar reconstruction, and some of the necessary framework conditions for recovery from violence.

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Introduction

This chapter is concerned with macroeconomic aspects of violence, a topic of considerable importance and one that has expanded in coverage as complexities and interactions and the economic ramifications of violence are becoming apparent to researchers. Much of the literature on the economics of violence has been driven by post-cold war events of large-scale collective violence in Central and West Africa in the 1990s and, to some extent in the Asia-Pacific region, but the post-cold war world has also seen a change in the nature of conflict and a recognition of the importance of widening the scope of analysis. Violence is not simply collective, armed violence anymore (war and civil war). Violence refers to all acts of self-harm, interpersonal violence, and collective violence, armed or unarmed (WHO, 2002). Collective violence generally is taken to denote both states or other political entities that are in, or at risk of, violent internal or external conflict and those that are in an insecure postwar predicament or wracked by pervasive criminal violence—as is the case for almost all Central American and Caribbean states (UNODC, 2007). These different aspects of violence have been studied by different academic disciplines, with political scientists and defense economists tending to study the causes, consequences, and, lately, potential remedies of large-scale collective violence; and criminologists, public health experts, and crime economists tending to study interpersonal violence and self harm.[1]

The economic importance of all aspects of violence has started to be recognized. Once relatively clear demarcations among war, civil war, criminal, and domestic violence are less well defined today and researchers acknowledge that it is violence per se—whether self-directed, interpersonal, or collective—that is the fundamental concern, regardless of its form.[2] This realization has occurred, in part, because it has become clear that what might be considered postwar situations are in fact preceded, infused, followed, and shadowed by ongoing nonwar political, domestic, and criminal violence. War economies often do not end with the formal cessation of hostilities (Cooper, 2006; UNDP, 2008, p. 11). In addition, much violence is unarmed (intimidation, mugging, robbery), especially in domestic cases (e.g., spousal and intimate partner violence, parent-child violence, and elder abuse), with burdensome effects on productivity in the workplace and costs imposed on the public health care sector that, via tax revenue and public expenditure mechanisms, filter through to the levels of fiscal policy and macroeconomics. Nonviolent conflict can carry substantial, measurable consequences as well. For example, although the 2006 military coup in Thailand was celebrated as bloodless, tourist arrivals, foreign direct investment, and the exchange rate and hence the economy at large all suffered adversely. Since then, nonviolent demonstrators in Thailand have shut down the resort airport of Pattaya that led to a politically highly embarrassing cancellation of an ASEAN summit meeting in April 2009 and, in 2008, shut down Bangkok's international airport for the duration of a week, leading to tremendous losses in tourist arrivals and business confidence.

Recognizing the actual and potential economic importance of all aspects of violence also makes it clear that past distinctions between microeconomics and macroeconomics are no longer tenable.[3] Macroeconomic policy cannot be considered in isolation from microeconomic developments or from regional, sectoral, distributional, and other economic policies, nor from the social contexts in which violence takes place. The increasing complexity and interrelatedness of the various aspects of the economics of violence means that any discussion of the macroeconomic issues has to consider the cost of conflict and violence broadly conceived. The chapter reviews violence, measures and measurements of the cost of violence, the economic causes and consequences of violence, some macroeconomic aspects of recovery from violence and postwar reconstruction, and some of the necessary framework conditions for recovery from violence. Notes and references follow the concluding section.[4]

Violence

The World Health Organization views violence as a public health issue. It also views violence as a personal and social disease that can be diagnosed, treated, and prevented (WHO, 2002). It classifies violence into three rubrics, namely, self-harm—including suicide—interpersonal violence, and collective violence. These, in turn, come in very many forms. Organized crime, armed gangs, extrajudicial killings, and "disappearances" are forms of violence associated with crime and the miscarriage of justice by officers of law and order institutions. Unorganized crime, for instance violence against women, includes intimate partner violence, sexual violence, honor killing, dowry-related violence, acid attacks, female infanticide and sex-selective abortions (GD, 2008). Politically-motivated violence includes mob-violence, lynchings, rebellions, insurrections, and civil war. Violent deaths on account of traditional war—say of world wars I and II—have almost completely disappeared, although major regional wars (e.g., Vietnam, Korea, Iraq, Afghanistan, and recurrent Arab-Israeli wars) from still appear from time to time.

Another typology lists the following forms of postconflict violence (with violence indicators in parentheses):

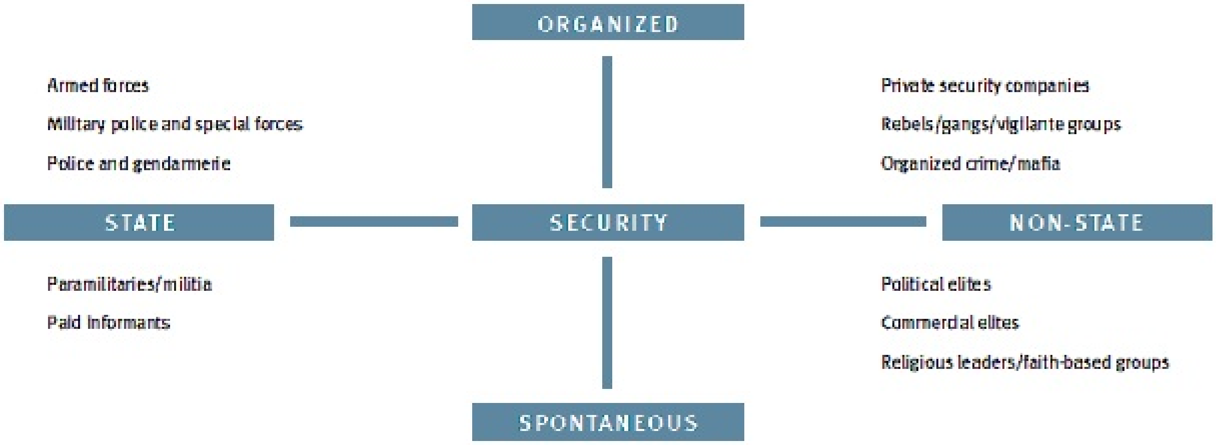

Figure 14.1: A typology of armed groups and related actors.
Source: GD (2008, p. 127, Figure 7.1).

Political violence (assassinations, bomb attacks, kidnapping, torture, genocide, mass displacements, riots); routine state violence (violent law enforcement activities, encounter killings, social cleansing operations, routine torture); economic and crime-related violence (armed robbery, extortions, kidnapping for ransom, control of markets through violence); community and informal justice and policing (lynchings, vigilante actions, mob justice); and postwar displacements and disputes (clashes over land, revenge killings, small-scale "ethnic cleansing").[5] A third typology, based on a paper by Muggah and Jüttersonke, is seen in Figure 14.1. It overlays types of armed actors on a vertical grid of organized versus spontaneous violence with a horizontal grid of state versus nonstate actors.

Violence is highly concentrated in its temporal, spatial, and demographic dimensions. Outbreaks of violence are acute and focused on specific locations and the onset, duration, and termination of violence is often markedly episodic, even if repetitive (for example, distinct rises and falls in war-violence in western Europe in the second millennium). Even within states and within municipalities, violence is usually highly concentrated (e.g., in state border regions or certain city neighborhoods). Interpersonal violence often rises on weekends (Fridays, Saturdays, Sundays), and then falls off during the week. As regards demographics, the majority of perpetrators and victims of violence are young males, so that youth bulges in populations matter greatly.

According to a 2008 report by the World Health Organization, perhaps 1.5 million people die each year due to violence: 54 percent from suicide, 35 percent from homicide; and 11 percent from collective violence (WHO, 2008, pp. 1-2). The report continues:

> "... the vast majority of violence occurs in settings that are at peace and within which the determinants of interpersonal and self-directed violence are qualitatively distinct from those of collective violence. For instance, these determinants include factors such as economic and gender inequalities, alcohol availability, illegal drug markets, access to lethal means, poor schooling and employment opportunities, experiencing parental abuse and neglect, and coming from a dysfunctional family. Addressing these determinants requires sustainable and carefully coordinated inputs from multiple sectors (e.g. education, employment, health, housing, justice, safety and security, trade and industry, welfare) directed towards population-level prevention targets, such as reduced incidence rates of homicide, suicide, rape, and child maltreatment" (WHO, 2008, p. 5).

A substantial part of this list of determinants is connected to economic factors. Even if the determinants of self-directed and interpersonal violence are "qualitatively distinct" from those of collective violence, it is not clear that the *economic* causes, consequences, and potential remedies can be neatly separated into those that would address each violence category separately. Good economic policy will help redress all forms of violence. Indeed, focusing (macro)economic policy merely on war or postwar situations can unintentionally mask and enhance nonwar forms of postwar violence. For example, one panel data-based regression analysis, using five-year averaged data for 1975 to 2000, computes that annual per capita income would be expected to grow by 1.8 percent in the Dominican Republic, 1.7 percent in Guyana, 5.4

percent in Haiti, and 5.4 percent as well in Jamaica if their respective criminal homicide rates (rather than war-deaths) were reduced from 16.5, 16.1, 33.9, and 33.8 per 100,000 people, respectively, to Costa Rica's rate of 8.1 per 100,000. Because these are annual growth rates, the cumulative effect for the Dominican Republican for example implies that over a 20-year span, the average income of its population could have been 43 percent higher than it was (UNODC, 2007, pp. 58-59). The contrast to Collier's (1999) famous and much repeated estimate of the cost of civil war resulting in an average annual GDP reduction of 2.2 percentage points is striking.[6] Nonwar violence can be, and often is, more costly than war. We know from the lessons of Central America of the 1980s civil war years and the 1990s and 2000s nonwar years, that the "war after peace" can be worse than war itself (e.g., GD, 2008, chapter 3).[7] Moreover, by far most of the damage is done by dismissively labeled small arms—handguns and long-guns—weapons whose trade is particularly difficult to control.[8]

The Small Arms Survey in conjunction with the Geneva Declaration now estimates 740,000 direct or indirect non-suicide violent deaths per year, about 250,000 of which are due to war, with the remainder due to nonwar, armed conflict and criminality. Worldwide, armed violence is the fourth-leading cause of death for persons aged 15-44 years of age. In more than 40 states, armed violence is among the top-10 causes of death; in Latin America and Africa, it is the 7th and 9th-leading cause of death, respectively. The rates are worse for young males (GD, 2008). Violence directed at aid workers is now estimated to result in 60 deaths per 100,000 aid workers, one of the very highest murder rates in the world (Fast and Rowley, 2008, as cited in GD, 2008, p. 138). This has led numerous aid agencies to shift resources to less violence-affected states, thereby prolonging the adverse effects of violence in the most needy places. In addition to deaths are the physical and psychological injuries that can carry life-long effects for victims and for their family and community members who often need to provide assistance and thereby reduce their own productivity and life-enjoyment. Consequently, businesses and economies at large are affected as well. Furthermore, the WHO estimates that for every person killed in armed violence, another ten suffer nonlethal injures (WHO, 2008, p. 4). To put this in perspective, worldwide the number of people killed and injured annually on account of violence roughly equals the entire population of the United Kingdom over a typical four-year election cycle.

A major decline in interstate and nonstate (civil) war has been observed in recent years. In 2007, 14 major armed conflicts were active in 13 locations, but there were no interstate conflicts. From 1998 to 2007 only three interstate wars took place, and another 30 were fought within states (SIPRI, 2008). This is good news. Nonetheless, celebration over the decline of traditional war is misplaced. As the preceding paragraphs spell out, we observe shifts in the form of violence rather than its abolition. Critical political economists rightly remind us that many of the economic mechanisms that produce violence remain in place, regardless of whether or not a former war is now being called a postwar peace (e.g., Cooper, 2006).

Measures and measurement of the cost of violence

The measurement of the cost of violence should be comprehensive and consistent across time and space (Bozzoli, Brück, Sottsas, forthcoming; and DIW, 2008). In practice, this is not at all the case and cost estimates vary widely (Brauer and Tepper-Marlin, 2009). Cost categories include fiscal effects—both via tax revenue and natural-resource rent losses and via higher public expenditure on security forces, public health, etc.—losses in productive capital, depletion of financial capital, erosion of human capital, rising transaction costs, and reallocation of development assistance (GD, 2008, pp. 89-90). Estimation methods include accounting methods, inferential statistics, and—very recently—contingent valuation approaches. Metastudies reveal a large variety of definitions of violence (or deliberate limitations of the subject matter), sample countries, sample years, and variables used. Unsurprisingly, the estimates vary. With few exceptions, however, even the small estimates of the cost of violence are stunningly large.[9] Collier's frequently cited number of annual GDP losses of about two percent per civil war year has already been mentioned. When this is cumulated over decades, as it must for cases like Angola, Colombia, or Sri Lanka, the losses are simply huge. For example, a state starting off with GDP indexed to equal 100 in year 0 arrives at an index of 64.1 when each year's remaining GDP is reduced by 2.2 percent over 20 years. But this is only half of the story because nonwar countries may be expected to *grow* at, say, 2.2 percent per year. A nonwar country's GDP index would rise, over 20 years, from 100 to 154.5 so that of two states, each starting at 100, one would fall to 64.1 and the other rise to 154.5. The nonwar country would be nearly two-and-a-half times as well off as the war-country. The cases of Botswana and Zimbabwe illustrate this growing disparity. From 1987 to 2007, Botswana's ppp-, inflation-, and population-adjusted GDP has grown from about I$4,000 to over I$9,000, whereas Zimbabwe's declined from about I$4,000 to I$2,000.[10] From a point of equality in 1987, the people of Botswana now enjoy a per capita GDP 4.5 times as large as that of (the remaining) Zimbabweans.

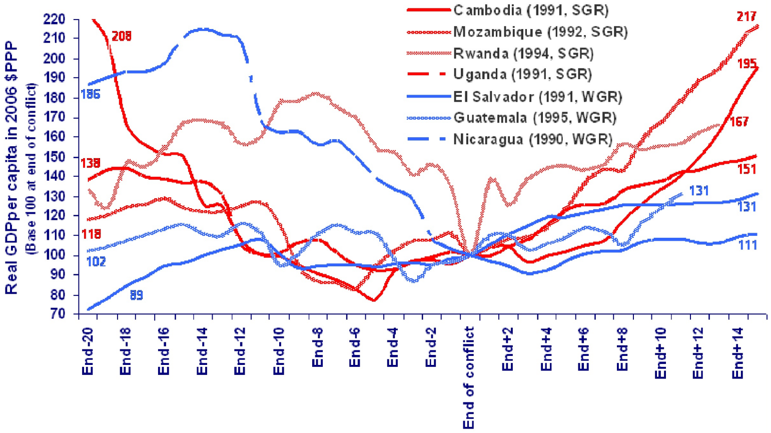

Figure 14.2: GDP per capita in selected civil war states. *Source*: UNDP (2008, p. 111, Figure 4.2).

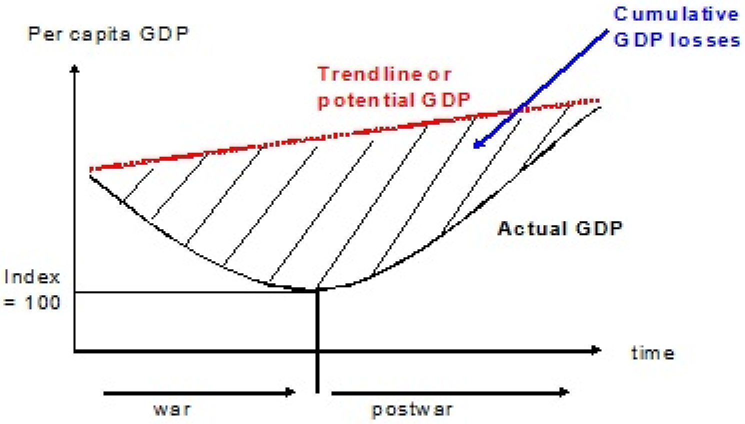

Figure 14.3: Cumulative per capita GDP losses.

Other estimates of the "annual burden of war-related violence [range] from 2 to 20 per cent of a country's GDP" (GD, 2008, p. 90). The British charity Oxfam states that "in Africa alone, the cost of conflict is estimated at USD284 billion (1990-2005) and approximately 15 per cent of continental GDP."[11] In a 2008 study, UNDP reports that the economic cost of civil war, especially for Africa, lies somewhere between 1.7 and 3.3 percent of GDP per country per conflict year prior to 1990 and averaging 12.3 percent of GDP post-1990, that is, in the post-cold war era (UNDP, 2008, p. 35). Figure 14.2, taken from the UNDP report, presents a sample of pre- and postwar per capita GDP indices for seven war-afflicted states. Fifteen years postwar, many of these states still have not returned to prewar GDP levels. A schematized version is given in Figure 14.3; it highlights the cumulative losses.

An extended accounting framework developed by the World Health Organization, the Centers for Disease Control, and the Small Arms Survey was tested on direct medical and nonmedical costs of armed violence plus indirect tangible and intangible costs associated with armed violence. The findings amounted to costs of over 1.2 percent of GDP in Brazil (2004), for Jamaica to over 4 percent of GDP (2006), and for Thailand to over 4 percent of GDP as well (2005). In Guatemala, direct and indirect costs of armed violence-related injuries amounted to 7.3 percent of 2005 GDP (UNDP, 2006, p. 11). For El Salvador, for 2005, UNDP reports an 11.5 percent loss of GDP (UNDP, 2005, p. 58).

In terms of econometric modeling, once more the most cited number is 2.2 percent of GDP per war year (Collier 1999, p. 176). Other examples include the following: "During a protracted crossborder conflict with Iraq in 1979–81 ... Iran experienced a cumulative loss of some 48 per cent of GDP. Iraq was also significantly affected, having lost an estimated 11 per cent of GDP over two conflicts (1977-93). Internal or civil wars also generate significant losses. For example, Ethiopia lost approximately four per cent of expected GDP (1977-93), Liberia nearly two per cent (1984-95), and Sri Lanka 2-16 per cent, depending on the periods under review (1983-87 and 1983-94)" (GD, 2008, p. 95, citing Stewart, Huang, and Wang, 2001, p. 96). Finally, in terms of contingent valuation, GDP-loss values approach very high readings, in part because of the method used. For example, the (1995-based) GDP-loss values in the extreme cases of the Philippines and Colombia both amount to 280 percent of GDP. Costs of homicide alone reached nearly 10 percent of 1995-GDP in Colombia and almost 1 percent of 1995-GDP in the United States (GD, 2008, p. 97).

In their survey, Brauer and Tepper-Marlin (2009) also consider studies of industry-specific effects (e.g., airlines, tourism, insurance) and the effects of domestic and transnational terror events in addition to those of war, civil war, and criminal violence, and the associated military, law and order, and rehabilitative costs. They suggest that it is not unreasonable to conclude from the literature that the world annually forgoes, on account of violence, about 10 percent of gross world product. This contrasts to a mere 1.1 percent global GDP loss, in 2009, that the International Monetary Fund (IMF) estimated in October 2009 to be the cost of the global economic crisis, a crisis frequently described as the worst recession since the Great Depression of the 1930s.[12] Thus, while the world economic crisis amounts to a modest world GDP decline in a single year—in part because of a relatively swift, substantial, and concerted policy reaction—the world violence crisis is ongoing, year after year, and of massive proportions: the cost of annual violence is roughly an order of magnitude larger than was the cost of the 2009 world economic crisis.

But even this is not the whole of the story because GDP accounting is a throughput or flow measure of expenditures and incomes. Thus in developing countries, "public expenditures on law enforcement consume 10-15 per cent of GDP, as compared to 5 per cent in developed states" (IADB, 2006; Londoño and Guererro, 1999, as cited in GD, 2008, p. 91), and are measured as GDP contributions when the resources thus employed could have been applied to more productive ends. Similarly, when private security firms are hired to compensate for the failings of public security, GDP increases. *The Economist* magazine reports for example that private security firms in South Africa employ some 300,000 guards, generating GDP value of about 14 billion rand (USD1.9 billion).[13] As violence diverts resources, disrupts economic activity, and destroys capital (Anderton and Carter, 2009), its effects cannot be counted as contributing to well-being.[14] Moreover, a good part of the GDP recovery in postwar cases amounts to a double-counting, that is, the "broken window fallacy," where the repairing of broken windows is seen as a source of new wealth, when clearly it is not (Kjar and Anderson, 2010, p. 8).[15] The effect is that infrastructure construction for example is counted twice, once in the year it was first constructed, then again in the year in which it was reconstructed.

Evidently, the costs of violence is huge and well beyond those generally captured in the literature. This makes the types of policies that might allow countries to move away from violence extremely important. To be able to develop these policies the causes and consequences of violence need to be understood.

Economic causes of violence

Much of the literature on the economics of violence has been driven by post-cold war events of large-scale collective violence in Central and West Africa in the 1990s and, to some extent, by violence in the Asia-Pacific region (e.g., East Timor and Aceh in Indonesia). It has been helpful that the research effort has found an institutional home in the World Bank's research department and, although to a lesser extent, in the IMF's fiscal affairs department as well. This assured continuous interest, funding, dissemination of research findings, academic stimulation and debate, visibility in the news media, and discussion about relevant public policy. But in developed and developing economies alike the nature of war has undergone important changes, with an increasing role for informal armies, lack of battlefield engagement, and increasing repercussions involving civilians (Kaldor, 2001; Duffield, 2001).

The causes of war violence are as varied as the nature of the underlying disputes. The roots of war are multifaceted, usually with important historical contexts. This has made the first step of conflict resolution a detailed understanding of the background and dynamics of the conflict. A number of features can be identified:

- Colonial legacy: many civil wars have occurred after the end of colonial rule, at least partly the result of the policies followed by the colonial masters, who may have favored one group over another and created enmity.
- Military governments and militaristic cultures: many countries have a history of high military expenditure and a common involvement of the military in civil society.
- Ethnicity and religion: religious and ethnic differences have often led to conflict, both within and between countries. When combined with colonial legacy, this can be an inflammatory mix.
- Unequal development: different areas and different social groups can achieve different levels of income and patterns of development and this can lead to resentment.
- Inequality and poverty: related inequality can cause resentment and lead to crime, while poverty can also provide the recruiting ground for fighters.
- Bad leadership and/or polity frailties and inadequacies.
- External influences: during the cold war this was obvious, but also the postwar construction of various countries split up different ethnic groups into different countries and sowed the seeds of future conflict, e.g., Kurds in Turkey, Iraq, and Iran.

Very few armed conflicts are simple. They seldom have single or even few causes and will often be a combination of many of the features just mentioned. This means it is important to carefully research individual countries when attempting to design polices for postwar reconstruction.

In a 2008 report, the African Development Bank (AfDB) distinguished among risk factors that may predispose a community or state to experience large-scale violence and triggers that may release latent violence. The risk factors are the presence of natural resources; low income; low economic growth; ethnic antagonisms; neighborhood effects and external instigation of armed conflict; geography and large populations; a youth bulge; political repression and corruption; competition for scarce resources; inequality; religious extremism; flawed or incomplete transition to democracy; high military spending and large armies; diasporas; colonialism and superpower rivalries; and the existence of previous conflicts.[16] Many of these are economic in nature. Triggers include the attainment of political independence or statehood, regime change, and military coups; elections; neighboring conflicts; and other dramatic events. By themselves, none of these guarantee the outbreak of violence. For instance, Botswana is blessed with the presence of natural resource-wealth without having experienced large-scale violence in spite of achieving statehood, holding contested elections, and having large, violence-prone neighbors (South Africa and Zimbabwe). Instead, the risk factors and triggers are extracted from comparative, cross-country statistical work but with the now firm (and always firm) understanding that the local historical context and the quality of policy- and decisionmaking matters.

Economic consequences of violence

Specific estimates of the cost of violence have already been presented. More generally, violent conflict, or preparation therefore, diverts resources, disrupts trade, and destroys capital. It carries economic consequences. "It leads to unemployment and loss of income owing to disruption of economic activity, destruction of infrastructure, uncertainty, increased cost of doing business, and capital flight. Furthermore, social spending is often cut to accommodate increased military spending, and the economy undergoes structural changes. Dealing with the consequences of violent conflict is a humanitarian imperative; but it is also important because it decreases the risk of the conflict recurring" (AfDB, 2008, p. 11).

Without question, resources are diverted to deal with violence or fear of violence. Outmigration of skilled labor on account of violence is a serious problem (UNODC, 2007), both in terms of losses to the local economy but also in that diasporas are not always helpful in settling violent conflict in the home state. Even when not migrating, financial capital flight can take place—even postwar, capital flight can continue as private agents complete interrupted capital transfers (AfDB, 2008, p. 45, citing Davis, 2008a)—or private monies stay put but are diverted into avoidance or preventive costs such as for security and protection rather than poured into investment in physical and human capital. In 2002, in Central American states, for example, private security forces made up about three-fourths of total security forces (UNODC, 2007, 81). Violence and threat of violence limit the development of markets and distort markets to overinvest in protection rather than beneficial trade and exchange. This is in addition to the diversion of public sector funds into internal and external security forces, the judicial sector, and the public health sector. Apart from resource diversion, there is delay or deferral, that is, capital abstinence, both of financial capital and human capital. People delay or defer investment in physical or human capital for fear of expropriation or nonuse. Both leave the home state skill-poor. With nonuse come decline of professional and public standards. As one example, the quality of economic policy, rarely stellar to begin with, will be expected to become poorer still. Moreover, in uncertain times, people apply higher discount rates. Shortened time horizons result and heightened opportunism to renege on contracts arises. This specially affects markets that deal with long time-horizons, such as insurance and credit markets. Asset destruction takes place, either directly or indirectly through maintenance deferral due to diversion of public funds and lack of public capital. The stock of human capital is damaged on account of deaths, injuries, and refugees, and the interruption of education, skill-formation, and the accumulation of workplace experience.[17]

Consequently, the informal and the underground economy is at least partly related to crime and criminal violence. UNODC (2007, p. 83) refers to figures reported by Prof. Friedrich Schneider (University of Linz, Austria) according to which the six Central American states (Costa Rica, Nicaragua, El Salvador, Honduras, Guatemala, and Panama) have shadow economies averaging about half again of reported GDP, and the ILO reports that the share of informal-sector employment lies well above 50 percent of all employment (UNODC, 2007, p. 84). In Bosnia and Herzegovina, official employment stayed steady at 600,000 people between 1998 to 2005, while informal employment rose from about 200,000 to about 500,000 (UNDP, 2008, p. 77). UNDP refers to the rise of a "criminal peace economy" (UNDP, 2008, p. 78). The social contract between individual and society dissolves as people are both less able and willing to adopt and abide by constructive behaviors that presume that others will do the same. To reverse direction from vicious to virtuous cycle is part of the huge postwar challenge of reconstruction.

As the formal sector declines, official GDP estimates on the adverse impact of war would be misstated. GDP might remain nearly the same as before, only that it shows up in the informal rather than the formal economy. But the rise of the informal sector affects the public purse: tax collection falls, public expenditure in an insecure environment shifts toward the military and other types of security forces, foreign aid receipts often decline, and domestic and international credit dries up. Inflation-financing is often the remaining response but leaves a record of poor economic policy for the postwar time period. The economy is likely to suffer structural changes as well, say from investment in livestock and farming implements to subsistence activities. The rural economy moves away from the practice of formal market exchange, with a consequent change in demand, reduced rural investment, less construction, and a subsequent further decline of skills and productivity losses. The postwar effect is that a recovery of high demand meets limited ability of supply, driving up prices and dissipating funds. (This also creates unsavory possibilities for rent-seeking.)

The consequent growth decline and the entrenchment of poverty has been indicated in an earlier section of this chapter. Violence leads to adverse transgenerational and transboundary effects as well. Resource diversion, disruption, and destruction especially in the education and health fields and in the arenas of public confidence and public safety can affect offspring generations over many decades and also in faraway places through refugee flows, disease transmission, and environmental damage (Saleyhan and Gleditsch, 2006; Brauer, 2009). These, in turn, can be among the factors that, after a period of peace, led to the renewal of war.[18]

One can also distinguish the immediate human cost and the longer term development costs, following Stewart (1993). Immediate human costs are incurred at three levels. At the macro-level there are the declines in the macroeconomic aggregates. At the meso-level, government resources fall as the tax-base declines and expenditure on war crowds out expenditure on other areas, especially social investment. Finally, at the micro-level, mobilization, death, and injury affect households directly, but there are other impacts as heads of household may need to migrate in search of income. There is also likely to be loss of education and health service access for families. The longer term development costs include the destruction and deterioration of existing capital and the reduction of new investment. This will include national and foreign, large- and small-scale enterprise investment. Indeed, the growth of small-scale national investment is particularly important as it drives the informal sector, probably the largest potential source of employment. Capital in this instance is defined widely including physical productive infrastructure, social infrastructure, human capital, institutions, and social and cultural integration. In evaluating the cost of the war it is also necessary to include the loss of potential output and the cost of additional military spending.

These costs vary from country to country depending on the nature of the country and the nature of the conflict and are in addition to the lost output resulting from violence. The challenge to postwar reconstruction will depend upon exactly what the impact of the war has been and, again, it is important to have detailed information on individual countries. There are arguments for positive effects of war, particularly for developed economies. The second world war is sometimes said to have led to substantial changes in the social relations of production, breaking down fetters on the means of production and leading to a Golden Age of postwar economic development in the capitalist world. Most of these arguments operate at a systemic level and involve wars between states, they do not apply to the types of conflict prevalent in the developing world. Moreover, the "positive" effects of war argument usually involve the "broken window fallacy."

Recovery from violence

The variety of forms of violence and their various possible causes all make peace (nonviolence) a difficult achievement. They also contribute to making the recovery from violence and the reconstruction of a country difficult, costly, and fraught with the danger of a return to fighting. Peace will first depend on how war ended, by victory of one side, by international imposition, or by exhaustion and, whether it does in fact end completely. As war moves to peace the country and economy will require reconstruction and this will need to be designed in such a way as to prevent any of the parties from reverting to war. The process of transition to a widely accepted peace is as important as the end of hostilities, and rehabilitation and reconstruction should aim at more than mere return to prewar economic, political, and cultural life. This leads to considerable difficulties and specific problems for each individual situation.

At the end of the second world war a number of economists considered these problems of moving to a peace economy, including Robbins (1947) most enduringly Boulding (1945) who argued:

> "The economic problem of reconstruction is that of rebuilding the capital of society ... Reconstruction is merely a special case of economic progress. If we are to understand its problems thoroughly, we must examine what is meant by economic progress and try to discover how it comes about" (Boulding, 1945, pp. 4, 73).[19]

Recovery from war is a problem similar to economic progress in general, but the destruction, displacement and brutalization of war do make postwar reconstruction a special case. Harris (1999) provides a useful scheme of four phases of recovery from a major conflict. The first is ending the fighting, which may seem straightforward, but fighting can continue even as a peace agreement is being drawn up so that it can take time to end it and to start to put the agreement into practice. The second is rehabilitation and restoration, which will include the removal of limitations on civil activity, reestablishing civil law, reestablishing civil institutions, disarming ex-combatants, demining roads, and returning displaced persons to their home areas. Then comes reconstruction and/or replacement, which will involve gaining financial resources for reconstruction, replacing and repairing capital and infrastructure, costly demobilization and resettlement of (government and opposition) fighting personnel to civilian labor markets, rehabilitating victims of war, introducing or reintroducing democracy or other forms of authentic representation, developing and restructuring civil institutions consistent with a postwar environment, and beginning reconciliation. Finally, development and transformation involve adopting and implementing a new vision for society, undertaking structural changes, establishing new institutions, and continuing reconciliation (Dunne, 2006). This has been reemphasized recently by the African Development Bank, which argued that not all peacetime conditions are desirable and may lead to future conflict and the United Nations Development Programme, which emphasized that postwar recovery is often about creating something new rather than trying to turn the clock back. Thus rebuilding capital needs to be accompanied by the rebuilding or creation of framework conditions such that peace is stable and irreversible, and the state should not merely reconstitute prewar conditions but break them inasmuch as they may have contributed to war.[20]

Certainly targeting economic growth "at all costs" makes no sense: growth cannot sacrifice peace, as a return to war would stop growth. A better starting point is a peace that is willing to sacrifice (some) short-term growth. Just what it is that may need to be sacrificed in the short-term for long-term peace, growth, and development will be case-dependent. Postwar economic and socioeconomic problems will of course depend upon the level of development of the country and the damage caused by the conflict. If states contain competing claimants to the benefits of economic growth, it will be wise to credibly negotiate some accommodation even as this may inhibit economic efficiency.[21] If widespread poverty creates resentment and risks war-renewal, it will be wise to pay special attention to issues of poverty reduction and to asset and income distribution. Postwar, at least some vested interests may be temporarily weakened or out of commission offering a perhaps short-lived opportunity to fundamentally change political structures within which an economy is to function. Also, a war-weary people may be amenable to relatively drastic change permitting rapid institutional and policy reform and implementation.[22]

The end of war does not necessarily imply economic security. There may be problems of micro security, with armed inhabitants desensitized to violence and high rates of robbery, likely to discourage the acquisition of visible assets, and macro insecurity, the considerable risk that war will be resumed. This is particularly important as it can be reflected in political instability, which is likely to discourage private investment, especially foreign direct investment and the growth of small-scale national investment is particularly important as it drives the informal sector, probably the largest potential source of employment (Collier and Gunning, 1994).

Thus fiscal, monetary, sectoral, regional, and other types of economic policies have to be coordinated and coalesce into a growth policy that is feasible. Certainly, fiscal resources devoted to war have to be freed up, at least to the extent that they do not compromise peace and security. Conflict will reduce the capacity of economies to absorb labor, which is likely to lead to reduced employment in the economy. This will make it difficult to demobilize soldiers and require action by governments and international agencies. More generally, employment generation especially for young males is important as they constitute the single-most dangerous reservoir of violence.

Projects assisting demobilization, through retraining soldiers, before they return to the communities have shown some success in Africa, although there is always the issue of whether they have ways to make a living when they return. Employment intensive public works (EIPW) programs can be important in immediate postwar periods as a result. The construction and maintenance of roads with such methods will create jobs at low cost and result in improvement to the infrastructure, which will lead to improved access for trade and industry. This will allow lots of jobs to be created quickly, creates assets, releases commerce from constraints, adds to capacity, facilitates access to economic and social services, stimulates economic growth, and of course assists in the demobilization and reintegration of combatants. But if they are to produce effective infrastructure, a significant amount of supervisory and technical expertise needs to be in place.[23]

If rival armies often need to be absorbed into a new national police force and army, fiscal resources might be said to be "usefully squandered." Equipping them with guns and uniforms to serve in reconstituted police or military units is one way to usefully squander resources; putting them in more or less uniformed infrastructure (re)construction services would be economically more useful and help (re)build a state's capital. Even if this evokes images of Mao's blueuniformed denizens, this need not be the necessary outcome. The streets of Bogotá, Colombia, for instance are visibly full of identically uniformed Securidad Privada men and their guard dogs. These are employees of a variety of private security companies, licensed and under the regulatory supervision of a division of the Ministry of National Defense, the Superintendencia de Vigilancia y Securidad Privada.[24] Also, large numbers of conscripts in military uniform and rather more visibly brandished guns patrol the streets. Neither group appears to do much at all other than to portray a common image of calm control over public security. In addition, Bogotá Positiva[25]—a city program—employs scores of young men and women in highly visible, fashionable-looking, brightly-colored jackets running and/or assisting with numerous public events. The impression given is that society pays to surround itself with very visible representative agents. There is no question that the public and private funds needed to finance these employees ultimately can be put to more directly productive ends but in the short-term the production of a pervasive sense of security carries the benefit of reassuring citizens to recommence economic activity with confidence.[26]

That said, UNDP concludes from an in-depth review of 29 postwar states that successful economic revival can be achieved "using quite varied sets of policies ... [under] broad differences in the sequencing, nature and pace of reforms, and in matters of competitiveness and policy credibility ... successful economic recovery and the consolidation of peace can happen under diverse constitutional, institutional and political conditions" (2008, pp. 11-12). More than anything, what is required is that people are sufficiently sick of war to negotiate and agree to stable political arrangements within which committed and credible policy can be planned, sequenced, and implemented.

In most developing countries the agricultural sector is vital to reconstruction. In a postwar situation, it is necessary to get investment into the sector, and to support agricultural development through the development of public services, credit services, and infrastructure. It is important to consider both subsistence and commercial farming. The former is crucial as it can allow much of the population to become self-sustaining fairly rapidly, and the latter is important as it may be the only significant earner of foreign exchange. Relatedly, land reform policies may be important, but need to be designed and implemented with care. There is a need to prevent an exodus to urban areas and to take pressure off them, and targeting the development of rural areas is the obvious way to do this. Failing to prevent the break-up of social groups and communities, which is likely to result from moves to urban areas, could cause conflict and the return of ex-combatants, who will not be reintegrated into society (ILO, 1995). It is also important to recognize the impact conflict can have on rural household behavior and how this might effect their responses to attempts at reconstruction (Dunne and Mhone, 2003; Brück, 2000).

In war situations, the informal economy can come to the fore. This can be a complex circuit of exchange with international links as for example in the case of Sarajevo in the 1990s. But with the end of war the strength of this sector can act as a restraint on the reassertion of the formal economy and can introduce criminal elements. Indeed, as Duffield (2001) points out, war can lead to a transfer of assets to middlemen, which can be extremely destructive and embed inequality. At the same time this is usually a circulation of goods, with little new production of assets. The informal sector is, however, the only viable possibility of a livelihood for many and the impact of destroying it through reconstruction policies may not be compensated for by the growth of the formal sector. International intervention can make things worse and care needs to be taken by aid agencies and policymakers. Aid can destroy the existing market structures and lead to anomalies, such as farmers being ruined by inflows of cheap aid.

Any specific policy initiatives take place within the context of macroeconomic policy. As conflict draws to an end often the first international organizations involved are the World Bank and IMF, offering support, but at the cost of countries' accepting economic policies which have not, in the past, been wholly successful (Dunne, 2006).

Monetary and fiscal policy

Because war is frequently inflation-financed by governments printing money, postwar economic circumstances tend to be inflationary as well. The traditional response by the International Monetary Fund (IMF) has been to counsel contractionary fiscal policy, that is, squeezing spending and increasing the tax take. Indeed, in the 1980s the IMF and the World Bank presented the countries that needed their help with strict structural adjustment programs. To address balance of payments problems and increase efficiency, reduced demand for imported goods, currency devaluation, higher taxes, higher interest rates, reduction or removal of government services, and liberalization of markets were frequently required.[27] To reduce budget deficits, there were also medium-term adjustment and economic reform programs, which included cuts in government spending, reduction in government staff, freezes on wages and salaries, and privatization. Such policies were aimed at removing distortions in incentives.

For countries coming out of violence this created great difficulties and dangers. It also led to lost opportunities as high returns on social spending were lost, and as government spending was reined in. Demobilization can become difficult and even when peace agreements were in place, criminal violence and banditry could result. At the same time increased tax rates prevented the integration of small- and medium-sized enterprises (SMEs) into the formal sector, hampering the development of economies of scale and scope, agglomeration, and the development of links to other businesses. As Collier and Gunning (1994) argued, it is important for governments to encourage private investors to make irreversible investments. This will require the rebuilding of civil society, with concern for investment-sensitive reforms, such as low inflation, proper valuation of the exchange rate, restraint in revenue collection, and the reestablishment of transport infrastructure. Aid can play a vital role in developing the infrastructure and is itself a valuable way of encouraging other investment.

In addition, the premature opening up of markets and overvalued exchange rates can destroy indigenous industrial capacity.[28] Indeed, an overly hasty effort to raise revenue may result in counterproductive effects and doing so with inadequately trained staff could aggravate existing problems of corruption. This can amount to an investment tax—the opposite of what is needed—and of consequent tax evasion by firms.[29] Thus it is important to develop local investment and encourage entrepreneurs at the same time as encouraging foreign investment. There can be some tension between these two. For example, the policy of keeping government expenditure low to keep inflation down may encourage some types of investment in an economy but damage broader, balanced economic development, which itself may discourage foreign investment (through lack of potential profits).

From time to time the IMF and World Bank have acknowledged the adverse effects of its policies. By the late 1990s, one consequence of this acknowledgment was that government budget cuts not only leave social expenditure on education and health care untouched but increase such spending. Even so, in specific cases the poor still suffered, and the IMF next agreed to work more closely with the World Bank and civil society to better protect vulnerable populations, that is, to integrate short-term adjustment policies more assiduously with the goal of doing no harm to the most vulnerable populations. Hence the development of the IMF's Poverty Reduction and Growth Facility (PRGF)—in place since November 1999. It is scheduled to be replaced in 2010 or shortly thereafter by an Extended Credit Facility (ECG), a new lending window that "will be in line with the objectives of a country's own poverty reduction strategy."[30]

Thus, the evolution of IMF programs has gone through three stages: from imposing IMF conditions on poor states that had little choice but to accept them, to lending conditions that reflected World Bank and civil society concerns especially in regard to poverty reduction to, in future, conditions being led by the affected countries' own views. In this, the IMF nonetheless puts emphasis on widespread public participation and societal "ownership" of poverty reduction strategies in the affected states, is flexible about how states achieve poverty reduction and growth objectives so long as macroeconomic stability is not threatened, and highlights good governance (public resource management, transparency, and accountability). In terms of debt, it is suggested that foreign aid policy with regard to arrears clearance and debt restructuring or debt forgiveness be tied to conditions such as the proper resettlement of and care for displaced populations, infrastructure development, access of education, health, and other public services.[31]

UNDP (2008, pp. 124-125) argues that the first priority of tax policy must be to reconstruct the administrative apparatus, followed by a pragmatic, gradualist, and conflict-sensitive tax policy that would reestablish and aim to broaden the tax base. On the expenditure side, UNDP counsels compromise between macroeconomic stability (i.e., inflation control) and asset-building and distributional spending necessary to keep the peace among competing postwar interests.

Whereas postwar fiscal policy might require much rebuilding of the physical and administrative apparatus of state ministries and provincial offices, including rebuilding of trained personnel, the institutional rebuilding of monetary policy usually involves a smaller staff and physical facilities. The issues monetary policymakers need to deal with are, however, extremely important and involve, among others, the rebuilding of the central bank; regaining domestic credibility; reestablishing the internal and external banking and payment systems; rebuilding systems for bank supervision; restarting the provision of credit, especially of access by micro-businesses and small- and medium-sized enterprises to loans; reining in the high inflation that ordinarily accompanies periods of violent conflict; and dealing with the consequent currency depreciation on foreign exchange markets. Policymakers also need to acquire experience by buying-in experienced staff and/or (re)learning-by-(re)doing.

If the government of a war-torn or postwar state (or any state, for that matter) decides to peg its currency to the euro or another widely traded, stable currency, it hands monetary policy to the state whose currency is adopted. For example, if large amounts of aid denominated in euro are made available, they would be exchanged at a fixed rate and spent domestically. The currency cannot appreciate and cannot undermine export prospects, nor can it artificially cheapen imports. A credible fixed exchange rate policy provides a guarantee to foreign investors that private monies put into the country can be extracted again, at an *a priori* known rate. Nonetheless, exchange rates that fail to keep pace with the changing conditions of the underlying economies can become a source of macroeconomic instability. At Bretton Woods, a system of fixed exchange rates was agreed among the world's major economies, and this system collapsed spectacularly in 1971. Europe and Japan had recovered from the war and had rebuilt their economies. As their productivity improved—and as productivity improved at different rates within Europe—more differentiated, competitive product pricing on the world market became possible. Adherence to a fixed exchange rate system under these conditions became unduly burdensome.

A flexible exchange rate regime implies that large amounts of foreign aid (including wages and salaries of aid workers) and remittances of voluntary or forced migrants' overseas earnings increases the demand for the local currency, leading to its appreciation and making it more difficult for a conflict-affected state to export products (e.g., raw materials or agricultural products) to earn the foreign exchange required to purchase needed imports, even as it makes it cheaper to import products that compete with local production and hence with local employment and economic growth.[32] The consequent relative slack in domestic aggregate demand reduces price pressures and tends to hold inflation down—an important side-effect—but the primary need is to rebuild productive economic activity and therefore governments often resort to debt-financed government projects. The combined effect can be crowding out of private by publicly-financed economic activity, large government budget deficits, and balance of payment deficits, that is, an unsustainable economic strategy and the very reason for the IMF's erstwhile harsh, mandated policies of bringing government finances under control through spending cuts even as this hurt, certainly in the short-run, domestic social objectives, production, employment, and growth. This sort of painful structural adjustment does encourage eventual foreign direct investment (FDI), but the time lag can be long, perhaps too long before the social pain leads to resumption of war. Moreover, in the immediate postwar period, the likelihood of large private capital inflows is low at any rate, as potential investors wait to see how policy and the economic environment develop. In addition, whatever investment is likely to be attracted is more likely to be speculative money, rather than investment in production capacity, and can be withdrawn at the merest hint of trouble, creating macroeconomic instability.

Longer-term investment prospects are influenced by the expected probabilities of social and political peace (UNDP, 2008, pp. 118-119). For the IMF to have driven an overly hard bargain to compel macroeconomic stability at the risk of relapse into armed conflict will not attract investors. As mentioned, the IMF recognized this point by the late 1990s and is now more discriminating in its policy recommendations and the design of its aid packages. Furthermore, the empirical evidence appears to suggest that on average aid-inflows are not causally associated with exchange-rate appreciation in postwar states, in part because states may use the funds to reduce public sector debt or accumulate foreign-exchange reserves (UNDP, 2008, p. 133).[33]

Unlike normally functioning advanced economies, where fiscal and monetary policy are judiciously kept apart to provide for independent policy judgment and policy implementation, in postwar emerging and developing economies it is likely that monetary policy will need to be closely coordinated with fiscal policy and follow politically set objectives of growth and employment and only later on transition into an independent role. Thus, monetary policy might initially be more forgiving in its goal of reducing inflation so as to support employment and growth objectives and aim at a phased-in reduction of inflation over an agreed-upon, but credible, time frame.[34]

Indeed, the aforementioned UNDP review of 29 postwar countries shows that all of them achieve annual inflation rates of about ten percent or less within five years postwar and that the high inflation in the early years is entirely accounted for by the relatively high-growth states, suggesting that rebounding aggregate demand meets an insufficiently rebuilt aggregate supply structure. (However, even for the high-inflation states, inflation dropped drastically in every postwar year.) Thus, easing supply conditions from the fiscal and regulatory side while adopting a somewhat forgiving inflationary stance over the first few postwar years seems appropriate (UNDP, 2008, p. 113, Figure 4.4).

Growth, sectoral, regional, trade, and other policies

Most of the fiscal and monetary policy issues discussed so far are more relevant for a postwar context rather than for a context of criminal violence. But growth policies—policies regarding asset rebuilding, infrastructure choices, economic diversification, education, health, private sector participation, the strengthening of the middle-class so that its members keep financial and human capital invested at home, poverty reduction, reasonably equitable asset and income growth and distribution, institutional capacity building, (re)integration into the global economy, and management of rural versus urban areas—concern governments of postwar and crime-ridden societies alike.

Not much talked about by economists in the context of growth is population policy. If the objective is to generate, say, an average annual per capita real GDP growth of two percent per year, then population growth of zero, two, or four percent will place different demands on domestic economic needs, especially education and health infrastructure needs, and on commensurate foreign aid. The pre-adult population cannot much contribute to economic growth to generate the needed funds. This may be described as an inverted retirement problem—instead of too few people in the working-age cohort needed to support the retirement needs of the parent generation, as is the case in some economically advanced states today, the cohort of the parent generation is too small to adequately prepare the offspring generation for economically productive lives. The population pyramid needs to be balanced at both ends.

In this context, health policy carries huge macroeconomic implications. The HIV/AIDS crisis in southern Africa amounts to a squandering of investment in children that die as young adults without ever being able to make much of an economic contribution to their societies. Likewise, victims of war and crime frequently become permanent net economic liabilities to society. In cold economic terms, society may be viewed as a gigantic insurance pool in which per capita economic growth means that the contribution of assets outweigh the draw of liabilities. (Alternatively, one may view society as a physical system, like an electricity grid, in which the output drawn from the system cannot be sustained by the production that is put into the system.) Consequently, the resource flow (throughput) in the system must thin out and result in lower average living standards. If a society through war and crime shifts the balance from assets to liabilities, or reduces the system's ability to put resources into the system, it becomes necessary to tilt the balance. Simply put, the crippled and the sick are less productive than otherwise they could be: preventive, restorative, and rehabilitative health services thus play an important role in this regard. In developing countries, preventive infrastructure investment in housing, water and sewage facilities, and mosquito nets have the most beneficial impact on reductions on mortality and morbidity.

In addition to rebuilding capital and setting the proper economic and political framework conditions, repatriation of financial, physical, and human capital is crucial. In the best-case scenario, the assets are intact and just need to be returned. In a restored economic and political environment, new business opportunities should exist for members of the diaspora. But these alone do not draw people back to their place of origin. These measures must be combined with confidence in economic management—including control of inflation—educational opportunities for children, health care for families, and personal safety. For example, following the end of the Ugandan war, many Ugandan-Asians successfully returned postwar.

Natural resource management is much discussed in the African context (especially as regards mineral wealth) but is also relevant for places like Colombia and Afghanistan (opium and coca crops or simply land management for agricultural uses) and for island economies (tourism). In terms of resource contracting and management and revenue division it becomes important to balance the need for immediate revenue-generation with long-term revenue needs.[35] On one side of the bargain are revenue-hungry governments granting licenses or concessions for mineral extraction, timber harvesting, fishing rights in territorial waters, and hotel and tourist resort construction and management permits. Because a threat by government against any particular company regarding contestable entry can lead to long delays in contract negotiation and eventual export revenue, the immediacy of the pressure to raise revenue can lead governments to agree to low future taxes in exchange for high current taxes. On the other side of the bargain are private firms. War can enable companies to bargain for extra-favorable terms—after all they generate much-needed resources to help finance war—and postwar these terms can fall and with them the stock market valuation of these firms, perhaps making them reluctant to invest.[36] The political risk companies face far out into the future of a postwar state also likely results in them negotiating for low future taxes as well. Both sides thus discount the future. This speaks in favor of targeted budget aid that compensates for a reasonably low tax/rent structure in the present so as to assure a reasonably low tax/rent structure in the future as well. Essentially, budget support is a technique to smooth a budget peak-load problem.

In distributional terms, many war and postwar states face severe issues of fiscal federalism, especially when it comes to the regional distribution of natural resource-related taxes or rents. In Indonesia for example, natural resource-rich regions such as Aceh, Papua, Riau, and East Kalimantan posed secessionist challenges to the central government, in part over revenue appropriation by relatively resource-poor but politically powerful Java region, a type of internal colonialism. Tadjoeddin and Chowdhury speak of "aspirations to inequality" and "the rage of the potentially rich ... a response to people's first-hand experience of their community welfare being reduced to, or even below, the national average, even though their regions are rich in natural resources" (2009, pp. 41-42). Similar issues continue to affect the Niger Delta. In contrast, once a revenue-sharing agreement was reached between Khartoum and southern Sudan, the civil war there ended (even as another one arose in Darfur, in the western Sudan).

Center-periphery, urban-rural, industrial-agricultural, service economy versus natural resource economy, and other economic, political, and cultural dichotomies can constitute important aspects of violence. War destroys or at a minimum interrupts communications and transportation networks. To be reintegrated into local, national, regional, and global markets rural economies need to be reconnected, often in a literal sense. Success or failure carries implications for food security (UNDP, 2008, pp. 22-23) and raises the specter of volatile prices—and volatile politics—on urban markets. In this regard, infrastructure construction bottlenecks in terms of skilled labor (craftsmen, management, and planning), material inputs, land acquisition, and finance can squeeze the entirety of a postwar rebuilding boom. It is little use for example to build highways to nonfunctioning ports or to reconstitute ports without highways. In Angola and Sierra Leone, the African Development Bank (2008) reports, the ease of motorcar imports combined with failures in land acquisition to build roads have led to unusually complex traffic jams. Because very large numbers of people live in rural areas, reconnecting dispersed production and market centers will also contribute to consumption growth, not just urban-driven national GDP growth. There is certainly no evidence that inclusive policies hurt growth (UNDP, 2008, p. 115).

Oddly, beyond some discussion of exchange-rate policy, both the AfDB and the UNDP reports have little to say on global trade policy which in many cases is biased against economically developing states. Compared to official development assistance of about USD100 billion in 2006,[37] global workers' remittances of USD300 billion in 2006[38] and foreign direct investment of over USD1 trillion[39] are very large. Opening global markets would perhaps result in an even larger impact.[40] Nonetheless, ODA inflows are substantial in terms of percentages of gross national income (between 10 and 15 percent) or of the affected states' government budget deficits (often on the order of 50 percent and more). But aid, before, during, and after war reflects—like military intervention—third-party interests. As such they have been, certainly in the past, capricious, haphazard, and short-term from the point of view of the recipient states and it is only very recently that the academic community at least has argued that aid ought to be nonpolitical, predictable, and fairly long-lasting, on the order of ten years postwar.

Framework conditions

The preceding pages suggest that economic aspects of violence cannot be looked at in the isolation of macroeconomics alone. Nor can violence be looked at in the isolation of conventionally-understood economics. Political agreements and institutions matter, and so do their constitution and reconstitution. They contribute to the framework conditions required for countries to move away from violence and to remain at peace. In terms of the standard national income accounting equation—$Y = C + I + G + (X-M)$—each of the aggregate components relies in complex ways on micro-, regional-, sectoral, and other policies.

Murshed (2009) discusses how the breakdown of a social contract that underpins any particular form of social organization can lead to violent conflict which imposes another.[41] The threat of the potential dissolution of the social contract can be employed as a bargaining chip by the poor or the rich at the cost of either rebellion or repression and the risk of failure (Tadjoeddin and Chowdhury, 2009). In addition, there may be incentives available to political and criminal violence entrepreneurs to capture if not the prize of sovereignty (the blessing and welcome into the club of states by other states)[42] then the capture of significant rents from defenseless states and/or corrupt officials of the state. Collier (2007; 2009) argued that democratic elections are not enough: instead, continuous checks and balances are needed for a social contract to function. Part of the checks and balances aspect of a social system has to do with transparency and accountability of public sector revenue and expenditure, with auditing, with competitive public contract bidding, with an independent central bank, and with decentralization of decisionmaking.

Another part of framework conditions has to do with competent, noncorrupt service delivery institutions and mechanisms, that is, with the connection from macroplanning to microdelivery. This requires not only capacity building but institutional designs that provides proper economic incentives. For example, separating the stages of policy planning at the level of ministries from resource allocation decisions, and resource allocation decisions from contractual service delivery via private parties can be helpful. In this case, policy planning would not be confused with nor be held hostage to the service delivery stage. This can create motivation for proper planning. In turn, privately contracted, competitive service delivery to end-users reduces the scope for corruption, in part because it produces incentives through consumer reporting. As for resource allocation decisions, this may be an independent organization akin to a central bank. The point is to separate functions and powers so as to reduce the scope for corruption.[43] A separation of functions and powers would make public ministries' criteria for fund-allocation transparent, would reassure foreign donors, and would amount to a leap-frog innovation similar to mobile phone networks that bypass the need for fixed-line networks. Importantly, the idea illustrates that traditional concepts of a "stable macroeconomic framework" in a sense do not go far enough. Macro- and microeconomics may be separated academically but in practice there has to be a seamless hand-over from the policy level to the daily work of government ministries, offices, and agencies.

A third framework condition is quite out of the hands of violence-affected states, namely violent conflict in neighboring states or threatening behavior by neighboring states. Military expenditures can be viewed as public bads if they produce an arms race. Conversely, mutual military expenditure reductions can be monitored and supervised by regional organization. War or threat of war and the consequent interruption or closure of trade routes have adverse effects on neighbors through trade disruption (e.g., Ethiopia and Eritrea; Gaza/West Bank and Israel; Colombia and Venezuela). Credible collective action may be required to punish warring states. Internal war (e.g, the 2007 election violence in Kenya) can affect the security of trade routes as well (e.g., on Uganda's access to Kenya's Indian Ocean ports). One option is to sign pre-commitment penalty clauses (maybe via bonds lodged with an independent institution?) that would have obligated Kenya to compensate Uganda.

Because rich, democratic, peaceful neighbors generate cohort effects, and because war generates adverse spill-over effects, a policy implication is that aid be disbursed not only to violence-affected states but also to their neighbors. Similarly, regional integration—creating economic bonds between and among states—will make it somewhat harder to foster instability in neighboring territories; aid can assist poverty reduction, raise output, and signal that it is worthwhile to repatriate capital; aid as budgetary support is flexible but fungible (to prevent this, specific negotiated caps on military expenditure in particular may be required); aid as project aid is less flexible and often requires separate institutional mechanisms for implementation and increases the cost of ministerial management and can siphon off needed human capital. Because absorptive capacity needs to be built, it is best to develop a long-term aid plan—ten years is now commonly mentioned in the literature—instead of bunching aid into a year or two of postwar assistance. Aid might also be structured into a two-tiered system: first need-based, then performance-based with the percentage changed toward the latter over a ten-year span. Aid should be tied to a clear political accord among rival factions so that aid is not wasted over renewed conflict. Aid coordination is important, as is the credible threat of withholding aid. Much of this, however, requires the aid-giving private and public agencies to get their own act together. Regularly-held donor conferences that are coordinated with proper policy and budget planning in each affected state would help.[44]

While transboundary effects are now well-recognized in the literature, not overmuch investigated are transgenerational effects. Many situations of war and criminal violence in developing states are decades-long lasting affairs. When children are denied health and education, or are made to participate in the mayhem as child soldiers, aid policy might focus less on trauma counseling and more on "increased investment in programmes that promote secondary schooling, enterprise development, and adult learning" (AfDB, 2008, p. 37), that is, they might recognize that the adverse effects of violence can at best be worn off over generations as well. This plays into another framework condition, namely foreign-aid policy, discussed previously.

Conclusion

This chapter reviewed some macroeconomic aspects of violence. The post-cold war focus on the events of large-scale, collective violence in Central and West Africa in the 1990s and, to some extent in the Asia-Pacific region, no longer suffices. Violence now is seen as an issue much larger, interrelated, and complex than war or civil war alone, and the economic importance of all aspects of violence has started to be recognized. All forms of violence carry macroeconomic consequences, and many have contributing macroeconomic causes. War situations are preceded, infused, followed, and shadowed by ongoing nonwar political, domestic, and criminal violence. War economies do not necessarily end with the formal cessation of hostilities.

The chapter discusses violence, measuring the cost of violence (the potential benefits of peace), economic causes and consequences of violence, problems of postwar/violence recovery and economic reconstruction in terms of fiscal, monetary, foreign-exchange, growth, regional, sectoral, trade, distributional, and other economic policies, and also points to some political, economic, and cultural framework conditions for stable postwar peace.

Much has been learned from studying the macroeconomics of postwar reconstruction in isolation, but for policy design and implementation to result in stable peace, ultimately a systems approach is needed, one that recognizes both that violence is pervasive and more than war-violence and that recognizes what macroeconomics can and cannot do, an approach that puts macroeconomic thinking into its rightful place as one among a number of policies arenas that require complementarity, coordination, and sequencing while leaving room for flexibility to adapt to changing circumstances.

Notes

1. A drastic form of self-harm—suicide—is rarely studied by economists, although perhaps it should be as the decision to join a rebel group or terror organization is in many cases equivalent to a decision to choose premature death over life. This decision is most evident in the case of suicide bombers. For an explicit suicide model for the case of rebel groups in Northeast India, see, e.g., Barua (2007).

2. The literature tends to employ the term "conflict" (pre-conflict, conflict-affected, postconflict, etc.). We prefer to use the more straightforward words of violence and war. For one thing, this makes clear that the conflicts in question usually involve armed violence; for another it avoids the awkwardness of referring to civil wars such as those in Haiti, or Sri Lanka, or even Zimbabwe merely as conflict. The risk of war renewal has been estimated at between 25 to 50 percent of all civil war cases, numbers larger than the risk of war-onset in the first place (see UNDP, 2008, p. 16).

3. If they ever were tenable: see, e.g., Schelling's classic work (1978).

4. Parts of this chapter draw heavily on recent reports issued by the African Development Bank (AfDB, 2008), the United Nations Development Programme (UNDP, 2008), and the Geneva Declaration on Armed Violence and Development (GD, 2008). The Inter-American Development Bank has a program related to violence reduction and security but does not list any recent published topical overview on its web site. The Asian Development Bank shows no publications at all under the search terms "violence" and "crime." Under "war," only items such as "war on unsafe sex" appear.

5. Chaudhary and Suhrke (2008) as cited in GD (2008, p. 65).

6. Collier (1999), p.176.

7. For example, an oft-repeated claim—probably correct but we have not been able to identify an original source—says that in the ten post-civil war years more people were killed in El Salvador than during its 12-year long civil war (1979-1991).

8. Markowski, Koorey, Hall, and Brauer (2008; 2009).

9. As an example of an exception, Restrepo, *et al.* (2008) estimate that "the annual economic cost of armed violence in non-conflict settings, in terms of lost productivity due to violent deaths, is USD 95 billion and could reach as high as USD 163 billion—0.14 per cent of the annual global GDP" (GD, 2008, p. 2 and p. 101). This is a relatively small number. Our personal belief is that productivity losses due to armed violence are much higher.

10. From Penn World Table v6 data. I$ is international, or purchasing-power parity, dollars.

11. Oxfam-GB (2007) as cited in GD (2008, p. 106). Unless we quote, we employ standard three-letter codes to denote currencies, e.g., for the U.S. dollar we use USD instead of US$. See http://www.iso.org/ and search for ISO4217 [accessed 1 September 2009].

12. According to the IMF *World Economic Outlook* (October 2009), world output grew by 5.2 percent in 2007, 3.0 percent in 2008, is projected to fall by 1.1 percent in 2009, and grow again by 3.1 percent in 2010 (IMF, 2009, p. 2, Table 1.1).

13. *The Economist*, 1 October 2009.

14. In 2009, a commission appointed by French president Sarkozy issued a report that deals with some of the issues surrounding the inappropriate use of GDP, as conventionally measured, to inform global and local societies about the state of their relative well-being (Stiglitz, Sen, Fitoussi, 2009). With the exception of marital and domestic violence, the Stiglitz, Sen, Fitoussi (2009) report is silent on war, civil war, and criminal violence.

15. "... in which people mistakenly identify the repairing of broken windows as a source of new wealth ... as things are destroyed, their productive services are lost. Rather than seeing the replacement cost as a benefit to society (on the argument that we had to produce these things, thereby stimulating the economy), we need to recognize the full picture. In replacing those things destroyed, we utilize scarce resources that have alternate uses. To employ them in rebuilding what has been destroyed by war is to employ them twice to the same end. It makes no sense to claim that there is a benefit to using the original amount of resources to produce these goods once, and then using that same amount of resources over again to reproduce these goods" (Kjar and Anderson, 2010, p. 8) referring to Hazlitt (1979).

16. The UNDP's list is somewhat shorter: "... risk factors include low per capita income, weak economic growth, the presence of socioeconomic horizontal inequalities and abundant high-value natural resources. These risk factors are even more acute in the presence of high unemployment, especially among youth (UNDP, 2008, p. 17).

17. For example, "during Liberia's 15-year civil war, at least 50 percent of all schools were destroyed, depriving 800,000 children of education. In Timor-Leste, this percentage was even higher with an estimated 95 percent of classrooms destroyed or severely damaged in the violent aftermath of the 1999 referendum on independence. In Kosovo, Bosnia and Herzegovina and Mozambique, respectively, 65, 50 and 45 percent of schools required repair or reconstruction after war" (UNDP, 2008, p. 30). In southern Thailand, rebels have been reported to target women teachers at school and at their home (*The Bangkok Post* reports during June 2009).

18. War renewal after the signing of peace agreements occurred in Angola, Burundi, Indonesia, Liberia, Nepal, Sierra Leone, Sri Lanka, and others.

19. Similarly the AfDB and UNDP: "The key questions facing countries undertaking a post-conflict reconstruction program include what to reconstruct and how to reconstruct. These questions are important because not all peacetime conditions are desirable, and reconstructing undesirable conditions may therefore constitute a recipe for future conflict" (AfDB, 2008, p. 44) and "Post-conflict recovery is often not about restoring pre-war economic or institutional arrangements; rather, it is about creating a new political economy dispensation" (UNDP, 2008, p. 5).

20. An analysis of references to economic topics in peace agreements reveals that only thirty percent of agreements concluded between 1990 and 1998 refer to a macroeconomic framework. This increased to fifty percent for the 1999-2006 period. Still, this means that half of all peace agreements do not refer to macroeconomics, let alone in any substantive way. See UNDP, 2008, p. 9, Figure 1.1.

21. Ordinarily, any accommodation must be subject to periodic review and eventual expiry.

22. Interestingly, the example of the United Nations Monetary and Financial Conference of Bretton Woods, New Hampshire, USA, held in July 1944—ten months before the end of the European theater phase of World War II, and eleven months before Japan capitulated—suggests that substantial negotiations regarding the postwar economic framework can be conducted and agreed even during an active war phase. Granted, in the case of Bretton Woods only representatives of the eventually victorious Allied nations attended but it was clear that the losers would have to be integrated into the new economic and financial structure. The economic mistakes of the post-world war I peace were not to be repeated. Thus, even though victors can dictate terms, they cannot successfully dictate terms that merely lead to the eventual resumption of war.

23. For this paragraph, see Dunne and Mhone (2003).

24. See www.supervigilancia.gov.co [accessed 5 October 2009].

25. Bogotá Positiva is a five-year economic development, social, environmental, and public works plan passed by the city council on 9 June 2008. See http://www.samuelalcalde.com/images/stories/audio/acuerdo.pdf [accessed 5 October 2009].

26. On employment programs, UNDP/ILO (2008) propose a three-track policy. Track A focuses on direct employment of individuals to generate income; track B focuses on community-level labor demand through economic recovery programs; and track C on macro-level, long-term, nation-wide employment. Track A receives the highest intensity of effort in the immediate postwar period and is phased out as tracks B and C are phased in, phase B being intermediate in duration and peaking mid-term through a hypothetical time-span and phase C being the long-term objective.

27. "There has certainly been considerable debate over the World Bank programmes, with many arguing that they are inappropriate and counterproductive for countries emerging from conflict. In particular they lead to increased suffering for the poor in the short run and can lead to increases in corruption, as government salaries decline and officials revert to non legal means to supplement inadequate income. They can also prevent social reforms and the projects that aim to lower tensions and achieve the political stability and which may be needed to preserve peace. Instead the imposition of structural adjustment type policies can be the biggest challenge to the socio-economic wellbeing of post conflict societies. This means that there are important arguments that need to be made in order to be able to develop social and anti poverty programmes that go beyond the still narrow confines of structural adjustment. While the WB have become much less doctrinaire they still are loathe to consider alternative perspectives, but they do show more flexibility" (Dunne, 2003).

28. For example, the cashew nut industry in Mozambique had processed the nuts grown in the country for exports. After the civil war and the adoption of WB/IMF structural adjustment program, the country exported raw nuts to India where they were processed and reexported, including back to Mozambique. This was done using machinery bought by India from Mozambique (Dunne and Mhone, 2003).

29. Likewise, an attempt to rely overmuch on customs receipts or on natural-resource rents can skew the revenue system in undesired directions.

30. See http://www.imf.org/external/np/exr/facts/prgf.htm, an IMF July 2009 factsheet [accessed 23 August 2009].

31. For example, AfDB, 2008, p. 63; on the relative neglect by overseas donors regarding public infrastructure, also see UNDP, 2008, pp. 53-59.

32. In some cases, remittances amount to huge inflows of funds. UNDP refers to the case of Tajikistan where in 2006 over one-third of GDP came from remittances. But there is some empirical evidence to suggest that recipients of remittances employ these funds in part to (re)build human capital via genuine increases in health and education spending (UNDP, 2008, pp. 86-88). This argues, in part, for easing the global remittance infrastructure so as to reduce costs and facilitate transfers.

33. For example, Italy apparently used post-world war II Marshall Plan aid in a similar way (UNDP, 2008, p. 129).

34. See del Castillo (2008, p. 281).

35. Just as in the field of political science there is an incipient discussion regarding receivership of failed states, perhaps economists need to consider the idea of economic receivership for war-torn and crime-ridden societies—essentially bankruptcy proceedings and economic reconstitution. This has been done in post-world war II Europe, in the postwar Balkans in the late 1990s and early 2000s, and of course in Iraq post-2003, but on the whole this has not been an explicit, deliberate, routine postwar program of action. Political sensibilities and cries of neo-colonialism make this difficult. Yet on the political front, the mushrooming Responsibility to Protect (R2P) project is essentially arguing this very point. Likewise, Paul Collier in his 2007 best-selling book, *The Bottom Billion*, is explicit about various forms of overt intervention on humanitarian and ultimately economic grounds. On R2P, see ICISS (2001). A number of states have formally declared their agreement with an emerging international norm that would require intervention in other sovereign states' affairs on humanitarian grounds in case of a state's failure to protect its population from grievous harm. Interested nongovernmental organizations much cite a United Nations General Assembly (UNGA) resolution to that effect (A/60/L.1 of 15 September 2005 and A/60/L.1* of 20 September 2005, paragraphs 138 and 139). On reading the text, however, it is obvious that the UNGA has not agreed to anything that is not already stated in the U.N. Charter.

Nonetheless, NGOs and a number of governments friendly to the idea continue to succeed to bring up the topic for discussion within the political structure of the United Nations.

36. DellaVigna and La Ferrara (2007) discuss the study of stock price valuation to possibly detect illegal (anti-embargo) arms trade.

37. For the 22 OECD-DAC members (Development Assistance Committee members of the Organization for Economic Cooperation and Development). See http://www.oecd.org/dataoecd/21/10/40108245.pdf [accessed 9 October 2009].

38. UNDP (2008, p. 86).

39. See http://www.unctad.org/Templates/WebFlyer.asp?intItemID=5037&lang=1[accessed 9 October 2009].

40. Dollar values of trade distortion policies are extremely complex to compute. For 1998-2002, the value of trade distorting subsidies alone for a sample of 22 developed economies was estimated at 1.5 percent of their GDP (WTO, 2006, p. 113, Table 7). Agricultural "producer support estimates" (PSEs) amounted to USD280 billion in 2004 for the OECD countries (p. 123), and estimates for the average level of United States' agricultural subsidies between 1995 and 2001 run between USD14 billion to USD66 billion (p. 128, Table 11). EU-15 agricultural subsidies run into the tens of billions of euros as well (p. 131, Table 12). If these were eliminated, the benefits would not accrue solely to developing states—let alone solely to postwar developing states—but surely a portion would or could benefit them.

41. "... violent conflict is unlikely to take hold if a country has a framework of widely agreed rules, both formal and informal, that govern the allocation of resources, including resource rents, and the peaceful settlement of grievances. A viable social contract can be sufficient to restrain, if not eliminate, opportunistic behavior such as large-scale theft of resource rents, and the violent expression of grievance. Civil war is a reflection of the breakdown or degeneration of a contract governing interactions between various parties. Hirshleifer draws our attention to the fact that within a society, social contracts can be vertical if they are authoritarian in the sense of Thomas Hobbes, or they may be horizontal if fashioned with popular consent, as advocated by John Locke. The former may be described as dictatorial, and the latter as democratic" (Murshed, 2009, p. 35).

42. Brauer and Haywood (2009).

43. "An independent service authority [ISA] would receive funds from the government and donors and allocate them to retail service providers in accordance with contracts. Its core functions would be to negotiate and monitor these contracts, and measure the comparative performance of different organizations. Since it would not be part of the civil service, it would be free to recruit afresh, to pay appropriate salaries, and to link these salaries to performance. While an ISA would be a public institution, and its finances would be reported in the government budget, its supervisory board could include representatives of government, donors, and local civil society" (AfDB, 2008, p. 55).

44. On proper policy and budget planning, see, e.g., the World Bank's *Public Expenditure Management Handbook* at http://siteresources.worldbank.org/INTPEAM/Resources/pem98.pdf [accessed 25 August 2009].

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