HOMICIDE—‘injuries inflicted by another person with intent to injure or kill, by any means’ (WHO, n.d.)—places a heavy economic burden on societies that experience this form of violence. Family and friends suffer when a loved one is killed, but their community and society also pay the price. The impact of homicide is physical, social and psychological, and also economic, and its costs are both direct and indirect. As one journalist put it, ‘[t]he tab for taxpayers and society starts running as soon as a bullet strikes someone, from detectives on the street and trauma surgeons at the city’s public hospital to months of rehab for victims and years of court proceedings for the accused’ (Jones and McCormick, 2013). This chapter calculates the direct costs of homicide by estimating the economic loss to society.

Attempts by policy-makers, practitioners, and scholars to establish evidence of the diverse impacts of violence in general, and of homicide in particular, cover a wide range of issues, such as loss of life and health (victims and victimization), the undermining of trust in institutions and security providers (perceptions and attitudes towards the justice system and its institutions), and the direct costs generated by different forms of violence. All of these form part of the social cost of homicide. Estimates of the direct costs of homicide represent the potential material benefits to the wider society of reducing this form of violence.

This chapter focuses on the economic loss to society of homicide and the benefits of reducing it, using two key concepts: ‘excess homicide’ and average life expectancy. The first refers to an ideal situation in which violence is rare and people can expect to live without the fear of meeting a violent death. Excess homicide is the difference between a ‘normal’ or ‘natural’ level of homicide (see Box 5.1) and the incidence of homicide observed in reality. By comparing average life expectancy in 105 countries for which age and sex-disaggregated data is available, with the life expectancy these countries would have had in the absence of excess homicide, it is possible to estimate how many more months on average people would have lived in a context of a ‘normal’ level of homicide. The economic impact is calculated on the basis of how much more the victims of homicide would have contributed to the economy during those additional months.

Before presenting the main findings it is important to highlight a few points regarding the methodology, data coverage, and calculations used in this chapter. First, since the data required in order to calculate the economic cost of excess homicide needs to be disaggregated by the sex and age of the victims, and the means used to murder them, this chapter does not use the database employed in other chapters in this edition of the Global Burden of Armed Violence (GBAV).

Second, since income and economic productivity vary greatly from one country to another, so does
the *absolute* cost of homicide. For example, an increase in the number of homicides in Singapore, where the per capita income in 2012 was USD 54,007, will cost more *in absolute terms* than a similar increase in Afghanistan, where per capita income in 2012 was only USD 688 (World Bank, 2014a). In this sense, the murder of a Singaporean has a higher cost *in absolute terms* than the murder of an Afghan. It is important to underline here that the economic cost in monetary terms has no bearing on the *value* of a human life, merely that in absolute terms the forgone income depends on the country’s wealth.

The chapter finds that:

- In 2010 alone, the global cost of homicide was estimated at USD 171 billion, roughly the equivalent of Finland’s GDP that year.
- The estimated cost of homicide in absolute terms varies in response to global economic fluctuations. The global cost of homicide was thus USD 160 billion in 2000, USD 201 billion in 2004, and USD 171 billion in 2010.
- Although there has been a decline in excess homicide in recent years, both in absolute and in proportional terms, its cost is increasing.
- Excess homicide claimed almost 3 million lives between 2000 and 2010, which is roughly the equivalent of the population of Jamaica.
- If the global homicide rate between 2000 and 2010 had been reduced to ‘normal’ or ‘natural’ levels, the estimated savings would have amounted to some USD 1.984 trillion, roughly equivalent to 2.64 per cent of global GDP in 2010.
- The elimination of global excess homicide in 2010 would have extended per capita life expectancy by 7 weeks and added the equivalent of USD 29 to each person’s annual income.
- The victim’s sex is a more significant determinant than age or income of the economic cost of homicide.
- Although they do not account for the largest number of homicides, upper middle-income and high-income countries (UMICs and HICs) experience the greatest economic costs of homicide *in absolute terms* and therefore stand to reap the largest *absolute* economic gains from reducing it.

**Lowering rates, but increasing costs of homicide**

This chapter builds on several of the concepts raised in the 2008 edition of the GBAV, in particular in Chapter Five. The study on which that chapter was based looked at several methods and approaches to measuring the cost of homicide. The present chapter, however, uses a single methodology to estimate the global cost of homicide—not only across time but also across sex, age, and income levels.

In focusing principally on the *cost* of homicide, and not its origin, scope, or direction, this chapter complements the overview of global patterns and trends in lethal violence set out in earlier chapters. Though largely stable or in decline since 2000, there has been a spike in the incidence of homicide in certain regions, in particular across Central America, Northern Africa, and the Middle East. Chapter Three looks at global patterns of lethal violence against women and girls. Although there has been a global decline in the incidence of female homicides and femicides since the 2011 edition of the GBAV, the gap between countries with very high and very low lethal violence against women and girls has widened.
As stated earlier, despite the decline in the absolute number of homicides, and in the proportion of homicides relative to population size, the absolute cost is increasing in dollar terms. This is because people are living longer and more productive lives. Thus, the murder of a 25-year-old in a country with an average life expectancy of 75 years has a greater absolute economic impact than in a country where average life expectancy is 50 years because of the greater forgone economic contribution.

This fact becomes especially apparent when comparing the cost of homicides in HICs that experience relatively severe violence, such as the Russian Federation and the United States, and poorer countries in which homicides are less common, such as Bangladesh and Peru. Although the Russian Federation and Peru saw a similar decline in homicides between 2004 and 2010, the absolute cost of excess homicide in the Russian Federation fell from USD 5.56 million per 100,000 inhabitants to USD 3.86 million, whereas, by the same measure, that of Peru fell from USD 1.27 million to USD 809,000 (CERAC, 2014a). The decrease in cost—and the absolute burden—was considerably greater in the case of the more violence-affected country, pointing to larger economic benefits that would be obtained by reducing excess homicides.

This chapter presents a methodology for calculating the cost of excess homicide in non-conflict settings, and therefore excludes the casualties of armed conflict and the enormous economic costs of war.7 It also excludes the myriad indirect costs of violence (McCollister, French, and Fang, 2010), such as the cost of crime (Cohen, 2000), gunshot- or knife-related injuries (Corso et al., 2007), or investing in security (IEP, 2014). This helps to explain the consistently lower estimated costs of homicide presented in this chapter than in many other studies. Since the chapter is focused on the direct costs of excess homicide related to average life expectancy, the vast array of indirect or intangible costs lies beyond its scope.

The chapter’s central finding is that homicide is costly in all country income categories, but that, in absolute (dollar) terms, the cost is not evenly spread across or within countries. Solely in terms of gains in life expectancy and lost product, this chapter finds that the global cost of homicide is unevenly distributed across the criteria of income, sex, and age in four important ways:

- Excess homicide imposes a greater economic cost in absolute terms in richer countries than in poorer ones.
- In absolute terms, excess male homicide represents a much higher economic cost than excess female homicide.
- Fluctuations in homicide levels impose a disproportionately high absolute cost among younger age groups.
- In absolute terms, countries with the highest rates of homicide also experience the highest level of firearm-related lethal violence.

This chapter is divided into three sections. The first covers the aggregate cost of homicide and the increase in average life expectancy from reducing excess homicide both globally and by country income category. The second examines the cost of homicide disaggregated by sex and age. The final section looks at the cost of homicide by firearms in some of the world’s most violent countries.

Estimating the cost of homicide

There are many ways to estimate the cost of homicide. Some studies include both the direct and indirect costs, such as the administration of
an extensive criminal justice system, health costs, and generous ‘back-of-an-envelope’ calculations of lost economic productivity. Some of these studies generate far more daunting estimates than those presented in this chapter. Combining the annual costs of investigation, legal defence, incarceration, parole and probation, and forgone economic productivity, one such study estimated the average economic cost of each homicide in the United States to be USD 17.25 million (DeLisi et al., 2010).

The Institute for Economics and Peace (IEP) has published a comprehensive estimate of the economic costs of preventing violence. Applying a dozen categories or cost items—including expenditure on military, private security, and peacekeeping missions—it estimates the annual global cost to be at least USD 9.46 trillion (an estimated 11 per cent of global GDP) (IEP, 2014). Clearly, this estimate is relatively high because it includes and values all of the inputs needed to curtail violence. Many prominent studies focus only on the conflict-related costs of violence, ignoring patterns of lethal violence in non-conflict settings (Skaperdas et al., 2009; Stiglitz and Bilmes, 2008); others calculate the economic costs of merely the threat of conflict, even if it never materializes (Garfinkel and Skaperdas, 2007).

This chapter draws on a rich literature that has been addressing the economic cost of violence since the 1980s, but is unique in combining several of these studies in an innovative methodology for mapping the cost of excess homicide. Although some studies have calculated the development costs of armed conflict (Gates et al., 2012), or the economic cost of drug-related violence in a specific country (Robles, Calderón, and Megaloni, 2013), none has comprehensively addressed the global cost of homicide across time, sex, age, and income. The chapter therefore offers new insights into the
impact of excess homicide between and within country income categories, and identifies which demographic groups suffer the highest economic burden of homicide and which stand to gain the most from its reduction. The chapter also breaks new ground in using the concept of a ‘natural rate of homicide’ in calculating potential—but precise—gains in average life expectancy from reducing excess homicide to the ‘natural’ rate.

This methodology draws on the following works on the cost of violence and the reduction of life expectancy. Pollard (1988) and Arriaga (1996) calculated changes in the life expectancy of different age groups based on various causes of death and their associated cost. Aristizábal et al. (2001) built on this method to determine the change in the life expectancy of residents in the Colombian city of Medellín from the top six causes of death in that city.

More recently, scholars have begun to examine the impact of violence in terms of reducing both average life expectancy and economic productivity. Becker, Philipson, and Soares (2005) calculated the impact of all causes of death between 1960 and 2000—including infectious diseases, diabetes, suicide, and homicide—on average life expectancy in 96 countries, concluding that life expectancy worldwide had become more equal. Soares (2006) took this a step further by calculating the cost of violence in 73 countries, concluding that a year of life expectancy lost to violence is equivalent to 3.8 per cent of per capita income over a person’s lifetime.

In general, most estimates find that poorer and more violent countries bear a higher economic burden of violence and would need to pay a disproportionately high percentage of their national income in order to reduce it compared to richer countries experiencing the same proportion of homicides in relation to their total population.
Córdoba and Ripoll (2013) estimate that in countries with a per capita GDP of around USD 20,000, people were willing to pay roughly 2 per cent per capita GDP for an extra year of life expectancy. This increased to 3 per cent in countries with a per capita GDP of USD 5,000, and to 14 per cent in countries with an even lower per capita GDP.

International organizations have also sought to determine the costs of violence. In 2013, the United Nations Development Programme (UNDP) examined the costs of crime in its Regional Human Development Report for Latin America (UNDP, 2013a). Analysing both the direct and indirect costs of violence—such as hospital bills, increased private security, and the self-imposed restriction of movement and recreation—it found that in 2010 the total cost of crime and violence represented around 3 per cent of GDP in Chile, Costa Rica, and Uruguay; 8.7 per cent in Paraguay; and 10.6 per cent in Honduras (UNDP, 2013b, p. 6).

Since both consumption and recreation are dramatically limited by insecurity, the UNDP (2013a) report found that many Latin Americans favour heavy-handed measures in response to crime, and that 85–90 per cent also favour harsher responses from their criminal justice systems. In determining the economic costs of violence, the report was also ground-breaking in calculating not only the direct costs of violence, but also the myriad indirect costs associated with anticipating and responding to it.

Similar to the research presented in this chapter, UNDP (2013a) calculated the life expectancy lost to homicide and the per capita gains to GDP from eliminating excess homicide in Latin America in 1990, 2000, and 2009. While in 2009 Latin Americans overall would have gained an extra nine months in average life expectancy in the absence of excess homicide, Colombians, Guatemalans, Salvadorans, and Venezuelans would have gained
more than an extra year. In dollar terms, Latin Americans lost 0.5 per cent per capita GDP to homicide in 2009, or USD 51 per person over their entire lifetime. In El Salvador and Guatemala, this figure jumped to USD 78 and USD 84 respectively—more than 1 per cent of per capita GDP (UNDP, 2013a, p. 105).

The World Bank has examined the cost of violence on economic development. Its 2011 World Development Report found that countries which experienced war in the 1980s showed 8 per cent less reduction in poverty than those that had not. Equally, it found that countries that had experienced (civil) war took an average of 14 years of peace to return to pre-war rates of economic growth (World Bank, 2011, pp. 60–63).

This chapter presents research that considers the (direct) economic cost of homicide expressed in terms of reduced average life expectancy and the associated valuation of forgone economic income. Effectively, it calculates the opportunity cost of a life cut short by homicide. This provides a precise estimate of the costs associated with homicide and the potential gains in wellbeing if such violence is reduced. It is the only study to provide a comprehensive valuation of the economic savings that could be obtained by reducing homicides to ‘natural’ levels, using a method that is grounded in economic data.

This method of valuation depends on three factors. First, the economic value or product a hypothetical individual can be expected to contribute to the national economy over a lifetime. Second, the extent to which homicide affects average life expectancy. Third, the effect on a country’s per capita GDP.
capita GDP of a decline in average life expectancy caused by excess homicide. Excess homicide is subtracted from the mortality rate from all causes in order to calculate how much longer people would have lived in the absence of excess homicide. The calculations are adjusted for differences in purchasing power across countries, and take into account patterns of lifetime consumption between country income categories.

With this theoretical average life expectancy, usually measured in months per person, each country’s observed GDP per capita is used to estimate how much a hypothetical individual would have contributed to the national economy in these additional months. This chapter refers to this final individual or aggregate figure as the ‘economic cost of homicide’. The intangible costs of homicide—which are no doubt legion—are not included in these estimates, although the chapter briefly introduces a valuation of how much an average person in different countries would have been willing to pay to avoid excess homicide. Indirect costs are included in the calculations since they are based on the forgone economic value added.

For the cost of homicide to rise, one of two things must happen: either an increase in the economic value of life relative to the homicide rate, or an increase in the homicide rate relative to the economic value of life (of course, both could rise). Since the global rate of homicide declined between 2000 and 2010, its increasing cost must be due to an increase in the per capita capacity to create economic value. In other words, although the global cost of violence is rising, the world overall is becoming more prosperous and less violent (see also Chapters Two and Three for recent trends in lethal violence and specific types of homicide).

Although there is evidence that violence can be reduced, and some countries experience much lower levels of violence than others, it is unlikely that any society has succeeded in entirely eradicating homicide (see Box 5.1). The concept of a ‘natural rate of homicide’ refers to the difference between a ‘normal’ or ‘natural’ rate and observed levels of homicide. The closest parallel in the literature is the ‘natural rate of crime’, a concept dating from the 1980s (Buck et al., 1983; Friedman, Hakim, and Spiegel, 1989).

Box 5.1 Explaining ‘natural’ and ‘excess’ homicide

The ‘natural rate of homicide’ assumes that certain forms of intentional killing, but not all, will become a thing of the past.

In this sense, ‘excess homicide’ refers to an aggregate number of murders that exceeds the ‘natural rate of homicide.’ Calculating this figure relies on what is assumed to be an achievable goal of expected or ‘natural’ homicide levels. It would be unreasonable to use the lowest rate, because it would set an unachievable violence-reduction goal. Using the average rate tends to give more weighting to high-homicide countries. In order to avoid these extremes, the second quintile average homicide rate is used, providing a reasonable figure, i.e. a relatively low goal that all countries could achieve.

The research (CERAC, 2014b) on which this chapter is based divides the 105 countries for which the disaggregated data was available into quintiles according to average homicide rates per 100,000 population in 2010, from the lowest to the highest. The first quintile includes countries such as Cyprus, Japan, Oman, Portugal, and Switzerland. The second quintile lies between 0.1 and 4.7 and includes countries such as China, India, and Indonesia. The ‘natural rate of homicide’ is the equivalent of the average homicide rate of the second lowest quintile. This is because more countries are concentrated in the second quintile than the third. The second quintile is assumed to be a country’s ‘natural rate of homicide’, because even in the absence of organized forms of killing, it would be unreasonable to expect the global average rapidly to reach that of, say, Cyprus or Switzerland.

The natural rate of homicide is of 2.8 per 100,000 inhabitants in 2000, 2.7 in 2004, and 2.3 in 2010. This implies a decrease in the natural rate between 2000 and 2010 of nearly 18 per cent (CERAC, 2014b).

The actual observed rate of homicide in the 105 countries under review also fell from 6.9 homicides per 100,000 inhabitants in 2000 to 5.8 in 2010. At this rate, it could plausibly reach 4.9 by 2020 and 2.4 by 2040—leading to significant gains in average life expectancy and economic development (CERAC, 2014a).

Author: Gabriela Gutiérrez, Margarita Marín, and Nicolás Ronderos
While criminals or repressive states may refrain from using homicide as a means with which to obtain their objectives, there are always some people who do not. Intimate partner and domestic violence, for instance, are notoriously difficult to eradicate (see Box 5.2 and Chapter Three). In a non-conflict context, violence against women is far more likely to be perpetrated by a male acquaintance or intimate partner than by stranger (CDC, 2014). The ‘natural rate of homicide’ is in part an attempt to account for the enduring problem of interpersonal violence, which is more ‘resistant’ to interventions and justice institutions.

**Box 5.2 The cost of violence against women**

Awareness of the socio-economic impact of violence against women can inform government policies or programmes aimed at tackling it and also make it possible to examine the link between its prevalence and economic growth (Day, McKenna, and Bowlus, 2005, pp. 14–15). Although there is no consensus on how to measure the costs of violence against women, recent studies have tried to evaluate the relative burden of public expenditure and the costs borne by women experiencing such violence (Varcoe et al., 2011, p. 363). The final figure takes account of the direct (tangible costs to the public sector), indirect (intangible costs borne by the victim), and opportunity costs of violence (the heightened socio-economic disadvantages faced by women and girls as a result of victimization) (Buvinic, Morrison, and Shifter, 1999; Day, McKenna, and Bowlus, 2005, pp. 6–7; Intervita, 2013, pp. 30–31).

Calculating the costs of violence against women is complicated by the fact that different studies use different methods of estimation, focus on different types of violence (intimate partner or domestic violence), count various types of costs (to individuals, the state, and employers), and often report total costs for a specific demographic group or social sector (Council of Europe, 2012; Varcoe et al., 2011, p. 363). Although overall associated costs to the victim, government, and society are often given, few studies offer a detailed breakdown of the exact costs that can be attributed to violence against women (Varcoe et al., 2011, p. 363). One reason for this is the lack of data, which makes it difficult to measure the effects and costs of violence (Day, McKenna, and Bowlus, 2005, p. 18). A recent exception to this is the ‘Quanto costa il silenzio?’ report—meaning ‘What is the cost of silence?’—published by the Italian NGO Intervita (2013).

The Intervita report conceptualizes violence against women as violence experienced both in the home (inflicted by a current or former partner) and outside the home (e.g. in the workplace or perpetrated by strangers). Data for the study was obtained from *La Violenza Contro le Donne* (ISTAT, 2006), a review of violence against women in Italy based on a survey of 25,000 women of between 16 and 70 years of age who have suffered intimate partner and non-partner violence. The survey data was supplemented by nine semi-structured interviews with such women. An innovative aspect of the study is the way indirect and social multiplier costs are estimated. Drawing on the methodology developed for estimating economic compensation for victims of road accidents—which in the Italian context is a ratio of a victim’s age and degree of disability as a result of the accident—the study concludes that the overall indirect and social multiplier costs of violence against women in Italy is about EUR 14.3 billion (approximately USD 16.2 billion) (Intervita, 2013, p. 15). When the direct costs to the public sector (EUR 1.8 billion) (USD 2.1 billion) and the economic multiplier costs (EUR 604 million) (USD 6.9 million) are added, the total is estimated at EUR 16.7 billion (USD 19.19 billion). The study also shows that the costs related to the prevention of violence against women would be around EUR 6.3 million (USD 7.2 million) (Intervita, 2013, p. 15).

The direct costs of violence against women include, in descending order of magnitude, health care (26%), judicial proceedings (24%), legal fees (16%), public order (13.3%), psychological counselling (9%), social services (8.7%), medication (2.5%), and anti-violence centres (0.4%) (Intervita, 2013, p. 15).

**Author:** Jovana Carapic
The aggregate cost of homicide and life expectancy gains from reducing it

In order to obtain a more precise estimate of the homicide cost across time and country income categories, one can calculate society's willingness to pay for reducing violence to 'natural' levels (see Box 5.5). While homicide declined by nearly 11 per cent overall between 2004 and 2010, the economic cost of these deaths increased by 2.4 per cent. This is because an increase in average life expectancy and the greater economic value this generates pushes up the cost of violence in absolute terms. For example, between 2000 and 2010, average life expectancy increased by over two years in LMICs and by nearly three years in non-OECD HICs, and each of these groups' GDP per capita grew by 50 per cent over the same period, from USD 3,000 to USD 4,500 in LMICs and from USD 19,400 to USD 29,600 in non-OECD HICs (CERAC, 2014a). The longer, safer, and more productive people's lives become, the higher the aggregate economic cost of homicide (see Figure 5.1).

The absolute increase in the cost of violence between 2000 and 2010 does not relate to population growth (see Figure 5.2). On the contrary, due to large population growth, the per capita cost of homicide fell, from USD 35.9 in 2000 to USD 34.5 in 2010, a decline matched by a decrease in homicides, from 6.9 per 100,000 in 2000 to 5.8 per 100,000 in 2010 for the 105 countries surveyed. If homicides in these countries had halved between 2000 and 2010, an additional 136,000 lives would have been saved (CERAC, 2014a).

The cost and incidence of homicide varies significantly by country and country income category. Though some poorer countries are more prone to violence (Cramer, 2006; Kennedy et al., 1998), as explained earlier, homicide exacts a greater absolute economic toll in richer countries simply because the population loss is costlier in the monetary valuation of forgone income. High-income countries...
that have high homicide rates, such as the United States, clearly face higher associated costs than less violence-affected countries in the same income bracket, such as Canada.

Colombia is a good case in point. Compared with the period 1950–1980, its average annual growth fell by 2 percentage points between 1980 and 2005 because of armed conflict (Cárdenas, 2007). Recent estimates show that GDP would have doubled twice as quickly in the absence of conflict-related violence, assuming that criminal violence remained static. This implies that Colombians’ per capita GDP would have increased from the 2013 rate of USD 11,200 to USD 16,700 (Villa, Moscoso, and Restrepo, 2013).

To better understand the cost of homicide in relation to a country’s economy, the 105 countries included in the sample are grouped by income rather than by geographical, political, linguistic, or cultural factors. Income-based categories do not, however, always accurately pinpoint global trends in violence and development. For instance, some of the most violence-affected countries in the Americas (e.g. Brazil, Colombia, and Venezuela) are defined as UMICs along with some of the least affected countries in East Asia (e.g. China). Similarly, LMICs include countries that are relatively free of violence (e.g. India, Egypt—before the Arab Spring—and Morocco) with countries that experience severe levels of homicide and lethal violence (e.g. El Salvador and Guatemala). The high-income OECD countries are largely characterized by low levels of violence and high economic development, although the significantly higher homicide rates in the United States skew the OECD averages. The same holds for the Russian Federation among non-OECD HICs.

Figure 5.3 shows the cost of excess homicide expressed as the lost per capita GDP in each country income category between 2000 and 2010. Non-OECD HICs that experience an above-average number of homicides show disproportionately high associated costs since they also have high average life expectancy as well as high average income. Thus, although non-OECD HICs comprised only 3 per cent of the total global population in 2010, they accounted for 14 per cent of all global homicides in that year, with associated costs four times greater than the global average (CERAC, 2014a).

Second, the sharp increase in the per capita GDP loss due to excess homicide in 2004 was caused not only by rising life expectancy in many countries and increasing economic activity (which entails growing per capita GDP) worldwide, but also by the sharp spike in homicide rates (CERAC, 2014a).

While the global cost of homicide increased by 18 per cent between 2000 and 2004, in UMICs and OECD countries it rose by 4 per cent and 11 per cent respectively. In contrast, homicide-related costs in non-OECD HICs rose by 21 per cent, despite the fact that their share of global homicides declined over the same period.
The variation in costs between country income categories is due to variations in life expectancy and huge wealth disparities. Life expectancy and per capita GDP increased more rapidly in non-OECD HICs between 2000 and 2004 than did the fall in the number of homicides, hence pushing up the absolute cost.

In 2010, fluctuations in the cost of violence in non-OECD HICs were significant enough to bring down global average costs, with the effect that the cost of excess homicide fell by 26 per cent, reducing the global average cost of homicide by 17 per cent, despite the fact that the cost of violence increased in the three remaining country income categories between 2000 and 2010 (CERAC, 2014a). Figure 5.4 depicts the cost of homicide as a percentage of per capita GDP. As in previous findings, it varies significantly: homicide has a relatively low economic impact on LICs, MICs, and OECD countries, but a much more considerable one on LMICs and UMICs and non-OECD HICs.

The cost of excess homicide in LMICs and OECD countries in 2000 was around USD 64 million and USD 1.54 billion respectively, in UMICs it was USD 2.18 billion, and in non-OECD HICs it was USD 433 million. As a percentage of per capita GDP, homicide was highest in non-OECD HICs; in absolute terms, however, it was highest in UMICs—the income category with the world’s highest levels of violence and representing nearly half of the global total homicide-related costs that year (CERAC, 2014a).\(^\text{18}\)

Although there were no significant cost variations in 2004, there were significant declines in both UMICs and non-OECD HICs in 2010. This is because homicides in UMICs fell from 195,172 in 2004 to 167,542 in 2010 and from 41,258 to 27,382 in non-OECD HICs, while life expectancy rose by more than six months in the former and by nearly three years in the latter (CERAC, 2014a).

Several conclusions can be drawn from the above findings. First, the economic cost of life lost due to homicides in non-OECD HICs and UMICs appears to be much higher than was previously thought. Countries with a relatively large, rich economy and a high homicide rate would reap the largest benefits in absolute (dollar) terms from reducing this form of violence. Second, since non-OECD HICs experienced the greatest increase in per capita GDP over the period studied, any variation in their homicide rate—whether up or down—is likely to have a disproportionate effect on the associated cost. In practice, the sharp increase in per capita GDP combined with a sharp fall in homicide rates meant that the economic costs in absolute terms also fell. In OECD countries, where per capita GDP increased while homicide rates remained stable, the per capita cost of homicide rose.

Overall, a reduction of homicide in OECD and non-OECD HICs will automatically make a significant impact on reducing the global economic burden of homicide in absolute terms—while a failure to reduce homicide will weigh heavily on the associated global costs. As the economies of LMICs and UMICs develop, the financial burden of homicides
will increase, and such forms of violence will hamper their development.

The calculation of the cost of homicide is intimately tied to average life expectancy. When a greater number of deaths are caused, for instance, by car accidents and heart disease, resulting in a decline in overall life expectancy, the (relative) cost of homicides falls. No less significant than the decrease in global homicides was the increase in life expectancy experienced between 2000 and 2010 in all country income categories, from an extra six months in UMICs to nearly three extra years in non-OECD HICs. Although increased life expectancy was largely due to a rapid decline in mortality from infectious diseases and malnutrition and the improved survival of young children (Boseley, 2012), the overall decline in the number of homicides certainly contributed.

If excess homicide were still further reduced, life expectancy gains would be correspondingly higher—from an extra two months in UMICs to just over six extra months in non-OECD HICs (CERAC, 2014a) (see Figure 5.5).

The gains in average life expectancy from reducing excess homicide are overwhelmingly in the middle range of UMICs and non-OECD HICs rather than in country income categories at either extreme (LMICs and OECD countries). This is partly because LMICs and OECD countries have lower homicide rates to begin with, which means that reducing their number has a smaller effect on life expectancy than, say, reducing heart disease, car accidents, or diabetes. On the other hand, LMICs have a measurably lower average life expectancy to begin with. Since premature death in LMICs is overwhelmingly of non-violent causes, a reduction in homicide rates is bound to have less of an impact on

**Figure 5.5** Gains in life expectancy in the absence of excess homicide (in months), 2000–10

<table>
<thead>
<tr>
<th>2000</th>
<th>2004</th>
<th>2010</th>
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<tr>
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Gains in average life expectancy (months)

**Source:** CERAC (2014a)
overall mortality rates and life expectancy than in countries with higher levels of violence.

From an aggregate perspective, several developments stand out. First, the period from 2000 to 2010 saw a significant decline in the incidence of homicide in conjunction with significantly increased life expectancy in all country income categories. These two factors drove up the absolute homicide-related costs worldwide: excess homicide becomes more ‘expensive’ in terms of life expectancy and has a more serious impact in absolute (dollar) terms. Second, the fact that the world became a safer, more prosperous place depressed the theoretical savings from reducing excess homicide. Otherwise stated, the absence of excess homicide in 2000 would have brought greater economic gains than in 2010 in every country income category except the OECD countries.

**Costs of excess homicide by demographic group**

As already shown, the cost of homicide varies significantly across country income categories, since *in absolute terms* poorer countries with low life expectancy and low homicide rates have the lowest costs associated with excess homicide, while richer, more violence-affected countries have the highest. Of course, since they are based on aggregates, country income categories mask a number of important realities, including potentially huge cost disparities within these categories and also within individual countries, just as other simple demographic indicators may do.

For instance, a victim’s sex is an important determinant of the excess cost of homicide. Since men are overwhelmingly the victims of homicide, they also represent a considerably higher cost as a demographic group (see Figure 5.6).

**Figure 5.6** Sex-disaggregated per capita GDP lost to excess homicide in 2010

<table>
<thead>
<tr>
<th>Total</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
</table>

**Sex-disaggregated loss in GDP per capita in 2010 (USD)**

- World
- HICs (non-OECD)
- HICs (OECD)
- UMICs
- LMICs

*Source: CERAC (2014a)*
Figure 5.6 shows that men are far more often the victims (and indeed the perpetrators) of homicide than women, although it masks the indirect and intangible costs disproportionately suffered by women—in addition to the fact that 60,000 women were killed each year between 2007 and 2012, representing 16 per cent of all homicides (see Chapter Three; Radford and Russell, 1992; Sagot and Carcedo, 2000). In addition, women are significantly more affected than men for non-lethal intimate partner and domestic violence and often suffer higher indirect costs (Box 5.2; Arias and Corso, 2005). While men are far more likely than women to be attacked by someone unknown to them, women are overwhelmingly the victims of violence perpetrated by an intimate partner or acquaintance (Agüero, 2013). In times of conflict, women are frequently the victims of sexual violence committed by unknown men, but they are also the primary victims of intimate partner violence and are by definition the sole victims of femicide (Chapter Three; Stöckl, et al., 2013). Moreover, when male breadwinners are murdered, they leave economic dependants—most often women and children—stranded (Day, McKenna, and Bowlus, 2005). Box 5.3 takes a closer look at the impact of excess homicide on male and female life expectancy, bearing in mind the fact that women tend to outlive men.

In relation to age, young people—particularly from birth to the age of 29 years—are far more often the victims of homicide than are older people. This both affects the economic costs of such homicides and significantly reduces average life expectancy.

There is a broad literature on youth and violence—most of which is beyond the scope of this chapter—but several factors regarding the dynamics between age and susceptibility to homicide are worth mentioning. First is the question of vulnerability: the World Health Organization (WHO) estimated that 53,000 children worldwide were intentionally killed in 2002 (WHO, 2006)—with twice as many in LICs than in HICs. Children from birth to four years of age were especially vulnerable (WHO, 2006). Second, of an estimated 187,000 conflict-related deaths in 2008, WHO estimates that 47 per cent of victims were aged from birth to 29 years of age, 73 per cent of whom were of men aged between 15 and 29 years (WHO, 2006).

Third, research shows that ‘youth bulges’—or sudden demographic increases in younger populations—tend to be associated with increased political violence (Urdal, 2006). When economic decline is combined with greater levels of education, societies are unable to provide appropriate employment to absorb such a large number of new graduates. This can in turn lead to intergenerational violence, one of the more common explanations for unrest in the Arab world since early 2011 that resulted in a disproportionately high casualty rate of younger men (Schwartz, 2011; Hoffman and Jamal, 2012).

The methodology used in this chapter suggests that young people, men in particular, incur considerably higher costs of excess homicide than do older adults. Indeed, the largest hypothetical gains in life expectancy from eliminating excess homicide are among people of between 15 and 24 years of age. Since young people have longer to live, there is a disproportionate benefit in reducing excess homicide in this age group.

More specifically, young people in LMICs and UMICs gain the most in life expectancy from a reduction in excess homicide, in particular those in UMICs who are aged between 15 and 19 years. In 2000 alone, homicide cut short this age group’s life expectancy by 6.8 months. High-income countries stood to gain the least, probably because murder rates are much lower in OECD countries and so have much less of an impact on overall...
Box 5.3 Homicide and life expectancy disaggregated by sex

Figures 5.7 and 5.8 present sex-disaggregated life expectancy across country income categories in 2000 and 2010. They show little difference between the world average and that of UMICs and non-OECD HICs, which suggests that the former is largely determined by countries in the middle of the economic spectrum. LMICs and OECD countries occupy the lower and upper extremes of life expectancy, which suggests that life expectancy is highly contingent on country income level. Both figures show that on average women outlive men—by almost five years in OECD countries in 2000.

As shown in Figure 5.8, men lose roughly four times more months of life expectancy than women to homicide. This is true both of the world average, and of UMICs and non-OECD HICs. In OECD countries, men lose twice as much as women to homicide. Only in LMICs, where homicide rates are considerably lower than the global average does homicide have an equal effect on the life expectancy of men and women.

Author: Nicolás Ronderos

Figure 5.7 Life expectancy disaggregated by sex and country income category, 2000 and 2010

Source: CERAC (2014a)

Figure 5.8 Months of life expectancy lost to homicide disaggregated by sex and country income category, 2000 and 2010

Source: CERAC (2014a)
life expectancy than, say, heart disease or liver failure. In 2010, for example, people aged between 15 and 19 years in OECD and non-OECD HICs would have gained 0.09 per cent and 0.36 per cent of per capita life expectancy in the absence of excess homicide, whereas those of the same age group in LMICs and UMICs would have gained 0.67 per cent and 0.50 per cent respectively. The global average is 0.38 per cent (CERAC, 2014a).

Moreover, in 2000, in OECD countries people aged between 75 and 79 years saw higher gains in life expectancy from a reduction in excess homicide (0.19 per cent) than did 15–19 year-olds (0.12 per cent). In other words, income is a more important factor than age in determining gains to

**Box 5.4 Global gains to life expectancy**

In absolute terms, certain demographic groups are at a disproportionately high risk of homicide affecting lost life expectancy and per capita GDP: the young, the rich, and men. In the case of young people, it is because they have more to contribute to the national economy over their lifetime than those who have already been in the workforce for years. In other cases, it is because a particular demographic group (e.g. men) is far more often the victim of homicide. Hence the (theoretical) reduction of excess homicide rates increases their overall economic contribution.

Moreover, while one can calculate the gross cost of several very important factors in people's quality of life—how long they live and how much they can contribute to their respective economies—it does not and cannot measure the countless indirect costs of homicide, whether psychological, moral, social, or political (Skaperdas et al., 2009).

Figure 5.9 displays the gains accruing to each age group and sex in the absence of excess homicide as a percentage of the global average life expectancy in 2000. Several issues stand out. First, regardless of sex, every age group shows substantial increased life expectancy between 2000 and 2004 when subtracting for excess homicide, a reflection of the increase in global homicides for the 105 countries surveyed. Second, gains for every age group and both sexes decline between 2004 and 2010, a reflection of a fall in excess homicides over that period. Third, there is an immense discrepancy in gains in life expectancy between women and men regardless of age.

Indeed, this is one of the most significant findings: sex is a consistently and significantly more important factor than age or income in determining how much a person's life will be cut short by homicide. Since men are overwhelmingly the victims of homicide worldwide, even those of over 60 years of age have more to gain in absolute life expectancy from reductions in excess homicide than do girls and women from birth to the age of 19 or between the ages of 20 and 39 years (CERAC, 2014a).

**Authors:** Gabriela Gutiérrez and Margarita Marín

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**Figure 5.9 Global gains to life expectancy by age group in the absence of excess homicide, 2000–10**

*Source:* CERAC (2014a)
life expectancy from reducing excess homicide, since young people in rich countries (e.g. 15-year old Belgians) gain less from hypothetical reductions of homicide than do older people in lower country income categories (e.g. Argentinean retirees). In a world where young people are considerably more likely to be the victims of homicide, this is a significant finding (CERAC, 2014a).

The cost of firearm-related homicides

It is estimated that between 2007 and 2012, approximately 46.3 per cent of all homicides were committed with firearms. Moreover, three of the world’s four most violent regions—Central America, the Caribbean, and South America—also experienced highest incidence of homicides committed with firearms, 69 per cent, 65 per cent, and 52.7 per cent respectively (Chapter Two). Indeed, the Americas have consistently seen increasing levels of excess homicide matched by increasing lethal firearm use (Gilgen, 2012).

There is considerable debate on how firearms affect overall homicide rates in much of the world (see Chapter Two), yet there is no standard way to measure the precise cost of gun-related murder. The methodology used in this chapter takes into account the economic value lost due to each person who is killed by whatever means, including with a firearm. It does not attempt to include the indirect or intangible costs of homicides committed with firearms, nor the considerable costs borne by those who survive being shot (Alvazzi del Frate and De Martino, 2013). In 2007, in the United States alone there were more than three times as many victims who survived gunshot injuries (44,500) as there were fatal shootings (13,000) (Hemenway, 2011).

The estimated cost of firearm-related violence varies substantially in different studies. In 2013, for example, the University of Chicago estimated that shootings cost the city USD 2.5 billion per year, or USD 2,500 per household (University of Chicago Crime Lab, 2009, p. 5). Since the combined cost of ambulance journeys and trauma-care bills amount to at least USD 250,000 per shooting, gun violence cost the United States USD 100 billion a year, the equivalent of 2 million police officers’ salaries (Jones and McCormick, 2013). In Canada, on the other hand, the Justice Department estimated the cost of firearms violence in 2008 at CAD 3.1 billion (USD 2.5 billion), or CAD 93 (USD 78) per person. Calculated by combining information from courts and insurance companies, CAD 2.5 billion (USD 2.1 billion) of this was attributed to intangible costs such as pain, suffering, and loss of life,24 and the remainder to criminal justice, personal and health expenses, and third-party costs (Beeby, 2012).

Since the countries most affected by homicide also tend to be in the middle to upper middle-income brackets, the corresponding cost of firearms is enormous—and rising. Of 89 countries studied, four of the five with the most to gain in life expectancy and per capita GDP from reducing homicide (Brazil, Colombia, South Africa, and Venezuela) also suffered the greatest cost of firearms violence in terms of life expectancy and lost GDP. One recent study found that Colombia would have increased its GDP by 1.6 per cent in the absence of excess homicide by firearms in 2000 alone—a year in which the country had a homicide rate of 66.5 per 100,000 totalling 26,540 victims (UNODC, 2014).

Unfortunately, relevant data on firearm-related lethal violence was available only in 89 of 105 countries with detailed homicide information—covering a third of the total world population. Detailed information on how many people—
disaggregated by age and sex—were killed by firearms was not available for China, India, Indonesia, and the Russian Federation, among others. While this necessarily limits the scope of the conclusions that can be drawn, it still offers crucial insights into the role that firearms play in the world’s most violent countries, practically all of which are included in the sample.

As stated above, four of the five countries with the most to gain in life expectancy and per capita GDP from the absence of excess homicide were also the most affected by firearm-related violence: Brazil, Colombia, South Africa, and Venezuela. The fifth is the United States, which in 2012 had a relatively low excess homicide rate—4.8 per 100,000 inhabitants (FBI, 2013)—

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**Figure 5.10** Contribution to total deaths by firearms in countries where data is available, 2000–10

<table>
<thead>
<tr>
<th>Country</th>
<th>Homicide by Firearms by Country (Thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iraq</td>
<td></td>
</tr>
<tr>
<td>Brazil</td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td></td>
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<tr>
<td>Colombia</td>
<td></td>
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<tr>
<td>South Africa</td>
<td></td>
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<tr>
<td>Venezuela</td>
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<tr>
<td>Mexico</td>
<td></td>
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<tr>
<td>El Salvador</td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
</tr>
</tbody>
</table>

Source: CERAC (2014a)
but a much higher proportion of firearm-related homicide (according to the FBI, 68 per cent of intentional homicides in 2011 were committed with firearms) (FBI, 2012). Add to this list El Salvador, Iraq, and Mexico, and these eight countries account for 87 per cent of deaths caused by firearms in the 89 countries for which such data was available (see Figure 5.10) (CERAC, 2014a).

How much do firearm-related homicides cost the worst affected countries per year? Even excluding indirect (medical, policing, incarceration, counselling, unemployment, disability) or intangible (psychological damage, guilt, fear, depression) costs, the burden is high. As Figure 5.11 demonstrates, in per capita terms homicide committed by firearms cost Venezuelans nearly USD 140 in 2010 alone, a total of USD 4 billion for a population of roughly 29 million. Although this estimate is significantly lower than studies that include indirect or intangible costs, the cost of firearm-related homicide is high and is often rising in countries that already suffer high levels of violence: between 2000 and 2010, of the eight most violence-affected countries only Colombia and South Africa showed a decline in firearm-related homicides.

In countries with rapidly growing economies the cost of firearm-related homicide is overshadowed by GDP growth. As Figures 5.11 and 5.12 demonstrate, although the absolute cost of firearm-related homicides in a country such as Brazil increased between 2000 and 2010, the percentage of GDP lost fell over that same period. The rate of economic and demographic growth either kept pace with or outstripped that of firearm-related homicides. Although between 2000 and 2010, the number of firearm-related homicides in Brazil rose by 12 per cent, as did its population (World Bank, 2014c), its economy grew from USD 645 billion in 2000 to USD 2.14 trillion in 2010, more than a 300 per cent nominal increase (World Bank, 2014b). This may explain why the cost of homicides committed by firearms is not regarded as a significant problem in such countries.

As this chapter has shown, gains in life expectancy from reducing excess homicide often coincide with an increase in per capita GDP. Of course, the
Box 5.5 How much would people pay for protection from lethal violence?

Given the chance to eliminate major risks to their wellbeing, most people will take it, even at considerable cost. It can be assumed that everyone is risk-averse to certain things, especially injury and death. Is it possible to determine the premium that the average person places on physical security? How much would an individual be willing to spend to remove the threat of excess homicide or lethal violence? Economists refer to this as the marginal willingness to pay.

Three factors determine a person’s willingness to pay for protection from lethal violence. Since one can assume those with less of a stake in the future are, in strict monetary terms, likely to value it less, the first factor is life expectancy. A 25-year old who can reasonably expect to live another 60 years, is more likely to be willing to spend more to eliminate the threat of lethal violence than is a person who can reasonably expect to live only for another 20 years. The second factor is a country’s standard of living, measured by per capita consumption. It may be assumed that people with better standard of living conditions would, in strict monetary terms, place a greater value on removing the threat of violence.

Take the example of Venezuela, which has the world’s highest marginal willingness to pay. In 2010, its per capita GDP was USD 10,400 and its marginal willingness to pay was around 9 per cent of this, or USD 936.

There are interesting differences between countries, however. Venezuelans and Colombians would be willing to pay more than ten times more to reduce lethal violence than would Uruguayans, although all three countries have similar average life expectancy and incomes. But since homicide is a greater risk in Venezuela and Colombia than in Uruguay, residents of the former two would place a greater premium on reducing violence. But what of people living in equally or even more violent countries, such as El Salvador or Honduras? Honduras has a lower per capita GDP than Venezuela or Colombia, which means that Hondurans are not in a material position to place such a high theoretical premium on reducing violence. Ultimately, the marginal willingness to pay is highest in countries with high per capita GDP, life expectancy, and levels of violence.

Author: Margarita Marín
Conclusion

As stated in the introduction to this chapter, it is unrealistic to imagine that any society will succeed in completely eradicating homicide. While there are grounds for guarded optimism regarding reductions in both the observed and the natural rate of homicide, the day that Central American countries, Brazil, Colombia, Venezuela, and South Africa reach Japan’s very low incidence of homicide seems a long way off. While Japan had a rate of 0.3 homicides per 100,000 inhabitants in 2011 (442 homicides), Venezuela’s was 65.6 (19,360), South Africa’s 30.0 (15,609), Colombia’s 35.1 (16,544), and Brazil’s 26.5 (52,198) (Geneva Declaration Secretariat, 2014).

Nonetheless, the overall trend is positive. In three of the four country income categories studied, and also worldwide, homicide rates substantially declined between 2000 and 2010 in the 105 countries reviewed. Although stagnant in most OECD countries, homicide rates have plummeted in UMICs, non-OECD HICs, and most the of world’s most violent regions. If the global rate of homicide continues to decline as rapidly between 2010 and 2020 as it did between 2004 and 2010, 63,250 lives will be spared. Calculated by per capita GDP in 2010, this is the equivalent of USD 850 million, the entire GDP of Guinea-Bissau that year (CERAC, 2014a).

The economic benefits of reducing homicide accrue disproportionately to the rich. In many ways, this makes sense. The per capita cost of homicide is highest where the average citizen is valued more in ‘market’ terms; any increase in average life expectancy in rich countries increases their ‘market value’. This is why policy-makers in rich countries should take the reduction of homicide as seriously as their counterparts in poorer countries do.

Since men are far more likely than women to be the victims of homicide, they stand to gain more in average life expectancy and per capita GDP when there are fewer murders. In addition, a person’s sex is a more important factor than income in determining the per capita cost of lethal violence. Age is also important, as children and young adults are disproportionately the victims of homicide in every country in the sample, and reducing its incidence generates far greater gains in life expectancy for those aged from birth to 39 years than for people of 40 years of age and above. Overall, however, income is a stronger determinant of life expectancy than age: in UMICs, the life expectancy of older people is more affected by their country’s homicide rates and per capita GDP than it is for the most vulnerable younger people living in OECD countries.

List of abbreviations

- GBAV: Global Burden of Armed Violence
- HIC: High-income country
- IEP: Institute for Economics and Peace
- LMIC: Lower middle-income country
- OECD: Organisation for Economic Co-operation and Development
- UMIC: Upper middle-income country
- UNDP: United Nations Development Programme
- WHO: World Health Organization

Endnotes

1. Due to the lack of available data for many countries, most of which are in sub-Saharan Africa, the sample used in this chapter covers only 105 countries, which together account for about 71 per cent of the total global population. Unless otherwise stated, the terms ‘global cost’ or ‘global population’ refer to this proportion of the total global population for which there is reliable data on homicide rates, life expectancy, and per capita GDP between 2000 and 2010.
For this reason, some figures for homicide rates and population differ from the data cited in the other chapters, because they employ a different sample size. See the methodological annexe for a complete list of the countries included in this survey.

Direct costs are the actual or potential economic value lost due to homicide, usually using income or economic value of production as the basis of calculation. Indirect costs refer to a subjective valuation of the impact of violence on society, for example of the fear engendered by homicide, which is difficult to express in monetary terms, but has an impact on the affected family and community; similarly, the stress a pregnant woman experiences if her baby is endangered by violence, which can be estimated precisely, is difficult to value (see Camacho, 2008). Another way to approach indirect costs is to calculate the costs of containing violence, which have been estimated by the Institute for Economics and Peace (IEP) at USD 9.46 trillion a year (IEP, 2014), although this figure tends to double count elements of security and justice provision.

‘Estimating the cost of homicide’ discusses the ‘natural’ homicide rate in more depth.

For the methodological details on how the monetary value of lives lost and reduced life expectancy are calculated see CERAC (2014b).

The 105 countries are broken down into four categories according to national income levels. Lower middle-income countries (LMICs) are with a per capita GDP between USD 976 and USD 3,855 (16 countries); upper middle-income countries (UMICs), with a per capita GDP between USD 3,855 and USD 11,905 (37 countries); high-income countries (HICs) that are OECD members, with a per capita GDP above USD 11,905 (29 countries); and non-OECD HICs (23 countries). The categories do not correspond to geographical regions: there are countries in Africa, Asia, Europe, and Latin America in almost every different income level.

Conflict-related costs are generally not included in homicide statistics. Although conflicts have a major economic impact, the majority of casualties tend to be in low- and middle-income countries (LICs and MICs). For more information on the costs of conflict, see Collier and Hoeffler (2002); Hoeffler and Reynal-Querol (2003); and Villa, Moscoso, and Restrepo (2014).

These include medical care, deterioration of health, material damages, public and private security expenditure, lost productivity, deterioration of investment and consumption, crime-prevention programmes, lower quality of life, and other intangible costs such as emotional and psychological damage and a general sense of fear that prevents people from participating in certain recreational activities, staying out beyond a certain hour, etc.

For a more expansive discussion on the ‘natural rate of crime’, see Narayan, Nielsen, and Smyth (2010).

A 10.6 per cent drop in the homicide rate between 2004 and 2010 was followed by a 3.13 per cent increase in the related economic costs over the same period. In dollar terms, costs rose from USD 76.5 billion in 2004 to USD 78.3 billion in 2010, compared to USD 67.9 billion in 2000.

The exact figures are 2.3 years’ increased life expectancy and a 49.6 per cent increase in GDP in LMICs, and 2.9 years’ increased life expectancy and a 52.6 per cent increase in GDP in non-OECD HICs (CERAC, 2014a).

This is notwithstanding a temporary increase in the per capita cost of homicide to USD 42.3 in 2004.

Per capita GDP in Peru rose from USD 4,625 in 2000 to USD 7,983 in 2010, from USD 2,889 to USD 3,820 in Indonesia, from USD 8,673 to USD 15,062 in the Russian Federation, and from USD 5,715 to USD 7,888 in South Africa (CERAC, 2014a).

The exact figure is 135,917. This is the difference between the actual number of homicides in the 105 countries surveyed in 2010 (286,220) and the number there would have been (150,926) if homicides in 2000 (308,012) had also declined by 51 per cent (CERAC, 2014a).

With 28.6 per cent of the global population in 2010, the UMIC bracket includes countries such as Argentina, Brazil, China, Colombia, Iraq, Jordan, Mexico, Peru, Romania, South Africa, and Venezuela.

With 25.4 per cent of the global population in 2010, LMICs include countries in Asia, Europe, Latin America, and North Africa such as Armenia, Egypt, Georgia, Guatemala, India, Indonesia, Moldova, Morocco, Nicaragua, Paraguay, Philippines, and Ukraine.

With around 15 per cent of the global population, the OECD includes most EU member states, Australia, Canada, Israel, Japan, Korea, and the United States.

UMICs recorded 186,176 homicides of a world total of 308,012 that year (CERAC, 2014a).

The figure for female homicides is based on the total world population and not the roughly 74 per cent generally used in this chapter. In terms of geographical regions, the world’s most affected regions for female homicide are in Central America and the Caribbean (see Chapter Three).

This was calculated using limited country-level data (WHO, 2006).

This means 2.58 and 1.21 children per 100,000 inhabitants were killed respectively.

While the LMICs examined had lower homicide rates than other country income categories, this is not necessarily true beyond the sample group of 105 countries or worldwide. This is because many LMICs with high rates of homicide
lack sufficient demographic data and so were excluded from the sample. Although LMICs accounted for nearly one third of the total population included in the survey in 2000, they accounted for less than 12 per cent of total homicides in that year (CERAC, 2014a).

Other intangible costs include grief, intimidation, fear, guilt, and trauma. Note that in comparison to the data presented in Chapter Two, this calculation depends upon fully disaggregated data on the age, gender, and means used in committing homicide. There are fewer countries with this information than those listed in Chapter Two, which presents aggregate data on firearms at the national level.

In 2011, there were 8,583 intentional homicides committed by firearms of a total of 12,664 homicides (FBI, 2012).

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