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## Chapter 8

# Personal security since 1820

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*Personal security reflects a crucial component of well-being. This chapter relies on homicide rates (the number of intentional deaths per 100 000 inhabitants) to trace changes of violence in time and space. It finds that Western Europe was already quite peaceful from the 19th century onwards, but homicide rates in the United States have been high by comparison. Large parts of Latin America and Africa are also violent crime “hotspots”, and so is the former Soviet Union (especially since the fall of communism), while large parts of Asia show low homicide rates. Homicide rates are in general negatively correlated with GDP per capita – the richer a country, the lower the level, but there are important exceptions. In addition, the chapter describes changes in the probability that a random individual lives in a country experiencing an armed internal or external conflict.*

## Introduction

Personal security is a very important component of well-being. Security is not only reduced by poor health or poverty – which are examined in separate chapters in this volume – but also by serious crime, war and other large-scale conflicts. These pose potentially important threats to people’s security, hence recent trends in homicide rates, for example, have received great attention by the general public (UNOCD, 2011). Other threats to personal health and life cannot be studied with consistency using the currently available data. For example, consistent evidence is not available on terrorism, environmental hazards or work accidents for the 19th and early 20th century – at least not on a global scale.

People’s well-being is certainly higher if they do not fear becoming a victim of crime, especially a serious crime like homicide. Nor does a person have to be a direct victim of a crime to be affected: if a close relative or friend is a victim, this invariably has a disastrous influence on that individual’s welfare (OECD, 2011). A change in crime level may also have a significant impact on well-being; a rise in violent crime, even if the absolute level is still relatively low, may contribute to feelings of insecurity when this receives a lot of media coverage. On the other hand, a declining crime level may lead people to have greater trust that the government is effective in its actions. There are striking patterns here: Western Europe was already quite peaceful from the 19th century onwards, for example, while homicide rates in the United States were, and remain, high by comparison.

Why focus on this type of crime and not others? Development specialists as well as historians of crime have studied homicide rates more often than other crimes for a number of reasons:

- Homicide is relatively clearly defined, whereas most other crimes were interpreted and counted differently in various cultures and periods.
- The degree of measurement error is hence probably lower than for other crimes.
- Social differences for this type of crime are comparatively modest. All social groups are affected by this type of crime, although poorer social strata are more likely to be victims.
- Homicide is a very important crime – for the victim, for the offender, and for the public, which might consequently invest large resources to detect and prevent it.
- Earlier studies have argued that other violent crimes tend to be correlated with homicide rates (OECD, 2011).

Apart from the focus on this main indicator of personal security, the homicide rate, the chapter also examines the incidence of civil war and of war between countries. Both events obviously present large risks for personal security and individual survival. For

both kinds of large-scale conflicts, it would be ideal to know the number of victims per capita. However, this level of detail is not available for many countries in early periods. In particular, in the 19th century the developing countries did not have consistent statistics on deaths from large-scale conflict. Hence, in order to obtain consistent information also on the earlier periods and poorer countries, we estimate the probability that an individual living in a particular country is affected by a large-scale conflict (war or civil war) in a given decade, and aggregated this by world region.

## Description of the concepts used

We use the official definition of intentional homicide as “unlawful death deliberately inflicted on one person by another person” (OECD, 2011).<sup>1</sup> This excludes inter-state war-related killing, because soldiers at least are legitimised to kill each other in such situations. The victims of the civilian population killed in inter-state war-related activities are traditionally also excluded from homicide rates, as are victims of civil war, even if this might not be clear *a priori* from the definition above. This makes it even more important to consider these three indicators – victims of homicide, of external conflict and of internal conflict – together. As the population size is obviously important for the number of homicides, the ratio of homicides per 100 000 inhabitants is calculated. The large size of the denominator already indicates that homicide is a rare crime in most societies, even in historical periods (OECD, 2011).

The Conflict Catalog by Peter Brecke (1999) is the data source used for large-scale conflicts, which are conflicts with 32 or more deaths. It is not the only data source that covers the entire period studied here, but it has the advantage of including all major conflicts both between and within countries. Other datasets, such as the UNDP/PRIOD database, include only conflicts with more than 1000 casualties (Blattman and Miguel, 2010). Another high-quality alternative data source is the Correlates of War (<http://www.correlatesofwar.org/>), which covers the sample period and also has more data on the number of casualties than the Conflict Catalogue. However, these are battle casualties and as a result strongly underestimate total fatalities.<sup>2</sup>

Brecke’s Conflict Catalog includes data on 3 213 internal (revolutions, rebellions, civil wars and unrest, ethnic cleansings) and external conflicts (wars, interventions) from 1400 to 2000. The original dataset does not make an explicit distinction between internal and external conflicts. This distinction was made by the authors based on the catalogue’s description, complemented by online information sources. This resulted in two binary datasets, where a country that was involved in a conflict in a given year is assigned the value one, and zero otherwise. A country was classified as a participant in an external conflict if it was either officially at war, or if it actively participated in a conflict by sending troops. As a result, even if a country was involved in a conflict, it is possible that its territory was relatively safe (like Canada or Australia during the Second World War). The same bias does not apply for internal conflicts, which all happened on the country’s own soil.

Table 8.1 described the concepts and sources for the three types of threats to personal security that are considered in this chapter.

Table 8.1. Indicators of personal security used

Concept	Description	Sources
Homicide	Unlawful death deliberately inflicted on one person by another person	Various, see text; sample period 1820-2010.
Internal conflict	Armed conflicts that took place within a single country, like revolutions, uprisings, civil wars or unrests; also genocides and political cleansings are identified as internal conflicts.	Conflict Catalog by Peter Brecke (Brecke 1999). The data is based on secondary sources, like historical atlases, monographs, articles, encyclopedias. While the original dataset covers 1400-2000, we only use the post 1820 period.
External conflict	Armed conflicts in which at least two countries were involved. Any country that was officially involved in the conflict is classified as participant, regardless of the geographical location of actual combat zones.	

## Historical sources

The most important source for contemporary homicide rates is UNODC statistics, which cover the period from the 1950s to the present, but with very uneven coverage of countries and world regions. The most important dataset that incorporates the UNODC statistics, supplemented with a large number of historical time series, is the Comparative Homicide Time Series (CHTS) dataset, which was put together by Marthti Lehti and Tapio Lappi-Seppälä (from the Finnish National Research Institute of Legal Policy [NRILP]). This integrates the available time series from various international agencies (including WHO) and the available historical work on homicide rates in a consistent framework, and is therefore a very valuable source for this chapter. As explained in the introduction to the NRILP-CHTS dataset, the researchers tried as much as possible to rely on public health statistics (cause-of-death data) and criminal justice data, and (as a last resort) digital media sources have been used to supplement the time series (Lehti, 2013). The second important source of historical data is the Historical Violence Database, which is the product of an interdisciplinary project that focused on the history of violence (<http://cjrc.osu.edu/research/interdisciplinary/hvd>). Moreover, we would like to mention the historical research carried out by Manuel Eisner, who has charted, for parts of Europe, the long-term evolution of this form of violent crime since the late Middle Ages and constructed national time-series of homicide rates covering 17 European countries over a period of 160 years, from 1840 to the present. Eisner collected these estimates from three sources: previous publications, official statistical publications, and by approaching scholars and statistical offices for specific data (Eisner, 2008). Finally, we have scanned a large number of historical sources and studies to extend the dataset, in particular for the pre-1950 period.

To construct homicide rates, basically two sources can be used: data from criminal justice records (courts, police) and data from public health statistics (based on the causes of death statistics). For some countries both sources are available, demonstrating small differences in coverage. Mortality or public health statistics are considered more reliable than criminal justice statistics for two reasons. First, because there are simply more historical public health data available than there are criminal justice data, and second, because the criteria used to determine cause of death and the legal definition of homicide are less fickle in the public health statistics (Eisner, 2008, p. 293). We therefore expect that

criminal records are more likely to underestimate the actual numbers of homicides than mortality statistics, but for the recent period the differences are on average small and in the opposite direction. For a sample of 26 countries for which we have data from both sources, we calculated an average homicide rate based on criminal records of 14.2 per 100 000 population, and based on death statistics of 12.6 per 100 000, but reassuringly the coefficient of correlation between both samples was as high as 0.98.<sup>3</sup> For the recent period, police statistics for Western Europe sometimes show higher homicide rates than do the medical statistics, because foreigners who are killed in a Western European country show up in the police records, but not in the medical statistics (because these refer often to the country of citizenship, not to the country in which the homicide took place). Globalisation and international integration also affects the “landscape of murder”.

Thanks to the existence of a considerable body of scholarly work, long-term time series are available for some countries, especially in Western Europe and North America. However, in other countries the documentation before 1950 is limited. Hence, the availability of data varies among world regions. Western Europe and European settlements have been the object of homicide studies even for the period before 1950. Evidence for other world regions is mostly limited to the post-1950 period, but we were able to compile some earlier evidence for a small number of countries in Latin America (Brazil), Asia (Sri Lanka, Japan) and Africa (South Africa).

The sources for Brecke’s Conflict Catalog include secondary literature, monographs, articles, encyclopaedias and historical atlases. The dataset employs non-English sources as well, notably in Chinese, Japanese and Russian. The detailed list of sources can be found in the appendix of Brecke (1999). The catalogue is still being expanded to add new variables.

## Data quality

### Homicide rates

Three issues should be kept in mind when interpreting historical homicide rates:

#### *Do homicide data represent overall crime rates?*

Homicide, when compared with other crimes such as contact or property crimes, is a crime that does not occur very often. This leaves the question of whether homicide rates can be used as an indicator for overall crime rates in a given society. As already explained, homicide rates are an accepted indicator of overall violence in modern countries. The OECD *How’s Life?* report states:

*There is a strong correlation between the number of international homicides and the percentage of people who declare having been assaulted [... and the] child death rate due to negligence, maltreatment or physical assault. [...] OECD countries with high homicide rates also experience high levels of physical assault, both inside and outside the household. This suggests that we can talk about an “overall level of crime/insecurity” experienced by society (OECD, 2011, 250).*

However, this does not mean that homicide rates and overall rates of violence always correlate; it is possible that over time and between different places the level of correspondence varies. To examine whether any correlation exists between homicide rates and rates of other types of crime, data are needed for both the homicide rates and the rates for other crime; unfortunately, the figures on other types of crime are usually not

available (but see Tornu, 2013, for an analysis of trends in other kinds of crime). As Eisner mentioned, an attempt had been made – by Petri Karonen – to measure the correlation between homicide and other types of violence in the past. In the case of some Swedish cities, there seems to have been a link in the 16th and 17th centuries (Eisner, 2003, p. 94). However, this does not mean that the trends in homicide rates have always reflected overall crime rates. Using homicide rates as an indicator for overall crime rates is therefore not without difficulties.

### ***How big is the “dark figure”?***

There is always a question as to how many homicides are not reported and recorded. The homicide rates that are available have come to the attention of the police and/or the medical officials, but murders may go unrecorded. As can be imagined, retrieving useful and accurate sources becomes more difficult the further back in time one goes. The availability and quality of data are also lower in the case of present-day low-income countries (Eisner, 2012, p. 3). The probability of a large “dark figure” can also be influenced by the forensic technologies present in a society. To give an example, Eisner has noted that infanticide in 19th century Europe has probably been underestimated in the data because it was easy to disguise and difficult to prove (Eisner, 2008, p. 293). We therefore consider all our homicide rates as lower bound estimates.

### ***How reliable are the available data?***

Time series of official homicide rates have their limitations. As mentioned above, how crimes are recorded can differ between different periods, especially in the case of criminal justice records. Eisner has given the example of “the legal definition of ‘infanticide’, which varies significantly between countries and over time. Some countries subsume it under murder and manslaughter, others have specific provisions but with varying content. In contrast, the statistical definition as the intentional killing of a child below age one is much more universally applicable” (Eisner, 2008, p. 293). Furthermore, what is perceived as homicide can change over time, and can also differ between societies. For example, the estimate of the homicide rate can become problematic during times of civic or political unrest, war or genocide. The bureaucratic system may not be in the best state to record homicides. Moreover, it may become difficult to determine the cause of death during a war or genocide (Eisner, 2012).<sup>4</sup> Another limitation is that the available estimates for historic societies are often based on case studies on a small geographical scale, and not on national sources. The representativeness of these local studies for entire countries is questionable. National estimates for modern states can also hide regional and even local differences in homicide rates.

A more technical bias is the change in the lethality of violence over time. The share of persons dying from the same type of severe violence has declined substantially during the last 200 years (OECD, 2011: 248, citing Aebi, 2004). Medicine could not do much to help victims of violence until the early 19th century. After this, a modest increase in survival rates set in. After the 1970s and especially after the widespread use of cell phones (which reduced the time until an emergency team would appear), the share of deaths following heavy violence declined. This obviously creates a small downward bias in the long-term estimates. Table 8.2 provides an overall assessment of the quality of the data on homicides used in this chapter.

### Internal and external conflicts

For civil wars, the scholarly discussion of data limitations and comparability issues fills entire bookshelves. We have already mentioned some of the main problems: countries may be involved with large-scale external conflicts without this having a large effect on the population's well-being (in particular when wars are fought on foreign soil), and the scale of conflicts are not taken into account. For example, the Taiping rebellion with its perhaps 20 million casualties has the same "value" as the Spartacist revolt in Germany in 1919 with 119 victims. Unfortunately, we lack the systematic data to control for this. The sources include secondary literature, monographs, articles, encyclopaedias and historical atlases. One should bear in mind that only those conflicts are included that have been recorded, which makes it likely that the number of conflicts will be underestimated as we head back in time, and especially for pre-1870s Africa. In addition, changes in borders are likely to introduce an error in the calculation since population data are available only for current borders, while conflict data is based on historical (changing) borders. Since there were fewer countries in the 19th century than in the 20th, we can expect that this also introduces a bias in the trend for the 19th century.

Table 8.2. **Quality of data on homicide rates by region and benchmark year, 1820-2008**

	Western Europe (WE)	Eastern Europe (EE)	Western Offshoots (WO)	Latin America and Caribbean (LA)	Sub-Saharan Africa (SSA)	Middle East and North Africa (MENA)	East Asia (EA)	South and South-East Asia (SSEA)
1820	3	..	..	..	4	..	..	..
1870	3	..	..	3	..	..	..	..
1913	1	1	1	1	..	..	1	1
1950	1	1	1	1	..	..	1	1
1973	1	1	1	1	1	1	1	1
2008	1	1	1	1	1	1	1	1

Note: 1. High quality; 2. Moderate quality; 3. Low quality; and 4. Estimates. See the section on "Data Quality" in Chapter 1 for a description of the quality criteria.

Source: Clio-Infra, [www.clio-infra.eu](http://www.clio-infra.eu).

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## Main highlights of trends in personal security

### Homicide rates

Historical research on long-term trends in crime has focused very much on the spectacular decline of the homicide rate in Western Europe since the late Middle Ages (Eisner, 2003; Spierenburg, 2008). In the 13th-15th centuries, homicide rates of between 30 and 50 per 100 000 were usual – and the rate may have been even higher in Italy – but from the 16th century onwards all regions for which data are available registered a sharp long-term decline (see Table 8.3). In North-western Europe, this continued until the start of the 20th century, at which point the homicide rate had fallen to about 1 per 100 000. In Italy (and probably also in Eastern Europe, for which historical data are much scarcer), the decline was less dramatic, but it eventually reached about the same levels as in Western Europe (Table 8.3). The literature discussing the reasons for this pacification of Western

**Table 8.3. Long-term development of homicide rates in Europe, 13th-20th centuries**  
Homicides per 100 000 inhabitants

	England	Netherlands and Belgium	Scandinavia	Germany and Switzerland	Italy
13th-14th centuries	23	47	..	37	(56)
15th century	..	45	46	16	(73)
16th century	7	25	21	11	47
17th century:					
<i>first half</i>	6	(6)	24	11	(32)
<i>second half</i>	4	9	12	(3)	..
18th century:					
<i>first half</i>	2	7	3	(7)	(12)
<i>second half</i>	1	4	0.7	(8)	9
1800-1824	2	2	1	3	18
1825-49	1.7	..	1.4	4	15
1850-74	1.6	0.9	1.2	2	12
1875-99	1.3	1.5	0.9	2.2	5.5
1900-1924	0.8	1.7	0.8	2	3.9
1925-49	0.8	1.3	0.6	1.4	2.6
1950-74	0.7	0.6	0.6	0.9	1.3
1975-94	1.2	1.2	1.2	1.2	1.7

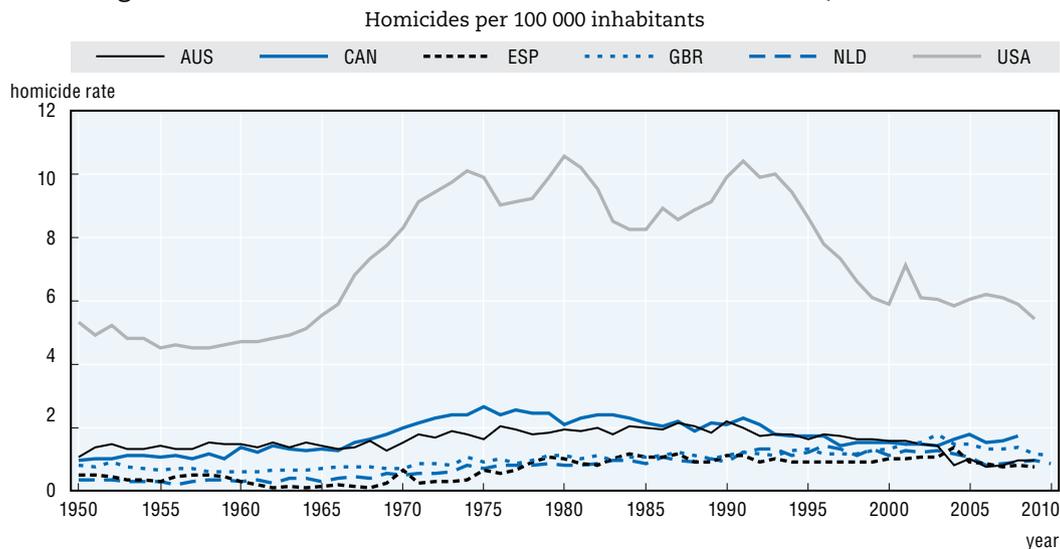
Note: For an assessment of data quality, see Table 8.2.

Source: Eisner, M. (2003), "Long-term historical trends in violent crime", *Crime and Justice: A Review of Research*, Vol. 30, pp. 83-142, table 1.

StatLink  <http://dx.doi.org/10.1787/888933097034>

Europe points to various forces behind the decline, such as the process of state formation, resulting in the monopolisation of violence by the state, and changes in modes of behaviour and legal codes (in the tradition of Elias, called "civilisation"), which resulted in less violent methods of conflict resolution (Spierenburg, 2008; Pinker, 2011).

A similar decline occurred in the United States, but, due to the different "starting condition", the levels of violence were much higher there than in Western Europe, and the gap persisted into the 20th and even the 21st century. Whereas in Western Europe during the 20th century the homicide rate fluctuated between 0.5 and 2 per 100 000, it ranged from about 5 to 10 in the US, without showing a clear trend towards converging to the European level (see Figure 8.1 below). The "divergent" development of violence in the United States is one of the puzzles of historical criminological research. As Figure 8.1 shows, other Western Offshoots such as Canada and Australia, with potentially similar frontier legacies, converged to the European levels well before 1950, but the United States persisted on its own trajectory. One interpretation is that "democracy came too early" (Spierenburg, 2006). Whereas in Europe the state first disarmed the population, and then became democratic, in the United States democracy preceded the creation of a monopoly of violence, which made it almost impossible to ban or suppress gun ownership. Figure 8.1 also highlights the rise in crime during the 1960s and early 1970s, which was strongest in the United States but also occurred in many other countries. Homicide rates from a sample of 16 major European

Figure 8.1. **Homicide rates in selected Western countries, 1950-2010**

Note: For an assessment of data quality, see Table 8.2.

Source: Clio-Infra, [www.clio-infra.eu](http://www.clio-infra.eu).

StatLink  <http://dx.doi.org/10.1787/888933095932>

countries almost doubled between the 1960s and 1990s (from 0.84 to 1.56 per 100 000), but fell again thereafter (to 1.31 in the next decade). The rise was particularly strong in the United Kingdom and Ireland, where homicide rates roughly doubled between the 1970s and 2000s, whereas France and Germany saw almost no increase. Italy, Spain and Sweden saw increases of around 50% (Spierenburg, 2008).

This crime “bulge”, also noticeable in other crime and violence-related statistics, has been linked to the anti-authoritarian “liberation” of the 1960s, to demographic changes (going through the post-war population explosion), to weapons laws, and to the rise of organised crime and the trade in drugs (Pinker, 2011; Spierenburg, 2008). Eastern Europe saw a similar, but even more extreme increase in crime after the collapse of communism in the early 1990s. Homicide rates in Russia rose from the already high level of 9.8 per 100 000 in 1988 to 32.4 in 1994, but declined afterwards to the still rather high level of 15.1 in 2009. In the much more peaceful Poland the figures for the same years are 1.8 (1988), 3.0 (1994 – also the peak in the Polish series) and 1.1 (2009) (see also Table 8.6).

Western Europe may have seen a similar “bulge” of crime earlier, as the long-run series of Sweden illustrates. During the first stage of industrialisation – between 1750 and 1830 – there was probably a comparable rise in homicides, perhaps also linked to the “liberal” ideas of the Enlightenment. That period was also characterised by the – heavily debated – concept of the “first sexual revolution”, because of the rise in the number of illegitimate births (Shorter 1972, Kok 1991). But this period of increased “deviant” behaviour (also known at the time as a version of the “social question”) was soon followed by renewed processes of social integration. However, improvements in recording techniques can also potentially explain a part of the increase in homicides.

The huge decline of criminal violence in Western Europe has been the topic of some debate. It plays a large role in Stephen Pinker’s book, *The Better Angels of our Nature*, in which he develops the idea of an overall decline in violence in the past hundreds of

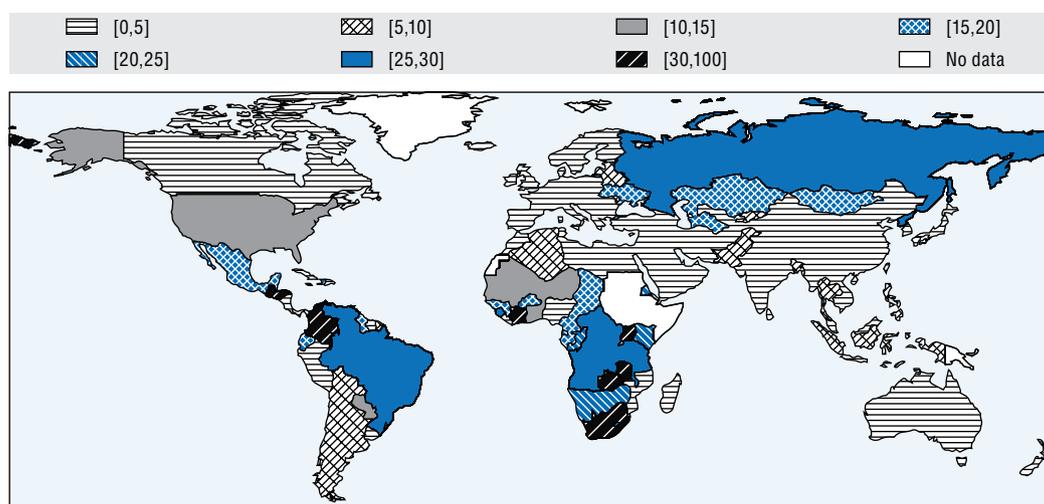
years; the argues that other forms of violence (war, genocide, the death penalty) also show a somewhat similar decline, in particular when measured on a per capita basis. Pinker (2011) identifies five causes of this increased security: the rise of the modern nation-state, with its monopoly of violence; commercial and economic development that enhance the peaceful coexistence of nations; an increased respect for the interest and values of women; “cosmopolitanism”, resulting from increased literacy and the development of the media; and finally, the increased role of reason in interpersonal and international exchanges. It is indeed striking that the decline of the homicide rate started relatively early in the part of Europe that experienced the earliest development of the nation-state – following in the wake of the Reformation, with its stress on literacy (to read the Bible) – and an equally early commercialisation of economic life.

Contemporary world maps of the homicide rate also show the very low levels of criminal violence in Western Europe (see Figure 8.2). When moving away from the North Sea, one finds higher levels of violence in Eastern Europe (where an “eruption” of violence happened after the collapse of communism), in the southern margins of Europe, and in particular when crossing the Mediterranean into Africa and parts of the Middle East (but statistics may be misleading here: as already mentioned, Iraq, for example, has a strikingly low homicide rate, which apparently excludes the impact of terrorism and clan warfare). The “darkest” regions in the world – those with the lowest levels of personal security – are clearly Central and Southern Africa, Latin America (the Colombia/Venezuela region having the highest rates during this period), and Russia, while Afghanistan and Burma stand out within Asia.

Our data add historical perspective to this global map of crime (Tables 8.4-8.6). Because the number of countries on which the regional averages are based varies, trends are sometimes difficult to interpret. We have already sketched the most significant trends: the gap between the Western Offshoots (dominated by the US) and Western Europe; the

Figure 8.2. **Worldwide homicide rates, 2000-2009**

Homicides per 100 000 inhabitants



Note: For an assessment of data quality, see Table 8.2.

Source: Clio-Infra, [www.clio-infra.eu](http://www.clio-infra.eu).

StatLink  <http://dx.doi.org/10.1787/888933095951>

**Table 8.4. Regional averages of homicide rates, 1820s-2000s**  
Homicides per 100 000 inhabitants, decadal averages

	Western Europe (WE)	Eastern Europe (EE)	Western Offshoots (WO)	Latin America and Caribbean (LA)	East Asia (EA)	South and South-East Asia (SSEA)	Middle East and North Africa (MENA)	Sub-Saharan Africa (SSA)	World
1820s	3.5	..	..	..	..	..	..	..	..
1830s	3.4	..	..	..	..	..	..	..	..
1840s	3.4	..	..	..	..	..	..	..	..
1850s	3.0	..	..	..	..	..	..	..	..
1860s	2.9	..	..	..	..	..	..	..	..
1870s	2.7	..	..	..	..	..	..	..	..
1880s	2.5	..	..	..	..	..	..	..	..
1890s	2.4	..	..	..	..	..	..	..	..
1900s	2.2	..	2.5	..	..	..	..	..	..
1910s	2.1	..	5.5	..	..	..	..	..	..
1920s	2.2	..	7.2	..	..	..	..	..	..
1930s	1.4	..	7.3	..	..	..	..	..	..
1940s	1.5	..	5.2	..	..	..	..	..	..
1950s	1.1	..	4.3	..	..	2.8	..	..	..
1960s	0.9	..	5.1	12.4	..	3.2	..	..	..
1970s	1.1	..	8.2	11.9	..	4.0	..	..	9.4
1980s	1.3	6.4	8.0	16.9	..	4.6	..	..	7.3
1990s	1.4	13.6	7.5	21.3	..	5.1	..	..	7.6
2000s	1.2	11.8	5.3	20.8	1.8	4.6	2.2	19.3	6.9

Note: For an assessment of data quality, see Table 8.2.

Source: Clio-Infra, [www.clio-infra.eu](http://www.clio-infra.eu).

StatLink  <http://dx.doi.org/10.1787/888933097053>

**Table 8.5. Number of countries in the homicide dataset by region and decade, 1820s-2000s**

	Western Europe (WE)	Eastern Europe (EE)	Western Offshoots (WO)	Latin America and Caribbean (LA)	East Asia (EA)	South and South-East Asia (SSEA)	Middle East and North Africa (MENA)	Sub-Saharan Africa (SSA)
1820s	10	0	0	0	0	0	0	1
1830s	10	0	0	1	0	0	0	0
1840s	10	0	0	1	0	0	0	0
1850s	11	0	0	1	0	0	0	0
1860s	12	0	0	1	0	0	0	0
1870s	13	0	0	1	0	0	0	0
1880s	13	1	0	1	1	1	0	0
1890s	12	0	0	0	2	1	0	0
1900s	12	0	2	1	2	1	0	1
1910s	12	0	3	1	2	1	0	1
1920s	14	3	4	1	1	1	0	0
1930s	14	2	4	1	1	1	0	0
1940s	13	2	4	4	1	1	1	1
1950s	19	3	4	14	2	5	2	1
1960s	19	4	4	29	2	4	3	2
1970s	19	4	4	36	2	4	4	1
1980s	20	23	4	33	4	4	4	5
1990s	21	27	4	38	5	10	9	4
2000s	21	28	4	42	8	19	21	46

Note: For an assessment of data quality, see Table 8.2.

Source: Clio-Infra, [www.clio-infra.eu](http://www.clio-infra.eu).

StatLink  <http://dx.doi.org/10.1787/888933097072>

Table 8.6. Homicide rates in selected countries, 1820s-2000s

Homicides per 100 000 inhabitants, decadal averages

	Western Europe (WE)							Eastern Europe (EE)		Western Offshoots (WO)			Latin America and Caribbean (LA)			Middle East and North Africa (MENA)		Sub-Saharan Africa (SSA)			East Asia (EA)		South and South-East Asia (SSEA)		
	GBR	NLD	FRA	DEU	ITA	ESP	SWE	POL	RUS	AUS	CAN	USA	MEX	BRA	ARG	EGY	TUR	KEN	NGA	ZAF	CHN	JPN	IND	IDN	THA
1820s	1.6	..	1.5	2.4	8.0	8.8	1.2	..	..	..	..	..	..	..	..	..	..	..	5.2	..	..	..	..	..	
1830s	1.6	..	1.5	2.4	8.0	8.8	1.3	..	..	..	..	..	5.6	..	..	..	..	..	..	..	..	..	..	..	
1840s	1.6	..	1.5	2.4	8.0	8.8	1.7	..	..	..	..	..	2.8	..	..	..	..	..	..	..	..	..	..	..	
1850s	1.6	0.8	1.4	1.5	7.0	8.3	1.1	..	..	..	..	..	5.6	..	..	..	..	..	..	..	..	..	..	..	
1860s	1.6	0.8	1.4	1.5	7.0	8.3	1.1	..	..	..	..	..	5.5	..	..	..	..	..	..	..	..	..	..	..	
1870s	1.4	0.8	1.4	1.6	6.3	6.9	1.1	..	..	..	..	..	5.9	..	..	..	..	..	..	..	..	..	..	..	
1880s	1.3	0.9	1.4	1.6	5.7	5.5	0.9	..	..	..	..	..	4.2	..	..	..	..	..	..	..	..	..	..	..	
1890s	1.2	0.9	1.4	1.6	5.7	5.5	0.9	..	..	..	..	..	..	..	..	..	..	..	..	..	3.6	..	..	..	
1900s	0.9	0.6	1.5	2.1	3.9	4.5	0.9	..	..	2.2	..	2.6	..	..	..	..	..	..	..	..	3.4	..	..	..	
1910s	0.7	0.4	1.5	2.1	3.6	4.5	0.7	..	..	1.5	1.5	6.1	..	..	..	..	..	..	..	..	2.8	..	..	..	
1920s	0.7	0.3	1.3	2.0	5.2	3.0	0.5	..	..	1.2	1.4	8.1	..	..	..	..	..	..	..	..	..	..	..	..	
1930s	0.8	0.4	1.1	1.8	1.9	1.4	0.5	..	..	1.0	1.4	8.2	..	..	..	..	..	..	..	..	..	..	..	..	
1940s	0.8	0.5	1.1	1.8	..	1.4	0.5	..	..	1.1	1.1	5.8	..	..	..	..	..	..	..	..	..	..	..	..	
1950s	0.7	0.3	1.1	1.0	2.4	0.4	0.7	1.1	..	1.4	1.1	4.8	30.7	..	..	1.1	..	..	..	..	2.2	2.5	..	8.4	
1960s	0.7	0.4	1.1	1.1	1.2	0.2	0.7	1.0	..	1.4	1.4	5.7	20.2	..	6.0	1.1	..	..	..	..	1.5	2.5	..	12.9	
1970s	0.9	0.7	0.9	1.2	1.5	0.6	1.1	1.1	..	1.8	2.4	9.4	16.6	8.3	6.3	1.1	0.8	..	..	..	1.2	2.9	..	18.9	
1980s	1.1	0.9	1.1	1.2	1.8	1.0	1.3	1.7	10.8	2.0	2.2	9.1	18.1	14.5	4.8	0.7	0.5	..	..	..	0.9	3.5	..	17.1	
1990s	1.2	1.2	1.0	1.1	2.7	0.9	1.2	2.7	24.6	1.8	1.8	8.6	16.4	22.2	4.6	..	1.5	..	1.4	58.3	0.6	4.2	..	8.3	
2000s	1.4	1.1	0.7	0.6	2.5	1.0	1.0	1.5	24.0	1.1	1.6	6.1	10.9	26.4	6.1	1.0	0.6	20.4	1.5	41.7	1.6	0.5	3.1	8.5	6.4

Note: For an assessment of data quality, see Table 8.2.

Source: Clio-Infra, [www.clio-infra.eu](http://www.clio-infra.eu).StatLink  <http://dx.doi.org/10.1787/888933097091>

convergence process within Western Europe (Table 8.3); the absence of convergence in Eastern Europe (but Poland moves to Western European levels, Russia does not); the very high levels of violence in Latin America; the strikingly low registered homicide rates in the MENA; and the great variation in both Africa and Asia, regions for which historical data are scarce. There is no clear trend in global homicide rates – changes in the world average are again heavily influenced by variations in the number of countries for which data are available. Most regions for which we have long-run series show a slow decline in homicides; Latin America is probably the exception here. But this decline ends in the 1960s in Western Europe and its Offshoots, and in the 1990s in the (post-) communist world.

A number of reasons have been suggested to explain homicide rates (LaFree, 1999; Paré, 2006; Pratt and Cullen, 2005; Nivette, 2011). It has been argued that inequality fuels homicide, partly because of envy-related effects, and perhaps also because of high psychological pressure on people in countries with substantial inequality. Countries such as South Africa, Brazil and Russia have both high homicide rates and either high inequality levels or recent experience of strong increases in inequality (in the case of Russia). Another important determinant is the presence of criminal gangs, especially gangs involved in drug trafficking. This helps to explain the high levels of crime in much of Latin America. A large share of all drugs traded in the United States pass through Honduras, which has a horrendous homicide rate. The same was true until recently for Colombia, even if the Colombian homicide rate has declined substantially over the last few years. A related factor is the share of young males in the age pyramid. Most victims and most offenders are aged 20 to 30, and most of them are male. Ageing societies in contrast seem to be less murderous, even after controlling for other criteria.

### **Internal and external conflicts**

Another way to look at personal security against a premature, violent death is to estimate the probability that an average individual inhabits a country that is involved in a conflict (Figure 8.3). This is estimated by the average occurrences of a conflict in a given country in a given year (a binary variable) weighted by population (Table 8.7).

In the period 1820-2000 the number of countries involved in some kind of conflict increased slightly, but this is not surprising as the number of countries also increased during that period. Note one interesting trend: the number of countries involved in an external conflict declined considerably, from 20.9 in the 1820s to 7.6 in the 1990s, while the number of countries with an internal conflict increased from 7.6 to 24.1 in that same period (Table 8.7). This time period coincides with decolonisation (especially from the 1950s onward) and increasing democratisation around the world (see the chapter on political institutions).

Figure 8.3 exhibits a downward trend both for internal and external conflicts. Not surprisingly, in terms of personal security the most dangerous periods were between the mid-1840s and 1860s (the Crimean War, the Opium Wars, the American Civil War and a number of uprising in Qing China) and between the 1930s and 1940s. It should be noted, however, that due to population-weighting conflicts that involve populous countries like China, Russia and India might have a disproportionate effect on these results. Nevertheless, Figure 8.3 suggests that by the end of the 20th century internal conflicts had become much more important determinants of individual safety than external conflicts, or wars.

**Table 8.7. Number of countries involved in internal and external conflicts, 1820s-1990s**  
Decadal averages

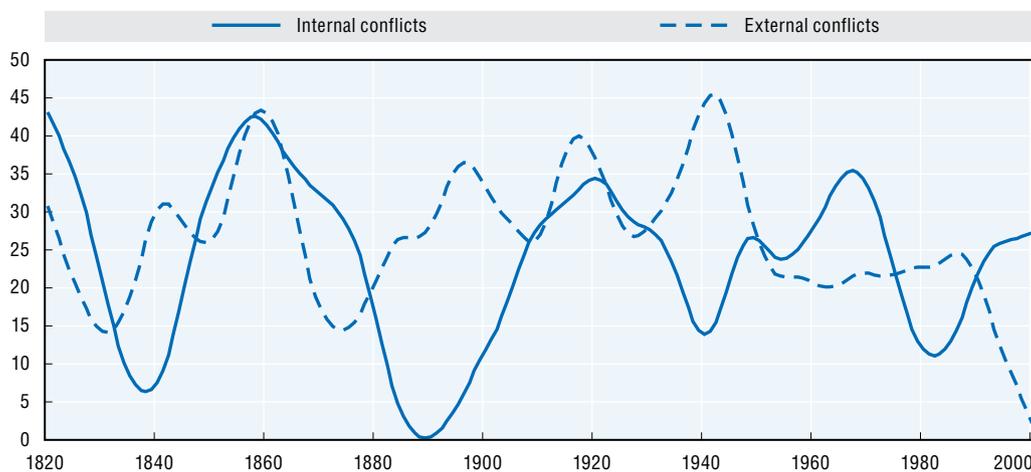
	Number of countries involved in			Probability of a random individual to be involved in a country having (in percentages)	
	Internal conflicts	External conflicts	Any conflicts	Internal conflicts	External conflicts
1820s	8	21	29	35	23
1830s	10	19	29	12	18
1840s	9	16	26	18	32
1850s	13	11	24	42	34
1860s	8	20	29	34	3
1870s	6	16	22	29	17
1880s	5	24	28	4	25
1890s	5	28	33	5	37
1900s	6	21	27	2	27
1910s	7	23	30	3	37
1920s	5	12	17	3	27
1930s	7	10	17	24	34
1940s	8	17	25	22	41
1950s	13	14	26	23	24
1960s	24	12	36	34	2
1970s	22	10	32	22	22
1980s	25	12	37	12	23
1990s	24	8	32	28	11

Note: For an assessment of data quality, see Table 8.2.

Source: Brecke, P (1999), *Violent Conflicts 1400 A.D. to the Present in Different Regions of the World*, Paper prepared for the 1999 Meeting of the Peace Science Society [www.inta.gatech.edu/peter/PSS99\\_paper.html](http://www.inta.gatech.edu/peter/PSS99_paper.html) and Clio-Infra, [www.clio-infra.eu](http://www.clio-infra.eu).

StatLink  <http://dx.doi.org/10.1787/888933097110>

**Figure 8.3. Probability of inhabiting a country with an armed conflict, 1820-2000**  
Percentages



Note: For an assessment of data quality, see Table 8.2. Hodrick-Prescott filter with  $\lambda = 100$  was used for smoothing of the data.

Source: Brecke, P (1999), *Violent Conflicts 1400 A.D. to the Present in Different Regions of the World*, Paper prepared for the 1999 Meeting of the Peace Science Society [www.inta.gatech.edu/peter/PSS99\\_paper.html](http://www.inta.gatech.edu/peter/PSS99_paper.html) and Clio-Infra, [www.clio-infra.eu](http://www.clio-infra.eu).

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### Regional trends

Tables 8.8 and 8.9 report the estimated probability that an individual was involved in an armed conflict by region and per decade; the global totals differ from those presented in Table 8.7 because they are weighted by population. The dominance of countries with large populations is even more visible here: the probabilities regarding an internal conflict in East Asia are basically driven by unstable Chinese internal politics, including the Taiping rebellion, the Boxer uprising, the Civil War during the Republican era in the 1920s and 1930s, and the Cultural Revolution in the 1960s. Similarly, the Western Offshoots are dominated by the USA. Until the 1950s the two most unstable regions were clearly East Asia and Eastern Europe. The prominence of the latter is due particularly to the numerous uprisings in Russia during the 19th century followed by the Civil War and the political cleansings that were also classified as an internal armed conflict. Sub-Saharan Africa had relatively few (recorded) internal conflicts during the colonial era, and it is only after decolonisation that a strong increase can be seen in the likelihood of internal violence. Still, even in these years the probability remains much lower than the values observed for East Asia and Southeast Asia. If we only focus on the last 50 years, it comes as no surprise that the most stable regions are the Western Offshoots (USA, Canada, Australia and New Zealand) and Western Europe. Internal instability is not evenly distributed in time: there were certain decades that proved to be especially unstable, like the 1850s and 1860s, the 1910s and 1920s, and the 1960s, when the average person had 3-4 conflict years per decade, while the most stable years were the 1870s and 1880s, the 1830s and the 1980s, when only a single year or even less brought some internal conflict.

**Table 8.8. Probability of inhabiting a country with an internal armed conflict, by region, 1820s-2000s**  
Percentages, decadal averages

	Western Europe (WE)	Eastern Europe (EE)	Western Offshoots (WO)	Latin America and Caribbean (LA)	East Asia (EA)	South and South-East Asia (SSEA)	Middle East and North Africa (MENA)	Sub-Saharan Africa (SSA)	World
1820s	7.3	40.0	0.0	6.7	80.8	0.2	9.4	2.0	34.6
1830s	26.5	45.9	27.1	30.8	9.9	1.3	0.0	1.5	11.7
1840s	17.5	18.5	0.9	43.2	36.2	1.4	6.1	1.3	18.4
1850s	4.9	2.7	43.5	38.2	90.5	20.9	3.0	1.1	41.6
1860s	3.4	6.4	52.8	13.3	95.4	1.1	0.2	0.0	34.4
1870s	9.2	7.5	0.9	10.9	91.7	0.2	0.0	0.1	29.4
1880s	0.4	0.0	0.7	3.1	9.3	0.5	0.3	8.3	3.6
1890s	2.0	3.9	0.0	22.8	9.2	0.5	0.0	8.6	4.8
1900s	1.3	22.4	0.0	2.7	60.9	0.0	13.9	4.1	20.4
1910s	5.4	21.5	8.7	30.5	86.7	0.1	0.0	1.2	30.0
1920s	12.4	20.8	0.0	7.6	78.6	16.0	2.8	0.7	30.4
1930s	16.9	50.2	0.0	16.0	60.7	0.5	0.0	0.0	24.1
1940s	6.1	32.5	0.0	2.0	42.1	22.0	8.1	1.2	21.6
1950s	0.0	39.6	0.0	11.8	16.6	47.7	3.6	3.4	22.8
1960s	3.1	34.9	59.7	18.1	41.9	41.7	3.9	16.3	33.5
1970s	15.9	0.0	17.0	14.1	50.5	14.1	7.4	12.2	22.4
1980s	15.1	0.6	0.0	19.7	0.3	17.1	16.7	29.1	12.0
1990s	8.0	10.0	0.0	13.7	0.0	64.1	2.2	25.5	27.8

Note: For an assessment of data quality, see Table 8.2

Source: Clio-Infra, [www.clio-infra.eu](http://www.clio-infra.eu).

StatLink  <http://dx.doi.org/10.1787/888933097129>

**Table 8.9. Probability of inhabiting a country with an external armed conflict, by region, 1820s-2000s**  
Percentages, decadal averages

	Western Europe (WE)	Eastern Europe (EE)	Western Offshoots (WO)	Latin America and Caribbean (LA)	East Asia (EA)	South and South-East Asia (SSEA)	Middle East and North Africa (MENA)	Sub-Saharan Africa (SSA)	World
1820s	29.5	45.1	21.5	37.4	0.0	46.0	12.6	4.8	22.6
1830s	29.0	39.6	9.5	13.0	9.0	18.1	12.3	4.7	17.6
1840s	49.0	22.4	26.3	10.0	27.1	43.9	0.0	8.7	32.1
1850s	37.4	42.1	0.0	2.2	54.2	15.8	6.5	12.3	33.6
1860s	50.4	47.2	51.9	32.1	37.7	12.6	3.2	7.8	30.4
1870s	38.6	29.3	43.4	4.2	9.1	10.2	0.0	14.6	16.5
1880s	53.5	16.3	0.0	4.8	26.6	17.9	0.0	40.2	25.4
1890s	77.6	25.7	35.1	1.1	28.6	36.6	0.0	42.1	36.5
1900s	56.8	13.2	61.7	5.4	21.8	21.5	0.0	25.9	27.1
1910s	59.0	40.8	34.9	2.4	46.7	27.1	0.0	17.8	36.9
1920s	52.0	34.1	8.7	0.3	55.2	0.4	2.8	0.2	26.8
1930s	40.3	31.2	1.0	2.6	67.6	26.7	1.7	0.0	34.4
1940s	54.2	23.9	49.3	1.6	57.7	45.3	2.7	2.4	41.1
1950s	34.8	4.5	0.0	0.7	59.3	12.9	8.3	3.3	24.0
1960s	14.8	8.9	0.0	1.1	25.1	34.1	2.3	10.1	20.2
1970s	1.2	0.0	0.0	0.0	8.5	58.4	2.3	12.6	21.8
1980s	1.5	0.5	16.8	1.5	25.6	39.8	12.9	12.0	23.0
1990s	6.0	1.9	18.6	0.7	0.0	26.3	0.1	4.9	11.3

Note: For an assessment of data quality, see Table 8.2.

Source: Clio-Infra, [www.clio-infra.eu](http://www.clio-infra.eu).

StatLink  <http://dx.doi.org/10.1787/888933097148>

With regard to external conflicts, the picture changes fundamentally. Considering the entire period from 1820 to 2000, Western Europe had the most wars, even though after the Second World War these were usually limited to ex-colonies outside Europe (Indochina, Indonesia and the Middle East in 1956). It is only from the 1970s on that Western Europe becomes the least likely region to participate in wars. The second and third most warlike regions are East Asia and South and Southeast Asia, where a relatively peaceful period started only during the 1990s. It may be a bit surprising but wars were the least likely in the MENA countries, where despite the frequent Arab-Israeli conflicts, lasting only a few weeks at most, wars were quite infrequent after the 1830s, as well as in Latin America, where after the “lost decades” (1820s-1860s) the number of wars was extremely low.

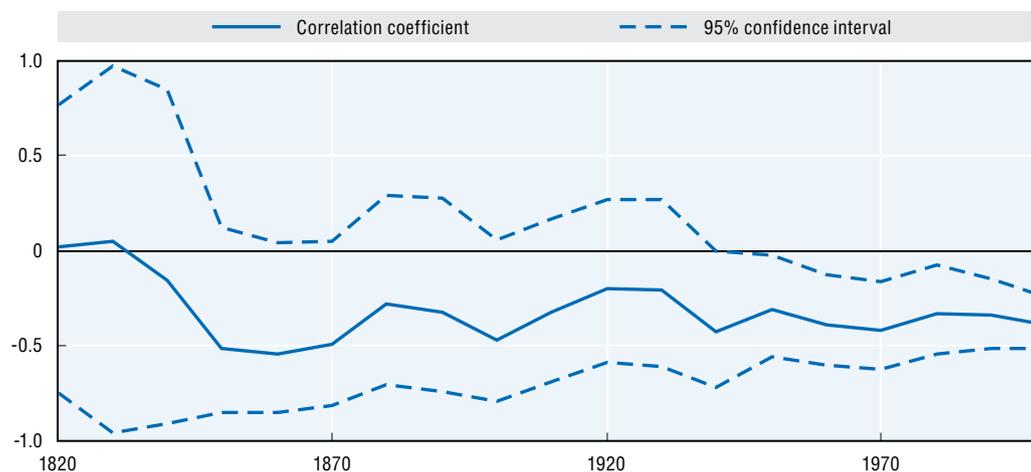
### Correlation with GDP per capita

Homicide rates are in general negatively correlated with GDP per capita. In recent years this correlation has been quite strong and significant, and has not shown a particular trend (Figure 8.4). So in general, rich countries have relatively low levels of personal violence, and poor countries relatively high levels. However, there are many exceptions to this rule – such as the United States (combining high wealth but high homicide rates) and Nigeria or Egypt (poor but low homicide rates). This illustrates that economic factors play only a limited role in determining levels of personal security and that personal security has only a limited influence on economic growth.

The literature also suggests that there is a negative relationship between civil wars and GDP per capita; Blattman and Miguel (2010) estimate that in the period 1960-2006 the incidence of civil war was highest (almost 30%) for the poorest countries and lowest (close to zero) for the richest countries. This negative link is a recent development, however. On the basis of the Brecke dataset, it can be shown that for most years the correlation coefficients between GDP per capita and conflicts are close to zero. There are some exceptions, however. For internal conflicts and GDP per capita we find a negative correlation after 1945, which becomes significant at the 5% level after 1983 (confirming the Blattman and Miguel findings). The relationship between external conflicts and GDP per capita is significant and positive during the Second World War, when apparently the rich countries fought among themselves. The correlation between wars and per capita income becomes negative from the 1960s on, but it remains insignificant.

Figure 8.4. **Correlation between homicide rates and GDP per capita, 1820s-2000s**

Pearson correlation coefficient and upper/lower bounds of 95% confidence interval per decade



Note: For an assessment of data quality, see Table 8.2.

Source: Clio-Infra, [www.clio-infra.eu](http://www.clio-infra.eu).

StatLink  <http://dx.doi.org/10.1787/888933095989>

## Priorities for future research

What should be the priorities for the study of homicide as an indicator of well-being in the future? The greatest potential probably lies in extending the existing evidence back to early times in developing countries, and in documenting regional evidence. There are archival sources that document the activity of the police and the courts in punishing murderers. However, it is challenging to identify the different pieces of evidence and their potential sample selection biases and measurement error in historical data. Careful counter-checking of sources from different institutional contexts (such as from vital statistics and police records, and from prisons) might help to identify issues with measurement errors. Also, studies on the determinants of homicides are crucial if we want to understand what encourages and what prevents this type of crime: how effective have police systems been? Did all social groups trust the police, or was the tolerance of some homicides preferred

over cooperation with the police? How large was social inequality, and is it really a core determinant of homicide? Finally, the existence of criminal gangs needs to be studied and wherever possible also quantified.

We now know a great deal about long-term trends in homicides in Western Europe and have begun to understand why this relatively violent society gradually became pacified. Much is still unclear about how other parts of the world developed in this respect. A link with processes of state formation, in which the monopoly of violence was successfully claimed by the state, is suggested by the evidence produced here: outside Europe it is regions with ancient states, such as the Middle East and East Asia, which have shown the lowest levels of violent crime. Regions with relatively young states, such as Latin America and in particular Africa, have much higher homicide rates on average.

We did not observe a gradual decline of violence, as was suggested by Pinker (2011). However, this is partly explained by the difference in time periods covered. When Pinker's data on homicides covers the same time period, the trend is similar to that presented here, but he focuses on a longer-term decline dating back to the Middle Ages, and calculates the impact of conflict via the risk of death rather than via the risk of living in a country participating in a conflict.

Both homicides and conflict correlate negatively with GDP per capita – but while for personal violence this negative link was relatively strong, for group violence this relationship emerged only recently, in the last 50 years or so. Much more striking are the huge international differences in violent crimes, which show a large degree of persistence. The high homicide rate of the US, so much higher than that of “comparable” countries (Canada, Australia, the UK), is a case in point. In Latin America and parts of Sub-Saharan Africa, criminal violence also seems to be self-perpetuating and to be undermining the well-being of the population living in those parts of the world. High levels of inequality are often part of the explanation, but it should be realised that the poor really pay the price for the kind of “organised” violence that is characteristic of Johannesburg or Rio de Janeiro, because the rich have the resources to protect themselves against it. High levels of personal violence are therefore arguably one of the most important reasons for extremely low levels of well-being all over the globe.

Clearly this also applies to the consequences of civil war and inter-state warfare. Until the mid 1940s, there was not a clear correlation between GDP per capita and both forms of organised violence. In the 19th century no part of the world was so heavily involved in warfare as Western Europe (continuing a tradition of almost incessant warfare going back to the Middle Ages). But this has now changed, and warfare is increasingly associated with poverty. This negative link between collective violence and GDP per capita, increasingly evident since the middle of the 20th century, is therefore one of the most significant negative feedback loops in underdevelopment, sometimes resulting in extreme destitution (Collier, 2007). The examples of both the decline of organised violence in Western Europe and its endemic character in parts of Latin America and Sub-Saharan Africa demonstrate the relevance of integrating violence in the approach to measure well-being.

## Notes

1. See: UNODC (2014)
2. For World War One, the Correlates of War reports 8 587 000 dead, while current estimates of total fatalities are around 15-17 million. Similarly, for the Spanish Civil War (1936-39) 466 300 military casualties are reported, but the total number of deaths is estimated at between 500 000 and 1 million.
3. The difference was largely due to a few Latin American countries such as Venezuela and St. Kitts, which had extremely high murder rates according to criminal statistics, but somewhat lower estimates for the homicide rate according to death statistics (for Venezuela, 47.7 and 34.5 per 100 000).
4. For example, the low level of official homicide rates in contemporary Iraq is striking (2 per 100 000 in 2008); in this case this measure fails to register the actual level of violence in the country; estimates for Afghanistan (3.4 in 2004) may be equally misleading.

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