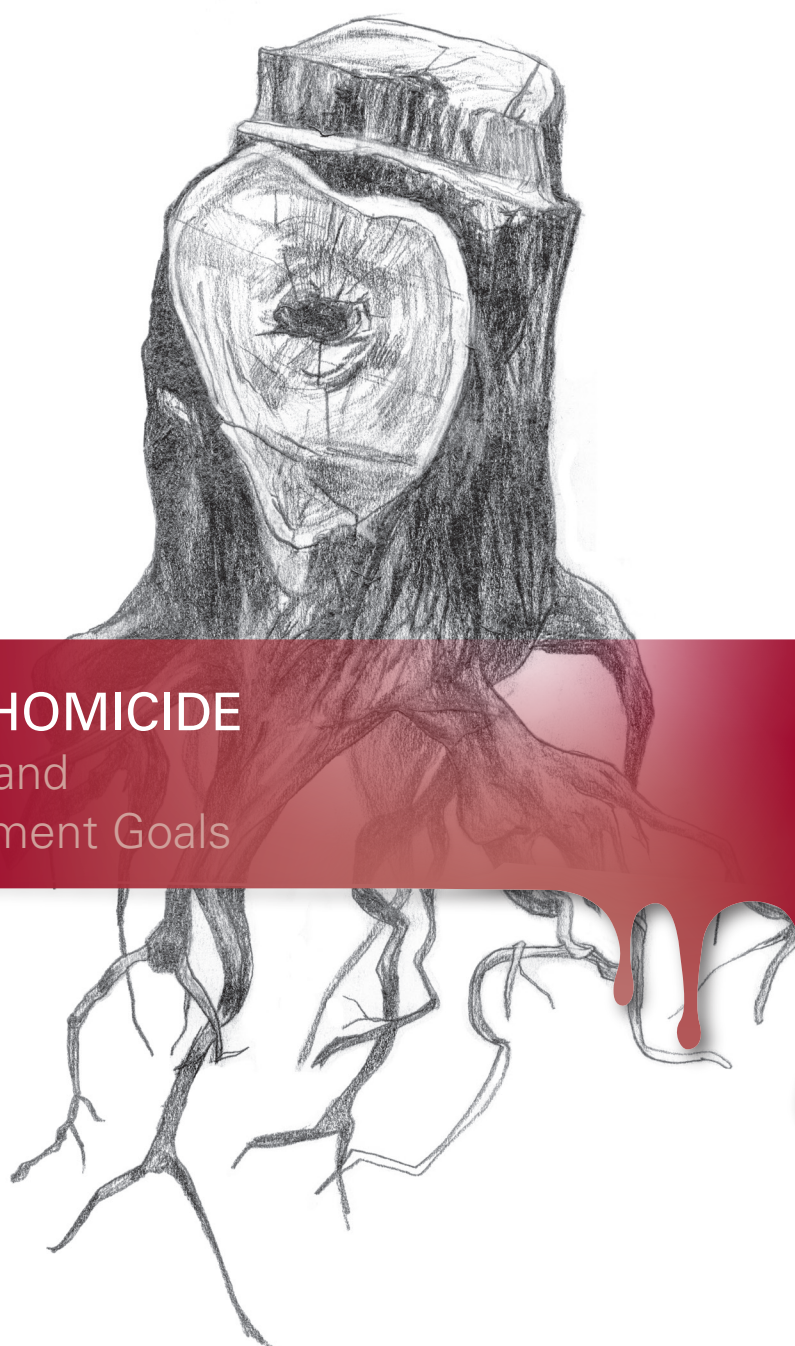




**UNODC**

United Nations Office on Drugs and Crime



## GLOBAL STUDY ON HOMICIDE

Homicide, development and  
the Sustainable Development Goals

2019



UNITED NATIONS OFFICE ON DRUGS AND CRIME  
Vienna

## **GLOBAL STUDY ON HOMICIDE**

Homicide, development and the Sustainable Development Goals

2019



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## PREFACE

The *Global Study on Homicide* is a search for solutions. By bringing together the available data, the United Nations Office on Drugs and Crime seeks to shed light on different phenomena, from lethal gang violence and the role of firearms to links with inequalities and gender-related killings, and in this way support targeted action. I hope that the research and analysis contained in the study are used in this spirit – not to designate “murder capitals” but to learn, understand and strengthen prevention.

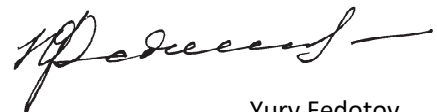
Criminal activity is responsible for many more deaths worldwide than armed conflict and terrorism combined. Unless the international community takes decisive steps, targets under Sustainable Development Goal 16 to significantly reduce all forms of violence and related death rates by 2030 will not be met.

The Americas continue to report high homicide rates. Young men are especially at risk, with a homicide rate for men aged 18 to 19 estimated at 46 per 100,000 – far higher than the risk faced by their peers in other regions. Firearms are also involved far more often in homicides in the Americas than in other parts of the world.

By contrast, Europe has seen a decline in the homicide rate by 63 per cent since 2002 and by 38 per cent since 1990. The rate in Asia has fallen by 36 per cent since 1990. Data collection overall has improved since the previous *Global Study on Homicide*, but there remain serious gaps in the availability of reliable data for African countries. There are also indications that homicide is underreported in the official statistics in Pacific countries.

This study offers particular insights into the gender-related killing of women and girls. “Femicide” represents just a small percentage of the overall number of homicides, but our analysis indicates that the drivers of this type of lethal violence require tailored responses. Killings carried out by intimate partners are rarely spontaneous or random, and should be examined as an extreme act on a continuum of gender-related violence that remains underreported and too often ignored.

The *Global Study on Homicide 2019* also documents successes in preventing and addressing lethal violence. In particular, the study offers examples of effective community-based interventions in settings afflicted by violence, gangs and organized crime. These accounts show that with targeted interventions backed by sustained engagement and trust between communities and law enforcement, bringing down homicide rates is possible.



Yury Fedotov

Executive Director, United Nations Office on Drugs and Crime





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## SCOPE OF THE BOOKLET

Constituting the fourth part of the *Global Study on Homicide 2019*, this booklet starts by examining the relationship between homicidal violence and level of development with reference to the Sustainable Development Goals. A macroanalysis of the extent to which homicide rates can be explained by national levels of development is then presented. The analysis is based on a set of models that incorporate the latest available homicide data and were designed to take into account the social and economic factors most strongly correlated with homicide rates across countries. Comparing the homicide rate predicted on the basis of a country's level of development with the actual homicide rate reported by that country helps to clarify how effective development policies can be instrumental in reducing homicidal violence.

The booklet looks in detail at the main pillars of development and their reciprocal relationship with levels of homicide and violence. First, homicide and economic development are discussed in terms of economic growth, poverty and inequality, and unemployment. The focus then shifts to social development, with consideration of a number of specific aspects: young people, education and violence, good health and well-being, gender inequality, urban violence and migration. This is followed by an assessment of the relationship between homicide and environmental factors. Lastly, homicide and peace, justice and strong institutions – the three key components of Sustainable Development Goal 16 – are addressed in the context of the rule of law. The overall aim is to provide an evidence base for policymaking that helps to reduce violence while fostering sustainable development.



## KEY FINDINGS

Macroanalysis of the social and economic factors most closely associated with homicide in different countries reveals that, overall, there is a strong link between a country's homicide rate and its level of development. These two elements form part of a vicious circle, with a low level of development likely to push the homicide rate up, which in turn further hampers development. Nevertheless, some of the highest homicide rates recorded worldwide cannot be explained by the level of development alone. There are other factors beyond socioeconomic development that influence or are influenced by homicide rates.

Moreover, the relationship between development and homicide is not uniform across regions and countries. Homicide rates in Asia and Europe show a stronger correlation with development levels than in other regions. Across the Americas, homicide rates vary greatly, and these variations cannot always be accounted for by individual countries' level of development. The scarcity of relevant data for Africa means that only very weak links can be established between homicide rates and the available development indicators in that region.

The specific development factors that contribute to homicide rates also vary across regions. The comparatively higher homicide rates observed in the Americas and Africa are significantly linked to the large youth populations in countries in those regions, while the comparatively lower fertility rates and higher gross domestic product (GDP) of countries in Europe and Asia are some of the key reasons why homicide rates there are generally lower.

The homicide rates reported for some countries are significantly lower than what one would expect from their development level. This may be due to undercounting in the officially reported rates, specific national circumstances beyond socioeconomic development that act as a brake on violence, or national development patterns that are very different from those of other countries in the region.

As already mentioned, high levels of violence can impede economic growth, while low or declining growth rates can in turn create conditions that are conducive to an increase in violence. Sustained economic growth, on the other hand, is apt to reduce the risk factors associated with increased levels of violence.

There is a clear and well-established link between homicide rates and income inequality: countries with pronounced income inequality are likely to have a higher homicide rate than those with narrower income gaps. However, this correlation, while still observable, is weaker in low-income countries. Moreover, it does not seem to be applicable worldwide: in Asian countries, for example, there is no tangible link between income inequality and homicide rates.

Poverty, particularly when accompanied by economic inequality, has also been found to be linked to high levels of violence because of the effect it has of weakening intergenerational family and community ties. Conversely, a high rate of violence in a community drives property values down and undermines the growth and development of local businesses.

Although unemployment in general is not a good indicator of homicide, studies of the role of youth unemployment in homicidal violence have found that an increase in the proportion of young people without an occupation (young people not in employment, education or training) is linked to an increase in the homicide rate. This is all the more so in certain circumstances, such as the presence of street gangs and organized crime groups that draw many of their recruits from this cohort.

Some recent studies have questioned the existence of a direct relationship between a country's homicide rate and the proportion of young people (normally taken to refer to those aged between 15 and 29) in its population, yet the latest available data do point to a positive and statistically significant correlation. There are exceptions to the rule, however: certain countries, located mainly in Asia, have large youth populations but low homicide rates.

The combination of the demographic phenomenon of "youth bulge", low levels of education and high unemployment rates may push young people into delinquent and violent behaviour. From there it is easy for them to be lured into joining organized criminal structures and becoming involved in collective violence.

Beyond inflicting death, homicide also has a substantial impact on the health of those who were close to the victims. Each act of homicide leaves behind as “survivors” around 7 to 10 close relatives, not to mention friends, neighbours and co-workers. Moreover, high levels of violence, including homicide, are a significant strain on public health systems and further deplete already scarce resources, particularly in developing countries. It is not only the public purse, though, that is affected, since individuals and families also have to pay the price of violence. Poor households often have to spend their own money to cover the health costs arising from violent acts. Additionally, the strain of being exposed to violent behaviour can cause individuals and whole families to suffer a reduction in income, savings and productivity.

Just as gender inequality fosters gender-related violence, so the empowerment of women has been shown to be accompanied by a decrease in the level of intimate partner violence. Greater autonomy and independence, when also combined with a higher social status, are thought to make women less likely to fall victim to homicide. However, during the initial transition towards empowerment, women may be at an increased risk of violence because of the way they challenge traditional gender roles and social norms.

Globally, it seems that major cities have been more successful in reducing lethal violence than their respective countries. Thus, over the period 2005–2016, homicide rates decreased by 34 per cent overall in a sample of 68 cities, compared with a decrease of only 16 per cent in the respective countries (weighted by population). Furthermore, there seems to be no positive correlation between urban growth and homicide rates. Quite the contrary in fact, since over the same period the population in the sample cities grew by 9 per cent, whereas the number of homicides decreased by 26 per cent. This negative correlation can be observed in cities in all regions, most markedly in Asia, followed by Europe.

It can therefore be concluded that rapid urban growth is of itself not a driver of homicide rates. The presence of organized crime, inequality, and poor governance and infrastructure in cities are, as at the national level, the main factors that contribute to high homicide rates. However, each city – indeed each neighbourhood within a city – has its own specific risk factors that need to be addressed through careful policymaking.

Ensuring access to land and securing property rights are fundamental in creating the conditions for people to enjoy sustainable livelihoods. Securing tenure rights to land remains a challenge in many countries, particularly in those where there has been a sudden reduction in available land (as a result of e.g. environmental disasters), in those where the rule of law is weak, and in those that are mired in, or emerging from, conflicts. Insecure land tenure can create disputes and generate high levels of violence.

The analysis of long-term trends indicates that countries that do not pursue the establishment of strong security and justice systems within a framework of respect for human rights are more likely to be caught in a spiral of chronic violence and insecurity. Weak rule of law leads to impunity, creating an environment in which criminal activities can flourish and criminal groups are able to operate more easily. Conversely, adherence to the rule of law and respect for human rights both bolster the legitimacy of government institutions, which acts as a deterrent to violent crime. Apart from preventing disputes and helping the economy to grow, strong rule of law in a country manifests itself in efficient law enforcement that secures the rights of all individuals under the national jurisdiction.



# HOMICIDE AND THE SUSTAINABLE DEVELOPMENT GOALS

High levels of homicide can have direct, short-term effects on human welfare and longer-term effects on sustainable development, notably on economic growth, social development, security and the rule of law.

Since low levels of development can in turn lead to an environment conducive to crime and violence, the result is very often a vicious circle in which low levels of development foster violence, and violence further diminishes opportunities for development.

The importance of this interaction is increasingly being recognized by the international community, as reflected in the 2030 Agenda for Sustainable Development, adopted by the United Nations General Assembly on 25 September 2015, which sets out a total of 17 global Sustainable Development Goals. In this context, “development” refers to the transformative steps required to shift the world on to a sustainable and resilient path.<sup>1</sup>

Broad and interdependent, each one comprising a list of specific targets (to give a total of 169 targets), the Sustainable Development Goals balance the three traditional dimensions of sustainable development – economic, social and environmental – and take into account security, rule of law and governance as integral components of development and as enablers of all developmental goals. A comprehensive, far-reaching and people-centred framework, which recognizes that sustainable development is unattainable without peace and security, and that peace and security are at risk without sustainable development, the Sustainable Development Goals address homicide directly through Goal 16 (“Peace, justice and strong institutions”).

This booklet looks at the relationship between homicide and all elements of development through the lens of the Sustainable Development Goals in order to explore how homicide rates affect development levels and vice versa. It is hoped that the analysis presented here will make it clearer how a reduction in levels of homicide and lethal violence can support achievement of the Sustainable Development Goals.<sup>2</sup>

## Summary of the interplay between homicidal violence and the Sustainable Development Goals



Poverty is a risk factor associated with violent crime and victimization at both the individual and national level. At the individual level, people may resort to violent crime as a means of survival. At the national level, a shrinking economy may be accompanied by reduced investment in law enforcement systems, leading to a state of lawlessness, in which citizens are more exposed to violent crime. High levels of violence can also drive property values down and undermine business growth, thus exacerbating poverty, which can in turn lead to further violence. Large-scale violence hinders efforts to reduce poverty.

### **Target 1.4 ...access to basic services, ownership and control over land...**

*Insecure land tenure and access to land in the context of an inadequate legal framework that does not enforce individual property rights can create disputes and produce a high level of violence.*



Homicide is among the leading causes of death among young people (aged 15 to 29) in some countries and, in general, results in millions of years of life being lost annually. High levels of violence, including homicide, put a heavy strain on public health services, particularly in developing countries where resources are already scarce. Moreover, mental health issues are more common in countries with comparatively high levels of lethal violence, which places a further burden on public health services. On the whole, a high level of violence shortens life expectancy significantly.

<sup>1</sup> For more information, see <https://sustainabledevelopment.un.org/post2015/transformingourworld>.

<sup>2</sup> For further information about global homicide trends, see booklet 2 of this study.



High levels of homicide and violence in general can have a negative impact on schooling and educational outcomes. Because of the diminished economic opportunities faced by young people who fail to receive a high-quality education, they are more likely to engage in delinquent and violent behaviour, which can ultimately even lure them into organized criminal structures. Education in both formal and informal settings is a key element in reducing violence because it helps to strengthen key life skills that build resilience to crime and victimization, and also to increase employment opportunities, which act as a protective factor against crime and violence.



High and persistent levels of violence are a threat to achieving gender equality. Societies with pronounced gender inequality tend to be characterized by higher levels of interpersonal violence against women, including lethal violence. Conversely, the empowerment of women has been shown to be accompanied by a decrease in the level of intimate partner violence. Greater autonomy and independence, when also combined with a higher social status, help to protect women from the risk of homicide.



Lethal violence results in both direct and indirect monetary costs for society and can impede economic growth. Sustained economic growth can improve economic conditions and access to health and social services, and thus reduce some of the risk factors associated with a higher level of violence. An increase in the proportion of young people who are not economically active (not in employment, education or training) is linked to an increase in levels of homicide.



Countries with greater income inequality are more likely to have higher homicide rates than countries with less inequality. Economic developments that exacerbate income inequality both within and between countries can foster criminal violence. Sociopolitical inequality, notably unequal access to resources, is known to be a root cause of violent behaviour. Marginalized people are more likely to become victims of violence, which makes their efforts to enjoy equal rights even more arduous. Unequal access to education and health services has also been found to be linked to higher levels of homicide, as have higher infant mortality rates.

**Target 10.7...facilitate orderly, safe, and responsible migration and mobility of people...**

*There is some evidence pointing to a zero or negative correlation between homicide and migration at the macro level, whereas other findings suggest that they are positively correlated. Migration may therefore increase or decrease levels of crime depending on specific national and subnational contexts, which in turn may either hinder or facilitate the integration of migrants in host countries. For example, migration can sometimes reduce aggregate levels of crime, including violent crime, by increasing labour market opportunities for both native- and foreign-born populations*



Although cities provide opportunities, jobs and services for their inhabitants, they are also rife with direct and indirect risks of violence. A poorly managed high population density, high levels of income inequality, high prevalence of mental illness and drug dependence, the potential for anonymity, and the existence of gangs and organized crime groups are among the factors that increase those risks in urban areas. On the other hand, cities can offer protection against violence because they tend to be more affluent, have higher policing levels and provide better access to medical services and educational facilities than non-urban areas. Such protective factors can offset the risk factors mentioned earlier, but it is worth emphasizing that every city, and indeed every neighbourhood, has unique characteristics that shape and influence homicide rates.



Conflict over resources has always been a major driver of violence, both at interpersonal and national level. Climate scientists estimate that changes associated with the global increase in temperatures and other forms of environmental degradation will greatly exacerbate violent conflicts in the future. High temperatures have been independently associated with violent aggression, but potentially more important are the effects that climate change could have on the economy and migration.



There is a clear link between prevalence of the rule of law and levels of homicidal violence. Strengthening the rule of law and making criminal justice systems fairer and more effective can prevent violence by reducing recidivism, serving as a deterrent to violent behaviour, and promoting trust in public authorities and values that increase social cohesion. A high level of homicide can place an additional burden on criminal justice systems with already limited resources, and is one of the factors behind prison overcrowding, depending on specific national contexts. Measures that increase the efficiency of criminal justice systems – notably by improving access to legal aid, eliminating inhumane prison conditions, avoiding excessive and lengthy pre-trial detention, and reducing the degree of impunity of perpetrators – can bring down homicide rates. Conversely, a low homicide rate can help maintain effective and fair criminal justice institutions.



## HOMICIDE AND DEVELOPMENT

Homicide is a multifaceted phenomenon whose roots lie in a complex combination of socioeconomic, demographic and institutional factors. Some scholars argue that the significant discrepancies observed in homicide rates across countries and regions can be explained using a “conflict theory” perspective, according to which the uneven advance of capitalism is increasingly separating the “haves” from the “have-nots”, both at the global and the regional level.<sup>3</sup> Patterns of economic inequality, unemployment and unequal development lead to a widening gap in homicide rates between “core” (highly industrialized, rich) countries and “peripheral” (poor, developing) countries.<sup>4</sup> The latter are faced with rising levels of unemployment and poverty, which, combined with such other factors as a lack of social services and limited prospects for their citizens to earn a living wage, lead to an increase in the level of crime, including homicide rates.<sup>5</sup>

Other scholars argue instead that the currently low homicide levels in Western countries should be understood from a modernization perspective.<sup>6</sup> Seen in this light, low rates of homicide are part of the long-term decline in violence resulting from such changes in daily life as increased self-control and domesticity, and from consolidation of the rule of law. Countries, so this argument goes, pass through similar stages of development, with less developed ones gradually adopting the characteristics of more developed ones. Even though there may be large differences between highly developed countries and less developed ones, they are all on the same “traditional-modernity continuum”. Hence, homicide rates in developing countries are expected to follow the same pattern as that observed in countries that have traversed further along the continuum. The modernization perspective also assumes that crime occurs when modern values and norms clash with traditional arrangements for the allocation of societal roles.<sup>7</sup> Because emerging new roles are not yet fully institutionalized and integrated in society, existing normative guidelines are rendered ambiguous and traditional support mechanisms are weakened.<sup>8</sup>

Recent research suggests, moreover, that adverse social conditions known to be strongly related to the homicide rate – such as collective and individual poverty, and inequality – have a mediating effect as well, because of their impact on the level of formal social control. According to this “dynamic theory of homicide”, such negative conditions undermine the application of the rule of law in a country, reducing the effectiveness of its criminal justice system and also the level of satisfaction with that system. The ensuing deficiencies in formal control, which is meant to be administered by the criminal justice system, lead in turn to more violence.<sup>9</sup>

Designing policies that reduce violence while facilitating progress towards the Sustainable Development Goals requires a thorough understanding of the various challenges that violence poses to the achievement of those Goals, and also of how violence can be reduced by pursuing specific targets laid down in the 2030 Agenda for Sustainable Development.

Homicide rates are strongly influenced by each of the principal dimensions of sustainable development (economic, social, environmental and the rule of law). Conversely, homicide rates also have a strong, negative impact on development.<sup>10</sup> Most research so far has focused on the relationship between homicide and economic and social factors; there are but few studies of the relationship between homicide and the

<sup>3</sup> LaFree, G., Curtis, K. and McDowall, D., “How effective are our ‘better angels’? Assessing country-level declines in homicide since 1950”, *European Journal of Criminology*, vol. 1, No.4 (July 2015), pp. 482–504.

<sup>4</sup> Ibid.

<sup>5</sup> Ibid.

<sup>6</sup> Elias, N., *The Civilizing Process* (Oxford, Blackwell, 1994).

<sup>7</sup> LaFree, G. and Tseloni, A., “Democracy and crime: a multilevel analysis of homicide trends in forty-four countries, 1950–2000”, *The Annals of the American Academy of Political and Social Science*, vol. 605, No. 1, (May 2006) pp. 25–49.

<sup>8</sup> Ibid, p. 31.

<sup>9</sup> Ouimet, M., Langlade, A. and Chabot, C., “The dynamic theory of homicide: adverse social conditions and formal social control as factors explaining the variations of the homicide Rate in 145 countries”, *Canadian Journal of Criminology and Criminal Justice*, vol. 60, No. 2 (April 2018), pp. 241–265.

<sup>10</sup> World Bank, *World Development Report 2011: Conflict, Security, and Development* (Washington, D.C., 2011).

environment and the rule of law. Before taking a closer look at these dimensions one by one, in the following section a macroanalysis of the interplay between development and homicide is presented.

## Extent to which homicide can be explained by development

Homicide rates vary greatly across the world, ranging from as low as 0.5 per 100,000 population in some countries in Asia to more than 60 per 100,000 population in some countries in Latin America. Statistical models can be used to identify socioeconomic indicators, such as GDP and life expectancy, that account for those disparities. These models yield a “predicted” or “modelled” homicide rate for each country. If the modelled homicide rates are close to the actual rates, it is fair to say that the indicators selected are helpful in explaining differences across countries.

Several studies have explored the relationship between homicide rates and indicators related to development by using such statistical models.<sup>11</sup> These studies have shown that development indicators can successfully explain many of the differences in homicide rates across countries. However, rather than taking a single indicator, it is always necessary to consider a combination of factors related to social and economic development (e.g. wealth and poverty, income inequality, and female labour force participation), and also the rule of law, when attempting such explanations.

For the purposes of the *Global Study on Homicide 2019*, a new set of five models incorporating the latest available homicide data were constructed: four at the regional level (Africa, the Americas, Asia and Europe) and one at the global level.<sup>12</sup> The models cover a large number of countries, exceeding by far the number considered in most of the existing literature. Moreover, a wide range of indicators were taken into account so as to identify the social and economic factors that are most closely associated with homicide rates across countries.<sup>13</sup>

Comparing the homicide rate predicted on the basis of a country’s level of development with the rate reported by that country (as shown in box 2) helps in the assessment of the effectiveness of development policies in reducing homicidal violence. If the reported homicide rate is close to the predicted rate, development policies are likely to be beneficial in terms of violence reduction. However, if the two values deviate significantly from each other, it is clear that drivers other than the socioeconomic indicators considered in the model are pushing the homicide rate to a level higher (or lower) than the one predicted.

## Regional models of homicide using development indicators

The degree to which homicide rates can be explained using available development indicators differs across regions (see box 1). Homicide rates are closely linked to development in Asia and Europe, but less so in Africa and the Americas where other factors beyond the observable socioeconomic indicators play a greater role. In Asia and Europe, more than 70 per cent of the variability in homicide rates can be explained by differences in levels of development.<sup>14</sup> In Africa and the Americas, where variability in homicide rates is much greater, only 34 and 30 per cent, respectively, of that variability can be explained in terms of development.<sup>15</sup>

<sup>11</sup> Trent, C. L. S. and Pridemore, W. A., “A review of the cross-national empirical literature on social structure and homicide”, in *Handbook of European Homicide Research: Patterns, Explanations, and Country Studies* (New York, Springer, 2012); LaFree and Tseloni, “Democracy and crime”; Nivette, A. E., “Cross-national predictors of crime: a meta-analysis”, *Homicide Studies*, vol. 15, No. 2 (May 2011), pp. 103–131; Messner, S. F., Raffalovich, L. E. and Sutton, G. M., “Poverty, infant mortality, and homicide rates in cross-national perspective: assessments of criterion and construct validity”, *Criminology*, vol. 48, No. 2 (May 2010), pp. 509–537; Rogers, M. L. and Pridemore, W. A., “The effect of poverty and social protection on national homicide rates: direct and moderating effects”, *Social Science Research*, vol. 42, No. 3 (May 2013), pp. 584–595.

<sup>12</sup> The data used are a five-year average (2012 to 2016) of UNODC homicide statistics collected from Member States.

<sup>13</sup> A detailed description of the modelling process can be found in the online methodological annex to this study.

<sup>14</sup> The models used were log-linear, ordinary least-squares models. In Asia, GDP per capita and fertility rates accounted for 70 per cent of the variability in homicide rates; in Europe, GDP per capita, fertility rates, percentage of urban population and life expectancy explained 75 per cent of the variability in homicide rates.

<sup>15</sup> In the Americas, the relative size of the youth population accounted for 30 per cent of the variability of homicide rates among 27 countries. Taking income inequality into consideration reduced the number of countries to 20 but increased the percentage of variability accounted for to 47 per cent. In Africa, the three factors most significantly associated with homicide (relative size of the youth population, gross national income per capita and life expectancy) accounted for 38 per cent of the variability in homicide rates.

This suggests that development policies (based on the development indicators used in the models) are more likely to reduce homicide rates in Asia and Europe than in other regions. In Africa and the Americas, other factors are evidently contributing to the particularly high or particularly low homicide rates observed. Such factors may include organized crime and the availability of firearms in the Americas,<sup>16, 17</sup> and existing conflicts in Africa.

The dimensions of development associated with homicide also vary across regions. The comparatively larger youth population in countries in Africa and the Americas is significantly linked to comparatively higher homicide rates. The relative size of the youth population is, however, not a good predictor of homicide rates in Asia and Europe, where the fertility rate and GDP per capita are more relevant. Although the underlying mechanisms linking fertility rates and homicide rates need to be investigated further, tentative answers are to be found in the “demographic transition theory” and in the relationship between demographic structure and violent crime. The fertility rate has been used as a proxy for family size.<sup>18</sup> In that respect, it is worth noting the positive correlation between income inequality and adolescent fertility that has been observed in Brazil.<sup>19</sup> Apart from the fertility rate, other variables, such as life expectancy (Africa and Europe) and share of the population living in urban areas (Europe), have also been found to be linked to homicide rates.

The analysis presented in this section is limited to development indicators that can be quantified; however, it should be borne in mind that the links between development and homicide may include factors that are not easily measured, such as culture, traditions and values. Moreover, there are big data gaps, particularly in Africa, and not all development indicators can be considered equally when explaining the link between development and homicide. For example, data on income distribution are available in only very few countries in Africa, which means that such data cannot be used to construct a regional model. If additional data were to become available, the indicators chosen might well have to be changed.

In Africa and the Americas, the large variation in homicide rates, together with the lack of data, makes it difficult to analyse the link between development and homicide. In the Americas, income inequality, for example, accounts to some extent for the differences in homicide rates across the 20 countries for which data are available, but it is unclear whether the same association would still be observed if all countries in the region were considered.

Interestingly, in Africa, higher wealth levels (measured e.g. by gross national income (GNI) per capita) are associated with comparatively higher homicide rates. This contradicts the findings of other studies, which have observed greater affluence to be associated with lower levels of homicide. There are several possible reasons for this phenomenon in Africa, two of which are: (a) lack of data – when data are available for only a small number of countries, a single outlier country can skew the overall result (this is the case with South Africa, a country in the region that has a comparatively high GNI per capita and at the same time a high homicide rate); and (b) limited resources for recording homicide in countries with very low levels of development, leading to an underestimation of homicide rates. If neither of these problems were present, it would indicate that in developing economies higher levels of wealth are indeed associated with higher levels of homicidal violence (in contrast to what is observed in developed economies, which usually make up the majority of countries in cross-country studies on homicide rates). Further research is needed to get to the bottom of this phenomenon.

<sup>16</sup> Briceño-León, R., Villaveces, A. and Concha-Eastman, A., “Understanding the uneven distribution of the incidence of homicide in Latin America”, *International Journal of Epidemiology*, vol. 37, No. 4 (August 2008), pp. 751–757.

<sup>17</sup> For further information, see booklet 3 of this study.

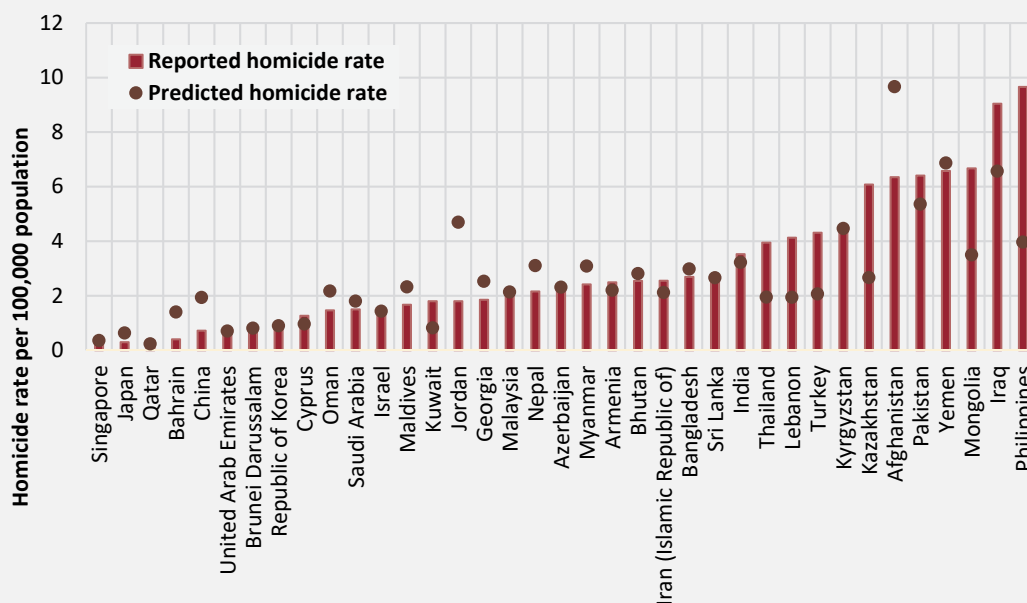
<sup>18</sup> See Goldstein, J., Lutz, W. and Testa, M. R., “The emergence of sub-replacement family size ideals in Europe”, *Population Research and Policy Review*, vol. 22, Nos. 5–6 (December 2003), pp. 479–496.

<sup>19</sup> See Chiavegatto, F. A. D. and Kawachi, I., “Income inequality is associated with adolescent fertility in Brazil: a longitudinal multilevel analysis of 5,565 municipalities”, *BMC Public Health*, vol. 15, No. 103 (February 2015).

## BOX 1: Regional statistical models

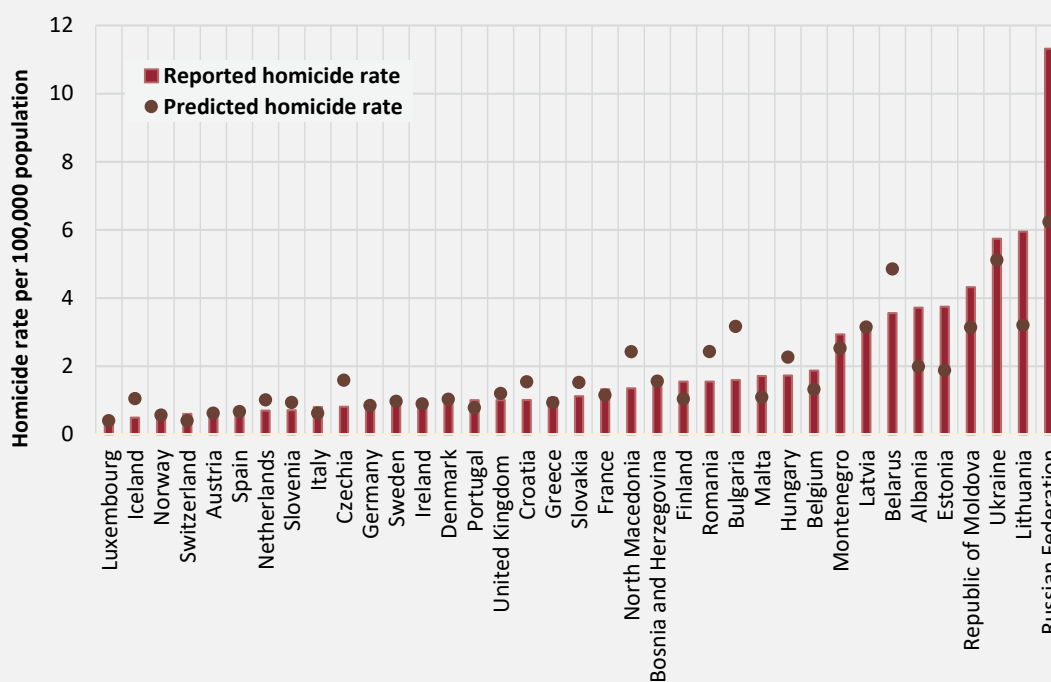
The following four graphs illustrate the degree to which the level of development of a country can account for its homicide rate. They allow the homicide rates predicted on the basis of a regional model (brown circles) to be compared easily with the reported rates (red bars).

**Homicide rate in countries in Asia, as predicted using socioeconomic indicators (brown) and as reported by countries, 2012–2016 (average)**



Source: UNODC homicide statistics; modelled data.  
Note: Based on 37 observations.

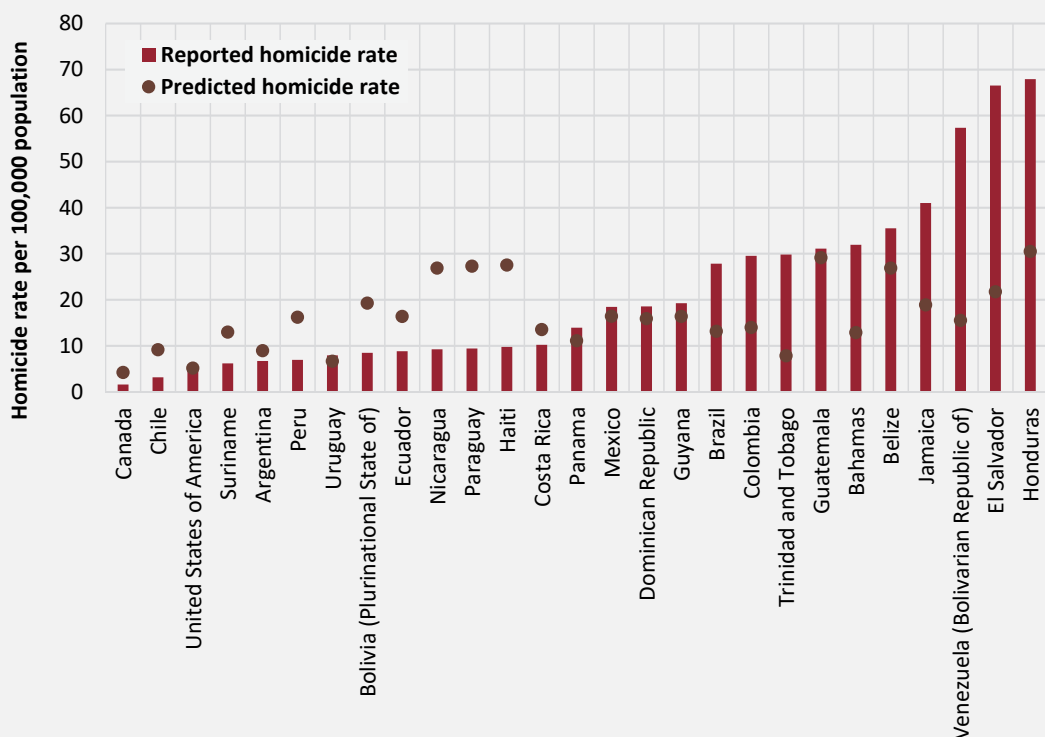
**Homicide rate in countries in Europe, as predicted using socioeconomic indicators (brown) and as reported by countries, 2012–2016 (average)**



Source: UNODC homicide statistics; modelled data. Note: Based on 37 observations.



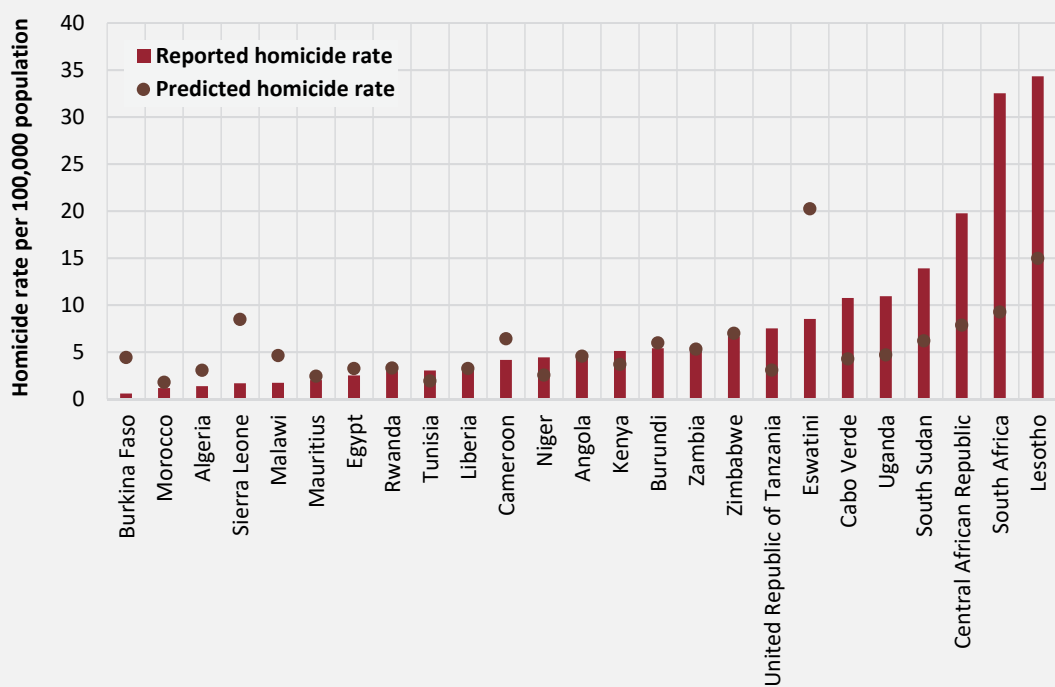
**Homicide rate in countries in the Americas, as predicted using socioeconomic indicators (brown) and as reported by countries, 2012–2016 (average)**



Source: UNODC homicide statistics; modelled data.

Note: Based on 27 observations.

**Homicide rate in countries in Africa, as predicted using socioeconomic indicators (brown) and as reported by countries, 2012–2016 (average)**



Source: UNODC homicide statistics; modelled data.

Note: Based on 25 observations.

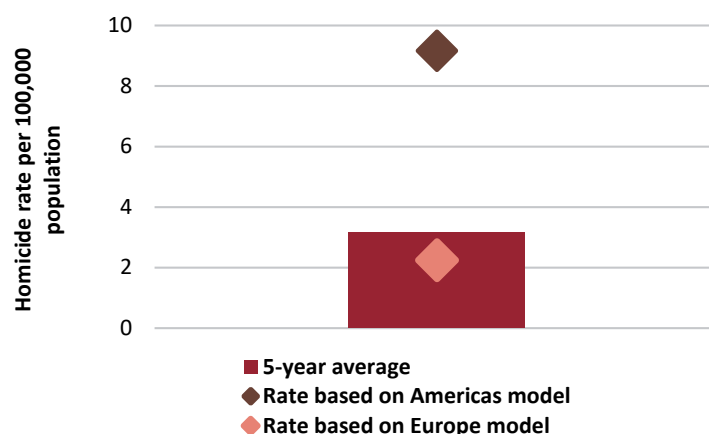
### *Examples of countries for which the predicted homicide rate deviates considerably from the reported rate*

Looking at some of the countries for which the reported homicide rate differs greatly from that predicted on the basis of their level of development can help to reveal what other risks or mitigating factors may be related to homicide beyond the observable socioeconomic indicators. Small variations between predicted and actual values can be attributed to the “noise” (random fluctuation) inherent in the statistical models used. However, those countries for which there is a large variation between the predicted and actual (reported) homicide rates are of particular interest.

In Europe, most national homicide rates are close to the values predicted on the basis of development level, with the exception of some countries in Eastern and Northern Europe. These are mainly countries with comparatively high homicide rates, in which the reported rate is higher than what would be expected from their level of development. Factors not taken into account in the development indicator-based models used, such as alcohol consumption, may play a role in these countries.<sup>20</sup> Conversely, there are also countries, such as Czechia and Iceland, where the reported homicide rate is lower than that predicted on the basis of their development level. Protective factors not taken into account in the statistical models may help to keep homicide rates low in these countries. For example, international rankings have consistently placed Iceland among the world’s most gender-equal countries. Arguably, gender equality fosters an environment that promotes non-violent behaviour among men,<sup>21</sup> thus reducing the overall likelihood of acts of homicide.

In the Americas, by contrast, national homicide rates are generally farther away from the values predicted on the basis of development level. Chile, for example, has a recorded homicide rate that is considerably lower than the value predicted using the regional model for the Americas. As figure 1 shows, the actual homicide rate in Chile corresponds more closely to the rate obtained using the model for Europe, which suggests that the development dynamics affecting trends in lethal violence in Chile are more similar to those of European countries, particularly in Eastern Europe, than to those in other countries in the Americas.

**Figure 1: Homicide rate in Chile, as predicted using the Europe and Americas models and as reported, 2012–2016 (average)**



Source: UNODC homicide statistics.

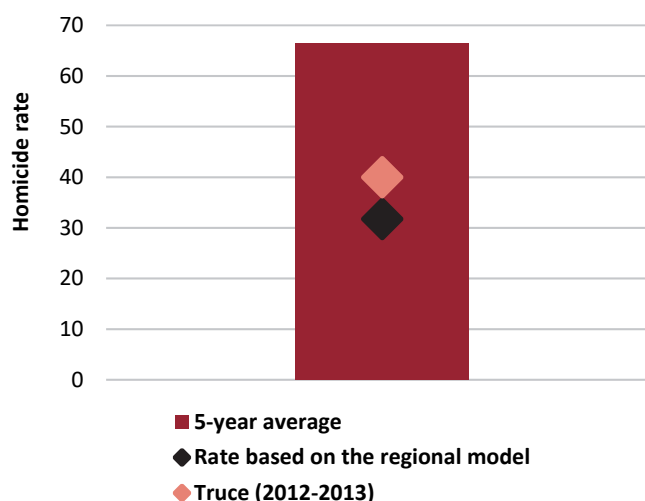
El Salvador is an example of a country where the actual homicide rate is much higher than the value predicted on the basis of its development level. Analysis of the fall in the homicide rate observed after the gang truce of March 2012 indicates that the difference between actual and predicted levels can be

<sup>20</sup> See Rossow, I., “Alcohol and homicide: a cross-cultural comparison of the relationship in 14 European countries”, *Addiction*, vol. 96, suppl. 1 (February 2001), pp. 77–92; Lester, D., “The association between alcohol consumption and suicide and homicide rates: a study of 13 nations”, *Alcohol and Alcoholism*, vol. 30, No. 4 (July 1995), pp. 465–468.

<sup>21</sup> Whaley, R. B. and Messner, S. F., “Gender equality and gendered homicides”, *Homicide Studies*, vol. 6, No. 3 (August 2002), pp. 188–210.

attributed mainly to gang violence. In such a context, policies that address purely socioeconomic development may have only a limited impact on homicide rates unless measures aimed at curbing gang violence, such as establishing the rule of law and promoting prison reform, are undertaken at the same time. Those countries in the Americas with high homicide rates that cannot be explained in terms of their level of development are precisely the ones most affected by organized crime-related violence (see booklet 3 of this study) and are likely to display similar dynamics.

**Figure 2: Homicide rate in El Salvador, as predicted using the regional model for the Americas, and as reported for 2012–2016 (average) and during the gang truce of 2012–2013**



Source: UNODC homicide statistics.

### Global model of homicide using development indicators

Analysis of the links between homicide and development at the global level, without taking regional specificities into account, yields a broader picture. Although a global development model is less relevant to individual countries than the regional statistical models used to produce the graphs in box 1, a global perspective does increase the number of countries available for analysis and can provide insights into a larger number of important factors. Globally,<sup>22</sup> around 65 per cent of the variation in homicide rates can be accounted for by the following indicators: percentage of young people in the total population, GDP per capita, urban population, income share held by the top percentile of the income distribution (a measure of income inequality), gender inequality index, and female labour force participation rate.

Explaining variations in homicide levels across all countries for which data are available involves taking into account development indicators that may not be relevant when explaining variations within regions, and vice versa. Income inequality, for example, has been identified in the literature as being key to explaining homicide rates. In the model constructed for the global analysis in this study, income inequality has indeed been found to be significant, but when the analysis is carried out by region, this factor does not seem to explain variability in homicide rates to the same extent.<sup>23</sup> The same holds for gender inequality, which was not selected in any of the regional models.

<sup>22</sup> The analysis in this section is based on 88 countries, which were selected because of the availability of data on income distribution.

<sup>23</sup> One reason could be that income inequality is highest in the Americas, where homicide rates are also highest. Globally, income inequality helps explain the differentiation between high and low homicide levels. Yet when the world regions are considered individually, this factor is not as relevant compared with other socioeconomic factors that explain differences in homicide rates better.

## BOX 2: Modelling homicide rates: methodology

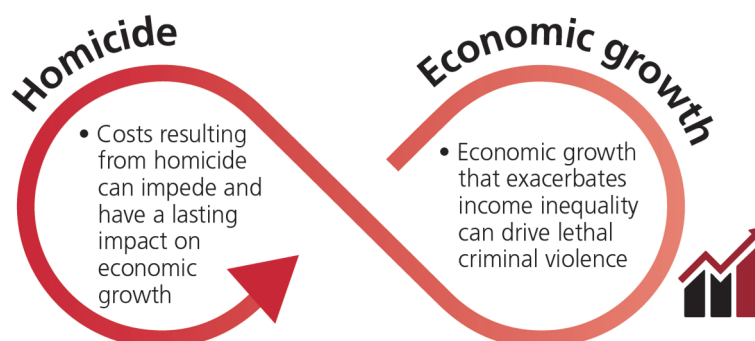
In the modelling performed for this study, the relationship between homicide rates and levels of development was analysed using ordinary least-squares regression models. Available development indicators served as input, and a statistical procedure led to the elaboration of a model that was able to minimize the differences between observed and modelled homicide rates. A detailed description of the input data and the models can be found in the methodological annex to this study.

Models were set up to obtain predicted global and regional homicide rates. The global model was constructed by running the statistical procedure for all countries worldwide for which data on homicide and development indicators were available. Regional models were constructed using data for countries in single regions.

The models provide insights into the combinations of development indicators that can explain variability in homicide rates. However, as with all statistical models, results have to be interpreted with caution. “Predicted” homicide rates are purely a model output and do not have prescriptive power in any way. In cases where, for example, a low reported homicide rate contrasts with a high predicted value, this does not imply that the actual homicide level should be higher; it simply means that the available indicators on socioeconomic development would lead one to expect a higher homicide rate, and consequently that protective factors against homicide mortality must be at work that cannot be measured. Moreover, a statistical correlation should not necessarily be interpreted as proof of causality: for example, a statistically significant relationship between fertility and homicide rates does not mean that a high homicide rate is caused by a high fertility rate, or that a reduction in fertility leads to lower homicide rates (and vice versa).

## Homicide and economic development

### Economic growth



### Cost of homicide

Repeated cycles of interpersonal violence and, in its most serious form, lethal violence, lead to human, social and economic costs that can last for generations.<sup>24</sup> When estimating the costs resulting from violence, economists distinguish between direct costs, indirect costs and non-monetary costs. Direct costs are those directly related to a violent incident, while the indirect costs of violence include a diminished rate of participation in the labour market, increased absenteeism from work, and a decrease in income, on-the-job productivity and saving and investment rates.<sup>25</sup>

Multiplier effects, which cause direct and indirect costs to have an even greater impact on national income, should also be taken into account. For example, the forgone income of homicide victims and the prison population (the difference between earnings actually achieved and those that could have been obtained had circumstances and choices been different) translates into a reduction in national consumption and

<sup>24</sup> World Bank, *World Development Report 2011*.

<sup>25</sup> Haugen, G. A. and Boutros, V., *The Locust Effect: Why the End of Poverty Requires the End of Violence* (Oxford, Oxford University Press, 2014).

thus national income, which in turn may reduce investment and economic development as a whole.<sup>26</sup> Costs resulting from homicide and violence in general can therefore have a lasting impact on economic growth, even if the direct costs seem relatively small in comparison with a country's GDP. Multiplier effects go beyond a mere loss of income, however, because in addition to the indirect costs mentioned above, they also exacerbate the loss of human capital and can lead to a reduction in macroeconomic growth – factors that undermine the economy in the medium to long term.<sup>27, 28</sup>

Although no existing methodology is capable of simultaneously addressing all these different factors, some studies have tried to estimate the cost of homicide (and of other forms of violence and crime) in selected countries. These studies have shown that the economic cost of homicide and violence can be substantial relative to the size of some national economies (see box 3).

### BOX 3: Direct and indirect costs incurred in health systems as a result of violence

The World Bank<sup>a</sup> has estimated direct medical costs in Brazil related to interpersonal violence at \$235 million, and indirect medical costs at \$9.2 billion. By way of comparison, the respective figures for Jamaica are \$29.5 million and \$385 million, and for Thailand, \$40.3 million and \$342 million. Domestic violence in the United Kingdom of Great Britain and Northern Ireland is estimated to result in direct annual costs of £5.7 billion.<sup>b</sup> Studies have put the cost of homicide and other violent crimes in the United States of America at around 3 per cent of GDP.<sup>c</sup> In England and Wales, the medical costs, lost output and intangible costs arising both from crime against individuals and from other types of crime are estimated to be in the order of 7 per cent of aggregate GDP.<sup>d</sup> In Australia, such costs amount to roughly 10 per cent of GDP.<sup>e</sup> In South Africa, public expenditure on criminal justice alone amounts to around 3.7 per cent of GDP.<sup>f</sup>

<sup>a</sup> World Bank, *The Costs of Violence* (Washington, D.C., 2009)

<sup>b</sup> World Bank, *World Development Report 2011: Conflict, Security and Development* (Washington, D.C., 2011).

<sup>c</sup> Miller, T. R., Cohen, M. A. and Rossman, S. B., "Victim costs of violent crime and resulting injuries," *Health Affairs*, vol. 12, No. 4 (Winter 1993), pp. 186–197.

<sup>d</sup> Brand, S. and Price, P., "The economic and social costs of crime", Home Office Research Studies, No. 217: (London, Home Office, 2000).

<sup>e</sup> Mayhew, P., "Counting the costs of crime in Australia: technical report", Technical and Background Paper Series, No. 4 (Canberra, Australian Institute of Criminology, 2003).

<sup>f</sup> Altbeker, A., "Paying for crime: South African spending on criminal justice", ISS Papers, No. 115 (Tshwane, South Africa, Institute for Security Studies, 2005).

In addition to monetary costs, high levels of homicide and related harm engender non-monetary costs. These include an increase in the morbidity rate resulting from failed homicide attempts, mental health issues among those affected by the crime, such as survivors and relatives of the victim, and psychological distress, which results in an overall decrease in the quality of life.<sup>29</sup> Furthermore, there is a negative correlation between the quality of governance, as reflected by investment in human development, and homicide rates.<sup>30</sup> Certain studies have found that a country's homicide rate can be influenced by the capacity and performance of its governance institutions.<sup>31</sup> Where inefficient governance results in high levels of lethal violence, this may be perceived as a misuse of resources and symptomatic of corruption, leading to the erosion of trust in State institutions.<sup>32</sup>

<sup>26</sup> For a detailed discussion of such costs in the context of Latin America and the Caribbean, see UNODC and World Bank, *Crime, Violence, and Development: Trends, Costs, and Policy Options in the Caribbean* (Washington, D.C., 2007).

<sup>27</sup> Haugen and Boutros, *The Locust Effect*.

<sup>28</sup> Ibid.

<sup>29</sup> Redmond L. M., *Surviving: When Someone You Know Was Murdered – A Professional's Guide to Group Grief Therapy for Families and Friends of Murder Victims* (Clearwater, Florida, Psychological Consultation and Education Services, 1989).

<sup>30</sup> Cao, L. and Zhang, Y., "Governance and regional variation of homicide rates: evidence from cross-national data", *International Journal of Offender Therapy and Comparative Criminology*, vol. 61, No.1 (January 2017), pp. 25–45.

<sup>31</sup> Karstedt, S. and LaFree, G., "Democracy, crime and justice", *The Annals of the American Academy of Political and Social Science*, vol. 605, No.1 (2006), pp. 6–23.

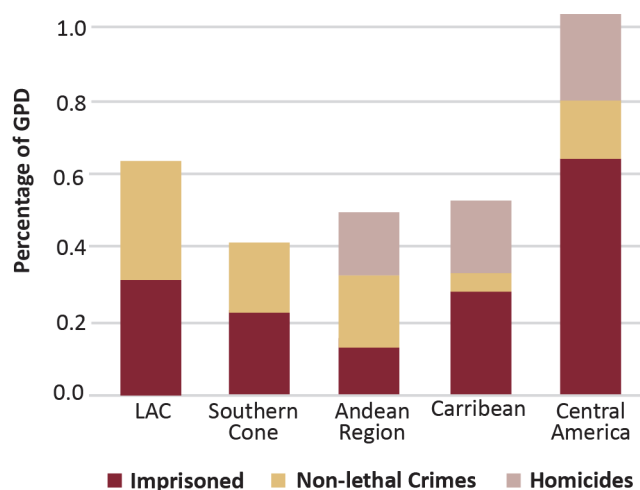
<sup>32</sup> Cullen, F. T., "Social support as an organizing concept for criminology", *Justice Quarterly*, vol. 11, No. 4 (1994), pp. 527–559.

A recent study of Latin America and the Caribbean provided a detailed breakdown of estimated costs – including social, non-monetary costs – associated with homicide and other forms of violence. The estimates were grouped into three categories: social costs (including victimization in terms of loss of quality of life resulting from homicide and other violent crimes, and also the forgone income of homicide victims and the prison population); costs incurred by the private sector (including expenditure on crime prevention by businesses and households, i.e. spending on security services); and costs incurred by the Government (including public spending on the judiciary system, police services and prison administration).

Accounting for \$10.6 billion of the \$16.5 billion in victimization costs resulting from crime in Latin America and the Caribbean in 2014, homicide was and remains the principal cause of such costs in the region. Among all the subregions considered in the study (Southern Cone, Andean region, the Caribbean and Central America), the social costs of homicide measured as a percentage of GDP were the highest in Central America, standing at almost 0.7 per cent of the subregion's aggregate GDP.<sup>33</sup>

On average, forgone income related to homicide represented 0.32 per cent of GDP in Latin America and the Caribbean in 2014, although there was great variability across countries. For example, in Honduras, homicide accounted for around 1.6 per cent of GDP; in El Salvador, the figure was roughly half that, at 0.86 per cent of GDP, yet still almost three times the regional average. At the other end of the spectrum, forgone income related to homicide accounted for just 0.05 per cent of GDP in Chile.<sup>34</sup>

**Figure 3: Social costs of crime in Latin America and the Caribbean, by geographical zone**



Source: Jaitman, L., ed., *The Costs of Crime and Violence: New Evidence and Insights in Latin America and the Caribbean* (Washington, D.C., Inter-American Development Bank, 2017).

Although forgone income related to homicide constitutes a loss for the economy of a country, public and private spending on security and government spending on the criminal justice system are considered economically productive activities in the sense that such spending creates some value for the national economy. However, the question remains whether that money could have been put to better use – for example, by being invested in more productive activities. Such effects are inherently difficult to study, since the counterfactual – i.e. the case against which a scenario could be compared – is difficult to come by.

### *Economic activity, economic growth and violence*

Economic activity and growth are governed by a multitude of factors; a high level of violent crime (as measured by the homicide rate) is just one among many. A direct comparison over time of growth rates with levels of violence is therefore not sufficient; neither is a comparison between countries. Major macroeconomic developments can mask the potential effect of changes in the homicide rate. Subnational

<sup>33</sup> Jaitman, L., ed., *The Costs of Crime and Violence: New Evidence and Insights in Latin America and the Caribbean* (Washington, D.C., Inter-American Development Bank, 2017).

<sup>34</sup> Ibid.

studies help to avoid this problem because they make it possible to compare geographical areas with similar characteristics.

A study of two otherwise comparable regions in Italy, one of which is exposed to the Mafia and organized crime activities (often including violence), while the other is not, found that the Mafia's presence reduced GDP per capita by 16 per cent during the period under consideration. Evidence was presented suggesting that lower GDP reflects a net loss of economic activity, mainly because of a reallocation from private economic activity to less productive public investment such as security costs.<sup>35</sup>

Indeed, a high level of homicide can pose serious challenges to economic growth, both at the national and local level. Yet, just as high levels of violence can impede economic growth, so weak or declining economic growth can create conditions that are conducive to an increase in violence.<sup>36</sup> This is because stalling growth can augment criminogenic risk factors and inhibit the functioning of criminal justice systems, which in turn fosters violent crime, including homicide. Sustained economic growth, on the other hand, by improving economic conditions, can reduce the risk factors associated with increased levels of violence. Economic growth can reduce poverty, provide employment opportunities for people and promote human development in many different ways.<sup>37</sup> However, economic growth alone does not guarantee a decrease in violence. For example, despite strong levels of growth in the past decade, some countries in Latin America and the Caribbean, and also in Africa, still suffer from rampant violence. In such cases, the benefits of economic growth in terms of poverty reduction and increased opportunities in the labour market do not seem to have translated into a reduction in violence. Indeed, over the past decade some countries in Latin America and the Caribbean (especially in the Central America subregion) have experienced levels of violence that are similar to or even greater than those of previous decades. Moreover, a study of Brazil found that increases in the growth rate were positively correlated with higher levels of violence.<sup>38</sup>

A potential explanation for the above findings is that when the benefits of economic growth are not evenly distributed across society, those who feel left out may resort to violent and criminal activities. Indeed, economic growth that exacerbates income inequality both within and between countries can drive levels of criminal violence up.<sup>39</sup> Numerous studies have shown that the costs of violence tend to be concentrated in the most vulnerable population groups, i.e. among people already suffering from poverty and social marginalization.<sup>40</sup> Thus, although high levels of homicide can have a negative impact on economic growth, the converse is not necessarily true. Strong economic growth by itself does not always lead to lower levels of violence; the situation depends, rather, on who is profiting from the growth and how the ensuing benefits are distributed.

<sup>35</sup> Pinotti, P., "The economic costs of organised crime: evidence from Southern Italy", *The Economic Journal*, vol. 125, No. 586 (August 2015).

<sup>36</sup> World Bank, *Crime, Violence and Economic Development in Brazil: Elements for Effective Public Policy* (Washington, D.C., 2006).

<sup>37</sup> Department for International Development, *Growth: Building Jobs and Prosperity in Developing Countries* (2000). Available at [www.oecd.org/derec/unitedkingdom/40700982.pdf](http://www.oecd.org/derec/unitedkingdom/40700982.pdf).

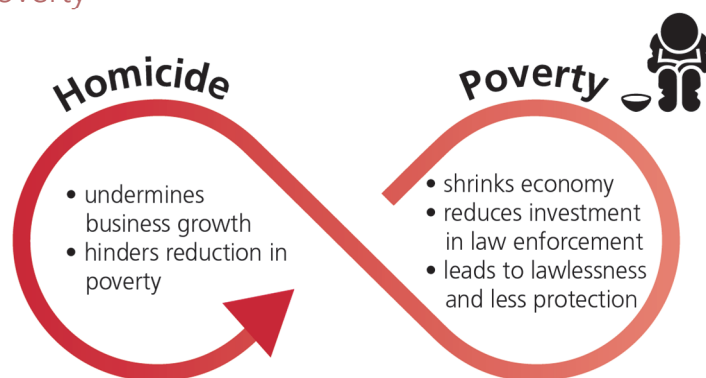
<sup>38</sup> World Bank, *Making Brazilians Safer: Analyzing the Dynamics of Violent Crime* (Washington, D.C., 2013).

<sup>39</sup> LaFree, Curtis and McDowall, "How effective are our 'better angels'?"

<sup>40</sup> For a review of studies of developed and developing countries using willingness-to-pay methods, see Jaitman, L., ed., *The Welfare Costs of Crime and Violence in Latin America and the Caribbean* (Inter-American Development Bank, Washington, D.C., 2015).



## Inequality and poverty



### Income inequality

There is a clear and well-established link between homicide rates and income inequality: countries with pronounced income inequality tend to have a comparatively higher homicide rate.<sup>41</sup> This relationship is so strong that it accounts for almost 40 per cent of the variation in homicide rates across countries; it also holds at a more localized level<sup>42</sup> and over time.

It should be noted, though, that measures of income inequality are available for only a limited number of countries. In particular, the least developed countries are not adequately reflected in much of the existing literature. That there is a strong link between inequality and homicide can therefore only be asserted of those countries for which data on income inequality are available.

The figure below shows that there is a general pattern of positive correlation between homicide and inequality, with some exceptions among countries that have exceptionally low or exceptionally high homicide rates. In those countries, other homicide risk factors or protective factors play a greater role than inequality.

**Figure 4: Homicide rate<sup>43</sup> and Gini index,<sup>44</sup> by region, 2012–2016 (average)**



Source: UNODC homicide statistics; World Bank (Gini index).

<sup>41</sup> Nivette, "Cross-national predictors of crime"; Messner, S. F., Raffalovich, L. E. and Shrock, P., "Reassessing the cross-national relationship between income inequality and homicide rates: implications of data quality control in the measurement of income distribution", *Journal of Quantitative Criminology*, vol. 18, No. 4 (December 2002), pp. 377–395; Fajnzylber, P., Lederman, D. and Loayza, N., "Inequality and violent crime", *Journal of Law and Economics*, vol. 45, No. 1 (2002), pp. 1–40; Fajnzylber, P., Lederman, D. and Loayza, N., "What causes violent crime?", *European Economic Review*, vol. 46, No. 7 (2002), pp. 1323–1357; Fox, S. and Hoelscher, K., "The political economy of social violence: theory and evidence from a cross-country study", Crisis States Working Papers Series, No. 2 (London, Crisis States Research Centre, 2010); LaFree and Tseloni, "Democracy and crime"; Bourguignon, F., "Crime as a social cost of poverty and inequality: a review focusing on developing countries", *Revista Desarrollo y Sociedad*, No. 44 (September 1999).

<sup>42</sup> Poveda, A. C., "Socio-economic development and violence: an empirical application for seven metropolitan areas in Colombia", *Peace Economics, Peace Science and Public Policy*, vol. 17, No.1 (2011), pp. 1–23.

<sup>43</sup> Applying the logarithmic function in an analysis allows percentage changes to be modelled. As reflected in the slope of the regression line, an increase of one percentage point in the Gini index causes the homicide rate to increase by one percentage point.

<sup>44</sup> The Gini index measures the extent to which the distribution of income within an economy deviates from a perfectly equal distribution; a Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality.



The exact relationship between income inequality and (violent) crime rates is still the subject of debate.<sup>45</sup> Income inequality may increase crime in various ways – for example, by causing social tensions to escalate, or by creating a situation in which crime provides better economic returns than legal activities.<sup>46</sup>

In unequal societies, so the argument goes, “relative resource deprivation” – i.e. the difference between what people actually have and what they believe they are entitled to – puts a strain on poorer members of the population. Inequality can produce feelings of frustration and envy among the least affluent members of a community,<sup>47</sup> and can serve to emotionally satisfy those who are in a state of deprivation by “diffusing aggression”.<sup>48</sup> According to what is known as the “strain perspective”, when pervasive inequality creates barriers, the inability to achieve economic success through legal activities may create a sense of estrangement from societal conventions and induce individuals to view crime as a viable alternative.<sup>49</sup> Engaging in financially motivated crime becomes a way of obtaining resources that are unattainable through legal means. Subsequent versions of this theory posit that when inequality increases, feelings of relative deprivation heighten, thereby increasing the motivation for criminal behaviour and readiness to commit violent acts.<sup>50</sup>

Economic theory<sup>51</sup> and criminological opportunity theory<sup>52</sup> suggest that criminal behaviour is influenced by the potential gain from committing a crime, and also by the risk involved. Greater inequality – for example, when certain parts of the population possess coveted goods – increases the potential gain (i.e. from taking those goods by force), thus leading to an increase in the crime rate.

Taken together, the various forms of economic inequality undermine the legitimacy of the social order. As this legitimacy is forfeited, the social order simultaneously loses its moral authority and thereby its capacity to regulate citizens’ behaviour. In short, as ties to the wider community weaken, individuals begin to feel free to pursue their selfish wants and desires,<sup>53</sup> resulting, in the most extreme cases, in lethal violence.

It should be noted that evidence of the link between income inequality and homicide rates, while still present, is weak in the case of low-income countries.<sup>54</sup> Moreover, it does not seem to be applicable worldwide: when looking at subsets of countries, specifically at countries in Asia, the relationship is not pronounced.

These findings can be explained by two main factors. First, income inequality may operate differently in varying cultural contexts. The core sample in cross-country research typically consists of developed, industrialized nations (as reflected in the large number of European countries considered in such studies);<sup>55</sup> outside this sphere, other social and economic factors may play a more important role. Second, income inequality, whether expressed in the form of the Gini index or as income ratios,<sup>56</sup> is inherently more difficult to measure in developing countries where formal income may be limited and where there is a lack of statistical capacity. This can distort estimates of income inequality and thus lead to different results in the statistical analysis.

<sup>45</sup> See, for example, Savolainen, J., “Inequality, welfare state, and homicide: further support for the institutional anomie theory”, *Criminology*, vol. 38, No. 4 (November 2000), pp. 1021–1042.

<sup>46</sup> Messner, S. F. and South, S. J., “Economic deprivation, opportunity structure, and robbery victimization: intra-and interracial patterns”, *Social Forces*, vol. 64, No. 4 (June 1986), pp. 975–991.

<sup>47</sup> Chamlin, M. B. and Cochran, J. K., “Ascribed economic inequality and homicide among modern societies: toward the development of a cross-national theory”, *Homicide Studies*, vol. 9, No. 1 (February 2005), pp. 3–29.

<sup>48</sup> Savolainen, “Inequality, welfare state, and homicide”.

<sup>49</sup> Merton, R. K., “Social structure and anomie”, *American Sociological Review*, vol. 3, No. 5 (October 1938), pp. 672–682.

<sup>50</sup> Agnew, R., “Foundation for a general strain theory of crime and delinquency”, *Criminology*, vol. 30, No. 1, (February 1992), pp. 47–88.

<sup>51</sup> Becker, G. S., “Crime and punishment: an economic approach”, *Journal of Political Economy*, vol. 76, No. 2 (March–April 1968), pp. 169–217.

<sup>52</sup> Cohen, L. E. and Felson, M., “Social change and crime rate trends: a routine activity approach”, *American Sociological Review*, vol. 44, No. 4 (August 1979), pp. 588–608.

<sup>53</sup> Ibid.

<sup>54</sup> Nivette, “Cross-national predictors of crime”.

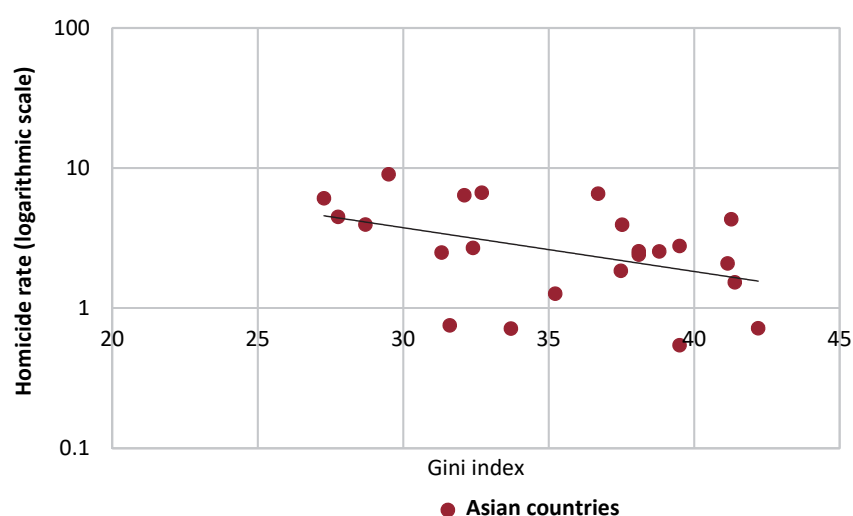
<sup>55</sup> Ibid.

<sup>56</sup> Growth rates in household expenditure or income per capita among the bottom 40 per cent of the population and the total population.

According to the “threat hypothesis”, greater economic stratification and economic conflict can lead to the perception that the authorities need to use coercion to maintain a social order favourable to their interests.<sup>57</sup> In some countries, high homicide rates go hand in hand with high rates of violence perpetrated by the authorities so as to uphold the existing order. The greater the level of economic inequality, the more social and economic elites feel threatened by the poor and socially disadvantaged, and the greater the (violent) force used by legal institutions.<sup>58</sup>

The effect of economic inequality on homicide rates is considered to be strongest in countries in which the economy dominates the institutional balance of power. Institutions such as the family, schools and government can mitigate the impact of inequality on the readiness to use violence.<sup>59</sup> By contrast, countries with generous welfare programmes (and small underclass populations) appear to be more immune to the effects of economic inequality.<sup>60</sup>

**Figure 5: Homicide rate and Gini index in Asia, 2012–2016 (average)**



Source: UNODC homicide statistics; World Bank (Gini index).

### *Other forms of inequality*

Inequality manifests itself not only in income differences. Sociopolitical inequality and unequal access to resources have both been found to be drivers of violent behaviour, too. There is increasing evidence that horizontal inequalities (between regional, ethnic and religious identity groups) in wealth, development and status may lead to political violence and, ultimately, to violent conflicts, although not necessarily to increased levels of homicide.<sup>61</sup>

Such inequalities, in their most basic form, give rise to differential access to critical resources, which has always been a source of political violence, ranging from strife among ethnic groups and indigenous peoples to full-scale wars between nation States. Conflict and political violence arise when access to critical resources is disputed, especially at times of general economic decay<sup>62</sup> This connection remains

<sup>57</sup> Chamlin and Cochran, “Ascribed economic inequality and homicide among modern societies”.

<sup>58</sup> Ibid.

<sup>59</sup> Pridemore, W. A. and Trent, C. L. S., “Do the invariant findings of Land, McCall, and Cohen generalize to cross-national studies of social structure and homicide?”, *Homicide Studies*, vol. 14, No. 3 (August 2010), pp. 296–335.

<sup>60</sup> Savolainen, “Inequality, welfare state, and homicide”.

<sup>61</sup> Østby, G., “Inequalities, the political environment and civil conflict: evidence from 55 developing countries”, *Horizontal Inequalities and Conflict: Understanding Group Violence in Multiethnic Societies* (Basingstoke, Palgrave Macmillan, 2008); Mancini, L., “Horizontal inequality and communal violence: evidence from Indonesian districts”, *CRISE Working Papers*, No.2 (Oxford, Centre for Research on Inequality, Human Security and Ethnicity (CRISE), 2005).

<sup>62</sup> Pedersen, D., “Political violence, ethnic conflict, and contemporary wars: broad implications for health and social well-being”, *Social Science and Medicine*, vol. 55, No. 2 (July 2002), pp. 175–190.

controversial, however, not least because of the difficulties inherent in measuring group-level differences in development.<sup>63</sup>

Social inequality – for example in the form of unequal access to education, poor access to health services, and higher infant mortality rates – has also been found to be linked to higher levels of homicide. Local, subnational studies, such as those carried out in the city of São Paulo in Brazil,<sup>64</sup> and across seven cities in Colombia,<sup>65</sup> have confirmed this link.

### Poverty

In countries with high levels of poverty and inequality, homicide is associated significantly with poverty.<sup>66</sup> Causal mechanisms that explain the relationship between poverty – or what is known in the literature as “absolute deprivation” – and homicide include conflict, opportunity, social disorganization, strain and subcultural theories.<sup>67</sup> Weak economic growth and high levels of poverty increase the risk that individuals end up turning to (violent) crime as a way out of their straitened circumstances. At the national level, a shrinking economy reduces investment in law enforcement systems, leading to a state of lawlessness, in which citizens are more exposed to (violent) crime.<sup>68</sup>

Poverty, particularly when accompanied by economic inequality, has also been found to be linked to high levels of violence. This is because of the weakening effect that poverty has on intergenerational family and community ties, control by peer groups, and participation in community activities.<sup>69</sup>

Moreover, there is evidence that a high rate of violence in a community drives property values down and undermines the growth and development of local businesses – a further illustration of the vicious circle in which inequalities and poverty contribute to an increase in violence and vice versa.<sup>70</sup> More generally, poor countries have higher rates of violent crime than wealthier countries, and this is an additional burden for their already stretched criminal justice and health-care systems.

Countries affected by major violence face greater difficulties in reducing poverty (measured in relative terms) and inequality. According to a World Bank study,<sup>71</sup> poverty reduction in countries affected by major violence was, on average, almost one percentage point slower per year than in countries not affected by violence – a difference that can become significant over time. This “development deficit” is particularly marked in vulnerable and conflict-torn countries, which, because of weak institutions, find it more difficult to make effective use of development assistance than countries not affected by major violence.<sup>72</sup>

### Unemployment

The employment situation in many developing and underdeveloped countries is so dire that the concept of unemployment has little relevance there. To sustain their livelihoods, poor people in those countries use

<sup>63</sup> Cederman, L.-E., Weidmann, N. B. and Bormann, N.-C., “Triangulating horizontal inequality: toward improved conflict analysis”, *Journal of Peace Research*, vol. 52, No. 6 (November 2015), pp. 806–821.

<sup>64</sup> Cardia, N., Adorno, S. and Poletto, F. Z., “Homicide rates and human rights violations in São Paulo, Brazil: 1990 to 2002”, *Health and Human Rights*, vol. 6, No. 2 (January 2003), pp. 14–33.

<sup>65</sup> Poveda, “Socio-economic development and violence”.

<sup>66</sup> Pridemore, W. A., “A methodological addition to the cross-national empirical literature on social structure and homicide: a first test of the poverty-homicide thesis”, *Criminology*, vol. 46, No. 1 (February 2008), pp. 133–154.

<sup>67</sup> Pridemore, W. A., “Poverty matters: a reassessment of the inequality-homicide relationship in cross-national studies”, *British Journal of Criminology*, vol. 51, No. 5 (April 2011), pp. 739–772.

<sup>68</sup> Haugen and Boutros, *The Locust Effect*.

<sup>69</sup> Fajnzylber, Lederman and Loayza, “Inequality and violent crime”; Prabha Unnithan, N. and Whitt, H. P., “Inequality, economic development and lethal violence: a cross-national analysis of suicide and homicide”, *International Journal of Comparative Sociology*, vol. 33, Nos. 3–4 (1992), pp. 182–196; Nafziger, E. W., “Development, inequality, and war in Africa”, *The Economics of Peace and Security Journal*, vol. 1, No. 1 (2006); Wilson, W. J., *The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy* (Chicago, University of Chicago Press, 1987); Sampson, R. J. and Lauritsen, J. L., “Violent victimization and offending: individual-, situational-, and community-level risk factors”, in *Understanding and Preventing Violence*, vol. 3, *Social Influences* (Washington, D.C., National Academy Press, 1994); Global Health Research Initiative, *Global Health Research Casebook* (Ottawa, 2005).

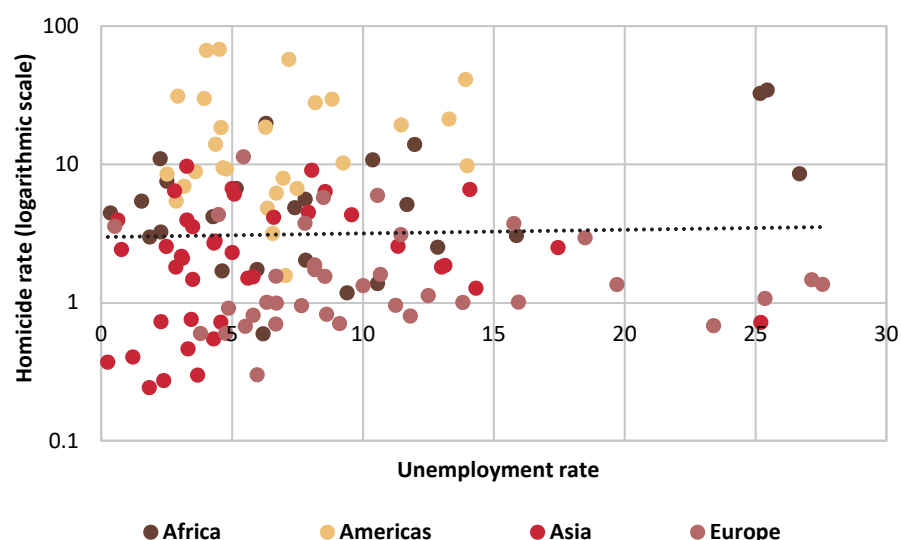
<sup>70</sup> Bowman, B. et al., “The impact of violence on development in low-to middle-income countries”, *International Journal of Injury Control and Safety Promotion*, vol. 15, No. 4 (December 2008), pp. 209–219.

<sup>71</sup> World Bank, *World Development Report 2011*.

<sup>72</sup> United Nations Development Programme, *Capacity Development in Post-Conflict Countries* (New York, 2010).

such coping mechanisms as working in the informal sector, which, among other things, means that they are not officially employed as such.<sup>73</sup> However, the relevance of unemployment in more developed countries means that it is worth considering in this study. The analysis does not reveal, however, a statistically significant correlation between unemployment and homicide rates. Indeed, most countries with relatively high levels of homicide (above the regression line) have relatively low unemployment rates (see figure 6).

**Figure 6: Homicide and unemployment rates, by region, 2012–2016 (average)**



Source: UNODC homicide statistics (homicide rate); World Bank (unemployment rate).

An exhaustive survey of empirical research on labour markets (unemployment) and crime found no consensus on whether there is a relationship between increased unemployment and violence.<sup>74</sup> Another study has argued that there is no evidence to suggest that unemployment can be a causal factor of violence.<sup>75</sup> Even after controlling for other socioeconomic and demographic variables, both in developed<sup>76</sup> and in developing countries,<sup>77</sup> no statistically significant relationship between unemployment and violence was found.

The *Global Study on Homicide 2011*,<sup>78</sup> by contrast, found that in 8 out of 15 selected countries the increases in the consumer price index and/or the unemployment rate that occurred during the economic crisis of 2008–2009 coincided with an increase in various forms of violent crime. This suggests that economic stress may well be associated with an increase in violent crime (and also in property crime, depending on the specific situation of a country).

Furthermore, it should be noted that even when no statistical link between unemployment and homicide rates has been identified using aggregated data, studies drawing on individual-level data have found that

<sup>73</sup> According to the International Labour Organization (ILO), whose statistics have been used here, unemployment as a statistical measure captures people who altogether lack employment, but who actively put pressure on the labour market by seeking opportunities for employment and by being currently available to start working. Populations in poor rural areas, for example, may not fall under this definition, but may still suffer from a lack of employment opportunities that would allow them to improve their livelihoods.

<sup>74</sup> Freeman, R. B., "Crime and the job market", NBER Working Papers, No. 4910, (Cambridge, Massachusetts, National Bureau of Economic Research (NBER), 1994).

<sup>75</sup> Cramer, C., *Unemployment and Participation in Violence* (Washington, D.C., World Bank, 2010), p. 24.

<sup>76</sup> Altindag, D. T., "Crime and unemployment: evidence from Europe", *International Review of Law and Economics*, vol. 32, No. 1 (March 2012), pp. 145–157.

<sup>77</sup> Neapolitan, J. L., "Homicides in developing nations: results of research using a large and representative sample", *International Journal of Offender Therapy and Comparative Criminology*, vol. 41, No. 4 (December 1997), pp. 358–374; Saporì, L. F. and Wanderley, C. B., "A relação entre desemprego e violência na sociedade brasileira: entre o mito e a realidade", in *A violência do cotidiano* (São Paulo, Fundação Konrad Adenauer, 2001), pp. 42–73.

<sup>78</sup> UNODC, *Global Study on Homicide 2011* (Vienna, 2012).

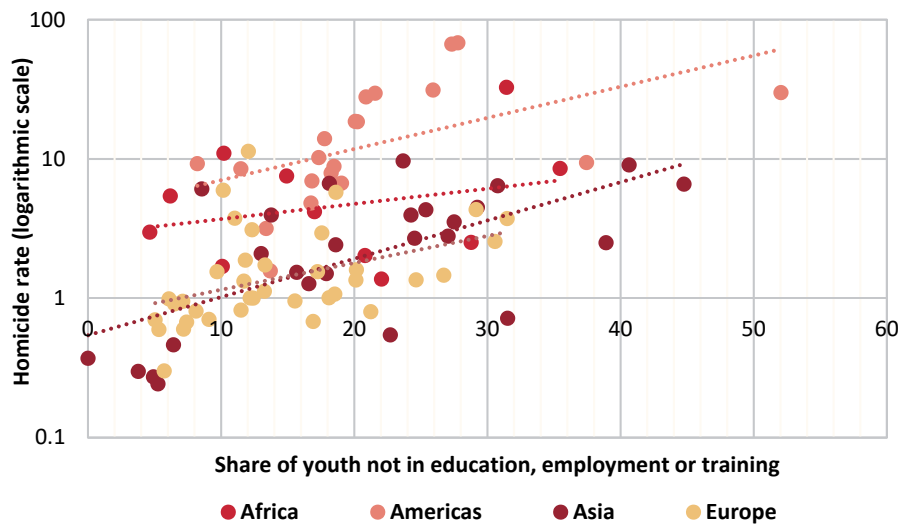
unemployment and, in particular, the stresses related to long-term unemployment are underlying factors that contribute to acts of homicide<sup>79</sup> and, in the case of sudden job loss, may even trigger such acts.<sup>80</sup>

Research specifically assessing the role of unemployment in youth violence has found that an increase in the proportion of young people without an occupation (not in employment, education or training) is linked to an increase in the level of homicide,<sup>81</sup> particularly in certain circumstances such as the presence of street gangs and organized crime groups that draw many of their recruits from this cohort.

A recent study of young people in Mexico without employment and not pursuing a course of education (known in Spanish as “*ninís*”, which is short for “*ni estudian, ni trabajan*”)<sup>82</sup> found that an increase in the *nini* population of one percentage point was accompanied by an increase in the homicide rate of up to 2.59 percentage points.<sup>83</sup> The key factor appeared to be the combination of a large proportion of *ninís*, the lack of employment opportunities, and the presence of organized crime structures that seek to recruit from this cohort. According to this study, the findings for Mexico can be extrapolated to other countries in the region in which all three elements are also present. However, this extrapolation is not applicable to countries such as Argentina, Chile or Uruguay, in which violence related to organized crime is not as widespread as in Mexico.

At the global level, there is a statistically significant correlation between the proportion of young people without an occupation and homicide rates – a correlation that holds for all the regions considered.

**Figure 7: Share of youth not in education, employment or training, 2012–2016 (average)**



Source: UNODC homicide statistics (homicide rate); World Bank (share of young people without an occupation).

Note: data on youth unemployment should be used cautiously because of differences in age coverage.

Another study measured the relative pressure that youth cohorts (ages 17 to 26) exerted on their respective countries' labour markets as they looked for employment by determining, in each case, the ratio of the number of young people to the size of the country's total labour force. A significant correlation between this pressure and levels of political violence was found.<sup>84</sup>

<sup>79</sup> Lehti, M. and Kivivuori, J., "Homicide in Finland", *Handbook of European Homicide Research*.

<sup>80</sup> Liem, M., and Reichelmann, A., "Patterns of multiple family homicide", *Homicide Studies*, vol. 18, No. 1 (February 2014), pp. 44–58; Palermo, G. B., "The berserk syndrome: a review of mass murder", *Aggression and Violent Behavior*, vol. 2, No. 1 (Spring 1997), pp. 1–8.

<sup>81</sup> De Hoyos, R., Gutiérrez, C. and Vargas, V., *The Harmful Interaction between Economic Crisis, Violence and Ninis in Mexico* (World Bank, Washington, D.C., 2015). This background paper was prepared for de Hoyos, R., Rogers, H. and Székely, M., *Out of School and Out of Work: Risks and Opportunities for Latin America's Ninis* (World Bank, Washington, D.C., 2016).

<sup>82</sup> The Spanish phrase, "ni estudian, ni trabajan", translates as "they neither study nor work".

<sup>83</sup> De Hoyos, Gutiérrez and Vargas, *The Harmful Interaction between Economic Crisis, Violence and Ninis in Mexico*.

<sup>84</sup> Bricker, N. Q. and Foley, M. C., "The effect of youth demographics on violence: the importance of the labor market", *International Journal of Conflict and Violence*, vol. 7, No. 1 (2013), pp. 179–194.

## BOX 4: Policies tackling youth unemployment in Latin America

### Youth unemployment: the global picture

According to findings by the International Labour Organization (ILO), young people are three times more likely to be unemployed than older working age people. At the global level, the ratio of youth to adult unemployment has changed very little in recent years, suggesting that young people continue to be at a disadvantage when seeking to enter the labour market.<sup>a</sup> Quality of employment is another issue of concern, given that in emerging and developing countries 16.7 per cent of young workers earn an income below the extreme poverty threshold of \$1.90 a day.<sup>b</sup> Young people are often in informal employment or do not earn enough to lift themselves and their families out of poverty. The path towards active engagement in the labour market is critical to a young person's life because the success or otherwise of such engagement has long-lasting socioeconomic effects.<sup>c</sup>

Looking at the past 20 years, the share of young people actively engaged in the labour market (i.e. either working or looking for jobs) shrank from 55.0 per cent in 1997 to 45.7 per cent in 2017.<sup>d</sup> Globally, an estimated 21.8 per cent of young people aged 15 to 24 are not in employment, education or training (NEET), most of them female. More precisely, in 2017 the female youth NEET rate was 34.4 per cent while the male rate was 9.8 per cent.<sup>e</sup> The disparity in the youth NEET rate between males and females varies across countries and is greatest in emerging economies, where four out of five NEETs are female.<sup>f</sup>

### The 2030 Agenda for Sustainable Development

Reducing the NEET rate among young people is one of the primary goals of the 2030 Agenda for Sustainable Development. This task is directly addressed by Sustainable Development Goal 8: "Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all". Target 8.6 under this Goal specifically highlights the need to reduce the proportion of young people with NEET status.<sup>g</sup> Given the aforementioned disparity between the male and female youth NEET rates, this target is also linked to Sustainable Development Goals 4 ("Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all") and 5 ("Achieve gender equality and empower all women and girls").

### The Latin American context

Because of its demographics, Latin America faces a unique development opportunity over the next 20 years. Previous research has shown that a low dependency ratio, i.e. a high ratio of working-age population to overall population tends to accelerate economic growth.<sup>h</sup> Out of over 92 million young people (aged 15 to 24) in Latin America in 2015, around 20 million were out of school and out of work,<sup>i</sup> and thus fell into the *nini* category – the equivalent term in Spanish for NEET. Significantly, two thirds of those *ninis* were young girls and women.<sup>j</sup> The share of *ninis* tends to be higher in rural areas, and the overwhelming majority of such young people have attained only a low educational level.<sup>k</sup>

The share of *ninis* varies across Latin American countries. In absolute terms, the highest numbers are to be found in Brazil, Mexico and Colombia, mainly because of the large populations of those countries, followed by Honduras, El Salvador and Peru.<sup>l</sup>

### Informal employment and the labour market

As shown by various studies, initial integration into the labour market is a difficult barrier to overcome, particularly for less educated young people.<sup>m</sup> Furthermore, a substantial share of young people are in informal employment – over the past few decades that share has been steadily rising in Latin America.<sup>n</sup> Young people in informal employment are less likely to have health insurance and have, on average, two years less of formal education than those who are formally employed.<sup>o</sup> Additionally, young people in informal employment face precarious working conditions, with around 9 per cent earning an income below the poverty line (\$2.50 a day).<sup>p</sup> Countries in the region have implemented several policies in recent years to promote the formalization of employment, particularly with regard to youth employment. The learning process is being encouraged through quality apprenticeships, traineeships and internships. Other active labour market policies include hiring subsidies and special arrangements for youth employment. These measures are aimed at compensating the disadvantages faced by young people when entering the labour market, such as limited work experience and productivity.<sup>q</sup>



## Policies tackling informal youth unemployment

Generally speaking, policies that address employment informality follow two approaches:<sup>f</sup>

(a) the productive approach, which is focused on creating and maintaining jobs on a macroeconomic level in order to stimulate employment, improve productivity and train the labour force;

(b) the social protection approach, which seeks to implement policies that provide social benefits, enforce standards against discrimination and promote equality.

## Examples of policies implemented in countries

Chile has introduced the “Subsidy for youth employment” (*Subsidio al empleo joven*),<sup>g</sup> a wage subsidy aimed at formalizing jobs for young people from the poorest 40 per cent of the population; and the “Subsidy for hiring young people and paying their social security contributions” (*Subsidio a la contratación y cotización de jóvenes*).

Brazil has enacted legislation to create subsidies for hiring young interns, which helps ensure that they receive relevant training. Law No. 10097, adopted in 2000, facilitates the transition of young people from school to formal employment and provides for on-the-job training. The law also introduced a quota for businesses hiring interns. Moreover, Brazil, in 2003, launched the “Our First Land” (*Nossa Primeira Terra*) youth employment scheme under the National Land Credit Programme (*Programa Nacional de Crédito Fundiário*).<sup>h</sup> Aimed at supporting rural inhabitants aged 18 to 29 years, the scheme offers financial aid to young rural workers with little or no land, to the children of farmers, and to students from agricultural schools who wish to acquire farmland.

Mexico adopted the Law on Promotion of the First Job in 2010, which grants economic benefits for hiring young people who have never been formally employed before. In particular, the law has established a fiscal incentive for businesses to create new jobs for young people who have not previously paid social security contributions.

Colombia passed Law No. 1492 (Law on Formalization and Job Creation) in 2010, which offers benefits to employers who hire specific groups of workers, including young people. This law also creates incentives in the form of credit benefits for young entrepreneurs with a technical or professional educational background.

Argentina launched the “Young People with More and Better Work” (*Jóvenes con Más y Mejor Trabajo*) programme<sup>u</sup> in 2008, which is aimed at those aged 18 to 24 who have not completed mandatory schooling and are not formally employed. The programme seeks to improve the skills of young people through a combination of education, vocational training and on-the-job training, and also puts them in touch with employment agencies. Moreover, subsidies are available to businesses that hire participants of the programme.

<sup>a</sup> Bricker, N. Q. and Foley, M. C., “The effect of youth demographics on violence: the importance of the labour market”, *International Journal of Conflict and Violence*, vol. 7, No. 1 (2013), pp. 179–194.

<sup>b</sup> ILO, *Global Employment Trends for Youth 2017: Paths to a Better Working Future* (Geneva, 2017), p. 8.

<sup>c</sup> Ibid, p. 27.

<sup>d</sup> Ibid.

<sup>e</sup> Ibid, p. 22.

<sup>f</sup> Ibid.

<sup>g</sup> General Assembly resolution 71/313, Annex.

<sup>h</sup> Li, H., Zhang, J. and Zhang, J., “Effects of longevity and dependency rates on saving and growth: evidence from a panel of cross countries”, *Journal of Development Economics*, vol. 84, No. 1 (September 2007), pp. 138–154.

<sup>i</sup> De Hoyos, R., Popova, A. and Rogers, H., *Out of School and Out of Work: A Diagnostic of Ninis in Latin America* (Washington, D.C., World Bank, 2015).

<sup>j</sup> Ibid.

<sup>k</sup> De Hoyos, R., Rogers, H. and Székely, M., *Out of School and Out of Work: Risk and Opportunities for Latin America’s Ninis* (Washington D.C., World Bank, 2016).

<sup>l</sup> Ibid, p. 10.

<sup>m</sup> ILO, *Youth and Informality: Promoting Formal Employment among Youth – Innovative Experiences in Latin America and the Caribbean* (Geneva, 2015).

<sup>n</sup> O’Higgins, N., *Rising to the Youth Unemployment Challenge: New Evidence on Key Policy Issues* (Geneva, ILO, 2017), p. 173.

<sup>o</sup> ILO, *Youth and Informality*.

<sup>p</sup> Ibid, p. 13.

<sup>q</sup> Ibid.

<sup>r</sup> Ibid, p. 17.

<sup>s</sup> For further information, see [www.sence.cl/portal/Oportunidades/Subsidios/Subsidio-al-Empleo-Joven/](http://www.sence.cl/portal/Oportunidades/Subsidios/Subsidio-al-Empleo-Joven/).

<sup>t</sup> For further information, see [www.agricultura.pr.gov.br/modules/conteudo/conteudo.php?conteudo=56](http://www.agricultura.pr.gov.br/modules/conteudo/conteudo.php?conteudo=56).

<sup>u</sup> For further information, see [www.argentina.gob.ar/trabajo/empleojoven/jovenesconmasmejortrabajo](http://www.argentina.gob.ar/trabajo/empleojoven/jovenesconmasmejortrabajo).

## Homicide and social development

### Young people, education and violence

#### Young people

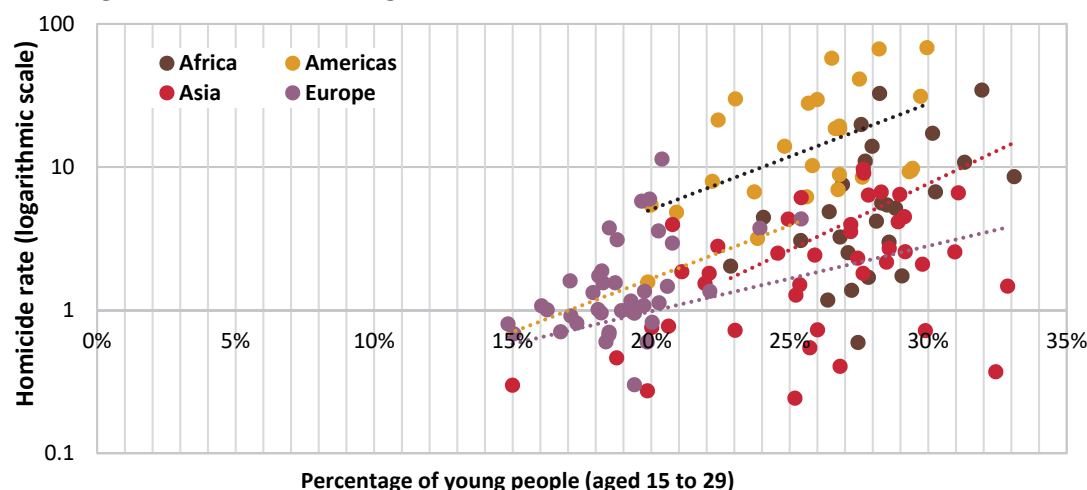
As discussed in booklet 2 of this study, young men aged 15 to 29 face the highest risk of falling victim to homicide, with a global homicide rate of 16.1 per 100,000 male population. In descending order of risk, they are followed by men aged 30 to 44 (global homicide rate of 14.1 per 100,000 male population), men aged 45 to 59 (10.5 per 100,000 male population), men aged 60+ (5.4 per 100,000 male population) and, lastly, boys aged 14 and under (1.2 per 100,000 male population).

When comparing regional age-specific homicide rates, it becomes clear that homicidal violence in the Americas is predominantly inflicted on, and perpetrated by, young males:<sup>85</sup> the homicide rate among males aged 15 to 29 in South America and Central America is more than four times the global average for that age/sex group.<sup>86</sup>

Although earlier studies have questioned the existence of a direct relationship between the homicide rate and the proportion of young people in the population,<sup>87</sup> the latest available data do point to a positive and statistically significant correlation between the proportion of young people (aged 15 to 29) in the population of a country and the homicide rate. It is a correlation that holds both at the global and regional level: countries with ageing populations, including several in Europe and some in Asia (Japan and Hong Kong, China) have low homicide rates, while countries located mainly in the Americas and Africa have large youth populations and high levels of homicide.

There are exceptions to this rule, however, because certain countries, located mainly in Asia, have large youth populations but low homicide rates. The fact that such countries are concentrated in Asia could be a sign that these comparatively low homicide rates are linked not only to the relative size of the youth population but also to other factors. A large proportion of young people in the population tends to be the result of economic and social dynamics, such as poverty and marginalization, which normally increase the level of homicide.

**Figure 8: Percentage of young people (aged 15 to 29) in the population and homicide rate, by region, 2012–2016 (average)<sup>88</sup>**



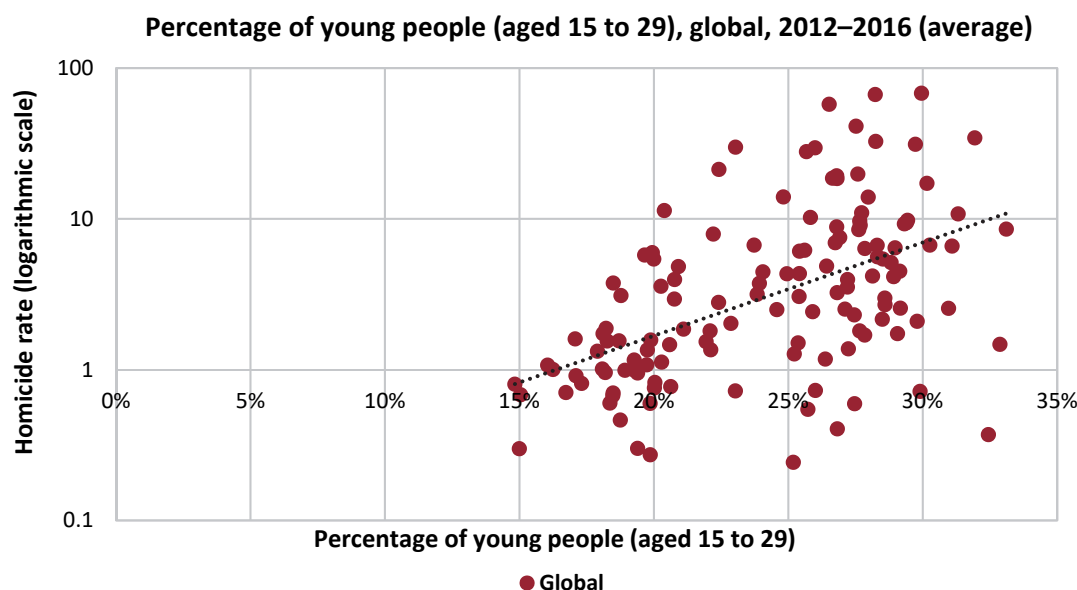
<sup>85</sup> For more information, see the section on homicide related to organized crime and gangs in booklet 3 of this study.

<sup>86</sup> For more information, see the section on the demographics of homicide victims in booklet 2 of this study.

<sup>87</sup> For an overview, see Pridemore and Trent, “Do the invariant findings of Land, McCall, and Cohen generalize to cross-national studies of social structure and homicide?”.

<sup>88</sup> The distribution of homicide rates is strongly skewed to the left, with many countries reporting relatively low homicide rates and very few reporting very high rates. Applying the natural logarithm to the data makes the distribution more normal without changing the order of the values. Modelling a linear relationship between a variable and the log of the homicide rate means that a unit change in the variable results in a 1 per cent change in the homicide rate.

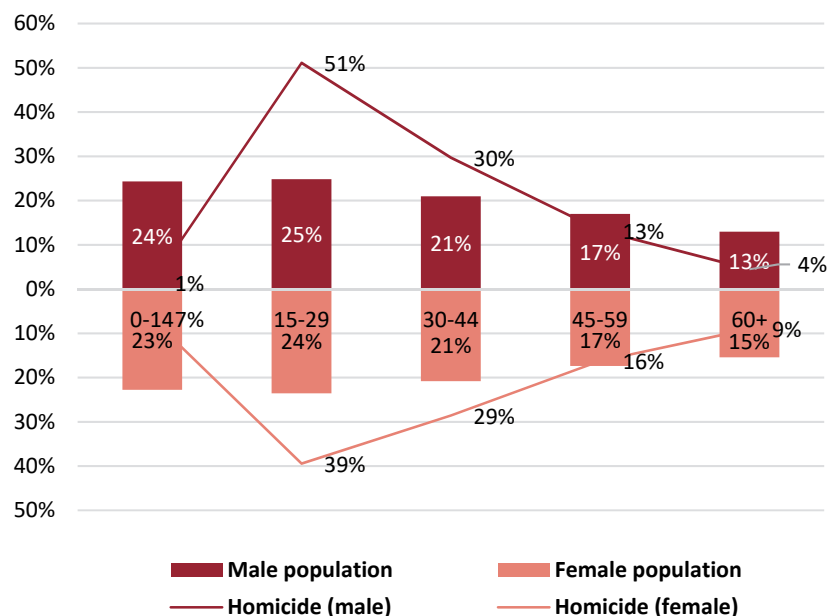




Source: United Nations, *World Population Prospects: The 2017 Revision* (population data) and UNODC homicide statistics 2012–2016 (homicide rates).

In the Americas, 15- to 29-year-old males account for 51 per cent of all male homicide victims, but only for 25 per cent of the total male population. By contrast, 39 per cent of all female homicide victims are aged between 15 and 29, whereas only 24 per cent of the female population is in that age group. (It is important to bear in mind that the number of female homicide victims is significantly lower than that of male victims in the region). In Europe, a region with an older population, homicide victims are more equally distributed across all age groups.<sup>89</sup>

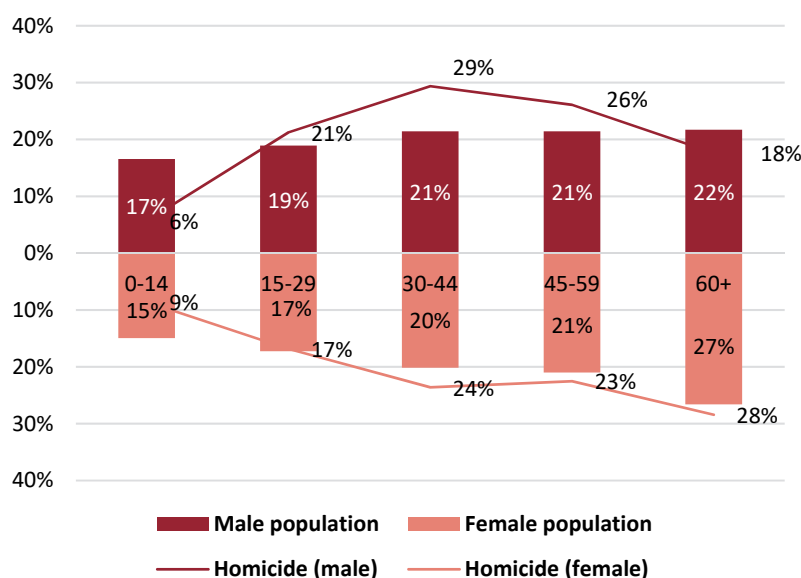
**Figure 9: Share of male/female homicides by age group among all male/female homicides and percentage of male/female population by age group, the Americas, 2012–2016 (average)**



Source: UNODC homicide statistics.

<sup>89</sup> For further details about the demographics of homicide victims, see booklet2 of this study.

**Figure 10: Share of male/female homicides by age group among all male/female homicides and percentage of male/female population by age group, Europe, 2012–2016 (average)**



Source: UNODC homicide statistics.

## Education



Although there are many reasons why young people make up a disproportionate share of homicide victims, it is beyond doubt that education is one key element in reducing such violence. Studies have consistently found a negative correlation between violence and education (i.e. the higher the level of education, the lower the level of violence). For example, a regional study on Latin America and the Caribbean showed that an increase in the share of high school graduates by 2 percentage points was linked to a reduction in the homicide rate of 1 per 100,000 inhabitants.<sup>90</sup> Similarly, a study of school dropout and homicide rates in Brazilian municipalities showed that, on average, an increase in the dropout rate by 1 percentage point was linked to an increase in the homicide rate by 0.18 per cent, which is quite substantial.<sup>91</sup>

The effect of education on homicide and on violence in general is reciprocal. High levels of violence can have a negative impact on schooling and educational outcomes – a situation that reduces economic opportunities for young people and may lead to a vicious circle. Young people without prospects of employment or of achieving upward mobility may find it attractive to engage in delinquent behaviour,

<sup>90</sup> Chioda, L., *Stop the Violence in Latin America: A Look at Prevention from Cradle to Adulthood* (Washington D.C., World Bank, 2017).

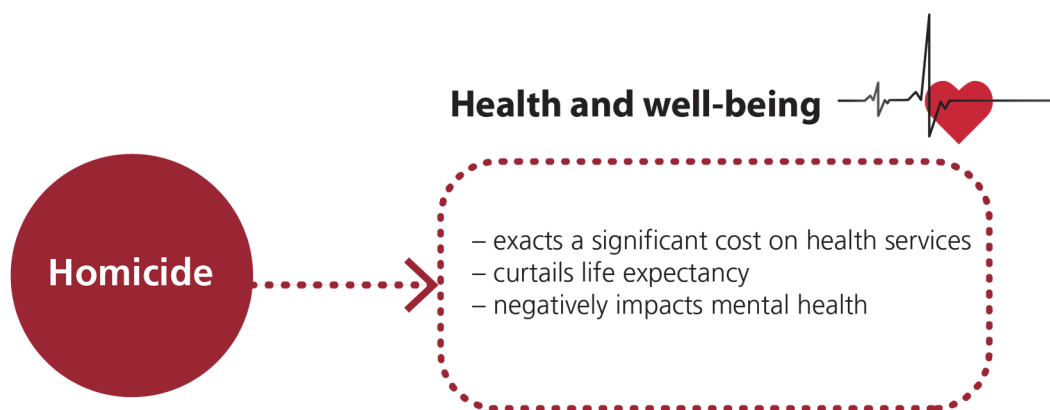
<sup>91</sup> Chioda, L. and Rojas-Alvarado, L. D., *Violence Across Brazilian Municipalities* (Washington, D.C., n.p., 2014).

which increases local crime rates and further limits the opportunities available to their peers for receiving a high-quality education.<sup>92</sup>

Moreover, given that the promotion of quality education contributes to poverty reduction and economic growth, this may also lead to a decrease in levels of violence, including homicide. However, developing countries, in particular, face challenges in providing high-quality education and it is in those countries that the size of the youth population is above average. The “bulging” of the youth population in developing countries exacerbates problems in providing adequate levels of education and places additional stress on labour markets whose capacity is already limited.

The combination of “youth bulge”, poor education and high levels of unemployment may push young people to engage in delinquent and violent behaviour and even to be lured into organized criminal structures. They may end up committing acts of collective violence as members of gangs<sup>93</sup> or of non-State armed groups or militias. The presence of such groups drives the high homicide rates observed in some countries.<sup>94</sup>

### Good health and well-being



Given that homicide results in almost half a million deaths worldwide every year, its most extreme physical effects are obvious. Less palpable is the fact that a high homicide rate can significantly reduce overall life expectancy.<sup>95</sup> The impact of lethal violence on a population group can be measured in terms of “healthy” years of life lost, or disability-adjusted life years.<sup>96</sup> The impact of lethal violence on males and females is different, however.

The impact of homicide on a country’s average life expectancy depends on the level of lethal violence there, and also on the prevalence of other health issues. In some countries in Central America, the rapid increase in the level of lethal violence over the past decade has reduced life expectancy in males by up to three years.<sup>97</sup> However, when violence is excluded as a cause of death, life expectancy increases by up to 2.5 years in some of the most violent countries in Latin America (based on data from 2015).<sup>98</sup>

<sup>92</sup> Barrera, F. and Ibáñez, A. M., “Does violence reduce investment in education? A theoretical and empirical approach”, Documentos CEDE, No. 2004-27 (University of the Andes, 2004).

<sup>93</sup> For a more detailed discussion of gang violence, see booklet 3 of this study.

<sup>94</sup> Bricker and Foley, “The effect of youth demographics on violence”.

<sup>95</sup> Multiple-decrement life tables are useful for such analysis because they allow one to eliminate specific causes of death, which makes it possible to estimate the impact of a particular “injury” (in this case, homicide) on the overall life expectancy of groups. For an extensive discussion of the use of such tables to estimate life expectancy, see the chapter “Multiple decrement life tables” in Yusuf, F., Martins, J. M. and Swanson, D. A., *Methods of Demographic Analysis* (Dordrecht, Springer, 2014), pp. 215–229.

<sup>96</sup> As defined by the World Health Organization, one disability-adjusted life year (DALY) is one lost year of “healthy” life. The number of “healthy” years of life lost is the combination of life lost as a result of premature death and life lost as a result of disability (any short- or long-term health problems).

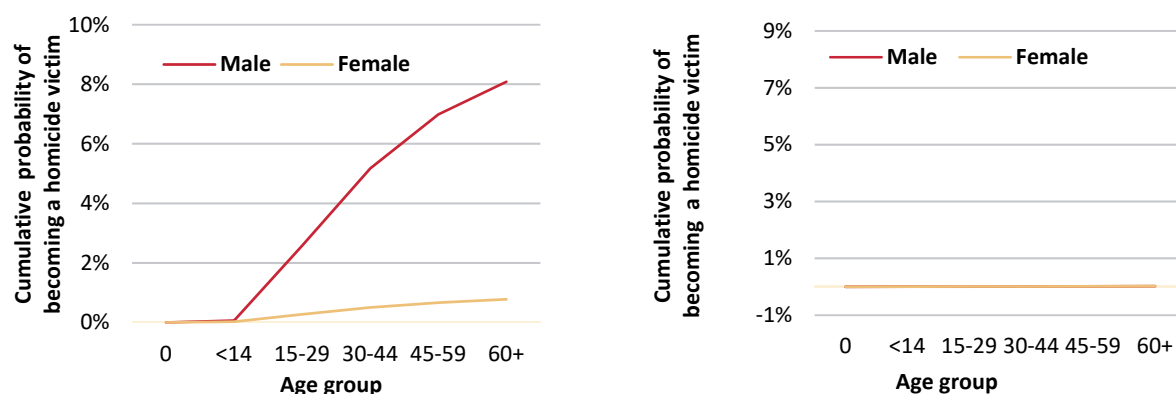
<sup>97</sup> Aburto, J. M. et al., “Homicides in Mexico reversed life expectancy gains for men and slowed them for women, 2000–10”, *Health Affairs*, vol. 35, No.1 (January 2016), pp. 88–95.

<sup>98</sup> UNODC calculations, based on data from the Institute for Health Metrics and Evaluation, which are available at [http://ghdx.healthdata.org/ihme\\_data](http://ghdx.healthdata.org/ihme_data).

When disaggregating by age and sex, the increase is even larger: the life expectancy of a 15-year-old boy increases by almost four years.<sup>99</sup>

To highlight these findings further, the “cumulative probability” of becoming a homicide victim can be calculated using homicide rates broken down by age. This cumulative probability represents the sum of the probabilities of becoming a victim of homicide over time and thus increases with age. In some countries in Central America, for example, the cumulative probability of becoming a victim of homicide reaches almost 8 per cent by the age of 60 years, which means that if the homicide rate were to remain at the 2016 level for 60 years, almost 8 out of every 100 men would die as a result of homicide. By contrast, in low-homicide countries in East Asia, only 14 out of 10,000 men would die as a result of homicide over the same time period.

**Figure 11: Cumulative probability of homicide victimization, by age group and sex in low- (< 1 per 100,000 population) and high-homicide (> 50 per 100,000 population) countries, 2014 and 2015**



Source: UNODC homicide statistics.

*Note: Between birth and the age of 15, the probability of being intentionally killed is very low. From the age of 15, in high-homicide countries, a (male) individual has a certain (high) probability of being killed in any given year. Adding up these probabilities yields the probability of becoming a homicide victim in one's lifetime. Using the same method for low-homicide countries shows, not surprisingly, that the probability of becoming a homicide victim in one's lifetime is much lower than in high-homicide countries.*

Beyond inflicting death, homicide can also have a substantial impact on the health of those who were close to the victims. Each act of homicide leaves behind as “survivors” around 7 to 10 close relatives, not to mention friends, neighbours and co-workers.<sup>100</sup> Exposure to extreme forms of violence has major psychological effects, which can have a strong impact on the well-being of the individuals involved. People who have lost a close relative to homicide have been found to become more likely to suffer from post-traumatic stress disorder, major depressive episodes and drug use/dependence.<sup>101</sup>

Similarly, non-lethal yet violent victimization, particularly during adolescence, is associated with increased likelihood of becoming a criminal offender later in life, alcohol problems, drug use, hospitalization, suicidality and depression.<sup>102</sup> Research further indicates that the risk of violent victimization in the future is strongly associated with violent victimization in the past.<sup>103</sup>

High levels of violence, including homicide, exact a significant toll on public health systems and, especially in developing countries, use up already scarce resources. Although they tend to look at all forms of violence, not just homicide, studies of the cost implications of violence for health systems in developing

<sup>99</sup> Andrijevic, M., Gábor, J. and Ginestra, C., “Demographic impact of violence”, paper prepared for the Regional Academy on the United Nations, 2017.

<sup>100</sup> Redmond, *Surviving: When Someone You Know Was Murdered*.

<sup>101</sup> Zinzow, H. et al., “Losing a loved one to homicide: prevalence and mental health correlates in a national sample of young adults”, *Journal of Traumatic Stress*, vol. 22, No. 1 (February 2009), pp. 20–27.

<sup>102</sup> Turanovic, J. J. and Pratt, T. C., “Longitudinal effects of violent victimization during adolescence on adverse outcomes in adulthood: a focus on prosocial attachments”, *Journal of Pediatrics*, vol. 166, No. 4 (April 2015), pp. 1062–1069.

<sup>103</sup> Ibid.

countries have estimated that such costs range from between 2 and 5 per cent of GDP.<sup>104</sup> When looking at homicide in isolation, the cost implications for public health systems are limited, with the exception, perhaps, of countries with very high numbers of gunshot wounds (from failed homicide attempts), which are particularly costly to treat.

It is, of course, not only the public purse that is affected: individuals and family members also have to pay the price of violence, both literally and figuratively. Poor households often have to spend their own money to pay for health costs resulting from violence. In addition, individuals and families suffer from a reduction in income, savings and productivity owing to the strain of being exposed to violent behaviour. For example, it is estimated that in Viet Nam the out-of-pocket costs and forgone earnings of female victims of violence amounted to \$2.53 billion in 2010;<sup>105</sup> in the Americas, out-of-pocket expenditure, forgone income and reduced productivity resulting from violence amounted to 4 per cent of regional GDP;<sup>106</sup> and in South Africa, the impact of gender-based violence on the economy over the period 2012–2013 was estimated to lie between 0.9 and 1.3 per cent of GDP.<sup>107</sup>

### BOX 5: Homicide from a public health perspective

From a public health perspective, it has been argued that violence could be considered a contagious disease, in the sense that it, too, spreads from one person to another. Violence is therefore a significant public health problem in its own right, and a major risk factor for lifelong health problems and a series of other social problems that, in combination, can lead to substantial economic costs.<sup>a</sup> The public health approach to violence is not intended to replace criminal justice and human rights responses, but seeks, rather, to complement such activities and offer additional tools and avenues for collaboration.<sup>b</sup>

If regional, national and city-wide data are assessed, it becomes clear that violence resembles an infectious disease in at least three key aspects: clustering, spread and transmission. Violence displays a tendency towards “clustering”, or spatial grouping, because it is often heavily concentrated in some areas while virtually absent in others. “Spread”, a term used in epidemiological wave-like models, also applies to violence, which often spreads like a contagious disease. In infectious disease language, “transmission” implies that being exposed to the disease makes it more likely that one also develops the characteristic complex of symptoms. In the context of violence, this transmission effect is well documented. As shown by many studies, one of the key risk factors of future violent offending is past violent victimization.

Cooperation between the police and public health services has been promoted as an effective way of tackling lethal violence. The Cardiff Model, which involves data sharing between the health and criminal justice sectors, is an example of a crime prevention initiative based on such cooperation. Prompted by the realization that many cases of community assault in which the victims require hospital treatment (up to 65 per cent) are not reported to the police, the model encourages data collection by hospitals and collaboration with law enforcement and community stakeholders in order to predict and prevent violence. The outcomes of applying the original model in Cardiff include a reduction of 32 per cent in the number of police-recorded violent incidents and a reduction of 42 per cent in hospital admissions for violent injuries over the period from 2003 to 2007.<sup>c</sup>

<sup>a</sup> WHO, UNODC and United Nations Development Programme (UNDP), *Global Status Report on Violence Prevention 2014* (Geneva, WHO, 2014), p. 18.

<sup>b</sup> WHO, *World Report on Violence and Health* (Geneva, 2002).

<sup>c</sup> Shepherd, F. C. et al., “An economic evaluation of anonymised information sharing in a partnership between health services, police and local government for preventing violence-related injury”, *Injury Prevention*, vol. 20, No. 2 (April 2014), pp. 108–114.

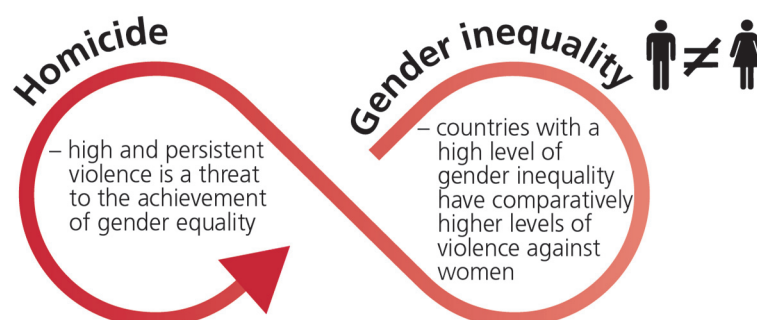
<sup>104</sup> Acevedo, C., “Los costos económicos de la violencia en El Salvador”, *América Latina Hoy*, vol. 50 (2008), pp. 71–88; Alda, E., and Cuesta, J., “A comprehensive estimation of costs of crime in South Africa and its implications for effective policy making”, *Journal of International Development*, vol. 23, No. 7 (October 2011), pp. 926–935; Soares, R. R., “Un marco conceptual para interpretar los costos del crimen en el bienestar”, in *Los costos del crimen y la violencia en el bienestar en América Latina y el Caribe* (Washington, D.C., Banco Interamericano de Desarrollo, 2015), pp. 28–32; Aboal, D. et al., “The cost of crime and violence in five Latin American countries”, *European Journal on Criminal Policy and Research*, vol. 22, No. 4 (December 2016), pp. 689–711.

<sup>105</sup> UN-Women, *Estimating the Costs of Domestic Violence Against Women in Viet Nam* (Hanoi, UN-Women Viet Nam, 2012).

<sup>106</sup> Klugman, J. et al., *Voice and Agency: Empowering Women and Girls for Shared Prosperity* (Washington, D.C., World Bank Group, 2014).

<sup>107</sup> KPMG, *Too Costly to Ignore: The Economic Impact of Gender-based Violence in South Africa* (2017).

## Gender inequality



Gender inequality persists worldwide, depriving women and girls of their basic rights and opportunities. Not only are high and persistent levels of violence a threat to achieving gender equality, but the converse is also true, i.e. societies with high levels of gender inequality tend to display higher levels of interpersonal violence against women, including lethal violence.<sup>108</sup> Indeed, gender inequality is strongly related to lethal violence, particularly gender-based violence: the higher the level of gender inequality in a given society, the higher the level of (lethal) violence against women.<sup>109</sup> This relationship stems from the unequal access of women and men to valued resources and opportunities, which perpetuates a cultural belief system that not only considers women to be inferior to men, but also tolerates the use of violence against women, including lethal violence, by men who seek to assert and maintain their “superior” status.<sup>110</sup>

An in-depth study on all forms of violence against women issued by the Secretary-General of the United Nations highlighted several key mechanisms whereby male dominance and female subordination are maintained, including: the exploitation of women’s productive and reproductive activities; control over their sexuality and reproductive capacity; cultural norms and practices that entrench the unequal status of women; State structures and processes that legitimize and institutionalize gender inequalities; and violence against women.<sup>111</sup>

### BOX 6: Key findings of booklet 5 of the *Global Study on Homicide 2019*: gender-related killings of women and girls

More than half of the 87,000 women killed worldwide in 2017 – 50,000 – were killed by intimate partners or other family members, which means that 137 women across the world are killed every day by a member of their own family. More than a third (30,000) of the women intentionally killed in 2017 died at the hands of a current or former intimate partner. The annual number of female deaths worldwide resulting from intimate partner/family-related homicide seems to be on the rise.

Only one out of every five homicides at the global level is perpetrated by an intimate partner or other family member, yet women and girls make up the vast majority of those victims. The disaggregation of victims by sex reveals a large disparity in the shares of male and female victims of homicide committed by an intimate partner or other family member: 36 per cent male versus 64 per cent female victims.

Women also bear the greatest burden of intimate partner violence. The disparity between the shares of male and female victims of homicide perpetrated exclusively by an intimate partner is substantially larger than of victims of homicide perpetrated by intimate partners or other family members: 18 per cent male versus 82 per cent female victims.

<sup>108</sup> For a detailed discussion of gender-related killing of women and girls, see booklet 5 of this study.

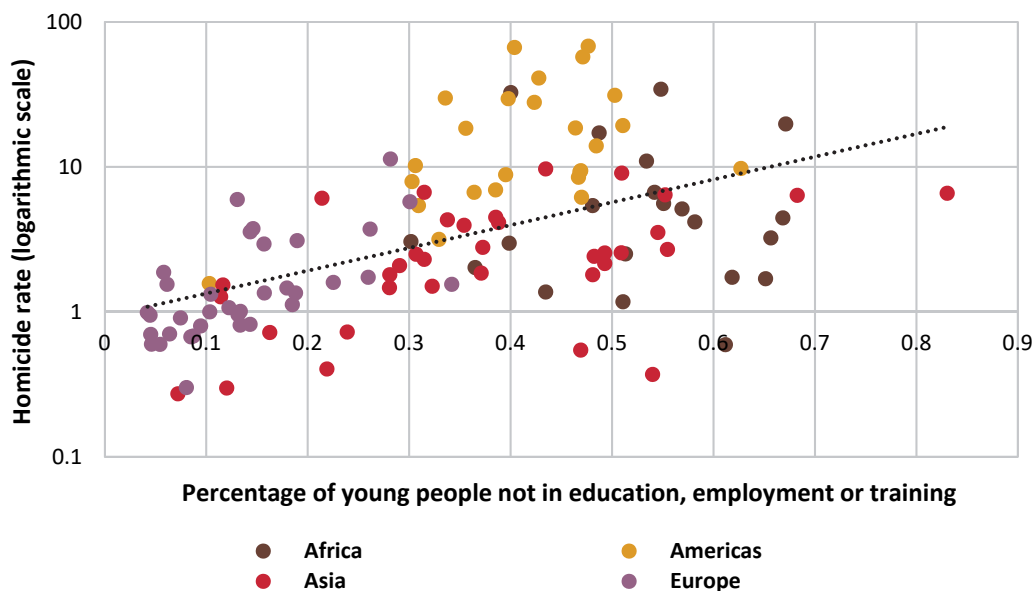
<sup>109</sup> Whaley and Messner, “Gender equality and gendered homicides”.

<sup>110</sup> Ibid.

<sup>111</sup> A/61/122/Add.1, para. 72.

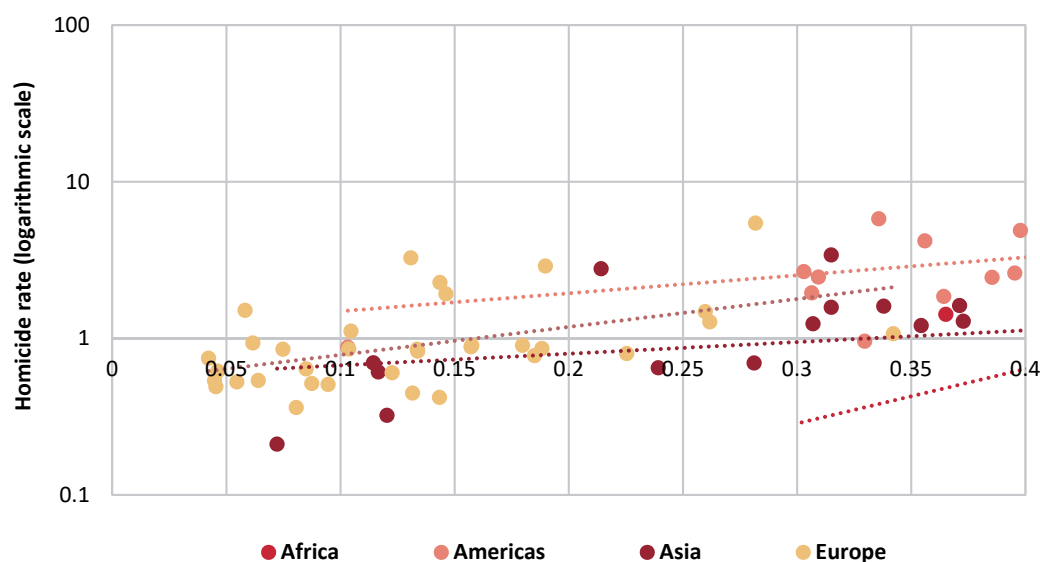
Figure 12 shows the gender inequality index<sup>112</sup> together with the homicide rate (five-year average) in all countries and territories for which data were available. Gender inequality and the homicide rate have a clear positive correlation: the more gender-unequal a country is, the higher the homicide rate and vice versa. The same is true of the female homicide rate considered separately (see figure 13).

**Figure 12: Gender inequality index and homicide rate, by region, 2012–2016 (average)**



Source: UNODC homicide statistics; UNDP gender inequality index.

**Figure 13: Gender inequality index and female homicide rate, by region, 2012–2016 (average)**

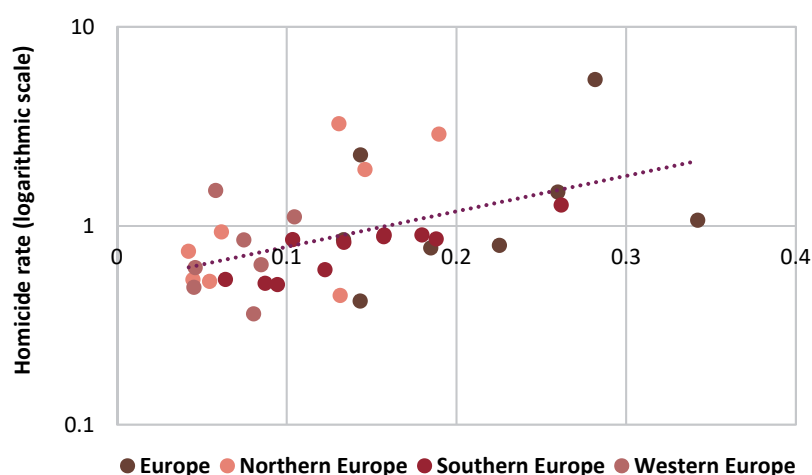


Source: UNODC homicide statistics; UNDP gender inequality index.

Across all regions, greater gender inequality is linked to a higher female homicide rate, but the correlation is particularly strong in Europe. This is mostly due to the situation in Eastern European countries, which tend to have lower gender equality indices and higher homicide rates than the rest of the region.

<sup>112</sup> UNDP, "Gender Inequality Index". Available at <http://hdr.undp.org/en/content/gender-inequality-index-gii> (8 May 2019).



**Figure 14: Homicide rate and gender inequality index in European countries, 2012–2016 (average)**

Source: UNODC homicide statistics; UNDP gender inequality index.

In addition to homicide, the relationship between gender inequality and violence is reflected in other forms of violent crime. A recent report on violence against women in the Americas indicated that women from all income groups experience a high level of physical and emotional abuse during marriage. Also, between 10 and 30 per cent of women in the region reported having fallen victim to some form of sexual violence perpetrated by men known to them.<sup>113</sup>

Just as gender inequality fosters gender-related violence, so the empowerment of women has been shown to be accompanied by a decrease in the level of intimate partner violence. Greater autonomy and independence, when also combined with a higher social status, are thought to provide women with protection from the risk of homicide.<sup>114</sup>

Research conducted in Chile, Egypt, India and the Philippines showed that increased levels of female education and general household wealth were related to decreased levels of intimate partner violence.<sup>115</sup> Moreover, a cross-national study<sup>116</sup> found that female empowerment was associated with individualism and that women were less frequently victims of violence in countries where they were more empowered. Empowerment in this context refers to the ability to exert control over one's life – a process that can take place individually and collectively.<sup>117</sup> Hence, there is evidence that increasing the empowerment of women decreases their rate of violent victimization.<sup>118</sup> However, during the initial period of transition towards empowerment, women may find themselves at an increased risk of violence as they challenge traditional gender roles and social norms.<sup>119</sup>

<sup>113</sup> Pan American Health Organization/Centers for Disease Control and Prevention, *Violence Against Women in Latin America and the Caribbean: A Comparative Analysis of Population-based Data from 12 Countries* (Washington, D.C., 2012).

<sup>114</sup> Titterton, V. B., "A retrospective investigation of gender inequality and female homicide victimization", *Sociological Spectrum*, vol. 26, No. 2 (2006), pp. 205–236.

<sup>115</sup> Bangdiwala, S.I. et al., "Intimate partner violence and the role of socioeconomic indicators in WorldSAFE communities in Chile, Egypt, India and the Philippines", *Injury Control and Safety Promotion*, vol. 11, No. 2 (June 2004), pp. 101–109.

<sup>116</sup> Archer, J., "Cross-cultural differences in physical aggression between partners: a social-role analysis", *Personality and Social Psychology Review*, vol. 10, No. 2 (2006), pp. 133–153.

<sup>117</sup> Shrestha, M., *Self-help Banking Program and Women's Empowerment: A Rapid Assessment* (n.p., 1999), p. 39.

<sup>118</sup> Ibid.; Cheston, S. and Kuhn, L., "Empowering women through microfinance", in *Pathways Out of Poverty: Innovations in Microfinance for the Poorest Families* (Bloomfield, Connecticut, Kumarian Press, 2002), pp. 167–228.

<sup>119</sup> Jewkes, R., "Intimate partner violence: causes and prevention", *The Lancet*, vol. 359 (2002), pp. 1423–1429; Counts, D. A., Brown, J. K. and Campbell, J. C., eds., *Sanctions and Sanctuary: Cultural Perspectives on the Beating of Wives* (Boulder, Colorado, Westview Press, 1992).



## Urban violence

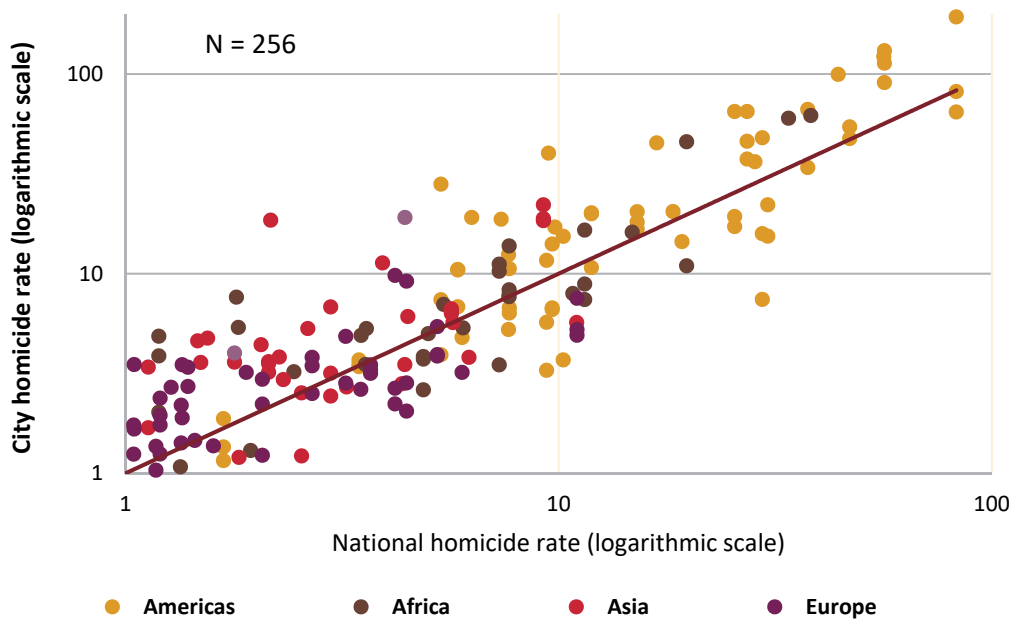
The world is becoming increasingly urbanized. The United Nations estimates that over half of the global population now lives in cities, and that proportion is expected to increase to two thirds by 2050.<sup>120</sup>

Urban areas differ from non-urban areas in three main dimensions:

- **Social dimension**  
cultural diversity, education, living conditions, health care, security, transport;
- **Economic dimension**  
employment or lack thereof, technologies;
- **Ecological dimension**  
water supply, energy sources, waste management, public transport.<sup>121</sup>

Although cities provide opportunities, jobs and services for their inhabitants, they are also fraught with direct and indirect risks of violence, including homicide. The factors increasing those risks are thought to include cities' high population density, high levels of income inequality, a higher prevalence of mental illness and substance dependence than in non-urban areas,<sup>122</sup> the potential for anonymity, and the existence of gangs and organized crime groups. On the other hand, cities are, on average, more affluent, have higher levels of policing and more private security services, and provide better access to medical services and educational facilities than non-urban areas. Such protective factors can offset the risk factors mentioned earlier, but it is worth emphasizing that every city, and indeed every neighbourhood, has unique characteristics that shape and influence homicide rates.<sup>123</sup>

**Figure 15: Homicide rates of cities and their respective countries (2016 or latest available year)**



Source: UNODC homicide statistics.

Urban homicide data from 140 Member States (the three most populous cities in each country) show that city-level homicide rates are strongly correlated with the respective national homicide rates. Subnational data reveal, however, that there can be great contrasts in city and national homicide rates. In some cases, a country with a high level of lethal violence at the national level may have a considerably lower level of

<sup>120</sup> United Nations, Department of Economic and Social Affairs, *World Urbanization Prospects: The 2018 Revision* (New York, 2018).

<sup>121</sup> Jorquera, C. Z., Jaen-Varas, D. and de Jesus Mari, J., "Homicide and suicide in megacities", in *Mental Health and Illness in the City* (New York, Springer, 2017), pp. 133–151.

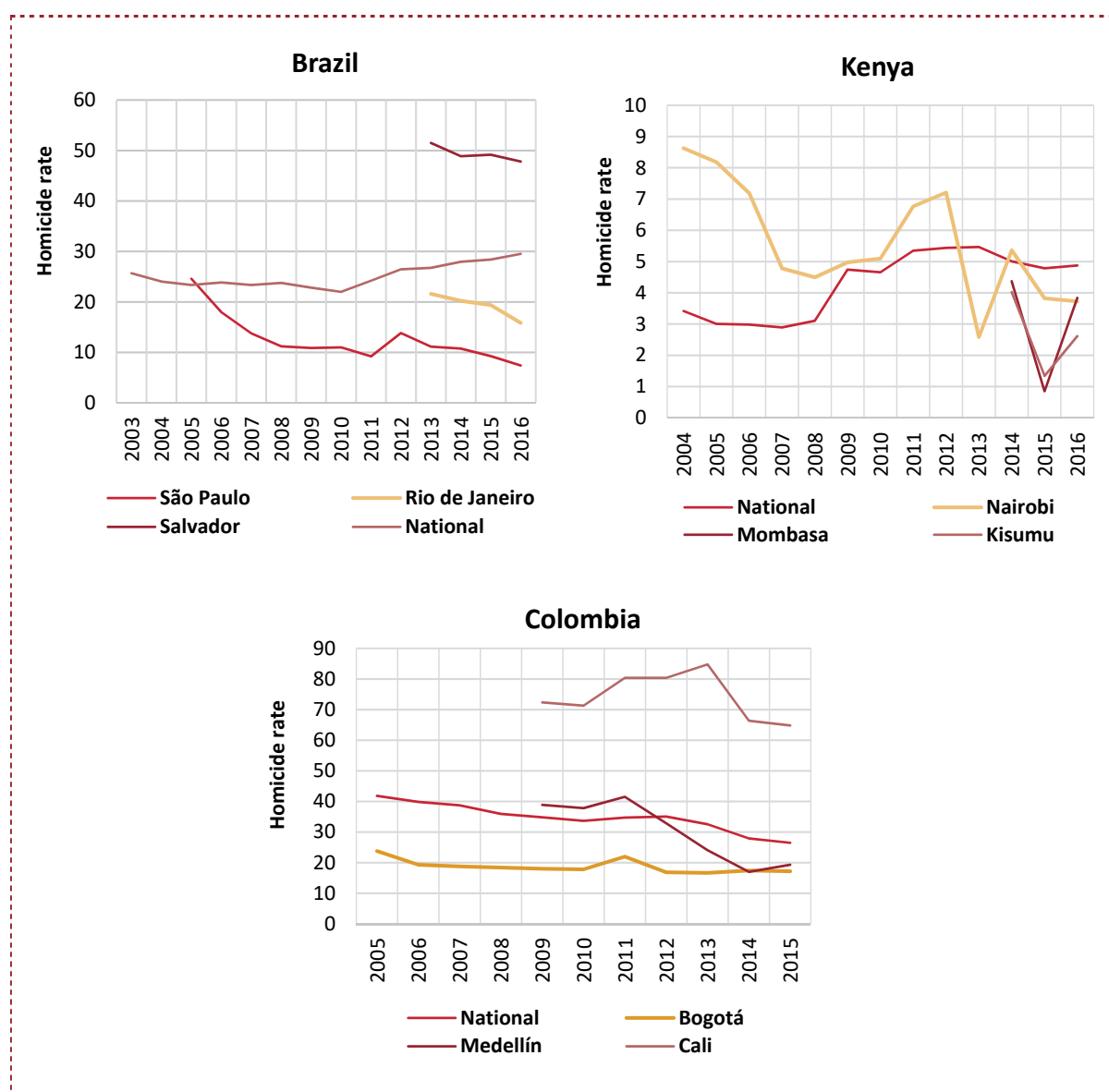
<sup>122</sup> Ibid.

<sup>123</sup> See UNODC, *Global Study on Homicide 2013* (Vienna, 2014), p. 27.

lethal violence in certain municipalities and cities. Conversely, a country with a relatively low average homicide rate at the national level may contain regions or cities with high homicide rates. This topic is discussed further in booklet 2 of this study.

There may also be contrasting trends within a single country. In the case of Brazil, São Paulo was the driver of the national drop in violent crime between 2003 and 2008: if the States of São Paulo, Minas Gerais and Rio de Janeiro had been removed from the national average, the homicide rate would have increased by 29 per cent over that period instead of the decline of 7 per cent that was actually observed.<sup>124</sup> Similar examples can be found in Kenya, where the capital, Nairobi, presented a trend that diverged from the national trend, and in Colombia, where trends in city homicide rates (in the case of Medellín and Cali) showed greater variation than at the national level.

**Figure 16: National homicide rate and homicide rate in selected cities, Brazil, Kenya, Colombia, (2003–2016)**



Source: UNODC homicide statistics.

Moreover, homicide rates can vary substantially within cities. For example, within the city of Chicago in the United States, homicide rates in 2016 varied from less than 1 per 100,000 population in certain

<sup>124</sup> World Bank, *Making Brazilians Safer*.

neighbourhoods to more than 90 per 100,000 population in others.<sup>125</sup> The overall homicide rate in Chicago in 2016 was 28 per 100,000 population, while in the United States as a whole it was 5.4 per 100,000.

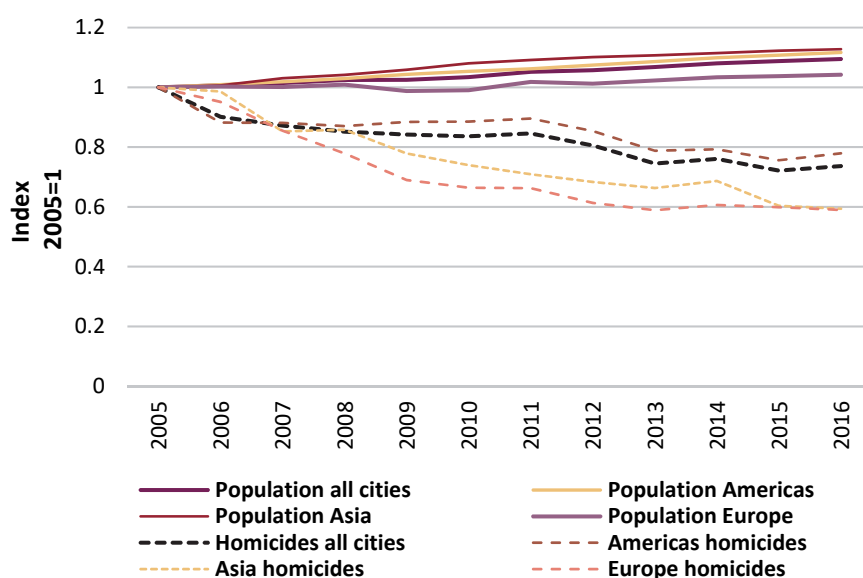
Globally, based on data from 66 countries, it seems that major cities have been more successful in reducing lethal violence than their respective countries. Thus, over the period 2005–2016, homicide rates decreased by 34 per cent overall in 68 cities, compared with a decrease of only 16 per cent in the respective countries (weighted by population).<sup>126</sup>

### Urbanization and urban growth

One factor that has been discussed widely in relation to homicide is rapid urbanization<sup>127</sup> and its related challenges.<sup>128</sup> Rapid population growth in urban centres poses significant challenges in terms of the provision of public services, jobs and educational facilities. Increased pressure caused by migration to cities, together with the limited capacity of governments to provide adequate services for incoming people, may help to create the conditions in which violence readily occurs, including greater inequality and limited employment and educational opportunities for young people.

Research on this topic has turned up ambiguous results. As discussed in booklet 2 of this study, the homicide rate in cities decreased in the Americas, Asia and Europe between 2003 and 2016. The UNODC sample of 68 cities did not reveal any positive correlation between urban growth and homicide rate. In fact, the contrary appears to be the case: between 2005 and 2016, the population in the sample cities grew by 9 per cent, whereas the number of homicides decreased by 26 per cent. This relationship holds for all regions, with the strongest diverging trends in Asia, followed by Europe.

**Figure 17: Trends in homicide and urban population growth, 68 cities, 2005–2016**



Source: UNODC homicide statistics.

Note: the global total also includes three cities in Africa.

Similar findings are to be found in the literature. A study of 55 cities in Asia and sub-Saharan Africa in which urban growth is fastest, found little support for the relationship between urbanization and trends in

<sup>125</sup> City of Chicago, Chicago Data Portal. Available at <https://data.cityofchicago.org/>.

<sup>126</sup> See booklet 2 of this study.

<sup>127</sup> Urbanization refers to the process whereby the population of a country shifts from rural to urban areas; urban population growth refers to the absolute size of a city. These two concepts are closely related but not exactly the same.

<sup>128</sup> See, for example, World Bank, *Making Brazilians Safer*; Buhaug, H. and Urdal, H., "An urbanization bomb? Population growth and social disorder in cities", *Global Environmental Change*, vol. 23, No. 1 (February 2013), pp. 1–10; Muggah, R., *Researching the Urban Dilemma: Urbanization, Poverty and Violence* (International Development Research Centre, 2012).

violence.<sup>129</sup> That study considered whether rapid growth in a city's population was associated with a higher risk or frequency of urban violence taking the specific form of political violence (lethal and non-lethal). To that end, a data set on urban social disorder (political violence) was analysed but a positive correlation between growth and violence could not be identified. The study concluded that violence could be linked to weak political institutions and ongoing conflict, but not so much to the growth of the cities considered. Similarly, an overview study of various protective and risk factors for urban violence found that urbanization alone cannot explain an increase in homicide rates.<sup>130</sup>

Yet, some studies have identified a positive and statistically significant correlation between urban growth and violence. A World Bank study of Brazil, for example, found such a correlation in Brazilian municipalities, but also argued that the effect might have other underlying causes. Higher rates of urbanization may have led to increased pressure on the public services to be provided for the large inflow of migrants, leading in turn to higher homicide rates.<sup>131</sup>

The analysis presented above leads to the conclusion that cities and rapid urban growth do not constitute a risk factor for increased levels of homicide. The presence of organized crime, inequality, and poor governance and infrastructure in cities are, as at the national level, the main factors that contribute to high homicide rates. However, each city – indeed each neighbourhood within a city – has its own risk factors that need to be considered when designing programmes and policies.

## Migration

### *Defining migration*

Before assessing possible relationships between homicide and migration, it is important to point out the difficulties involved in understanding who should be considered a migrant.<sup>132</sup> Migrants have been identified in four main contexts: economic migrants (i.e. individuals who migrate to work legally in another country); temporary migrants, such as tourists and students; asylum seekers and refugees; and undocumented migrants who have entered a country illegally, or who arrived on a visa and never left, or who were refused refugee status.<sup>133</sup>

Most international migration takes place according to established regulatory systems. In general, regular migration is understood as the movement of people who cross borders in line with rules and procedures established by each country to regulate population movement, the specificities of which vary considerably.<sup>134</sup> Defining an international migrant as a person who is living in a country other than his or her country of birth, the *International Migration Report 2017* by the United Nations reported that there are currently 258 million migrants worldwide – 38 million more than in 2010. Of this total number of migrants, 80 million live in Asia, 78 million live in Europe and 58 million live in North America. Two thirds (67 per cent) of all migrants live in just 20 countries.<sup>135</sup>

### *Migrants as victims and perpetrators of homicide*

Identifying homicide victims as migrants is problematic, especially when citizenship and country of origin are not confirmed by family or friends of the deceased, either because there are none, or because they are reluctant to cooperate with law enforcement officials, given that they themselves may be living in the country irregularly.<sup>136</sup> Statistics also vary depending on the precise definitions used by national authorities. Thus, official data sometimes reflect different definitions of “immigrants” or “legal aliens”, as some may

<sup>129</sup> Buhaug and Urdal, “An urbanization bomb?”.

<sup>130</sup> Muggah, *Researching the Urban Dilemma*.

<sup>131</sup> World Bank, *Making Brazilians Safer*.

<sup>132</sup> Here, migration refers to international migration, in contrast to internal migration within a country.

<sup>133</sup> Belli, R. and Parkin, W., “Immigration and homicide in contemporary Europe”, in *Handbook of European Homicide Research*.

<sup>134</sup> UNODC, *Global Study on Smuggling of Migrants 2018* (New York, United Nations, 2018).

<sup>135</sup> United Nations, Department of Economic and Social Affairs, *International Migration Report 2017* (New York, 2017).

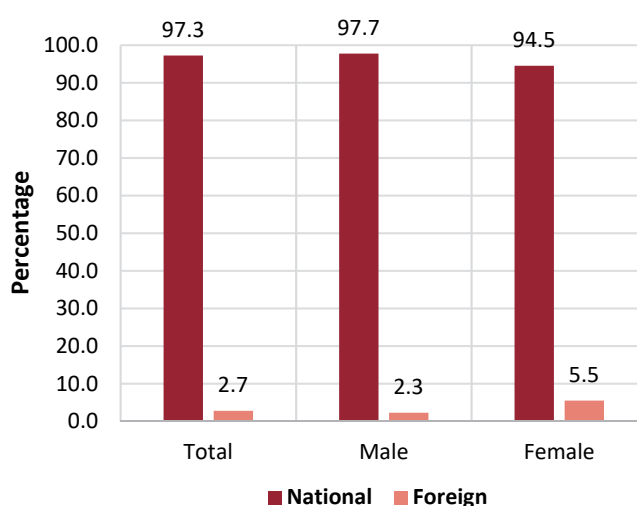
<sup>136</sup> Hiatt, K. D., “Immigrant danger? Immigration and increased crime in Europe”, paper presented at “Spotlight on Immigration: Interdisciplinary Perspectives on Newcomers and Their Children”, Institute for Research on Labor and Employment, University of California, Berkeley, March 2007.

include naturalized citizens by referring to nation of birth, whereas others may refer only to non-citizens.<sup>137</sup> Another problem has to do with recording the ethnicity<sup>138</sup> of victims and perpetrators, since collecting data about a person's race or ethnic background is prohibited by law in many countries, particularly in Europe.<sup>139</sup>

Homicide among travelling migrants is particularly difficult to analyse, because the victims are typically neither reported as missing in their country of origin, nor – owing to their lack of settled status – in the country of destination.<sup>140</sup> Not only does the exact cause of death often remain unknown in the case of homicides among migrants,<sup>141</sup> but there is also a very high “dark figure”, i.e. a large proportion of such homicides are not reported to, or detected by, criminal justice institutions.

Drawing on a sample of 31 countries that provided information on the citizenship of homicide victims,<sup>142</sup> UNODC estimates that an average of 2.7 per cent of all homicide victims in 2016 were “foreigners”, which means that they were killed in a country other than their country of citizenship. The percentage of foreigners among female victims of homicide was, at 5.5 per cent, about twice that observed among male victims (2.3 per cent).

**Figure 18: Shares of victims of intentional homicide, by citizenship (based on 31 countries), 2016**



Source: UNODC homicide statistics.

Although these figures may reflect differences in the definition of “foreigners” and recording practices applied by countries, and although it is also likely that foreign victims of homicide are being undercounted in some cases, there are strikingly large disparities in the citizenship of homicide victims at the regional level. Thus, in Asia (based on 6 countries), 0.4 per cent of all homicide victims in 2016 were known to be foreigners, compared with 1.3 per cent in the Americas (10 countries) and 18.6 per cent in Europe (15 countries).

Data available for 32 countries indicate that 6.0 per cent of all suspected perpetrators of homicide in 2016 were foreign nationals. The proportion of registered foreigners among all female suspects was, at 7.9 per cent, somewhat higher than that among all male suspects (5.9 per cent).

<sup>137</sup> Belli and Parkin, “Immigration and homicide in contemporary Europe”.

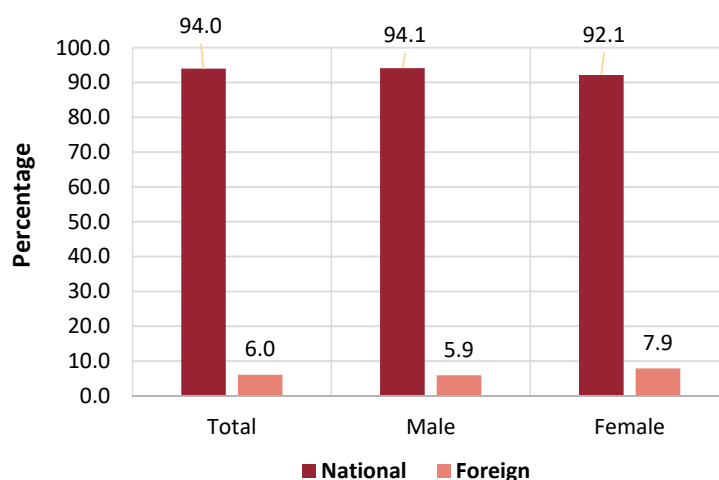
<sup>138</sup> Race and ethnicity are not necessarily related to migration: there are many multiracial, multi-ethnic States in which citizens share the same nationality, without having undergone a migration process.

<sup>139</sup> Body-Gendrot, S., “Urban ‘riots’ or urban violence in France?”, *Policing*, vol. 1, No. 4 (2007), pp. 416–427.

<sup>140</sup> See the Missing Migrants Project website. Available at <https://missingmigrants.iom.int/>.

<sup>141</sup> International Organization for Migration, “Migrant Deaths and Disappearances Worldwide: 2016 Analysis”, 17 March 2017.

<sup>142</sup> UNODC homicide statistics distinguish between victims and perpetrators of homicide by citizenship status.

**Figure 19: Shares of suspected perpetrators of intentional homicide, by citizenship (based on 32 countries)**

Source: UNODC homicide statistics.

Regionally, foreigners accounted for around 19.9 per cent of homicide offenders brought into formal contact with police in Europe (based on 17 countries), compared with just 2.0 per cent in the Americas (5 countries). Although the share of foreigners among female offenders was higher in the Americas and in Asian countries, the situation is reversed for the 17 European countries, with foreigners making up 22 per cent of all male offenders, compared with 14 per cent of all female offenders.

The available data for Europe from 2016 show significant variability regarding the proportion of foreigners who were victims of homicide and the proportion of foreigners suspected/arrested on homicide charges. In some countries in Western and Southern Europe, in particular, the percentage of foreigners among homicide victims was much higher than the European average. Although detailed data are not available on the victim-offender relationship by citizenship, a comparison between data on victims and offenders by citizenship suggests a close relationship. This means that the victims of foreign offenders are often foreigners themselves. Significantly, homicides in Europe are often perpetrated within the same community or social milieu, among persons who share a formal or informal social relationship or are even members of the same family.

A notable case is that of Switzerland, where, in 2016, foreigners made up 49 per cent of the total number of recorded homicide victims and 37 per cent of all homicide offenders brought into formal contact with the criminal justice system. According to official records, Switzerland has one of the highest percentages of foreigners in its population; over two thirds of those foreigners are from another European country.<sup>143</sup>

Still looking at data from 2016, in Spain, foreigners made up 33 per cent of the total number of recorded homicide victims and 38 per cent of all homicide offenders brought into formal contact with police. In France, these shares were, respectively, 18 per cent and 14 per cent.

In Germany, the share of foreigners among all homicide victims increased from 20 per cent in 2015 to 29 per cent in 2016; the increase was similar for men (from 25 to 35 per cent of all male victims) and women (from 16 to 23 per cent of all female victims). The share of foreigners among all homicide offenders brought into formal contact with police also increased, from 24 per cent in 2015 to 31 per cent in 2016. In the case of offenders, however, the increase was limited to foreign men, whose share grew from 26 to 35 per cent. By contrast, the share of foreigners among female homicide offenders decreased from 15 to 13 per cent. The increase in the shares of foreign homicide victims and offenders in 2016 coincided with a general increase in the number of homicide victims in Germany, from 682 in 2015 to 963 in 2016. Roughly half of that increase was accounted for by foreign victims (from 134 to 279). These increases occurred at the same time as the arrival of more than a million asylum seekers in Germany, and so they have been linked to the

<sup>143</sup> Federal Statistical Office, *Statistical Data on Switzerland 2018* (Neuchâtel, 2018).

“refugee crisis” affecting the country.<sup>144</sup> The strong association between the shares of foreign homicide offenders and victims, and also the simultaneous change of those shares over time, suggests that part of the increase was related to violent incidents in which migrants were victimized by other migrants.

### *Relationship between homicide and migration*

Given the difficulty of obtaining reliable data on migrant status, it is not surprising that research findings on the relationship between homicide and migration have so far been mixed. Some scholars speak of an absent<sup>145</sup> or negative relationship between crime in general (and homicide offending in particular) and immigration at the macro level,<sup>146</sup> while others maintain that there is a positive correlation between them.<sup>147</sup>

As far as evidence of a negative correlation between migration and homicide offending is concerned, a longitudinal study of cities in the United States has found that, on average, migrants commit fewer crimes than native-born Americans, and that at the macro level, migration has had a negative effect on homicidal violence.<sup>148</sup> In other words, in recent decades migration has not caused crime to increase, but, rather, has helped reduce it. This has been explained by invoking the “revitalizing hypothesis”, according to which the settlement of migrants in inner-city areas may actually improve the situation in those areas. It is indeed possible that migration reduces aggregate levels of crime, including violent crime, by increasing labour market opportunities for both native- and foreign-born populations.<sup>149</sup>

When undocumented migrants are found to be involved in criminal activities, they tend to be of a less serious nature than those undertaken by legal migrants – mostly petty offences committed for the sake of “survival”, such as shoplifting,<sup>150</sup> robbery<sup>151</sup> and other types of theft.<sup>152</sup> This dynamic can be explained by reference to the marginal status of illegal migrants, which is more conducive to survival-type crimes.<sup>153</sup>

Other research has pointed to the possibility of a positive correlation between homicide and immigration levels. European research focusing on the period 1990–2000 found an upward trend in the imprisonment rates of foreigners, combined with overall increases in violent crime trends across Western Europe. Even though no details about the perpetrators’ ethnic background were known, the hypothesis was raised that the increase in violent crime might have been related to the expansion of transnational organized crime activities, such as trafficking in drugs, commodities and human beings.<sup>154</sup> A positive correlation between migration and violent crime becomes particularly apparent when the focus is on second- and third-generation immigrants – something that has been attributed to a diminished degree of integration or assimilation. According to this view, restrictive immigration policies and discrimination foster social exclusion and marginalization, which may explain higher levels of violence among certain migrant groups.<sup>155</sup>

<sup>144</sup> Office of the United Nations High Commissioner for Refugees (UNHCR), “UNHCR country update: Germany | Q4 2017”, 13 November 2017.

<sup>145</sup> Bianchi, M., Buonanno, P. and Pinotti, P., “Do immigrants cause crime?”, *Journal of the European Economic Association*, vol. 10, No. 6, (December 2012), pp. 1318–1347.

<sup>146</sup> Belli and Parkin, “Immigration and homicide in contemporary Europe”; Lee, M. T., Martinez, R. and Rosenfeld, R., “Does immigration increase homicide? Negative evidence from three border cities”, *The Sociological Quarterly*, vol. 42, No. 4 (Autumn 2001), pp. 559–580; Engbersen, G., Van der Leun, J. and de Boom, J., “The fragmentation of migration and crime in the Netherlands”, *Crime and Justice*, vol. 35, No. 1 (2007), pp. 389–452.

<sup>147</sup> Aebi, M., “Crime trends in Western Europe from 1990 to 2000”, *European Journal on Criminal Policy and Research*, vol. 10, Nos. 2–3 (September 2004), pp. 163–186.

<sup>148</sup> Adelman, R. et. al., “Urban crime rates and the changing face of immigration: evidence across four decades”, *Journal of Ethnicity in Criminal Justice*, vol. 15, No. 1 (2017), pp. 52–77.

<sup>149</sup> Ibid.

<sup>150</sup> Goodey, J., “Non-EU citizens’ experiences of offending and victimisation: the case for comparative European research”, *European Journal of Crime, Criminal Law and Criminal Justice*, vol. 8, No. 1 (January 2000), pp. 13–34.

<sup>151</sup> Bianchi, Buonanno and Pinotti, “Do immigrants cause crime?”.

<sup>152</sup> Martens, P. L., “Immigrants as victims of crime”, *International Review of Victimology*, vol. 8, No. 2 (May 2001), pp. 199–216.

<sup>153</sup> Belli and Parkin, “Immigration and homicide in contemporary Europe”.

<sup>154</sup> Aebi, “Crime trends in Western Europe from 1990 to 2000”.

<sup>155</sup> Belli and Parkin, “Immigration and homicide in contemporary Europe”.



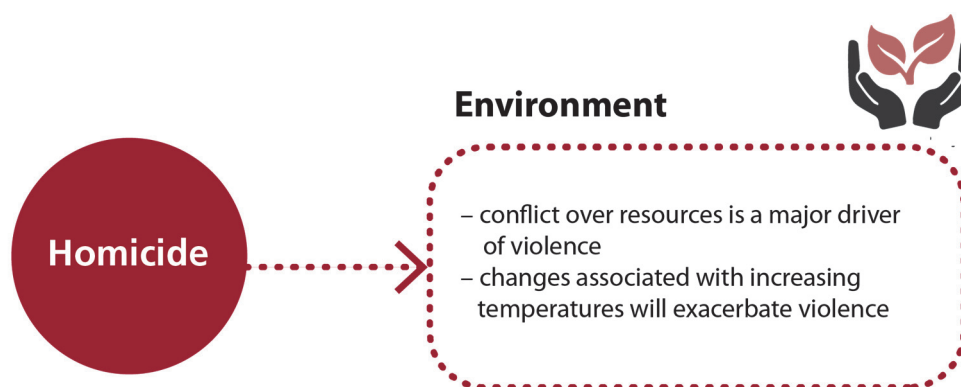
Other elements that play a role include the neighbourhood context in which migrants settle. Although they also exist in other countries, in the United States, such areas are considered to be more violent than others, which can in turn be attributed to higher levels of poverty, ethnic heterogeneity, a larger share of young males and possibly greater opportunities to engage in crime if those young males join gangs.<sup>156</sup> The spatial segregation and socioeconomic exclusion characteristic of neighbourhoods with a high concentration of low-skilled migrants and a lack of government investment make them into a poverty trap, which in turn correlates with high levels of crime. This hypothesis is supported by research conducted in Belgium, which found that, at the community level, the unemployment rate is a stronger predictor of crime than migration, rendering ethnic composition at the neighbourhood level non-significant.<sup>157</sup>

Further disaggregating by migration status, European empirical studies covering second- and third-generation migrants have found that not all migrant groups are equally involved in violent crime. The differences can be explained by various cultural and social factors. Relatively low levels of violent crime among Asian immigrants in Western European countries, for example, have been explained by high levels of community and parental control. Higher levels of violent crime among other migrant groups in Europe and Canada have been attributed to low levels of education, high unemployment, family problems, lack of access to resources and high levels of alienation and stigmatization.<sup>158</sup>

A recent Council of Europe report emphasized that female migrants are at a particularly high risk of violent victimization. One key reason, as the 2016 report argues, lies in the existence and perpetuation of gender inequalities in both origin and destination societies; another is related to their status as foreigners. Violence and discrimination thus continue to be part of migrant women's lives. Moreover, although women represent only 11 per cent of all people smuggled across the Mediterranean, they run a disproportionately high risk of suffering violence in transit, as many are raped, beaten or tortured. Those who manage to reach European soil may be forced into trafficking to pay back their "debt" to smugglers.<sup>159</sup>

In light of these observations, the killing of migrant women can be understood as an extreme outcome of a continuum of violence. The unique vulnerability of migrants is not limited to Western countries, however, but extends to all regions. In Africa, for example, data from Kenya suggest that new migrants to areas in which organized criminal gangs operate are picked out as vulnerable and easy targets – a substantial proportion of them report being required to pay "protection money" to these gangs. Similarly, those who wish to set up businesses are required to make such payments beforehand.<sup>160</sup>

## Homicide and the environment



<sup>156</sup> Martinez, R.; Stowell, J. I. and Lee, M. T., "Immigration and crime in an era of transformation: a longitudinal analysis of homicides in San Diego neighborhoods, 1980–2000", *Criminology*, vol. 48, No. 3 (August 2010), pp.797–829.

<sup>157</sup> Bircan, T. and Hooghe, M., "Immigration, diversity and crime: an analysis of Belgian national crime statistics, 2001–6", *European Journal of Criminology*, vol. 8, No. 3 (May 2011), pp. 198–212.

<sup>158</sup> Belli and Parkin, "Immigration and homicide in contemporary Europe"; Saunders, N. R. et al., "Risk of firearm injuries among children and youth of immigrant families", *Canadian Medical Association Journal*, vol. 189, No. 12 (2017), pp. E452–E458.

<sup>159</sup> Council of Europe, *Violence Against Migrants, Report*, document 14066; UNODC, *Global Study on Smuggling of Migrants 2018*.

<sup>160</sup> Crime Research Centre, *A Study of Organized Criminal Gangs in Kenya* (Nairobi: National Crime Research Centre, 2012).



Conflict over resources has always been a major driver of violence, both at an interpersonal and a national level. Findings from a report investigating the role that natural resources play throughout different phases of conflict indicate that it is no longer possible to separate questions of peace and security from the way natural resources and the environment are managed.<sup>161</sup> More specifically, unequitable policies regulating access to water, land and other renewable resources can act as drivers of low-level conflict, which may escalate into major criminal violence along ethnic, national or other divisions, particularly those linked to social inequality.<sup>162</sup> Three main categories of conflict drivers for renewable natural resources have been identified so far by the United Nations Environment Programme:<sup>163</sup>

- competition over increasingly scarce renewable resources;
- poor governance of renewable natural resources and the environment;
- transboundary natural resource dynamics and pressure.

Violence driven by resource scarcity and disputes over how resources are managed is indicative of a context in which the supply of renewable resources, such as water, forests, cropland and rangeland, is not sufficient to meet demand. Moreover, policies governing access, use, ownership and management of natural resources can trigger violence and conflict in situations where certain groups perceive grievances associated with political exclusion, corruption and unequal distribution of resources.<sup>164</sup> Although the nexus between violence and the environment is not yet a fully fledged field of study, existing research suggests that problems revolving around linkages between the environment, population and violence are not only about resource scarcity, but also about power relations.<sup>165</sup> The lack of a direct link between resource scarcity and violence is particularly obvious in countries where resource abundance becomes a source of conflict.<sup>166</sup> For example, resources such as “conflict minerals” in the Democratic Republic of the Congo have been fuelling armed conflict for decades. The coercive exploitation of informal mining activities and communities – inter alia, through mineral trading chains – has historically been a lucrative way of financing the activities of a variety of non-State armed groups in the eastern part of the Democratic Republic of the Congo.<sup>167</sup>

The same environment-related tensions that fuel interpersonal violence and homicide can boil over into conflict. Climate scientists estimate that changes associated with global warming and other forms of environmental degradation will greatly exacerbate conflict in the future. One group of scholars estimates that for every degree Celsius of global temperature increase, interpersonal conflict will increase by 2.4 per cent and intergroup conflict by 11.3 per cent.<sup>168</sup>

High temperatures in general have already been linked to violent or aggressive behaviour,<sup>169</sup> but potentially more important are the effects that climate change could have on the economy and migration. It is feared that the African continent will be among the worst affected,<sup>170</sup> because of its rapidly growing population, dependence on marginal agriculture, proximity to the equator, and pre-existing poverty. A number of theorists have linked the risks of war to periods of economic stagnation and decline, particularly in African countries.<sup>171</sup> It should be noted, however, that this effect has not been demonstrated in richer,

<sup>161</sup> United Nations Environment Programme (UNEP), *Toolkit and Guidance for Preventing and Managing Land and Natural Resources Conflict: Renewable Resources and Conflict* (2012), p. 15.

<sup>162</sup> Ibid.

<sup>163</sup> Ibid., pp. 11–15.

<sup>164</sup> Ibid., p. 9.

<sup>165</sup> Lee, B. X., “Causes and cures VIII: environmental violence”, *Aggression and Violent Behaviour*, vol. 30 (2016), pp. 105–109.

<sup>166</sup> Ibid., p. 107.

<sup>167</sup> De Koning, R., “Conflict minerals in the Democratic Republic of the Congo: aligning trade and security interventions”, SIPRI Policy Papers, No. 27 (Stockholm International Peace Research Institute (SIPRI), 2011).

<sup>168</sup> Burke, M., Hsiang, S. M. and Miguel, E., “Climate and conflict”, *Annual Review of Economics*, vol. 7 (2015), pp. 577–617.

<sup>169</sup> Anderson, C. A., et al., “Temperature and aggression”, *Advances in Experimental Social Psychology*, vol. 32 (2000), pp. 63–133.

<sup>170</sup> Burke, M. et al., “Warming increases the risk of civil war in Africa”, *Proceedings of the National Academy of Sciences of the United States of America*, vol. 106, No. 49 (2009), pp. 20670–20674.

<sup>171</sup> See e.g. Collier, P. and Hoeffler, A., “On economic causes of civil war”, *Oxford Economic Papers*, vol. 50, No. 4 (October 1998), pp. 563–573.

more democratic and more ethnically diverse countries.<sup>172</sup> Climate change threatens radically to undermine livelihoods in a continent where a significant share of the population is dependent on subsistence farming. It is also likely to generate mass flows of displaced people, stoking intergroup conflict within and across borders.

A recent environmental assessment of South Sudan concluded that increasing climate variability has a significant impact on agriculture, causing a decline in groundwater levels and the degradation of cropland and rangeland, which may disrupt food production and markets, contributing to cycles of violence, food insecurity and malnutrition.<sup>173</sup>

Water scarcity is likely to become an even greater problem in the future, which may escalate tensions between or within countries. For example, the Helmand Basin is an area containing water reserves that are of strategic importance for the Islamic Republic of Iran and Afghanistan, and the two countries have participated in political negotiations for several decades to manage water insecurity and de-escalate tensions in the face of recurring drought and population growth.<sup>174</sup>

Some recent conflicts that may be linked to natural resource scarcity are as follows:

- water scarcity appears to have played a role in the recent conflict in Syria;<sup>175</sup>
- climate change has been associated with increased food prices in Africa, which are in turn associated with increased conflict;<sup>176</sup>
- periodic weather-related harvest losses have been associated with exacerbated political violence in India.<sup>177</sup>

Another form of environment-related violence involves the deaths of those who seek to protect wildlife and forested areas from both poachers and corporate incursion. A recent count suggests that at least 200 “land and environmental defenders” were killed in 2016.<sup>178</sup> The International Ranger Foundation reports annually on ranger deaths, and recorded 595 such cases between 2009 and 2016, many as a result of armed conflict with poachers.<sup>179</sup>

## BOX 7: The nexus between climate change, conflict, terrorism and lethal violence

In vulnerable natural areas such as the Lake Chad Basin in West and Central Africa, climate change is playing a role in exacerbating competition over increasingly scarce resources: as the waters of Lake Chad recede, fish stocks decline, arable land disappears and other economic opportunities diminish.

The African Union has noted that the loss of traditional livelihoods in the Lake Chad Basin is prompting some of the region’s inhabitants to join armed groups as a potential alternative source of income.<sup>a</sup> The link between resource competition and civil conflict is well established in the literature.<sup>b</sup> Violent extremism, terrorism and organized crime-related activity can also feed into a negative spiral of increasing environmental collapse as agricultural infrastructure is destroyed, environmental management expertise is lost and the natural environment is further degraded.

<sup>172</sup> Miguel, E., Satyanath, S. and Sergenti, E., “Economic shocks and civil conflict: an instrumental variables approach”, *Journal of Political Economy*, vol. 112, No. 4 (2004), pp. 725–753.

<sup>173</sup> UNEP, *South Sudan: First State of Environment and Outlook Report 2018 – Summary for Policymakers* (2018), p. 16.

<sup>174</sup> Deghan, A., Palmer-Moloney, L. J. and Mirazee, M., “Water security and scarcity: potential destabilization in Western Afghanistan and Iranian Sistan and Baluchestan due to transboundary water conflicts”, in *Water and Post-Conflict Peacebuilding* (London, Earthscan Books, 2011).

<sup>175</sup> Gleick, P., “Water, drought, climate change, and conflict in Syria”, *Weather, Climate, and Society*, vol. 6, No. 3 (July 2014), pp. 331–340.

<sup>176</sup> Raleigh, C., Choi, H. J. and Kniveton, D., “The devil is in the details: an investigation of the relationships between conflict, food price and climate across Africa”, *Global Environmental Change*, vol. 32 (May 2015), pp. 187–199.

<sup>177</sup> Wischnath, G. and Buhaug, H., “Rice or riots: on food production and conflict severity across India”, *Political Geography*, vol. 43 (November 2014), pp. 6–15.

<sup>178</sup> Global Witness, *Defenders of the Earth: Global Killings of Land and Environmental Defenders in 2016* (London, 2017).

<sup>179</sup> See <http://www.internationalrangers.org/roll-of-honour/>.

The drivers of these phenomena are both diverse and complex, and different combinations of factors can act on individuals in different ways, setting some on the path to violent action, while others reject it. It may be overstating the nexus to describe climate change as a potential driver of conflict, crime and terrorism; climate change can perhaps best be characterized as a “threat multiplier” in that it has the potential to contribute to the wider instability in which agents of conflict such as violent extremists are able to thrive.<sup>c</sup>

Having consistently described climate change as a potentially destabilizing influence, the United Nations explicitly included climate change in Security Council resolution 2408 (2018) as one of the contributing factors to ongoing instability in Somalia.<sup>d</sup> The impact of climate change and environmental collapse can also be seen in a number of other conflict zones around the globe, such as in South Sudan and Nigeria.

Lawless and ungoverned conflict zones can provide a safe haven for terrorist groups where they are able to regroup, rearm and launch attacks on neighbouring areas. So, in this sense at least, there can be little doubt that the adverse effects of climate change are contributing to conditions conducive to the spread of conflict, terrorism and lethal violence.

<sup>a</sup> Lake Chad Basin Commission and African Union Commission, *Regional Strategy for the Stabilization, Recovery and Resilience of the Boko Haram-affected Areas of the Lake Chad Basin Region* (2018).

<sup>b</sup> Maxwell, J. W and Reuveny, R., “Resource scarcity and conflict in developing countries”, *Journal of Peace Research*, vol. 37, No. 3 (May 2000), pp. 301–322.

<sup>c</sup> United States Department of Defense, *2014 Climate Change Adaptation Roadmap* (Alexandria, Virginia, 2014).

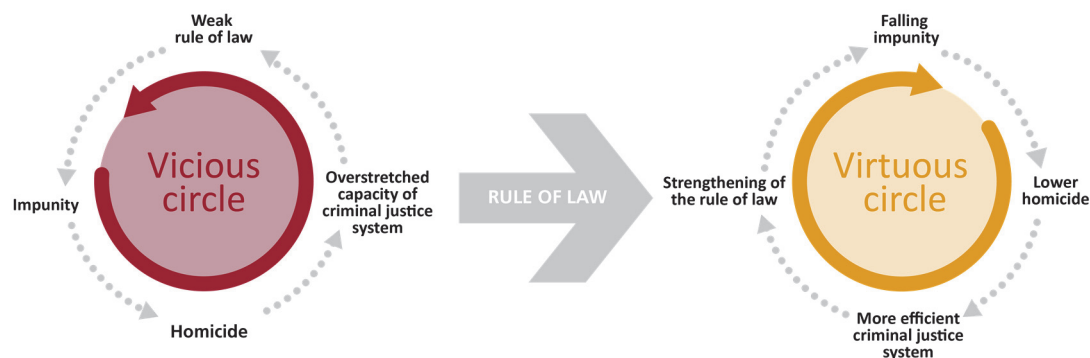
<sup>d</sup> S/RES/2408(2018).



## HOMICIDE AND PEACE, JUSTICE AND STRONG INSTITUTIONS

Goal 16 of the Sustainable Development Goals is dedicated to the promotion of peaceful and inclusive societies for sustainable development, the provision of access to justice for all, and building effective, accountable institutions at all levels. The common understanding behind Goal 16 is that progress on peace and development depends on the creation of inclusive societies in which the rule of law and human rights are respected. Although the associated target 16.3 on promoting the rule of law and ensuring equal access to justice captures this ambition, determining how progress will be measured is a challenge, as is the need to ensure that monitoring in turn strengthens the rule of law and access to justice. Ideally, an effective criminal justice system is one that upholds the rule of law and ensures objective investigations, timely prosecution and fair sentencing of those convicted of homicide.<sup>180</sup> If the perpetrators of such crimes enjoy impunity, this may foster lawlessness and violence by vigilantes.

### Rule of law



The concept of the “rule of law” is difficult to define and measure.<sup>181</sup> As an expression it is widely used but there is no single agreed-upon definition that characterizes it precisely. In a 2004 report of the United Nations Secretary-General, the rule of law was defined as “a principle of governance in which all persons, institutions and entities, public and private, including the State itself, are accountable to laws that are publicly promulgated, equally enforced and independently adjudicated”.<sup>182</sup>

There is a clear link between the rule of law and levels of homicidal violence. Strengthening the rule of law (which may include improving access to legal aid, eliminating inhumane conditions in prisons and wrongful convictions, reducing the unnecessary use of pre-trial detention and imprisonment, and reducing offending and revictimization)<sup>183</sup> can bring levels of homicide down and, in turn, low levels of homicide can help to maintain effective and fair criminal justice institutions.<sup>184</sup> The analysis of trends over time shows that nations that fail to establish strong security and justice systems, within a framework of respect for human rights, are more likely to be caught in a spiral of chronic violence and insecurity.<sup>185</sup> Weak rule of law produces impunity, creating an environment in which criminal activities can flourish and criminal groups can operate more easily. Conversely, adherence to the rule of law and respect for human rights creates an environment favourable to the legitimacy of government institutions, which acts as a preventive factor for violent crime. Apart from preventing disputes from erupting and helping economies to grow, the rule of law is also manifested through efficient law enforcement that secures the rights of all individuals in a given country. In developing countries in particular, where a substantial share of the population is impoverished,

<sup>180</sup> World Justice Project, *World Justice Project Rule of Law Index 2016* (Washington, D.C., 2016).

<sup>181</sup> Broadly speaking, some scholars adhere to a minimalist concept of the rule of law that focuses on formal, procedural rules, while for others this concept includes substantive characteristics, such as self-governance and various fundamental rights and freedoms.

<sup>182</sup> S/2004/616, Report of the Secretary-General on the rule of law and transnational justice in conflict and post-conflict societies, para. 6.

<sup>183</sup> UNODC, *Criminal Justice Assessment Toolkit* (United Nations, New York, 2006).

<sup>184</sup> UNODC, *Global Study on Homicide 2011* (Vienna, 2012).

<sup>185</sup> Haugen and Boutros, *The Locust Effect*.

the rule of law, as reflected in the functioning of criminal justice systems, is also essential for protecting the poor from violence.<sup>186</sup>

Research assessing the relationship between the homicide rate and the rule of law has concluded that countries with an independent judiciary have lower homicide rates than those in which there is no judicial independence.<sup>187</sup> The existence of an independent judiciary has been shown to discourage violence as a way of resolving interpersonal disputes and to encourage self-restraint. An independent judiciary also encourages people to shake off criminal motivations and promotes more peaceful interactions.<sup>188</sup> Other studies have argued that an independent judiciary is the cornerstone of establishing institutional legitimacy, which in turn acts as a protective factor against lethal violence among citizens.<sup>189</sup> An independent judiciary is therefore essential for the establishment of a network of institutions that citizens perceive to be just and rightful in administering authority and power in the name of the State.<sup>190</sup>

Many of the aforementioned elements relevant to development – e.g. reducing poverty and inequality, promoting gender equality, ensuring decent work and economic growth, and creating sustainable cities and communities – can only be addressed within an overarching governance framework that adheres to the rule of law. Meeting the targets of Sustainable Development Goal 16 is essential for achieving all the other Sustainable Development Goals that have a bearing on homicide levels, since many of the Goals and their associated targets are interconnected and produce combined effects. The impact of each of the Sustainable Development Goals discussed in this booklet, along with the processes involved in reaching the associated targets, is not always clear; furthermore, many of these processes rely on synergies.

### BOX 8: Access to legal aid as a means of ensuring access to justice

One of the barriers to access to justice is the availability of legal aid services. A functioning legal aid system is essential to ensure a fair, efficient and effective criminal justice system<sup>a</sup> and can help to reduce the length of time during which suspects are held in police stations and detention centres, in addition to reducing the prison population, the number of wrongful convictions, prison overcrowding and congestion in the courts.<sup>b</sup>

Legal aid may play a crucial role in enabling people to navigate the justice system, to make informed decisions, and to obtain legal redress. Therefore, it is important to provide legal aid services that are non-discriminatory, accountable and conducive to promoting justice for all.<sup>d</sup> However, globally, legal advice and assistance are inaccessible for many people and a challenge in ensuring equal access to justice lies in the costs of legal advice and legal representation in court. Other challenges, as highlighted in the *Global Study on Legal Aid*,<sup>c</sup> include the lack of an organized legal aid system, the limited number of lawyers available to cover legal aid needs, geographical inaccessibility, and lack of awareness of the availability of legal advice and assistance. Legal aid also helps safeguard the human rights of victims and witnesses in the criminal justice process.

The survey findings from the *Global Study on Legal Aid* suggest that in the Middle East and North Africa, sub-Saharan Africa, and Asia and the Pacific, lack of awareness that legal aid services are available at little or no cost is frequently an issue. By contrast, in Eastern Europe and Central Asia the main problem is lack of confidence in the quality of such services. Also, in Latin America, individuals do not always understand how legal aid can help them. Lastly, in Western Europe, people are mostly concerned about lawyers being paid very little for legal aid work, and also about the prioritization of public expenditure on the police, prosecutors and judges.

<sup>a</sup> United Nations, General Assembly resolution A/RES/67/187 (“United Nations Principles and Guidelines on Access to Legal Aid in Criminal Justice Systems”).

<sup>b</sup> United Nations Principles and Guidelines on Access to Legal Aid in Criminal Justice Systems, para. 3.

<sup>c</sup> UNDP and UNODC, *Global Study on Legal Aid* (United Nations, 2016).

<sup>d</sup> Ibid.

<sup>186</sup> Ibid., p. 213.

<sup>187</sup> Testa, A., Young, J. K. and Mullins, C., “Does democracy enhance or reduce lethal violence? Examining the role of the rule of law”, *Homicide Studies*, vol. 21, No. 3 (August 2017), pp. 219–239.

<sup>188</sup> Ibid.

<sup>189</sup> LaFree G., *Losing Legitimacy: Street Crime and the Decline of Social Institutions in America* (Boulder, Colorado, Westview Press, 1998).

<sup>190</sup> Tyler T. R., *Why People Obey the Law* (Princeton, Princeton University Press, 2006).

### BOX 9: Informal justice

It should be emphasized that the lack of access to justice does not necessarily imply that there are no means of settling disputes. Informal justice mechanisms, for example, seek to resolve problems without the need to go to court. Such mechanisms include alternative dispute resolution and community action, and are particularly suitable for identifying practical, context-specific solutions to everyday problems faced by communities. Informal justice actors include not only traditional authorities, such as village chiefs, local elders and religious leaders, but also community paralegals, staff members of non-governmental organizations and community-based volunteers. The most common problems handled by informal justice mechanisms globally are marital or family disputes and land and property disputes. To a lesser degree, informal proceedings are also used to resolve minor criminal cases, although this practice is more common in some regions than others, such as Asia and the Pacific and sub-Saharan Africa.<sup>a</sup> Informal justice systems often play a large role in countries where formal legal institutions are weak, remote, or perceived as ineffective.<sup>b</sup> Even with such informal systems in place, the absence of access to legal aid is particularly problematic for poor and marginalized groups, and also for women.

<sup>a</sup> UNDP and UNODC, *Global Study on Legal Aid* (Vienna, 2015).

<sup>b</sup> World Justice Project, *World Justice Project Rule of Law Index 2017–2018* (Washington, D.C., 2018).



# UNODC

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Since the publication of the previous edition in 2014, the *Global Study on Homicide* has been expanded into a special six-booklet format, five of which are dedicated to thematic areas relevant to the study of the ultimate crime.

Booklet 1 of the *Global Study on Homicide 2019* summarizes the content of the five subsequent substantive booklets by reviewing their key findings and highlighting a set of policy implications derived from the analyses presented in them. Booklet 2 provides an overview of international homicide counts, rates, trends and patterns, and of criminal justice responses to homicide. Booklet 3 examines drivers and mechanisms of, and contributors to, homicide, and looks at the different homicide typologies. The latter is done in an effort to improve understanding of the contexts in which homicide is perpetrated, as this can inform more effective policymaking. Booklet 4 analyses the relationship between homicide and development with reference to the Sustainable Development Goals by looking in detail at the main pillars of development and their reciprocal relationship with homicide and violence. Booklet 5 gives an overview of the scope of gender-related killings of women and girls. It contains an in-depth analysis of killings perpetrated within the family sphere and also examines forms of gender-related killings perpetrated outside the family sphere. Booklet 6 deals with the homicide of children, adolescents and young adults, and covers different types of child killings within and outside the family.

As in previous years, the *Global Study on Homicide 2019* is aimed at improving understanding of this complex phenomenon and at providing policymakers with an updated dataset of cross-national data that evaluates the scale of homicide globally.

The statistical annex is published on the UNODC website: <https://www.unodc.org/gsh/>

