



Economic and Social Consequences

Violence as an Obstacle to Development¹

Violence impedes economic development. From a macroeconomic point of view, violence reduces foreign and domestic investment as well as domestic savings, thus hindering prospects for long term growth. From the microeconomic standpoint, one of the effects of violence is to dissuade individuals from investing time and money in education; it may deter some people from attending night school out of fear of becoming a victim of violent crime, or it may even induce some individuals to turn to a life of crime instead of completing their education.

Domestic violence against women and children is also a stumbling block to economic development. Abuse adversely affects a child's performance in school and consequently his or her future productivity, as well as lowering the government's return on investment in education. Women who are victims of domestic violence are less productive on the job, leading directly to a decrease in national output (Morrison and Orlando, 1999).

Tending to the consequences of both domestic and social violence cuts into the scarce resources available to society. Expenditures made on law enforcement, the judicial system and social services for the purpose of alleviating the effects of violence could otherwise be earmarked for more productive purposes.

Measuring the Costs of Violence

Measuring the price that society pays for violence can be approached in two different ways. The first approach is the "comprehensive" approach, which attempts to reflect the overall costs of violence to society. The second approach is the "partial" approach, which focuses on only one aspect of the total cost. The partial approach is used when implementation of the comprehensive approach is not feasible, either due to a lack of data or to the degree of complexity that such a method would entail, or when it is necessary to highlight a particular impact of violence.

Within the comprehensive approach, three different methods have been used to calculate violence:

- ▶ Accounting methodology, which breaks down costs into specific categories and adds up the total cost from each category;

- ▶ Hedonic housing and land models, which gauge the impact of levels of neighborhood safety on housing and land values in order to measure people's willingness to pay for living violence-free;
- ▶ Contingent valuation methodology (CVM), which attempts to measure the value that the market would assign to decreased violence if public safety were a saleable commodity.

Each one of these methods has its pros and cons. The main advantage of the accounting methodology is that it does not require data in every category, so when information is available for only one category or a few categories, the costs in the categories for which information is available can be calculated. There are two major disadvantages to this method. The first is that any specification of categories is essentially arbitrary; an alternative classification scheme is always possible. The second disadvantage is the risk of counting one particular cost in more than one category, thus "double counting" this particular cost.

Hedonic models are more sophisticated and enable analysts to measure the impact of a lack of public safety on the value of housing or land. These models not only take into account housing characteristics (number of bedrooms, size of lot, quality of construction, etc.) but also neighborhood characteristics such as paved streets,

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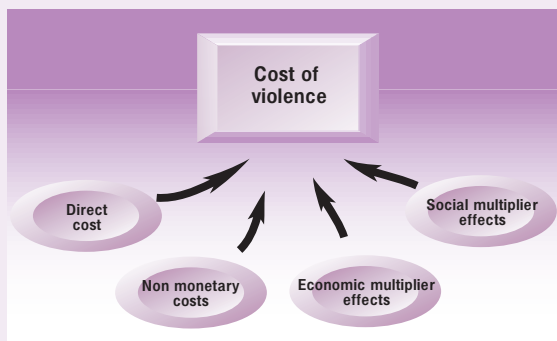
access to hospital services, access to schools and the crime rate. The principal weakness of this method is that it requires a great deal of high quality statistical information at the neighborhood and even household level

CVM is conducted by interviewing a randomly selected sample of the population. Interviewees are informed in detail about the present state of public safety in their neighborhood and about several different intervention options that could be used to improve the situation. On the basis of their responses, it is possible to estimate how many residents are willing to pay to make their neighborhood safer.

The inherently hypothetical nature of CVM-generated estimates has been the topic of much debate and criticism; nevertheless, a track record of thirty years bears witness to the validity of this technique (Salazar and Roche, 1999).

Estimating the Cost of Violence in Latin America and the Caribbean

Hedonic housing and contingent valuation methodologies have yet to be used in Latin America for gauging how willing people are to pay for safer neighborhoods, although these approaches have proven to be useful in other countries (see Table 1 for examples of application of these approaches in developed countries). Consequently, the estimates presented in this section are based on studies that employed accounting methods or a partial approach.



Perhaps the harshest criticism that has been leveled against CVM is that the method is sensitive to the current distribution of income. In other words, people who have more disposable income are simply more willing to pay for the commodity in question, in this case, a safer neighborhood.

Within the “partial approach”, studies have been conducted on the impact of violence on:

- ▶ Participation in the work force (Morrison and Orlando, 1999)
- ▶ Earnings (Morrison and Orlando, 1999; CEDE-UNIANDES, 1997)
- ▶ Possibility of attending school, especially at night (CEDE-UNIANDES, 1997)
- ▶ School performance of young victims or witness of violence (Larraín, 1997)
- ▶ Population displacement (Zaluar, 1996)
- ▶ Savings and domestic investment (CEDE-UNIANDES, 1997)

Direct Costs

Direct costs of violence include the value of all goods and services devoted to prevention, treatment of victims or apprehending and/or prosecuting perpetrators. No calculation of direct costs associated with domestic violence in Latin American or Caribbean countries has been made as of this time; nevertheless, the figure is presumed to be quite high, but lower than the costs for industrialized nations where such services are more widely available. The figures for industrialized nations are high:

- ▶ In Canada, the cost of violence against women to the criminal justice system (including domestic violence and violence committed by strangers) is \$684 million Canadian dollars per year and, to law enforcement, \$187 million per year. The cost of therapy and training provided in response to violence against women is approximately \$294 million per year (Greaves, 1995)

Statistics are available for several countries of Latin America and other regions of the world with regard to expenditures made on public security and criminal justice systems as a result of social violence.

Table 1.

Hedonic and Contingent Valuation Studies of the Costs of Violence

Contingent Valuation Methodology (CVM). Most of the CVM studies that have been conducted to-date assess people’s willingness to pay for reducing the risk of death due to traffic accidents or on-the-job accidents. Gegax, Gerking and Schulze conducted a study in the U.S. in 1985 on a group of workers who were asked what percentage of a decrease in salary would they be willing to accept in exchange for lowering the risk of suffering a fatal accident on the job. Based on the responses of the workers, the authors of the study estimated that workers are willing to give up an average of 2.8 million dollars in order to save one life.

Hedonic housing models. According to Chessire and Sheppard (1988), hedonic housing studies have employed six types of variables to explain housing prices:

- Continuous housing characteristics: lot size, number of bedrooms, number of bathrooms, etc.
- Dichotomous housing characteristics: presence of servant’s quarters, heating, etc.
- Quality of neighborhood schools
- Socioeconomic characteristics of the neighborhood: average income, population density, ethnic makeup, etc. Public safety would come under this category.
- Transportation infrastructure: access to public transportation, type of street that a house is located on, etc.
- Topography and location: distance from urban center, elevation, amount of surrounding land used for industrial purposes or for green areas (parks or woods), etc.

In a hedonic housing study of Los Angeles, Brookshire et al. (1992) documented an inverse relationship between neighborhood crime rates and housing prices after controlling for the other key factors that influence the price of housing. It was found that as the crime rate doubles in a neighborhood, the sale price of a house in that neighborhood decreases between eight and ten percent.

Based on the results of a 1990 hedonic land study of metropolitan areas in the U.S., Clark and Cosgrove estimate that when the homicide rate doubles, land prices decline by 12.5%.

Although hedonic housing studies have been conducted for some Latin America cities (Aryeetey-Attoh, 1992); Figueroa and Lever, 1992; Rocha Macedo, 1998; and Stumpf Gonzalez and Torres Formoso, 1997), these studies have not included neighborhood crime rates as a factor determining houses prices.

- ▶ A study of seven developed countries shows that crime costs each citizen an average of \$200 U.S. dollars per year to finance law enforcement services, the courts and prisons; citizens pay an additional \$100 U.S. dollars per year to finance private security (International Centre for the Prevention of Crime, 1998).
- ▶ In Colombia, government expenditures on public security and criminal justice accounted for 5% of the 1996 GDP; private security expenditures represented 1.4% of GDP (CEDE-UNIANDES, 1997: 23-5).² According to a study conducted by the Planning Ministry, the costs of violence between

1991 and 1996 were estimated to be 18.5% of the GNP, including urban violence as well as the armed conflict in rural areas. Loss of lives accounted for the largest percent of that cost with 43% of the total, followed by heavy military expenditures with 30%, security expenditures with 23%, terrorism

2. Counting all law enforcement and criminal justice system expenditures as “direct costs of violence” greatly inflates the figures because some of these expenditures would be made even if there were no violence. Furthermore, the fact that laws are enforced and that the criminal justice system is in place may serve as a deterrent to some crime.

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with 3% and health with 1% (Departamento Nacional de Planeación, 1998).

- ▶ In El Salvador, government expenditures, legal costs, personal injuries and prevention measures represented more than 6% of the 1995 GNP (Cruz and Romano, 1997: 32)
- ▶ In Venezuela, government expenditures on public security were approximately 2.6% of the 1995 GNP (IESA, 1997: 25-7).
- ▶ In Chile, private outlays for security reached nearly 238 million dollars in 1994, equivalent to a per capita outlay of 17 dollars. These expenditures can be divided into the following categories: private security services (66.8%), theft insurance (7.7%) and other security products (14.4%) (PNUD, 1998).

The statistics from Mexico and Peru are not strictly comparable to those presented above, since they refer only to Mexico City and Lima, and not to the countries as a whole.

- ▶ In Mexico City a total of 181 million dollars were spent in 1995 on public and private security measures (Fundación Mexicana de la Salud, 1997); administration of justice and prisons accounted for another 128 and 690 million dollars respectively.
- ▶ In Lima, public expenditures by the national government on policing, courts and prisons were approximately 1% of the 1997 gross regional product of the metropolitan area of Lima, while private outlays for security measures during the same year accounted for another 0.41% percent of the gross regional product (Instituto Apoyo, 1997: 26-8).

Non Monetary Costs

Non monetary costs include health-related impacts that do not necessarily entail provision of healthcare services, such as higher morbidity and mortality rates due to homicides and suicides, alcohol and drug abuse and depression.

- ▶ It is estimated that a total of 9 million years of disability adjusted life years (DALY) are lost each year worldwide as a result of rape and domestic violence. This figure is larger than that from all known types of cancer and more than two times the total of DALYs lost by women in motor vehicle accidents (World Bank, 1993).³

- ▶ Violence against women was found to be the third most important cause of lost DALYs in Mexico City, behind diabetes and perinatal conditions, but ahead of vehicular accidents, congenital anomalies, rheumatoid arthritis, osteo-arthritis, cardiovascular disease, vascular brain disease and pneumonia (Lozano, 1999).
- ▶ Domestic violence has a significant impact on the welfare of children. Several studies document the relationship between child abuse and subsequent problems of substance use on the part of the victim.
- ▶ In El Salvador 178,000 DALYs were lost in 1995 due to violent deaths (Cruz and Romano, 1997: 30). In Peru, the number was 60,792 (Instituto Apoyo, 1997:16); 163,136 in Rio de Janeiro (ISER, 1998: 42) and 57,673 in Mexico City (Fundación Mexicana para la Salud, 1997: 14). In Caracas, disability did not figure into the calculation (death only); even so, it was estimated that 56,032 potential years of healthy life were lost in 1995 as a result of homicide (IESA, 1997: 31).
- ▶ In Colombia, between 18% and 27% of all DALYs lost during the period of 1989-1995 were caused by homicide, whereas the world average during the same period was only 1.4% (DEDE-UNIANDES, 1997: 12-16).
- ▶ Violence causes several different types of psychological damage which are similar to the effects of living in a war zone (Cardia, 1998).

Economic Multiplier Effects

Violence generates a number of significant multiplier effects on the economy such as lower accumulation of human capital, a lower rate of participation in the labor market, lower on-the-job productivity, higher rates of absenteeism from work, lower incomes and an impact on the future productivity of children, as well as—at the macroeconomic level—lower rates of savings and investment.

There is evidence that women who are victims of domestic violence have higher absenteeism rates from work and are more likely to be terminated or quit their job.

3. DALY do not only include years lost due to premature mortality, but also the years that a person is affected by disability or illness.

- ▶ In Managua, Nicaragua, women who were subjected to severe physical domestic violence earn only 57% of what their non-abused peers earn. At the national level, these losses represented approximately 1.6% of the 1996 gross domestic product (Morrison and Orlando, 1999).
- ▶ In Santiago, Chile, women who were victims of severe physical domestic violence earn only 39% of what non-abused women do. In Chile, this loss of income represented 2% of 1996 Chilean gross domestic product (Morrison and Orlando, 1999).

The last type of economic multiplier effect of domestic violence is the inter-generational impact it can have on the economic future of children. Children who are victims or witnesses of domestic abuse are more likely to have disciplinary problems in school and repeat a year of school. In Chile, children who stated that they had been seriously abused performed considerably poorer in school than did children who reported never being victims of physical abuse (Larrain et al, 1997).

Social violence also has important economic multiplier effects. According to studies conducted by Fundación Paz Ciudadana in Chile, uncertainty generated by violence has led to lower rates of investment and production; a failure to implement economically efficient programs; less effective economic policies; higher formal and informal unemployment rates; and higher poverty rates (Fundación Paz Ciudadana, 1999).

The IDB sponsored seven studies on the economic impact of violence in six countries of the region (Brazil, Colombia, El Salvador, Mexico, Peru and Venezuela).

These studies classify the costs of violence into four categories (see Table 2):

- ▶ Impact on health—expenditures on services required as a result of violence;
- ▶ Material losses—public and private expenditures on police, security systems and judicial services;
- ▶ Intangible losses—amount of money that citizens would be willing to pay to live free of violence;
- ▶ Losses from transfers of assets—value of assets lost in robberies, ransoms paid to kidnappers and bribes paid as a result of extortion.

Unfortunately, these cost categories are not mutually exclusive (for example, willingness of citizens to pay to live in a safe neighborhood can also include the value of a lesser impact of violence on health), nor are they complete (for example, they do not explicitly include the cost of lower savings and investment).

Social Multiplier Effects

Social effects include intergenerational transmission of violence, privatization of police functions, erosion of social capital, poorer quality of life and lower participation in democratic processes.

- ▶ In the United States, the spousal abuse rate was ten times higher among men who had a violent childhood than among those who had not (Strauss, et al 1980).

Table 2.
Economic Costs of Social Violence in Six Latin American Countries
(expressed as a percentage of GDP in 1997)

	Brasil	Colombia	El Salvador	México	Perú	Venezuela
Losses in health	1,9	5,0	4,3	1,3	1,5	0,3
Material losses	3,6	8,4	5,1	4,9	2,0	9,0
Intangible losses	3,4	6,9	11,5	3,3	1,0	2,2
Losses from transfers of assets	1,6	4,4	4,0	2,8	0,6	0,3

Source: Juan Luis Londoño. 1998. *Epidemiología económica de la violencia urbana*. Mimeo

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An important factor is whether people perceive investment in human capital as a good investment. If young people do not believe that receiving a good education will open the doors to a better life for them, many will opt for other paths that are detrimental to society.

Recently a group of young people between the ages of 18 and 24 in Colombia were asked (see Cuellar de Martinez, 1997),

Who do you believe is doing well in Colombia?

The responses were not very encouraging:

Politicians	41%	People with connections	15%
Rich people	25%	Lucky individuals	14%
Crafty people (opportunist)	18%	Industrious individuals	13%
Dishonest people	17%	People who study	13%

- Studies conducted in the U.S. and Canada confirm that children exposed to domestic violence regard violence as an acceptable and useful means of conflict resolution (Jaffe, Wilson and Wolfe, 1989) and run a higher risk of being victims and perpetrators of violence (Dahlberg, 1998; Thornberry, Huizinga and Loeber, 1995).
- The harmful effect of violence on children is not only that violent behavior will be reproduced during adulthood, but also that children who are victims or witnesses of abuse are more likely to have behavioral problems during childhood (Larrain et al, 1997).
- Privatization of law enforcement functions has become widespread. In Guatemala, for example, nearly 200 private security companies are in operation, with a total number of 11,000 officers employed; this figure was equal to the number of officers employed by the National Police at the end of 1996 (ONU, 1998).

Erosion of social capital as a consequence of the isolation to which victims of domestic violence are subjected is particularly important. Often domestic violence is of an instrumental nature; in other words, the man uses domestic violence as a means to obtain an end, in this case, control over a woman and her contacts with the world outside the home. This simultaneously reduces the quality of the woman life and her ability to participate in activities outside the home, including the ability to have her own income and be part of community life.

Social violence also has important effects on social capital. Moser and Holland (1997) noted that violence at the community level in Jamaica generates wide-

spread fear and damages norms of cooperation and communication which, in turn, destroys social capital.

A crucial impact of social violence is the intergenerational transmission of violence. If adults, the media and society in general teach children and youth that violence is a quick way to accumulate wealth, then it should come as no surprise when young people, especially males, adopt violent behavior.

Structural violence in which police forces or paramilitary groups become agents of violence perpetrated against specific groups (especially street children), undermines democracy and breeds more violence.

In sum, violence is becoming the greatest threat to fundamental liberties, respect for the law, and democratic consolidation (Fruhling, 1995; Instituto de Defensa Legal, 1996; Gregori, 1997)

For More Information

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Morrison, Andrew and Loreto Biehl (eds.). 1999. *Too Close to Home: Domestic Violence in the Americas*. Washington, D.C.: Inter-American Development Bank. [See Web page of the IDB Publications Section for more information on the book: www.iadb.org/exr/publ]

Studies on the costs of violence for Brazil, Colombia, El Salvador, Mexico, Peru and Venezuela are available on the Web Page of the IDB's Research Department: <http://www.iadb.org/oce/44i.cfm>

For more information on hedonic housing and contingent valuation techniques, see:

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