Cost of Crime in Canada
2014 Report

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Summary

In 1998, Canada spent over $42.4 billion on crime of which $15.5 billion was associated with what we think of as the direct cost of crime and the remainder associated with the less easily measured consequences for the victims. Current more detailed estimates reveal that Canadians spend over $85 billion being victimized by, catching, and punishing crime. Victims' losses through criminal acts committed against them amount to over $47 billion and constitute more than half of the total. While the crime rate has been falling since the early 1990s, our current measure of cost of crime is more detailed than previous estimates. Although over 5% of our national product, these estimates continue to be underestimates. Our discussion highlights the costs associated with crime and the limitations that we still face in providing an adequate costing.

In addition to our better understanding of the losses resulting from crime, a paradox associated with the decline in the crime rate has been that in many dimensions our measure of the *cost* of crime has *risen*, not fallen. We will argue that, at the same time as crime is declining, the cost of dealing with crime by the police, the courts, and the prisons has become greater. At least part of the reason for this increase in costs has been the requirements of the justice system itself. To safeguard the rights of Canadians, the Supreme Court of Canada has imposed a set of evolving requirements on the police and prosecution that make it manifestly more expensive to capture and prosecute. Not to put too fine a point on it, the cost per conviction has risen sharply as a result of Court reinterpretation of police and prosecutorial practices even without changes by Parliament to the law. This is not to argue that the courts should not impose these requirements. It is, however, important to understand their consequences and, of course, there are other contributors to the increasing costs.

Over the decade from 2002 to 2012 the crime rate has fallen by roughly 27%: from 7,700 to 5,600 crimes per 100,000 of the population. Nonetheless the cost of dealing with crime by the justice system has risen by 35%. The greatest increases have been in policing (44%) followed by corrections at (33%). One of the puzzles has been that the incarceration rate has changed little since 1978 while the crime rate fluctuated from a 1991 peak of over 10,000 per 100,000 to 5,600 today.

Our measure of the cost of crime has many gaps. Canadian data do not permit an annual assessment of the cost of crime at this time. We have provided or developed annual measures for different components of crime, including the cost of the justice system and the cost of pain and suffering associated with the crimes that we measure. However, there are still no annual assessments of the costs of private security, business losses, medical costs, foregone productivity costs, and a number of other contributors to the overall cost of crime. Our final table provides a template that we hope will encourage governments and researchers to fill in the gaps in what we know.

Introduction

Since we wrote our first reports on the cost of crime in 1996 (Brantingham and Easton, 1996, 1998), there have been many new estimates for Canada and for other countries.[1] In 1998, Canada by our estimate spent over $42.4 billion on crime, of which $15.5 billion was associated with what we think of as the direct cost of crime and the remainder associated with the less easily measured consequences for the victims. Today,[2] with more detailed estimates we find that Canadians spend over $85 billion being victimized by, catching, and punishing crime. Victims' losses through criminal acts committed against them amount to over $47 billion and constitute more than half of the total. While the crime rate has been falling since the early 1990s, our current measure of cost of crime is more detailed than previous estimates. It reveals that the cost of crime in Canada is over 5% of our national product. These estimates continue to be underestimates.[3] Our discussion highlights the costs associated with crime and the limitations that we still face in providing an adequate costing.

In addition to our better understanding of the losses resulting from crime, a paradox associated with the decline in the crime rate has been that in many dimensions our measure of the *cost* of crime has *risen*, not fallen. We will argue that at the same time as crime is declining, the cost of dealing with crime by the police, the courts, and the prisons has become greater. At least part of the reason for this increase in costs has been the requirements of the justice system itself. To safeguard the rights of Canadians, the Supreme Court of Canada has imposed a set of evolving requirements on the police and prosecution that make it manifestly more expensive to capture and prosecute. Not to put too fine a point on it, the cost per conviction has risen sharply as a result of the Court's reinterpretation of police and prosecutorial practices even without changes

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1. There are now cost estimates for many countries including the United States, the United Kingdom, Australia, and the Netherlands to mention some of the more systematic estimates.

2. We look at costs in several years—the figures cited are for 2009—for which we have the most extensive data (table 37). The final table (table 38) looks at the years 2002 to 2012, albeit with less complete coverage.

3. Although we look at most major violent crimes, we do not price all crimes. Notably, in this edition we do not price identity theft or crimes relating to organized crime explicitly although some of this may be picked up in other categories. Organized crime is a serious omission and one that is increasingly coming to public attention. Crimes related to social media such as Facebook or Twitter are also not part of our discussion in this edition.

by Parliament to the law. This is not to argue that the courts should not impose these requirements. It is however important to understand their consequences, and of course there are other contributors to the increasing costs.

The cost of crime

Our approach to estimating Canada's cost of crime places an emphasis on the victims of crime that is much greater than in our earlier work. We see the cost of crime as having two distinct components: the cost to the victim of criminal acts; and the cost to taxpayers of denouncing, punishing, and preventing criminal acts. However, the need for punishment and prevention (including deterrence and re-education) flows from the damage that bad acts cause. Consequently, the decision to spend resources on prevention, denunciation, incapacitation, and re-education is ultimately a result of the perceived harm to the victim. It is this causal asymmetry that leads us to focus more intently than in previous editions on the kinds of harm that criminal activity generates. While it is *comparatively* easy to count the monetary cost of the police, the courts, and the jails, without fully appreciating the cost to the victims, we will never be able to allocate anti-crime resources sensibly. Our assessment of the cost of crime to the victims gives weight to the case for prevention and punishment and helps to establish how much we are willing to spend to enforce the criminal law.[4]

Although we would all like to live in a society free of crime, the outcome of any crime-fighting agenda is a balance of the benefits of prevention and punishment with their costs. Neither the public nor private purse is unlimited. We will never be able to eradicate all crime. It is simply too expensive an undertaking. We can, however, sensibly ask whether we are spending too little or too much. To do so we need to understand the full cost of crime to the victim.

There are five sections in this paper. The first establishes the context of Canadian crime to recognize some of the most common and important crimes as well as their trends. The second examines what we consider to be the most important part of the analysis: a deeper discussion of the costs of crime to the victims of crime. Third, we characterize the offenders about whom we have at least some information. Fourth, we assess the cost of the primary mechanisms we have for dealing with crime: the police, the courts, and the consequences—including prison and lesser punishments—and finally we sum up and conclude with some remarks about what we hope to see in the future for developing and understanding the cost of crime in Canada.

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4.   A thorough discussion of the philosophies underlying punishment can be found in Czabanski, 2008.

1. The Context of Crime

Three ways to consider Canada's crime experience include a comparison with other countries, the pattern of Canadian crime over the past 50 years, and a description of the current distribution of criminal activity in Canada.

Crime across the world gives a perspective on Canadian crime

The United Nations Office on Drugs and Crime (UNODC) compiles international crime statistics that are the most recent data available for a large number of countries (UNODC2, 2013). Two of the crimes that are measured relatively consistently across countries are theft and homicide. To standardize for the size of the population, the data are reported as rates: crimes per 100,000 of the population.

In **Figure 1** we display data drawn from the United Nations to rank theft rates for 104 nations; results for the "top 50" are illustrated in descending order. Eight of the 10 nations with the highest rates of theft are first-world nations (UNODC2, 2013), and five of the world's largest economies[5] are among the top 20. Theft rates range from a high of Sweden's 4,256 (per 100,000), which is nearly eight times more than Chile's[6] 537.5 (UNODC2, 2013). Canada placed nineteenth in the sample with 1,710.5 thefts per 100,000 of population (UNODC2, 2013). To put these figures into some kind of perspective, an "average" Swede would expect to have only a 5% chance of *not* being victimized by theft over a 70-year lifetime while the average Canadian would have a 30% chance of living a life without reporting a theft (UNODC2, 2013).

Broadly speaking, rich countries tend to have more theft than poorer countries, while poorer countries tend to have more homicides (UNODC1, 2013) than rich countries. These associations between per-capita income and crime are consistent with our

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5. The United States, the United Kingdom, France, Germany, Italy, and Canada.

6. The original UNODC2 (2013) dataset included figures from two sources for Chile from: Direccion General de Carabineros and Departamento de Estadisticas Policiales Policia de Investigaciones de Chile. The second source is included in figure 1.

Figure 1: The fifty countries with highest rates of theft, 2012
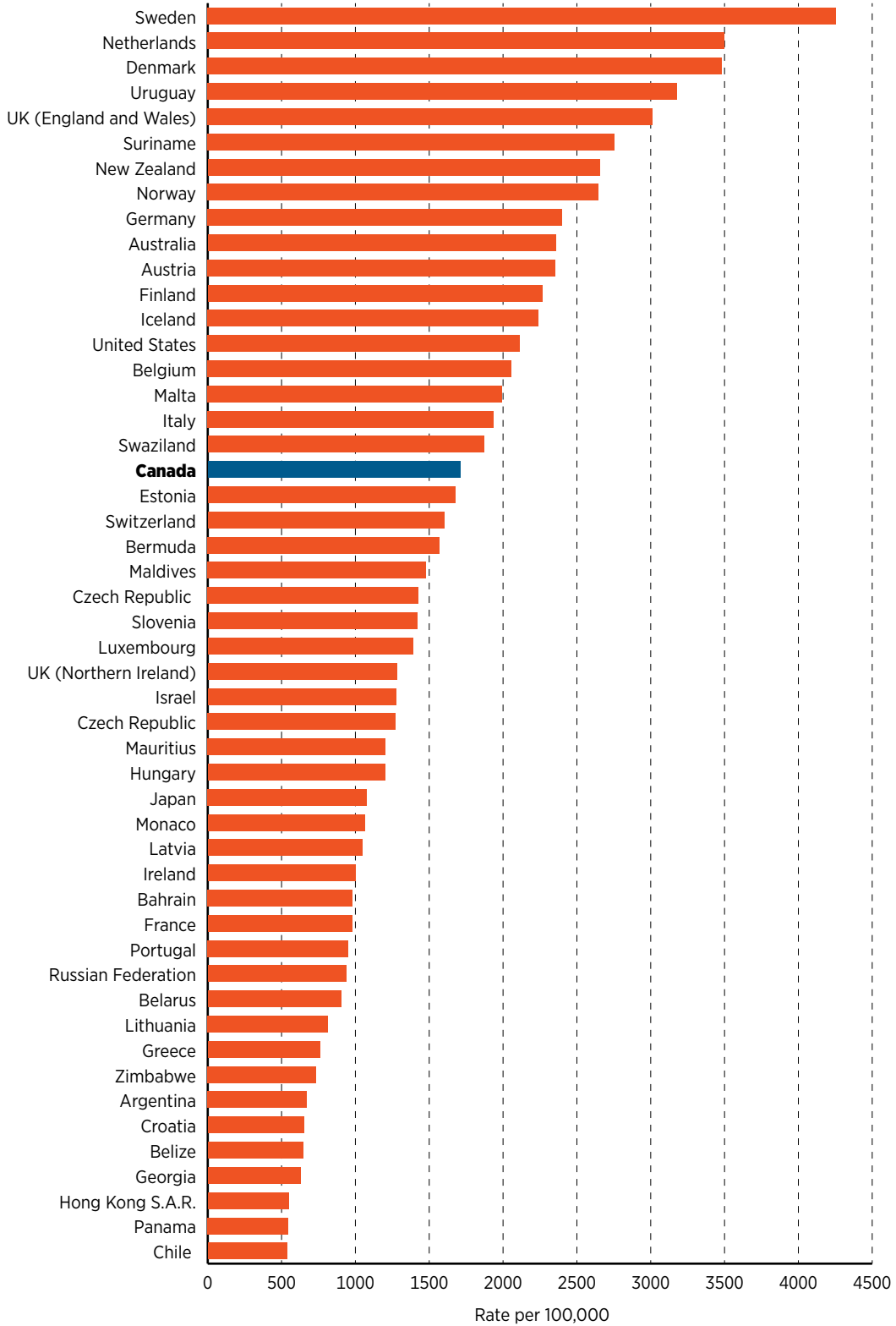
Sources: United Nations Office on Drugs and Crime[2], 2013.

analysis of 15 years ago (Brantingham and Easton, 1996, 1998). In **Figure 2**, the straight line represents the best fit of the relationship between per-capita income and theft (per 100,000 of population).[7]

Figure 2: Relationship between per-capita income and theft, various countries, 2012
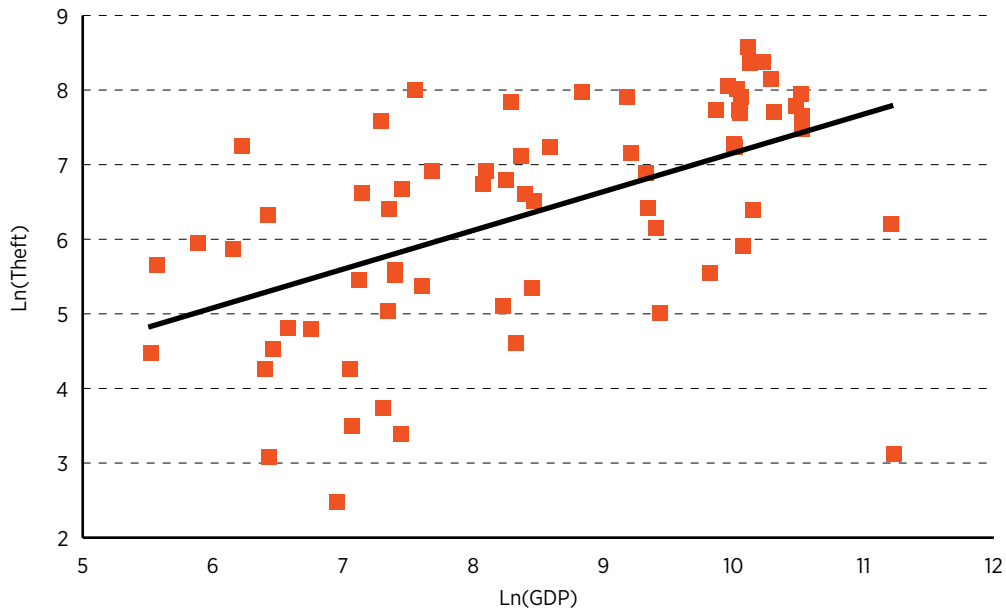
Sources: United Nations Office on Drugs and Crime[2], 2013; World Bank, 2013.

In **Figure 3** homicide rates for the "top" 50 countries are ranked. The differences are striking: no first-world nation is listed amongst the top 30. El Salvador, with 66 homi-cides per 100,000, ranked first; Armenia (2.7 per 100,000) was positioned fiftieth. The United States ranked number 31 with a rate of 5 per 100,000 and is the only first-world nation that placed in the top 50. However, extending the range to the top 60 countries would have positioned Canada alongside Jordan and Romania at number 58. Each has a homicide rate of 1.8 per 100,000 (UNODC1, 2013).

The relationship between homicide and per-capita income suggests that on average as we look across countries, as income rises by 10%, the homicide rate falls by about 3%. **Figure 4** displays the scatter plot of the relationship and the line of best fit. As with theft rates, there is clearly a lot of variation around the line of best fit suggesting that things other than income are important in determining the homicide rate.

**7.** Both for theft and homicide the relationship is fitted to the natural logarithms of theft rates and per-capita income. This means that a 10% increase in the level of income is associated on average with a 5% increase in the rate of theft.

Figure 3: The fifty countries with highest rates of homicide, 2012
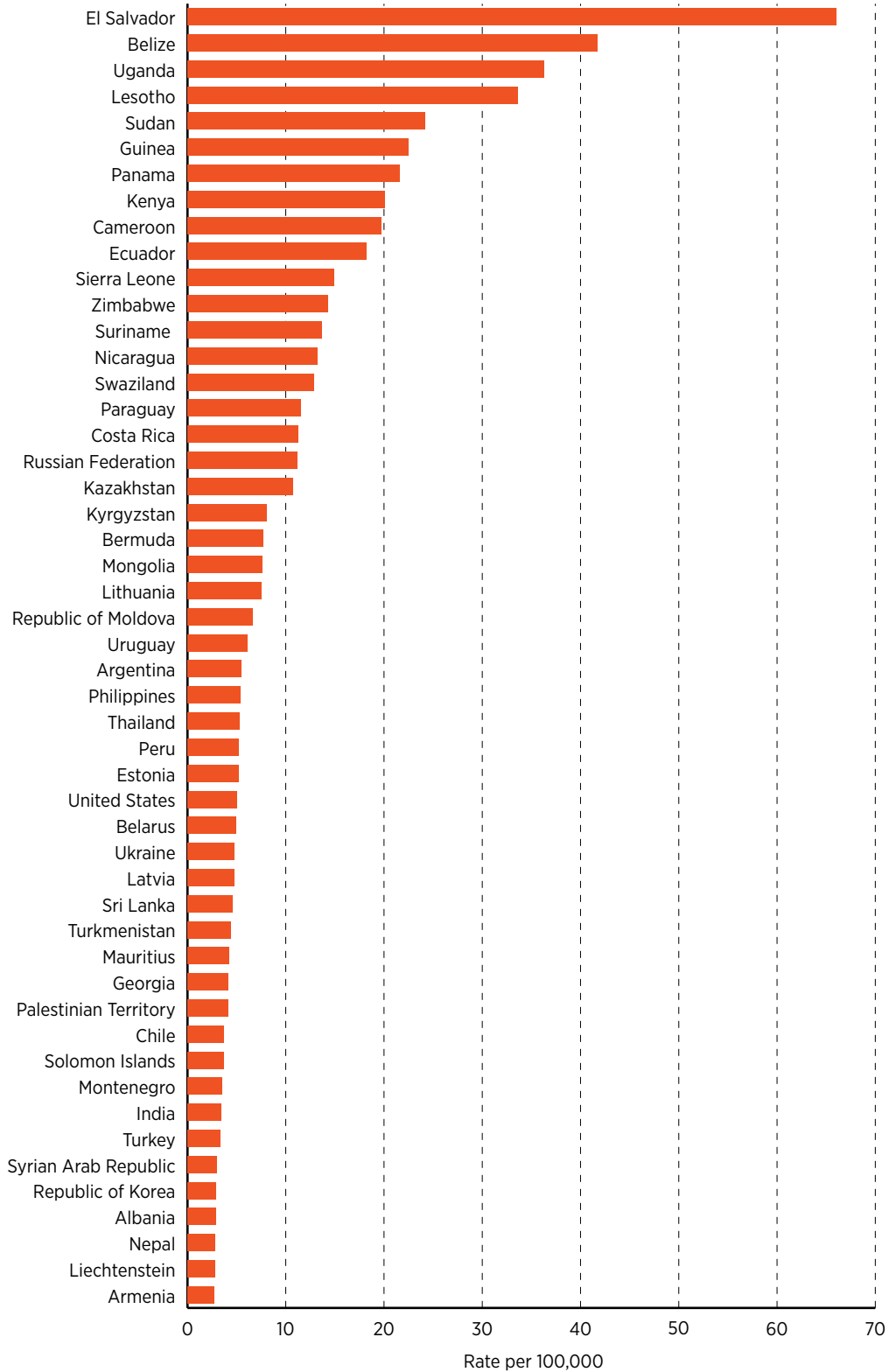
Sources: United Nations Office on Drugs and Crime[1], 2013.

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Figure 4: Relationship between per-capita income and homicide, various countries, 2012
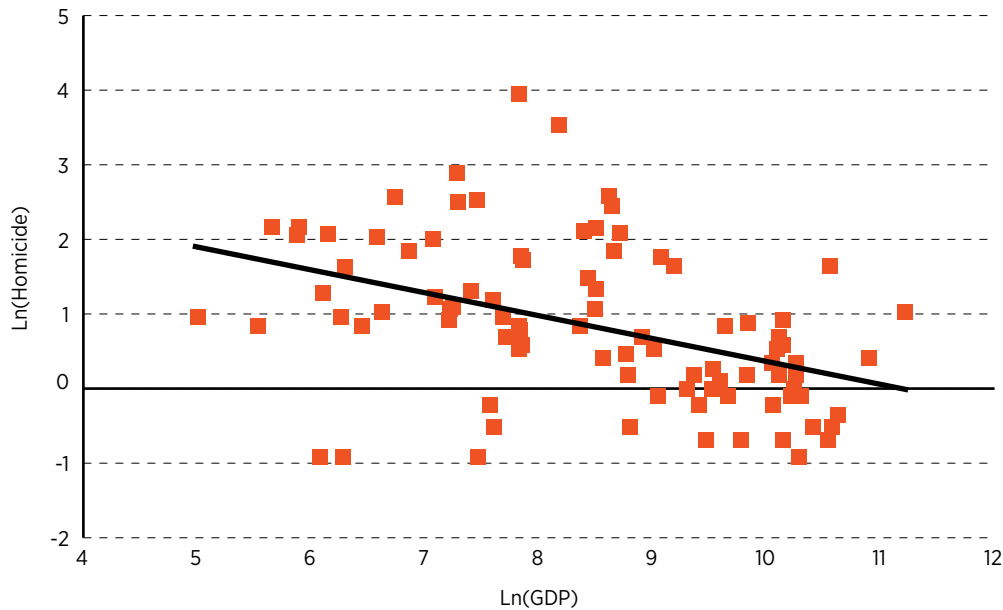
Sources: United Nations Office on Drugs and Crime[2], 2013; World Bank, 2013.

Canada fits well into the rich country model of crime with *relatively* low violence and *relatively* high property crime (UNODC1, 2013; UNODC2, 2013). Happily, we have a falling crime rate for both property and violent crimes. As will become clear below, however, they are not falling at the same pace.

Canada—a century of crime

While we may be interested in where we stand in the world panoply of criminal activity, it is undoubtedly the case that we have a far greater interest in the activities in our own back yard. Who is it that is victimized by crime in Canada? For Canadians, there are two primary sources of information to answer this fundamental question. The first source is the number of *crimes known to the police* (Statistics Canada[15], 2013). These figures reflect what police receive as complaints and are collected annually. The second source is the victimization edition (*Canadian Victimization Survey*) of the Statistics Canada General Social Survey (GSS), which is collected at five-year intervals (Statistics Canada, 2011b). While in 2009 there were nearly 2.3 million crimes known to the police,[8] where they overlap the social survey reports a far higher rate of victimization: for the select number of crimes included in the survey, there were as many as 7.2 million

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8.   There were over 2.2 million crimes if we exclude those related to traffic.

victimization incidents estimated by Statistics Canada (Dauvergne and Turner, 2010; GSS, 2011).[9] The five-year period between surveys limits the utility of the Canadian Victimization Survey as a measure of crime, especially in comparison to annual surveys conducted in Britain, the United States, and other developed countries. A third characterization of crime that draws on the data from the crimes known to the police is the "Severity Index" and is discussed below.

The long view of Canadian crime

Had you looked at Canadian crime rates since 1886, the pattern would have been one of ebbs and flows in a generally upward direction to a sharp peak in 1991. **Figure 5** displays a measure of crime from 1886 to the present (estimated crime per 100,000 of the population). The early numbers are estimates of the crime rate since data used to measure crime prior to 1962 are not directly comparable to what has been used since 1962. Prior to 1962, the crime rate was measured by the number of convictions.[10] Since 1962, the crime rate has been measured (most commonly) through the uniform crime reporting system by the number of *crimes known to the police*.

Looking at figure 5, the most striking characteristic is what we discuss later as the crime rate "mountain". From the 1960s to 1991, the crime rate increased nearly threefold. Since 1991, the crime rate has fallen dramatically to the present day.

Figure 5: Estimated Canadian crime rate, 1886–2012
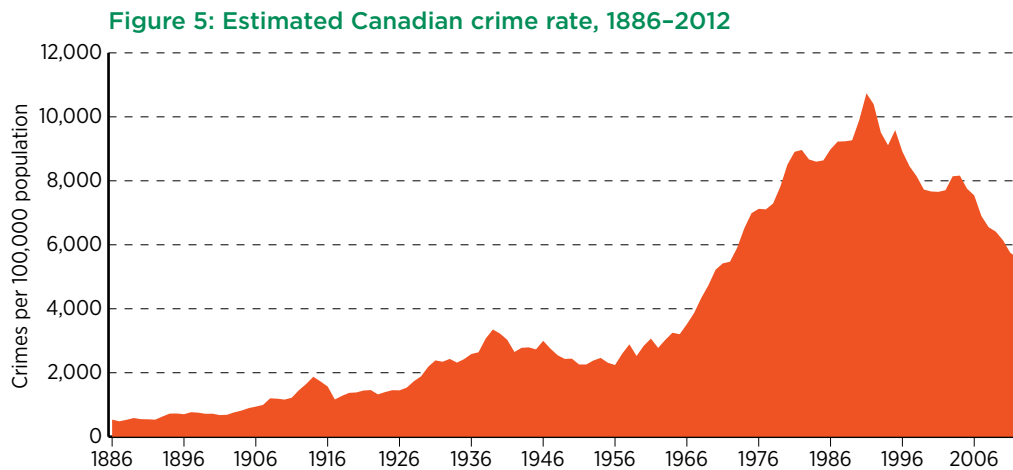
Sources: Statistics Canada, 1983: series Z66-78 covering convictions for indictable offences 1886-1970; Statistics Canada[10], 2013; Statistics Canada[11], 2013; Brantingham, 2012.

9.   Part of the difference between the measures of crime is that what is a crime to the survey respondent may not be a crime in the eyes of the police and vice versa.

10.   Prior to 1962, there had been a variety of attempts by the Dominion Bureau of Statistics to collect police statistics. A variety of definitional and reporting problems and changes over time finally led to development of the uniform crime reporting system with standardized definitions and reporting rules.

The remarkable fall in the Canadian *crime rate* (the number of crimes known to the police per 100,000 of population) in the past three decades is without precedent in Canadian history. During the first 30 years in which crimes were measured by crimes known to the police, the measured crime rate grew by 273% from 2,771 in 1962 to 10,342 in 1991. Violent offences increased even faster peaking at 380% higher than in 1962[11] while property crimes, the category that constitutes the greatest number of crimes, increased by a "paltry" 238% (Statistics Canada, 2001).

To review the behaviour of some of the more significant components of Canadian crime, we begin by looking at the overall rates of property and violent crime using the definition of those crimes that are *known to the police*. This approach covers more categories of crimes than the GSS and has been collected on an annual basis since 1962 (albeit with various changes in definitions and coverage).

The top of the crime rate mountain

After Canada began to measure the crime rate through the uniform crime reporting system in 1962, measures of the crime rate had increased nearly fourfold by 1991. Since 1991 (although different categories of crimes peak a year or so on either side of this date), the fall in crime has been remarkable and unprecedented.

The total crime rate has fallen from a peak of more than 10,000 to fewer than 6,000 (crimes per 100,000) by 2012, a decline of 46%. As explained in detail below, because of a change in which categories are included in violent and property crimes, we have to describe the fall in crime in two stages: the decline from 1991 to 2007, and the decline from 2007 to 2012. While awkward, the patterns are unmistakable. The property crime rate has declined by 48% and 24% in the two periods. However, violent crime and other offences have fallen by only 15% and 12% in each period (Statistics Canada[1], 2013; Statistics Canada[2], 2011). These changes and the average annual rates of change are displayed in table 1.

Figure 6 displays the mountains of crime for property crime and figure 7, for violent offences. Property and violent crime rates as defined by the Uniform Crime Reports system (UCR1) in place in Canada from 1962 to 2007 are displayed along with the property and violent crime rates obtained using the National Criminal Incident Reporting system (UCR2), which replaced the original system nationally in 2008. The modifications involved movement of crime types between aggregate categories as well as the addition

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11. "Other crimes" increased much as violent crime.

Table 1: Up and down the mountain of Canada's crime, 1962–2007 (rates per 100,000 pop.)

Year	Total	Violent	Property	Other criminal code
1962	2,771	221	1,891	659
1991	10,342	1,099	6,395	3,122
2007	6,984	931	3,325	2,734
1991–2007 total change (%)	−32%	−15%	−48%	−12%
Average annual change (%)	−2%	−1%	−3%	−1%

New definitions				
2007	6,898	1,352	4,519	1,028
2012	5,588	1,190	3,414	984
2007–2012 total change (%)	−19%	−12%	−24%	−4%
Average annual change (%)	−3%	−2%	−4%	−1%

Sources: Statistics Canada[1], 2009; Statistics Canada[11], 2014

Figure 6: Trends (UCR1, UCR2 definitions) in property offences, 1962–2012
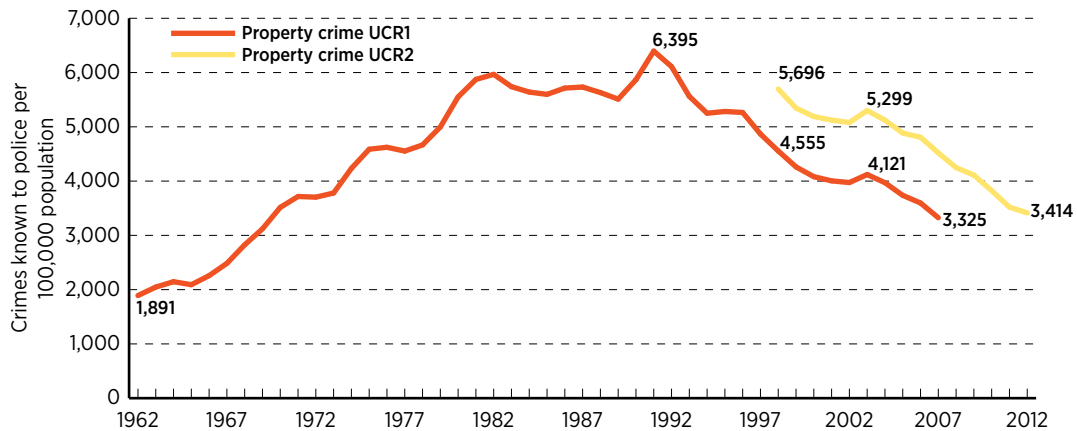
Sources: Statistics Canada[10], 2013); Statistics Canada[11], 2013.

of some new offences, particularly in the category of violent crime. The Canadian Centre for Justice Statistics provided estimated UCR2 crime rates for the years 1999 through 2007 (Statistics Canada[11], 2014) to illustrate how the redefinitions resulted in apparent changes in the levels of crime experienced by Canadians. These are added in the figures.

Comparing figure 5 and figure 6, notice that the fall in the violent crime rate has not been nearly as dramatic as the fall associated with property crime.[12] Thus, while property crime has returned to the levels associated with the early 1970s, violent crime has

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12. "Other" crime has fallen roughly in parallel with violent crime.

Figure 7: Trends (UCR1, UCR2 definitions) in violent offences, 1962–2012
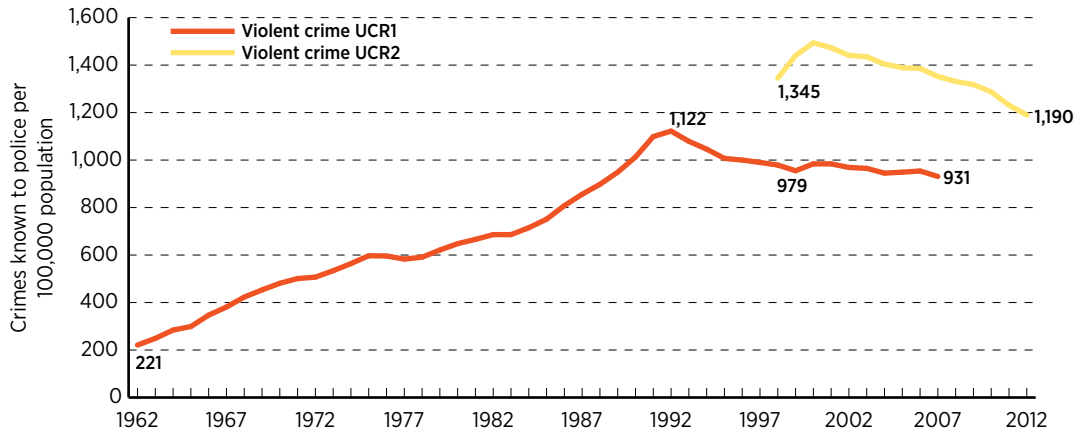
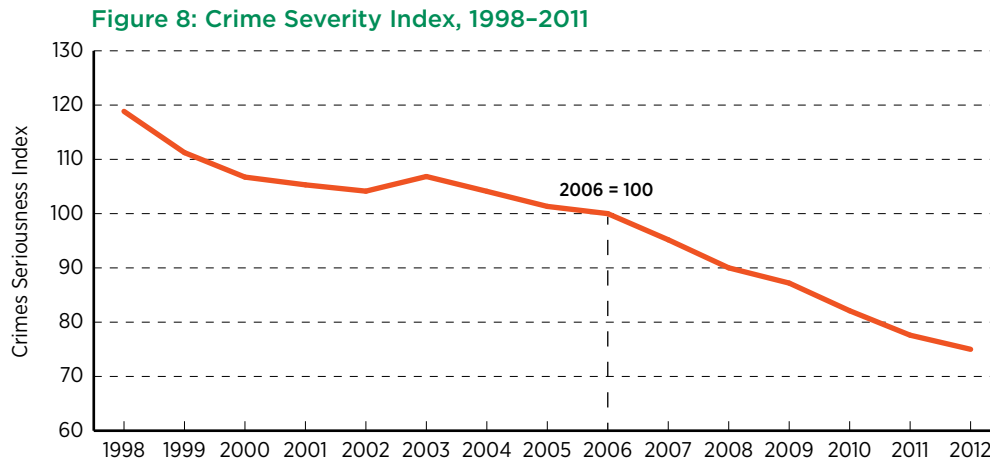Sources: Statistics Canada[10], 2013); Statistics Canada[11], 2013).

fallen only 15% and remains at levels more readily associated with the peak of violence in the late 1980s (Statistics Canada[1], 2014). Thus, Canadians are being exposed to relatively more violent crime than in earlier years. However, the raw rates are not the only way to measure crime.

The Crime Severity Index—the happy decline

In recent years the Canadian Centre for Justice Statistics (CCJS) at Statistics Canada has developed a new measure of crime called the Crime Severity Index (CSI) that is displayed in **figure 8**. The CSI is a weighted index that is used to take into account the gravity or seriousness of the set of crimes occurring in a particular place during a particular year (Statistics Canada[12], 2012). In traditional crime statistics, all crimes are treated similarly so that a murder is given no more weight than a car theft or possession of marihuana. In the CSI, crimes are given different weights based on the *average imprisonment terms* (measured in days in sentenced custody) given persons convicted of those specific crimes by Canadian judges (Statistics Canada[12], 2012). So a murder is valued at a seriousness weight of 7,042 (20 years), a car theft is valued at a seriousness weight of 88, and possession of cannabis is valued at a seriousness weight of 6.7.[13] Specific weights are assigned to every crime occurring in a jurisdiction for a given year, then divided by that jurisdiction's population to produce a weighted crime rate. The weighted crime rate is then indexed to the Canadian aggregate weighted crime rate in the year 2006 (2006 = 100) (Statistics Canada[12], 2012). CCJS has calculated the CSI values for Canada and the provinces and territories back to 1998. The Canadian CSI dropped by

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13. Note that these are average sentences given by the judge, not the actual days served in custody since felons have parole eligibility after having served one third or two thirds of a custodial sentence depending on the length of the original sentence. Weights were provided by CCJS.

Figure 8: Crime Severity Index, 1998–2011

Source: Statistics Canada[13], 2013.

34% from a value of 119 in 1998 to a value of 75 in 2012 (Statistics Canada[13], 2013). This tells us that not only has the overall number of criminal events declined across Canada in recent years but that the average seriousness of those crimes (measured by the sentences meted out by the courts) has also declined: Canada is a safer place today than it was one or two decades ago.

The distribution of crime—the most common crimes in Canada

While the overall growth rates of crime are important, the distribution of crimes is also important since some crimes are clearly more heinous than others. In 2012, there were 2.2 million crimes known to the police. **Figure 9** displays the distribution according to several broad categories. Of these offences, 53% were recorded property crimes and 19% were characterized as violent. The remaining shares of the incidents that are known to the police are classified as "other criminal code" (15%); "drug offences" (5%); "traffic violations" (6%); and "other federal statute violations" (2%).[14] We can break these classifications into greater detail to give a more nuanced interpretation to the patterns in Canadian crime. We look first at violent crimes and then at property crimes.

Crimes of violence

Violent crimes include, but are not limited to, homicide, attempted murder, varying degrees of assault and sexual assault, and robbery. Some other violent crimes are abduction,

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14. Examples of "traffic violations" and "other federal statute violations" are impaired driving and Youth Criminal Justice Act infractions, respectively.

Figure 9: Distribution of crime, 2012
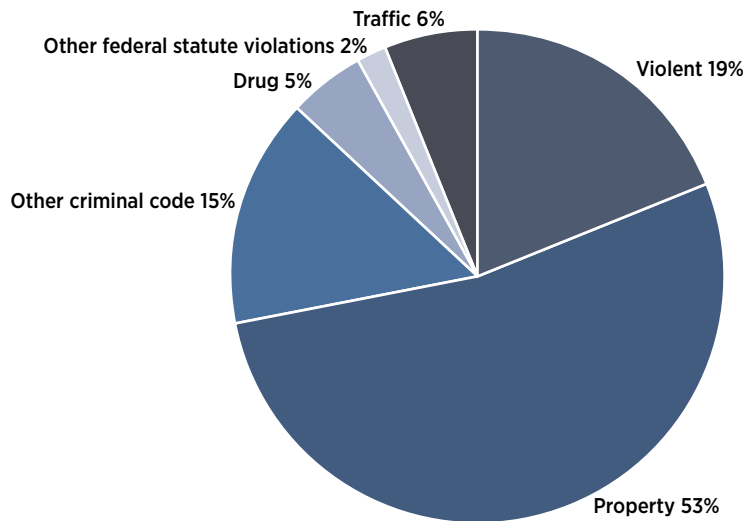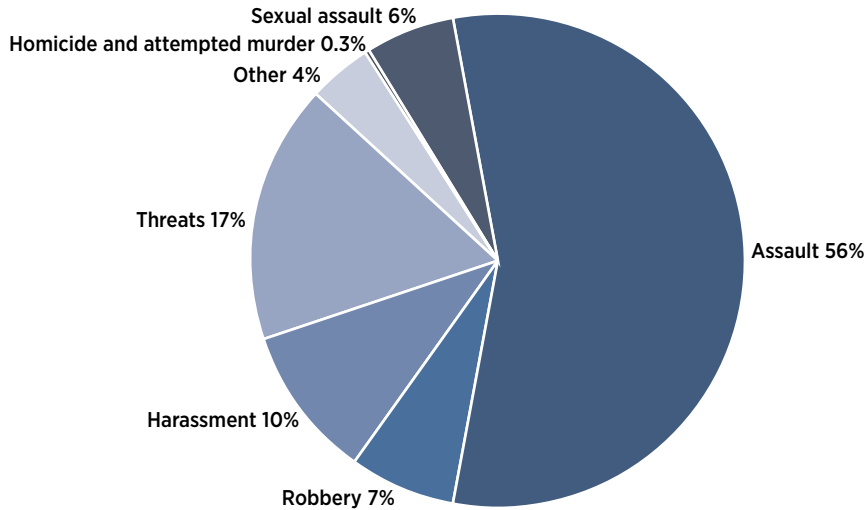

Source: Perrault, 2013: table 6.

extortion, and uttering threats.[15] **Figure 10** breaks out the proportions for homicide and attempted murder, assault, sexual assault, robbery, harassment, and threats. From the figure it is clear that Assaults compose the greatest number of incidents, followed by Threats, Harassment, Robbery and then Sexual Assaults. Although Homicide and Attempted Murder make up less than 1% of all violent crimes, Canadians are rightly concerned with these bad acts and it is important to see how they have developed in the past few years.

1. Homicide and attempted murder

Turning to the most dramatic of crimes, in **figure 11** we plot the *number* of homicides on the left axis and the *rate* per 100,000 on the right axis. Interestingly, while the absolute number of homicides peaked in 1991 at 754, the reality is that the homicide *rate* has been generally declining since 1975 albeit with a blip around 1991. Most of the decline toward today's values occurred between 1991 and 1998. In 2009 there were 610 (1.8 per 100,000) homicides known to police (Beattie and Cotter, 2010). There were 554 homicides in 2010 and 543 homicides in 2012.

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15. The complete list of violent crimes as defined by Statistics Canada include: Homicide; other violations causing death; attempted murder; sexual assault level 3; sexual assault level 2; sexual assault level 1; sexual violations against children; assault level 3; assault level 2; assault level 1; assault of police officer; other assaults; firearms (use of; discharge; pointing); robbery; forcible confinement or kidnapping; abduction; extortion; criminal harassment; uttering threats; threatening or harassing phone calls; and other violent Criminal Code violations (Dauvergne and Turner, 2010). Prior to 2008, extortion, kidnapping, criminal harassment, uttering threats, and firearms offences were all counted in the "criminal code other" category. Other violations causing death and sexual offences against children are newly added offences.

Figure 10: Distribution of violent offences, 2012

Source: Perrault, 2013: table 6.

Figure 11: Number of homicides and homicide rate per 100,000, 1962–2012
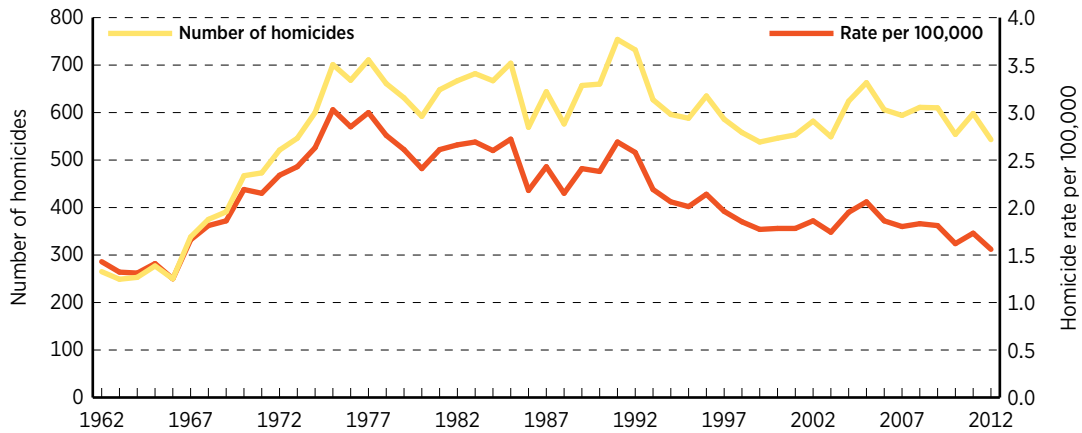
Sources: Statistics Canada[1], 2013: CANSIM Table 252-0001; Statistics Canada[14], 2013: 253-0001; Statistics Canada[11], 2013: Table 252-0051.

In 2009, there were 806 attempted murders (Dauvergne and Turner, 2010). Attempted murders dropped to 668 in 2010 and 655 in 2011 (Brennan, 2012). As is the case of homicides, 1991/92 was the peak period for attempts (with over 1,000). Further, the decline in attempted murders was primarily between 1991 and 2002 when the number fell by 35% (not shown). It is an important question as to whether the fall in the homicide rate reflects a decreasing number of bad acts, or simply an improved standard of

emergency medical care. However, attempted homicide rates have not risen or fallen systematically compared to homicide rates during the past 30 years so the falling homicide rate would appear to be a systematic decline in the number of bad acts.

Figure 12 displays the homicide rate across the Canadian provinces.[16] As is usually the case among the provinces, homicide rates are highest in the Prairie Provinces and lowest in Prince Edward Island and Newfoundland & Labrador. Manitoba and Saskatchewan experienced homicide rates substantially higher than the national figure of 1.6 per 100. Of the remaining provinces, British Columbia was slightly below and Alberta somewhat above with 1.5 and 2.2 homicides per 100,000. Ontario and Quebec remained below the national average (Perrault, 2013).

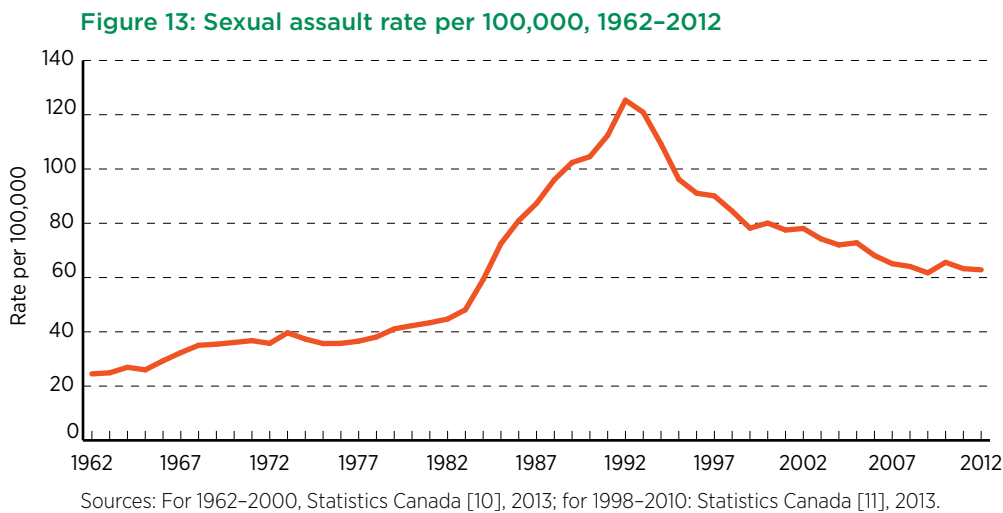**Figure 12: Provincial homicide rates per 100,000, 2012**
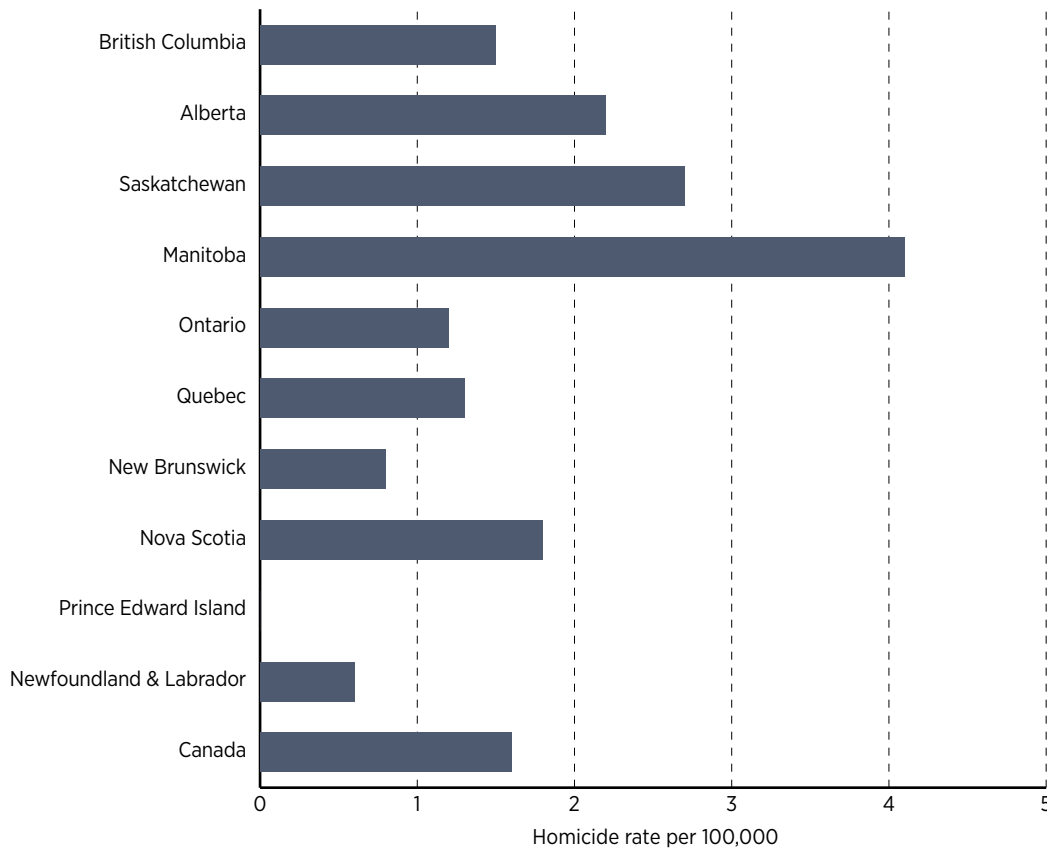
Source: Perrault, 2013: table 7.

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16.   Homicide rates in the Yukon, Northwest Territories and Nunavut are both high and variable since the populations are small. The number of homicides is: Yukon (0), Northwest Territories (5) and Nunavut (5), respectively.

2. Sexual assault[17]

Unlike homicide and attempted murder, sexual assault *rates* in Canada clearly rise to a peak in 1993 and fall thereafter. In 1993 there were 121 reported cases per 100,000 of the population; in 2012 the rate had fallen to under 63. This change represents a decline of nearly 50% from the peak (Statistics Canada[10], 2013; Statistics Canada[11], 2013). **Figure 13** describes the rate of sexual assaults per 100,000 from 1962 to 2012. **Figure 14** breaks these down from 1983 into the three categories: Sexual Assault 1, the least serious, is read off the left-hand axis, while the two most serious assaults, Sexual Assault 2 and 3 (happily relatively few) are read off the right-hand axis.

Figure 13: Sexual assault rate per 100,000, 1962–2012

Sources: For 1962–2000, Statistics Canada [10], 2013; for 1998–2010: Statistics Canada [11], 2013.

To illustrate the magnitude of the differences among sexual assaults, in 2012 there were 21,422 level 1 assaults; 369 level 2 assaults; and 130 level 3 sexual assault offences known to the police. These led to the incident *rates* (pictured in figure 14) for sexual assault 1 (measured on the left vertical axis), 2, and 3 (on the right vertical axis) in 2012 as roughly 61, 1.1, and 0.4 per 100,000 of population (Statistics Canada[10], 2013; Statistics Canada[11], 2013).

3. Assault

Like sexual assaults there are three important categories of common assaults: Assault 1, Assault 2 (with a weapon or bodily harm), and Assault 3 (aggravated). In 2012, 76% of

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17.   In Canada, sexual assaults are currently separated into three major crime classifications: sexual assault 1, sexual assault 2 (with a weapon or bodily harm), and sexual assault 3 (aggravated). Over 95% of all sexual assaults can be classified as sexual assault 1. From 1962 until 1982 the categories were indecent assault and rape.

Figure 14: Sexual assaults, levels 1, 2, and 3, rates per 100,000, 1983–2012
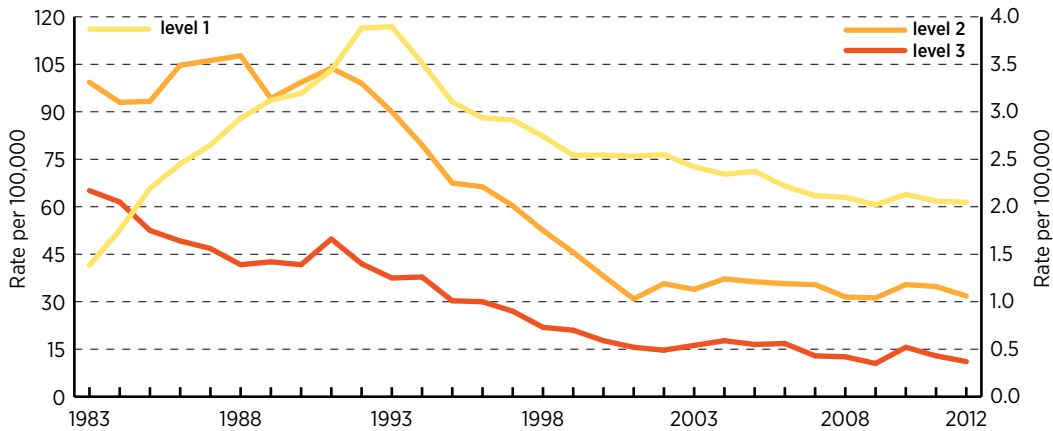
Sources: Statistics Canada[10], 2013; Statistics Canada[11], 2013.

reported assaults were assault level 1 (Statistics Canada[10], 2013). Since 1983, the ratio of level one to all assaults has fluctuated between 75% and 80% (Statistics Canada[15], 2013). These common assaults make up the largest component of violent crimes.

There were 226,000 reported assaults in 2012, about 660 per 100,000 (Statistics Canada[10], 2013). Of the five major subcategories of violent offences, assault rates have declined the least quickly from their peak around 1991. The most serious, level-3 assaults (read along the right-hand axis in **figure 15**), have fallen the most although they have been rising since 2004.

Figure 15: Assaults, common (1), serious (2), and aggravated (3), 1983–2012
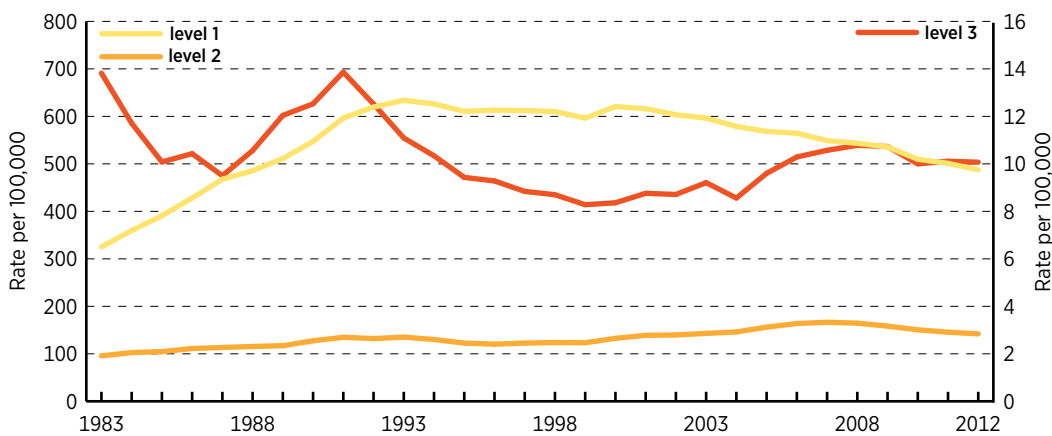
Sources: Statistics Canada[10], 2013; Statistics Canada[11], 2013.

Since 1983, the recorded rates of assault 2 rose to a peak in 2007 and only began to decline in the past few years. Combined with the gradual decrease in level 1 assaults, the

overall assault totals of levels 1, 2, and 3 have declined by about 14% since their peak, with level 2 assaults increasing while the others have tended to decrease (Statistics Canada[10], 2013; Statistics Canada[15], 2013).

4. Robbery

Trends in the rates of robbery have been consistently unstable. From 1977 to 1982, the rates rose; from 1984 to 1988 they declined, only to increase once again and in 1991 surpass the 1982 rate. Since 1991 the rates have haphazardly risen and fallen from a high of 119 per 100,000 to 68 per 100,000 in 2012—a fall of 43% (Statistics Canada[15], 2013; Statistics Canada[16], 2013).

In contrast to our discussion of most of the categories of crime, robberies present an interesting association that deserves additional analysis. In particular, **figure 16** displays the relationship between the robbery rate and the rate of unemployment of males over the age of 15. In the figure, the left axis reflects the number of robberies per 100,000 of population. The axis on the right displays the rate of male unemployment. What is interesting about the relationship is that there is an apparent association between the unemployment rate and the robbery rate. Equally interesting is that until recently the peaks in the robbery rate appear to precede those in the unemployment rate in many of the peaks and valleys. While there are a number of possible explanations, it is an association that has not been described systematically in the Canadian literature.

Figure 16: Robbery and male (15+) unemployment, 1977–2012
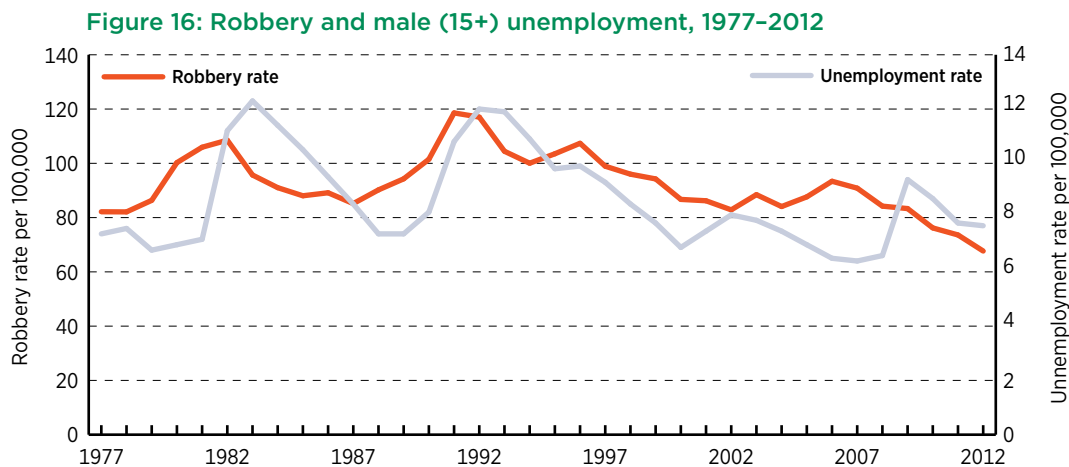
Sources: Statistics Canada[15], 2013; Statistics Canada[16], 2013.

Property crimes

Six of the major subcategories of property offences are break and enter, possession of stolen property, motor vehicle theft, theft over, and theft under $5,000, and fraud (all of which are displayed as percentages in **figure 17**). There are a number of changes in the definitions that make comparisons of recent data impractical; thus, we limit various offence examinations to single years. For reference purposes, there were over a million property offences in 2009, 55% of which were reports of theft under $5,000 (Dauvergne and Turner, 2010).[18]

Figure 17: Distribution of property offences, 2012

Arson 1%
Break and enter 15%
Possession of stolen property 1%
Motor vehicle theft 7%
Theft >$5,000 1%
Theft <$5,000 42%
Fraud 8%
Mischief 26%
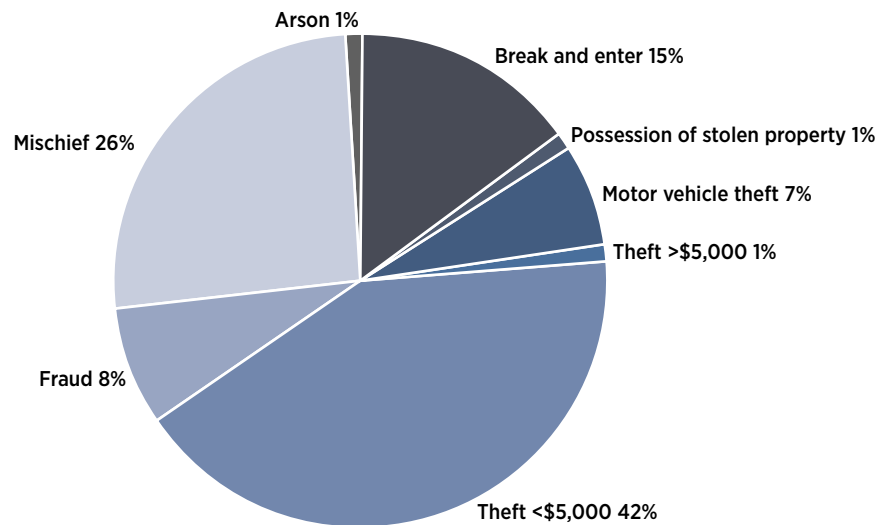
Source: Perrault, 2013: table 6.

1. Break and enter (B&E)—a remarkable fall

Break and enter is a particularly unpleasant property crime since it has the potential to become a violent crime.[19] In 2009, there were over 205,000 incidents of break and enter reported to police. While this is over 600 B&E's per 100,000, this figure represents a 4% decrease from 2008, or over 5,000 fewer incidents. By 2012, the rate had dropped to 504 per 100,000. Reports of break and enter constitute 20% of all property offences (Statistics Canada[11], 2013). However, since 1991, when incidents of break and enter

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18.   These particular categories can be compared as they have not changed. What has changed is that several offence types have been moved from the aggregate category "Criminal Code Other" into the property crime aggregate category, arson and mischief being the most important.

19.   Burglary is one of the traditional capital felonies carrying the death penalty historically. In Canada, breaking into a dwelling still carries the potential of a sentence to life imprisonment (Criminal Code of Canada §348(1)(d)).

reached a zenith at nearly 435,000—a rate of 1,550—, there has been a persistent decline until today there are around 175,000, leading to a rate that is a remarkable two-thirds below the peak. **Figure 18** displays the value from 1962 through 2012.

Figure 18: Break and enter, rate per 100,000, 1962–2012
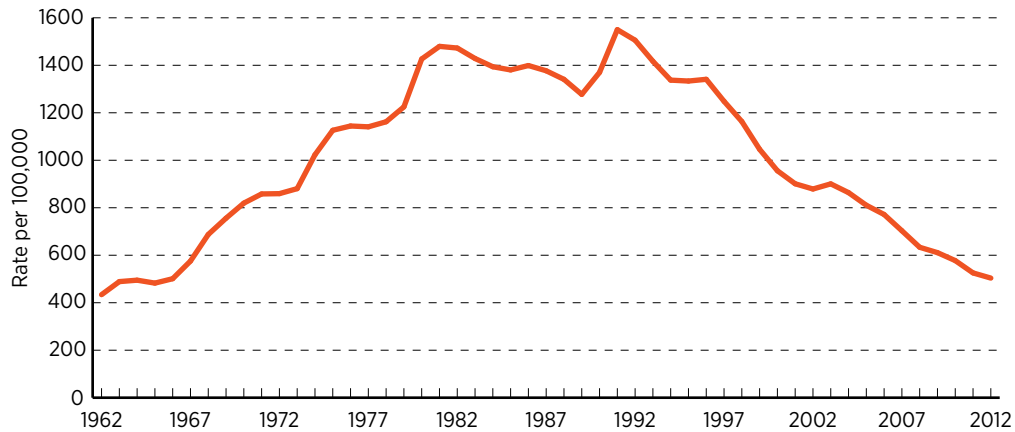
Sources: Statistics Canada[10], 2013; Statistics Canada[11], 2013.

2. Possession of stolen property

As with other property crimes, possession of stolen property (**figure 19**) was an offence committed that peaked in 1991 (at a rate of 126 per 100,000), had fallen by 30% by 2010, and then plunged to 48.4 in 2012 (Statistics Canada[10], 2013; Statistics Canada[11], 2013). Levels in 2012 are roughly the same as they were in 1969 and the decline has been precipitous in the past two years. It remains to be seen whether this happy record is a systematic pattern or an anomaly.

Figure 19: Possession of stolen property, rate per 100,000, 1962–2012
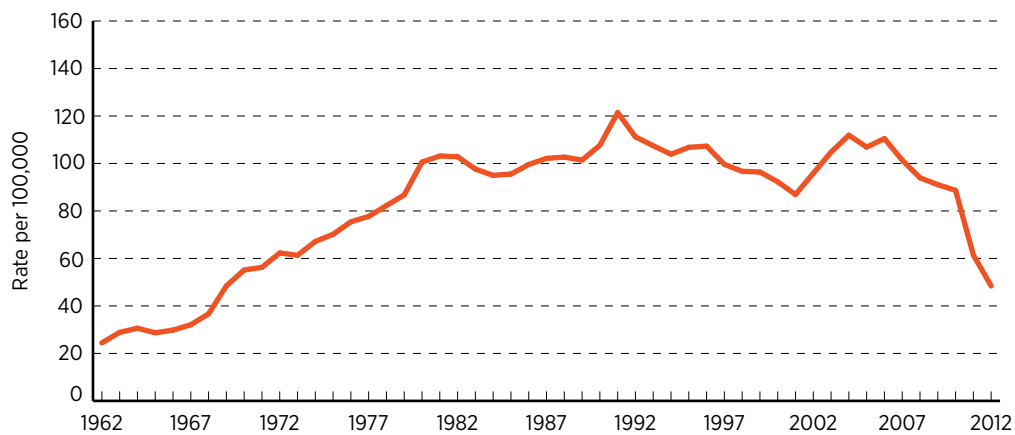
Sources: Statistics Canada[10], 2013; Statistics Canada[11], 2013.

3. Motor vehicle theft

Between 1962 and 1971, motor vehicle thefts doubled from 33,000 to 66,000. Twenty years later they had doubled again, with nearly 140,000 vehicles stolen. Thefts reached a peak in 1996 with over 180,000 motor vehicles stolen or a rate of 608 per 100,000 (**figure 20**). Except for a blip in 1996 and 1997, between 1993 and 2004 there was relatively little change in the rate of motor vehicle thefts. Since 2004, however, the rate has tumbled from 532 to 223 per 100,000 in 2012 (Statistics Canada[10], 2013; Statistics Canada[11], 2013), which is roughly the same as it was in the late 1960s. Much of the recent decline can be attributed to the introduction of factory-installed immobilization devices in new cars and the retrofit of immobilizers on older cars in some provinces.[20]

Figure 20: Thefts of motor vehicles, rate per 100,000, 1962–2012
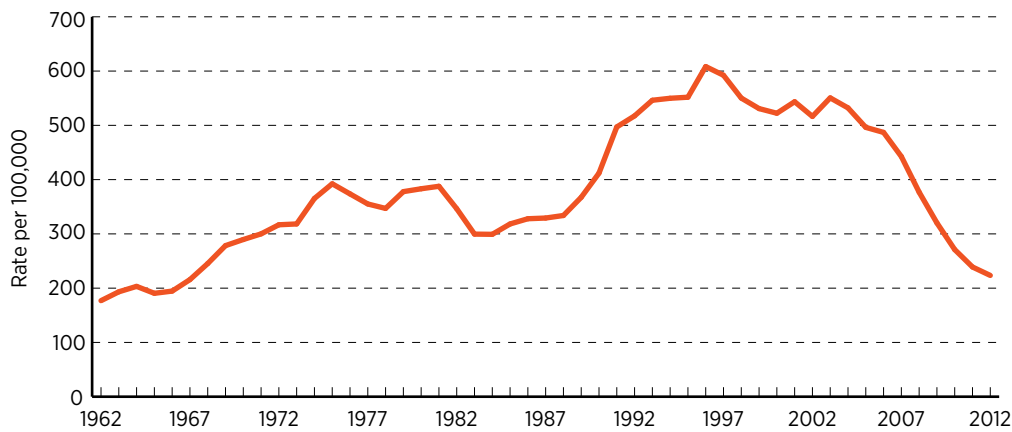
Sources: Statistics Canada[10], 2013; Statistics Canada[11], 2013.

There is a pattern to vehicle thefts in Canada (**figure 21**). While rates of motor vehicle theft declined across Canada between 1999 and 2012, theft rates are always far higher in the western Provinces and in the Territories than in eastern Canada regardless of year. Of provinces east of Manitoba, only Quebec has had vehicle theft rates higher than the Canadian average (Statistics Canada[13], 2013).

4. Theft over $5,000 and theft under $5,000

Although the Criminal Code distinguishes between, and provides different punishments for, thefts valued above and below a particular value, that value has changed

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20. A discerning reader might ask whether we should look at motor vehicle thefts related to the size of the population. Were we to use thefts per registered vehicle, the story would be unchanged with the same peak and rapid falls, only displaying higher values since there are fewer motor vehicles registered than population.

Figure 21: Motor vehicle thefts, by province or territory, 1999 and 2012
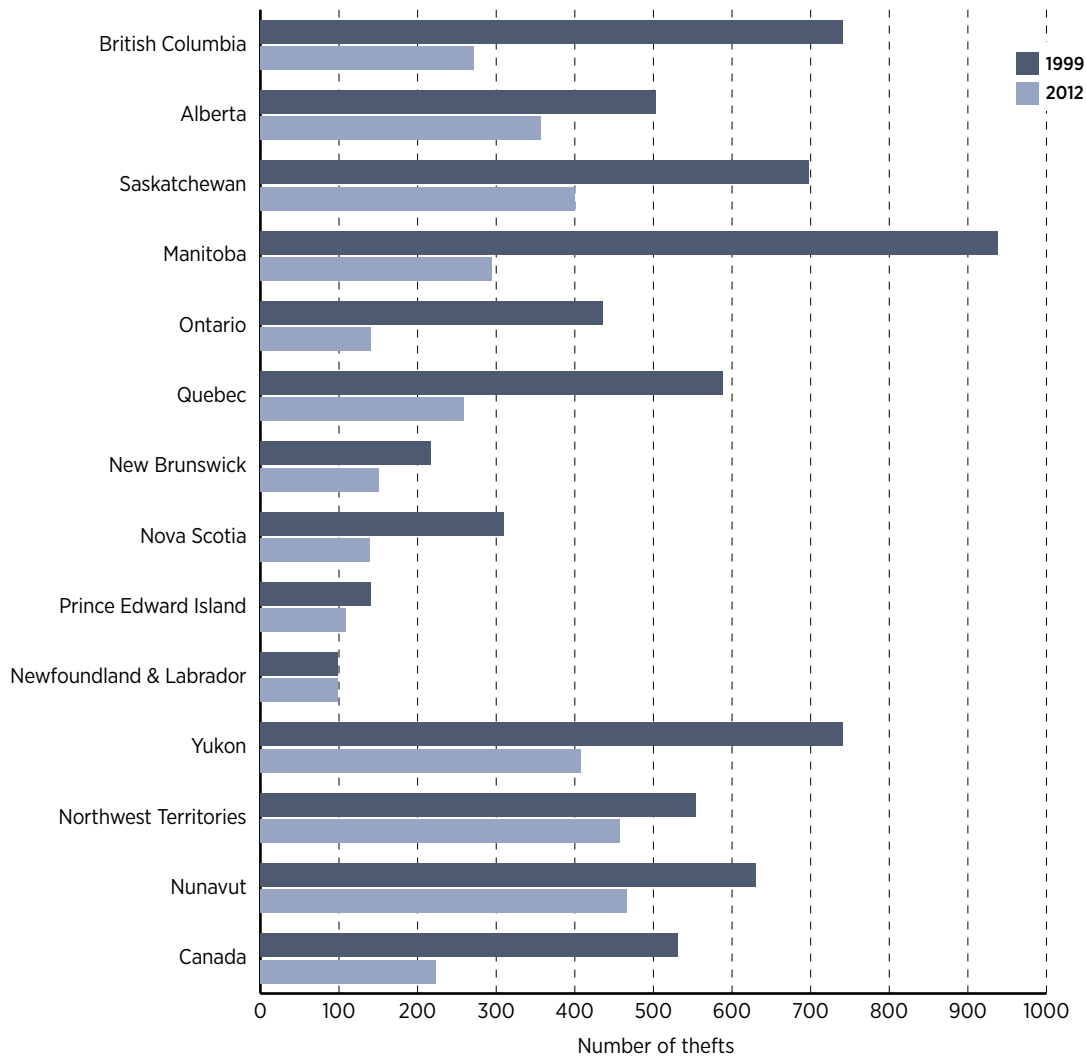
Source: Statistics Canada[13], 2013.

substantially over time. Total combined[21] trends for theft (excluding those involving motor vehicles that are tracked separately in the police statistics) pictured in **figure 22** exhibit the crime mountain that has dominated Canadian crime over the past half-century.

Theft rates more than tripled in Canada between 1962 and 1991 and were even higher than theft rates in the United States from 1980 to 1993. Since 1991, theft rates have fallen by more than half and have been lower than American theft rates since the mid-1990s (Statistics Canada[10], 2013). We are currently at theft rates not seen since the late 1960s.

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21. For the past decade, Theft Over has constituted about 3% of the total.

Figure 22: Theft (except motor vehicles), rate per 100,000, 1962–2012
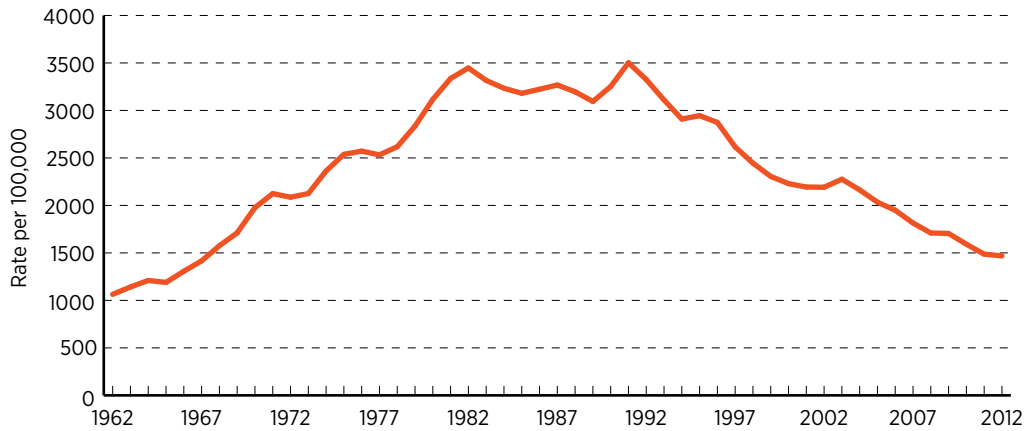
Sources: Statistics Canada[10], 2013; Statistics Canada[11], 2013.

5. Fraud

There are three categories of fraud: general fraud, fraud having to do with contracts and trade, and identify theft. Of these, common fraud is the most frequent and dominates the rates in **figure 23**. Identity fraud, however, has been tracked only since 2008 and has risen from 105 incidents to nearly 9,000 in 2012. Among property crimes tracked, this is clearly a growth industry. **Figure 23** illustrates the total rate of fraud for the last 50 years and again displays the remarkable peak in the late 1980s and early 1990s.

Figure 23: Fraud, rate per 100,000, 1962–2012
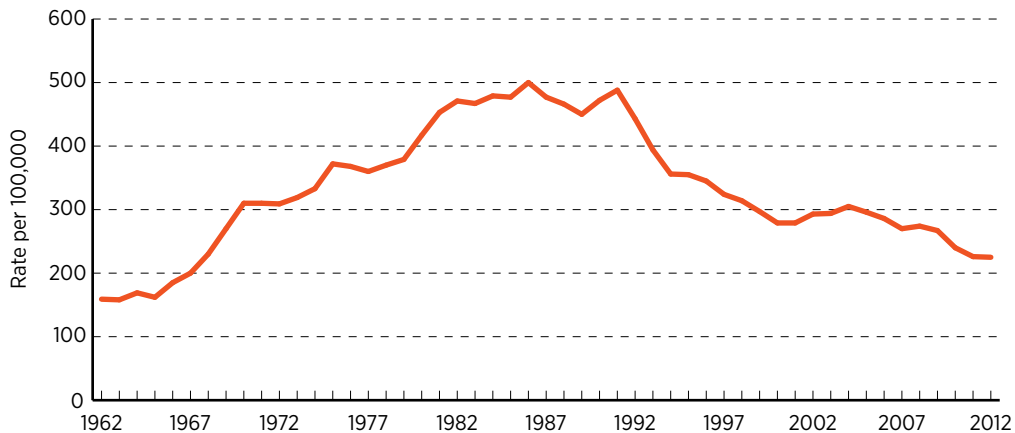
Sources: Statistics Canada[2], 2011; Statistics Canada[9], 2011; Statistics Canada[10], 2013; Statistics Canada[11], 2014.

2. The Victims

One way to express the cost of crime is to identify components that are associated with the total crime experience: the cost to the victims; the cost of catching the perpetrators; and the cost to punishing and re-educating the offenders. We look at 2009 for most of our analysis because it is most consistent with data from the recent past and it is the year of the most recent survey-based identification of crime.[22] We then use the estimates from that period and prorate the 2009 values. The approach we take to understanding the cost of victimization understates the costs. Unfortunately, this is a necessity. There are many crimes for which we have no systematic way to assess the victim's loss, but we do what we can. The list of the crimes in the criminal code is large, but we are forced to limit our detailed analysis to the more common or the more substantial offences. We also provide an analysis of what people believe to be crimes against them from Statistics Canada's *General Social Survey* (Statistics Canada, 2011b) for 2009.

The umbra of crime

Who is victimized by crime? There are two primary sources of information to answer what is one of the most fundamental of questions. The first source we have discussed in Part 1: the number of *crimes known to the police*. These figures reflect what police receive as complaints and are collected annually. The second source is Cycle 23: Victimization subsets of Statistics Canada's *General Social Survey* [GSS], which is collected at five-year intervals. While in 2009 (Cycle 23) there were nearly 2.3 million crimes known to the police,[23] where the sources overlap[24] the social survey reports a far higher rate of victimization: for the select number of crimes described, there were as many as 7.2 million incidents reported, which would suggest that, if evenly spread over the population, one in four people consider themselves to be victimized. It is discrepancies like these that may account for the feeling that many people have that the crime rate is *not* falling even

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22. As noted above, in 2008 there were changes to the definitions of some of the components of crime including uttering threats, criminal harassment and forcible confinement. Data using this definition of violent crime are available back to 1998. For 2007 this has the effect of increasing the measured crime rate for violent offences by 42%, for property offences by 36% and for "other" criminal offences reducing them to 38% of their previous value.

23. There were over 2.2 million crimes if we exclude those related to traffic.

24. See Appendix (p. 97) for a more detailed discussion.

though the rate of crimes known to the police is clearly declining. We refer to this higher number as reflecting the *umbra of crime* since it is both more extensive and less distinct than the data gathered in the Uniform Crime Reports that generate the crimes that are known to the police.

We need to be careful interpreting the figures generated by the social survey and comparing them with crimes known to the police. What is a crime to the police is not necessarily what you or I might consider to be a crime, and *vice versa*. Thus a direct, simple comparison between the two sources is not really possible except for certain crimes such as assault, sexual assault, robbery, and vandalism, for which there is at least a correspondence in the name of the categories. The Appendix indicates some of the relationships between crimes known to the police and crimes characterized by the GSS, and our measures of the cost of crime will indicate some of the alternatives. In the next section, we look at the victims of crime as characterized by both crimes known to the police and in the *General Social Survey* (cycle 23).

Who are the victims of crime?

Are victims of crime like us or are they special in some way? In describing the crime rate according to the Social Survey we focus first on age, and then turn to a number of other characteristics. This characterization reminds us that there is no single "type" of victim and that we are all at risk for one crime or another.

Characteristics of victims

1. Age

To fix ideas about the amount of victimization taking place, **Figure 24** shows both the number and rate of all Criminal Code victimizations of *crimes known to the police* arrayed by the *age of the victims*. At the peak, each year nearly 3% (2,984 per 100,000) of 18 year olds are at risk for victimization in Canada. This rate involves nearly 14,000 incidents of victimization. In the figure, the *rate* of victimization per 100,000 *at each age* may be read along the vertical axis.

A roughly similar pattern emerges from the GSS, which looks only at victimizations from age 15. In **figure 25**, the vertical bars indicate the rate per 100,000 of the age-specific victimization rates for individuals in five-year age cohorts who believe an offence has been committed against them. Individuals between the ages of 15 and 30 are 6.5 times more likely to be victimized in a given year than are those over the age of 80. The average age of a victim of violence is 32 (Statistics Canada, 2011b).

Figure 24: Rate (UCR2) of victimization, by age, 2010
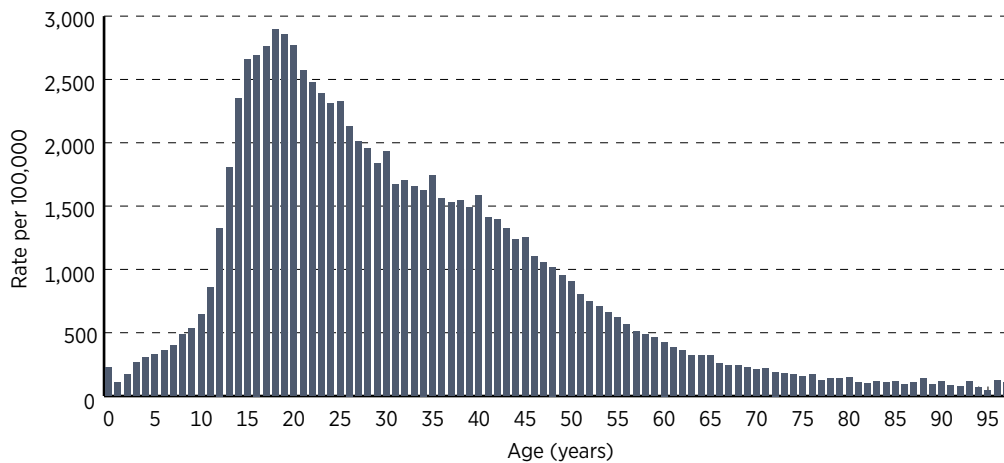
Source: Brantingham, 2012.

Figure 25: Rate (GSS) of victimization by age group, 2009
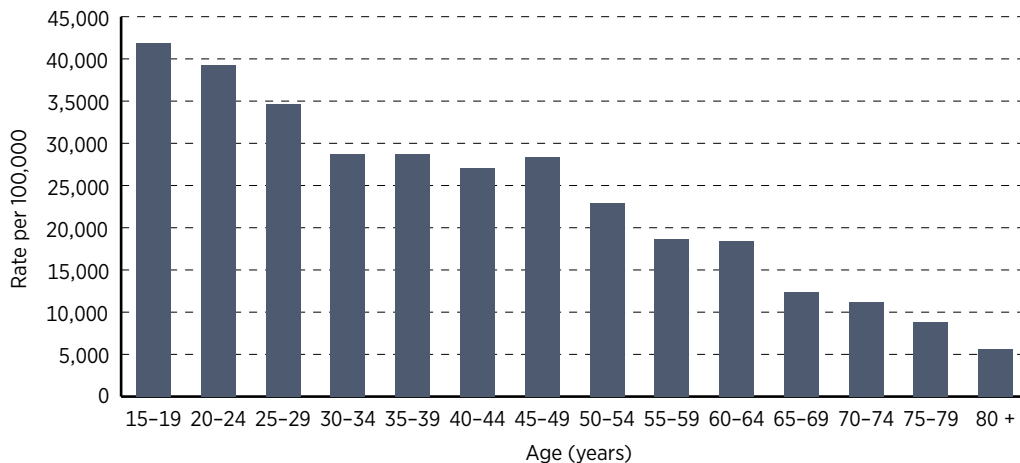
Source: Statistics Canada, 2011b.

Both sources are generally consistent although relative to crimes known to the police, the Social Survey shows a decidedly less steep fall in victimization between the ages of 30 to 50 (Statistics Canada, 2011b). While both sources show victimization rates that peak during the late teens and early twenties, in crimes known to the police the decline in victimization is more directly proportional to age.

But more shocking from the perspective of crime prevention is the observation that the rates of victimization seen in the survey are vastly greater than those reported to the police.[25] To drive home the point, **figure 26** plots the rate of victimization from both

25.   Recall, however, our caveat about the lack of comparability between the two sources.

Figure 26: Age-specific crime rates, crimes known to police compared to crimes reported in the GSS Survey, 2009
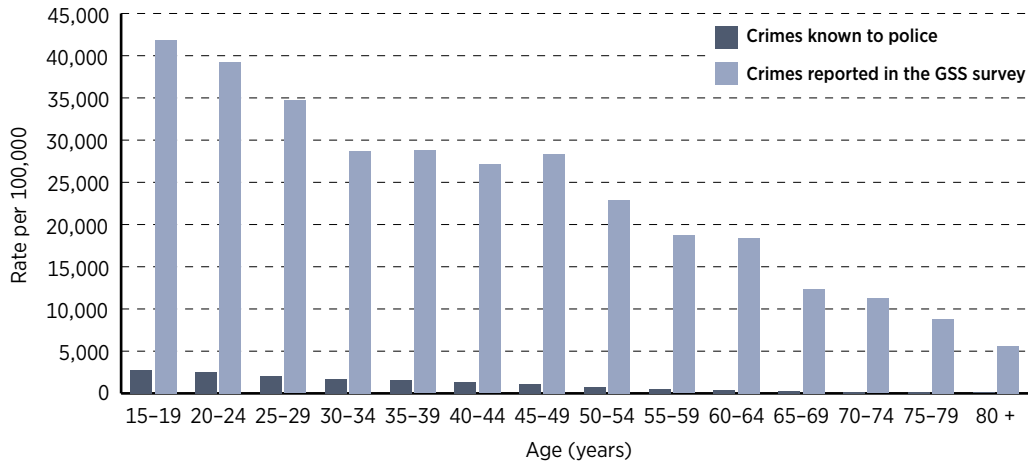
Sources: Statistics Canada, 2011b; Brantingham, 2012.

the Social Survey and from crimes that are known to the police on the same axis for the age groupings available in the Social Survey. Clearly there are substantial differences in the levels of perceived crimes between the survey respondents and the crimes that are made known to the police.

Further there appears to be an age-related component, as is seen in **figure 27**, which plots the differences between what is reported through the survey and what is reported to the police. Plotting the ratio gives a sense of the differences organized by age; in figure 27 we see the magnitude of these ratios. Interestingly, although we must be circumspect about the exact values as there are relatively few older people in the sample, not only are the ratios large—all ages report that they feel they have suffered from more crimes than are there are crimes reported to police—but older people who report *very* low rates of crime to the police, nonetheless are *relatively* more likely to feel themselves to have been the victims of crime than are people at younger ages (Statistics Canada, 2011b). The ratio rises from around 15 times as many perceived crimes relative to those reported to the police between the ages of 15 to 29, to about 60 times as many for the ages after 60. The comparison between the Social Survey and crimes known to the police describes a comparatively large amount of unreported crime for older Canadians. The extent to which this is an important issue needs to be resolved.

We might speculate that there are differences between victims of violent and property offences. The relationship between age and non-violent victimization is significantly weaker than that of violent crime. From **figure 28** we again affirm that violence is

Figure 27: Ratio of crime rate from GSS to rate from crimes known to police, by age group, 2009
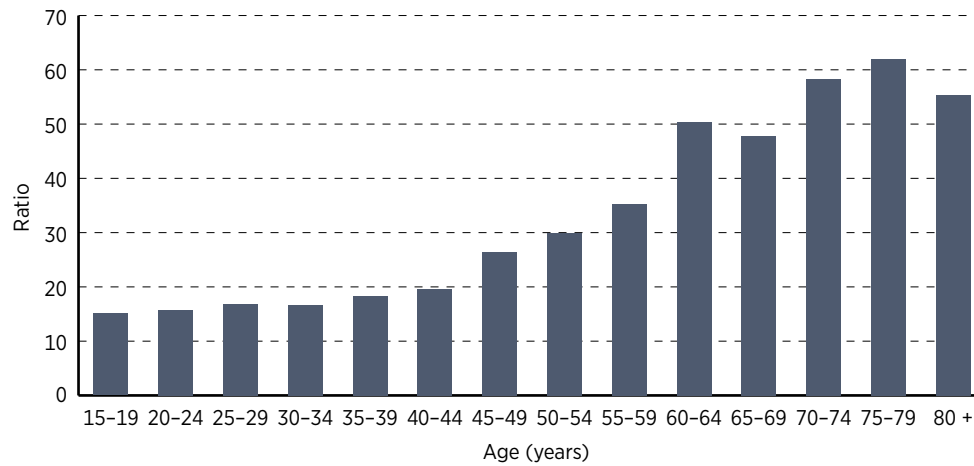
Source: Statistics Canada, 2011b; Brantingham, 2012.

Figure 28: Victimization in violent and property offences, by age group, 2009
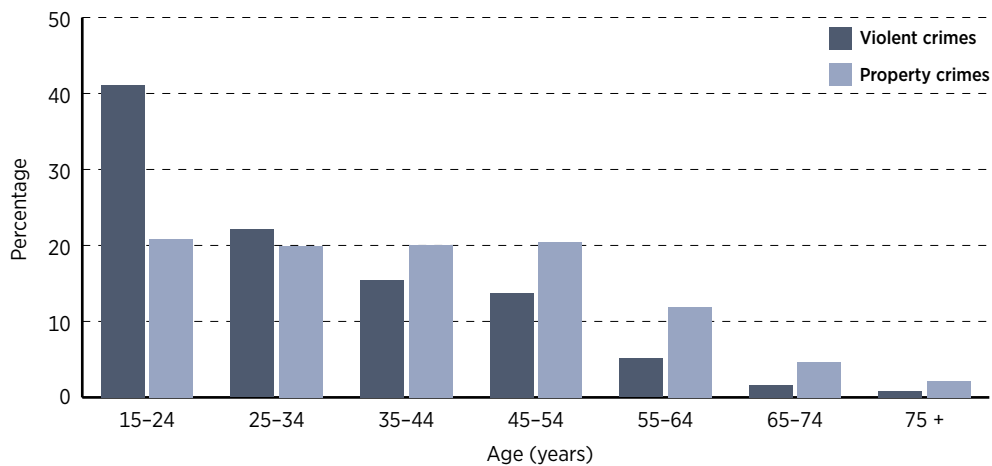
Source: Statistics Canada, 2011b.

profoundly a problem of the young: the rate of violent victimization between the ages of 15 and 24 is double the rate of the next age grouping. In contrast, property crime is relatively evenly distributed from ages 15 to 54, after which it declines (Statistics Canada, 2011b).

High rates of youth victimization are also detectable in specific violent offences. Approximately 50% of attempted murder and robbery victims are under the age of 24. Further, 70% of those sexually assaulted are under 34. This correlation of young age with high criminal victimization is absent for property crimes. Table 2 provides the average age for victims of various violent and property crimes (Statistics Canada, 2011b).

Table 2: Average age of victims by offence

Crime	Average Age
Violent offences	32.3
Assault	33.5
Sex assault	30.4
Robbery	30.6
Attempted murder	30.8
Property offences	40.0
Break and enter	43.8
Motor vehicle theft	38.2
Personal theft	37.6
Household theft	39.6

Source: Statistics Canada, 2011b.

Table 3: Gender of victims by offence

Crime	Male (%)	Female (%)
Violent offences	54.8	45.2
Assault	64.5	35.5
Sex assault	27.4	72.6
Robbery	60.0	40.0
Attempted murder	61.4	38.6
Property offences	49.5	50.5
Break and enter	50.8	49.2
Motor vehicle theft	55.8	44.2
Personal theft	42.8	57.2
Household theft	55.8	44.2

Source: Statistics Canada, 2011b.

2. Gender of victims

Other than sexual assault, of which women are considerably more likely to be victims, the incidence of violent criminal misconduct is most likely to directly affect males. From table 3 it is evident that property offences are more evenly spread through the population than violent crime, although females report higher personal theft rates than males and men report higher rates of motor vehicle theft and household theft (Statistics Canada, 2011b).

3. Marital status

Single people report much higher relative rates of violent crime than married people. Table 4 exhibits the dissimilarities. While nearly half of property crime victims are married, most victims of violence are single (55.1%). That is to say, 55.1% of single individuals reported being violently victimized while only 25.9% of married peoples reported being so victimized (Statistics Canada, 2011b).

Table 4: Marital status of victim

Property crime	
Status	Percent
Married	46.8
Single	29.4

Violent crime	
Status	Percent
Married	25.9
Single	55.1

Source: Statistics Canada, 2011b.

4. Educational attainment

Education levels of those who are victimized by crime are not easy to characterize. From **figure 29** we see that, at the upper and lower levels, there is relatively less likelihood of being victimized by violent crime, while those who have some university appear to be the most likely to report being victimized. With respect to property crime, in general the more educated appear to be at higher risk of being victimized although, as with violent crime, the groups with some college and some university education are higher than others (Statistics Canada, 2011b).

Figure 29: Victimization in violent and property offences, by academic standing, 2009
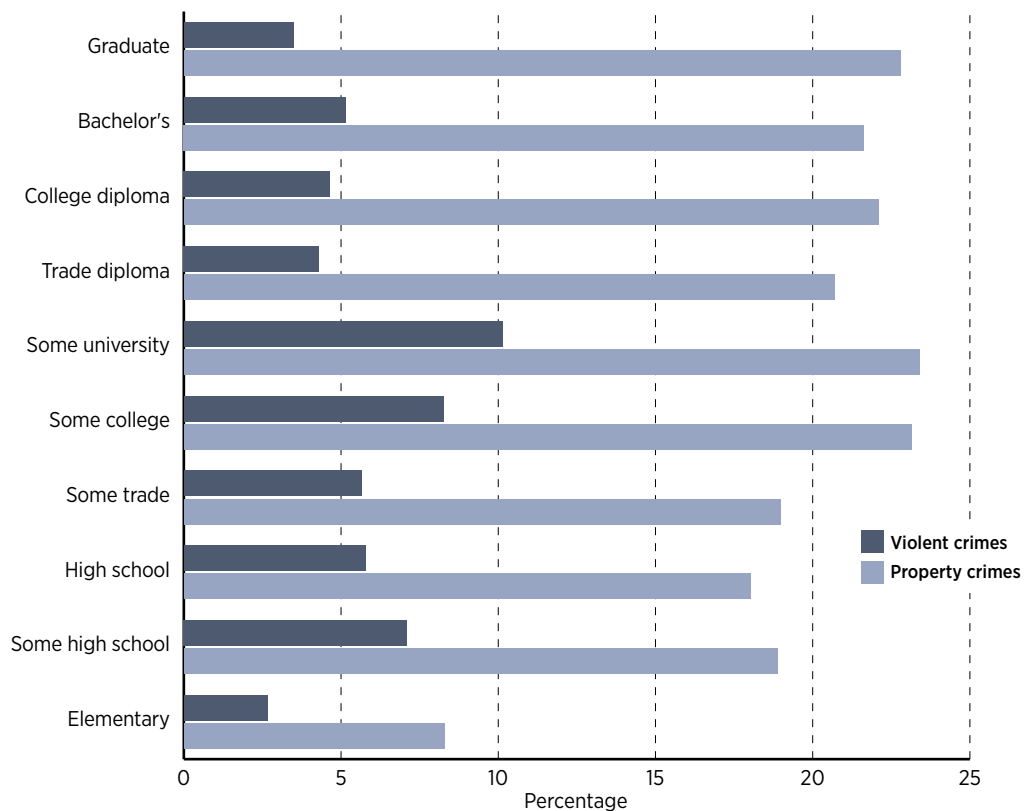
Source: Statistics Canada, 2011b.

5. Employment status

As discussed above, young people are victimized at higher rates than the general population. Thus, it is no surprise that those who are in school are the most likely to report having been victimized, and that those who are retired the least likely to be victimized. Those looking for work are also more likely to be at risk, presumably because they tend to be younger. **Figure 30** shows the likelihood of reporting being victimized broken out by employment status (Statistics Canada, 2011b).

Figure 30: Likelihood of reporting being victimized, by employment status, 2009
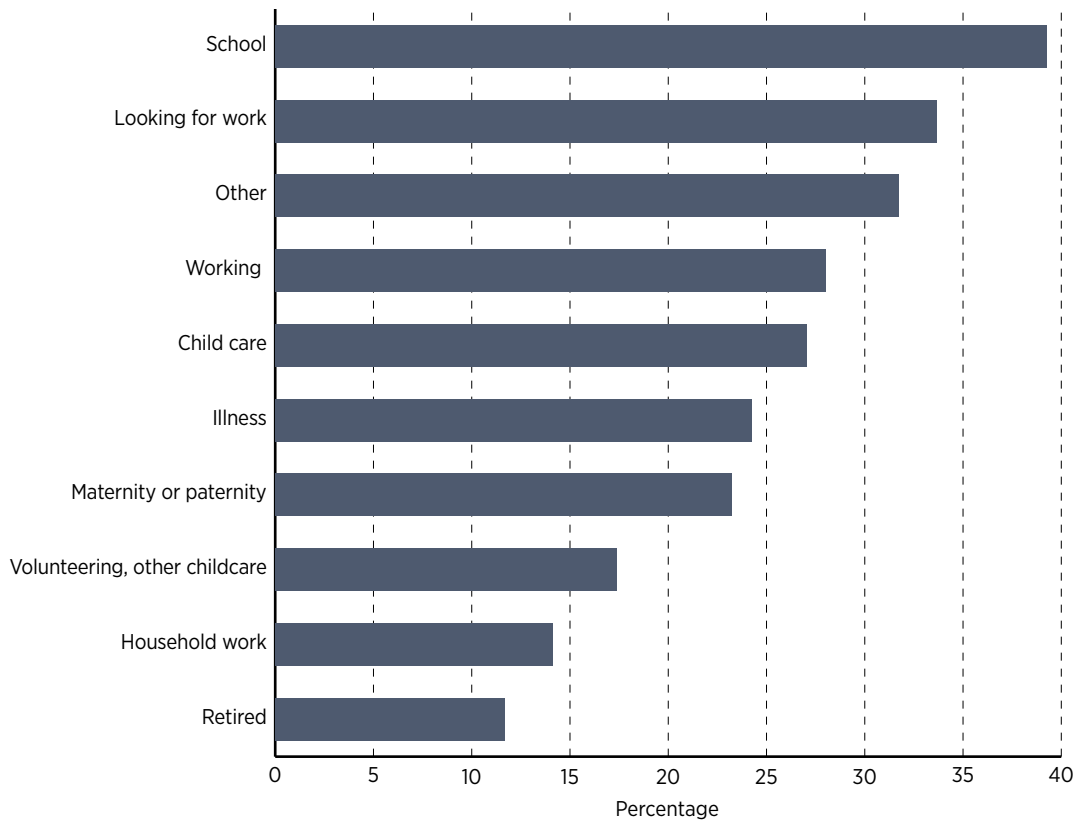
Source: Statistics Canada, 2011b.

6. Yearly earnings

In Canada, much as was the case internationally among nations, victims of property crime tend to have higher incomes than victims of violent crime. Property crime victims reported annual earnings 29% higher than victims of violent crime. Pursuing the international analogy, the average income of Canadian victims of violence are nearly 20% lower than that of the average respondent. **Table 5** compiles the average yearly salaries by victim classification. For reference purposes, the expected yearly income of all respondents, regardless of victim status, is approximately $39,700 (Statistics Canada, 2011b). In the right-hand column of **table 5** some specific property crimes are identified.

Poorer Canadians tend to be victims of more violent crime; as income grows, Canadians tend to be exposed to more property crime although the relationships in the GSS are not hard and fast. **Figure 31** illustrates the pattern by reporting the percentage of those who believe that a violent or property crime has been perpetrated against them. The general upward sweep of property crimes, the lighter coloured bars, with income is

Table 5: Victim's earnings (average annual income)

Type of crime	Income		Type of crime	Income
All respondents	$39,693		B & E victim	$43,948
Victim of any crime	$39,593		MTV victim	$33,628
Violent crime victim	$32,286		Personal theft victim	$40,508
Property crime victim	$41,702		Household theft victim	$40,449

Source: Statistics Canada, 2011b.

apparent although the very poor are also relatively likely to report being victimized. Violent crime tends to be more likely at the lower levels of income as the darker bars indicate (Statistics Canada, 2011b).

Figure 31: Likelihood of reporting being victimized, by income level, 2009
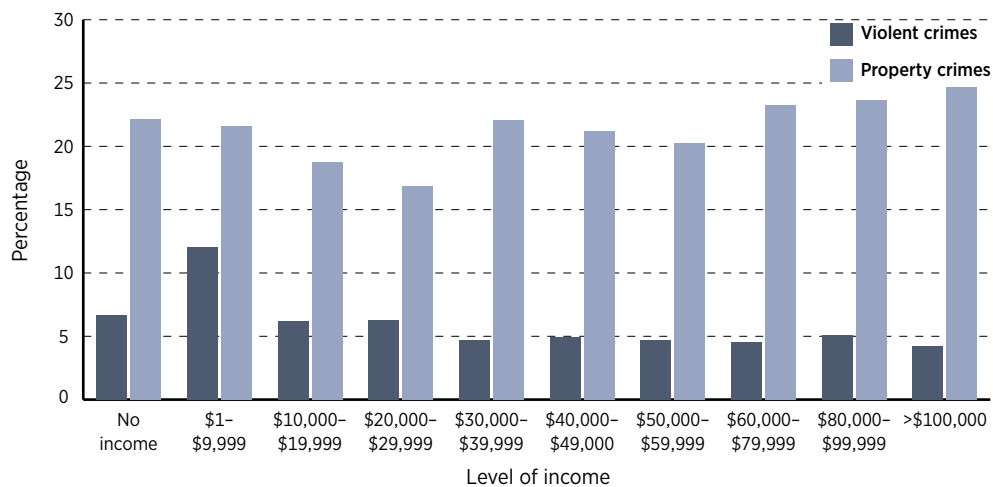
Source: Statistics Canada, 2011b.

7. Evening activities

To what extent does the social environment play a role in criminal victimizations? In 2009, participants in the victimization subset of the *General Social Survey* were asked to state the number of evening events they attend throughout a typical month. Examples of the occasions ranged from work and night classes to movies and bars. Sport matches, casinos, and shopping were among the endeavours listed. The average surveyed individual participated in 22 of the listed events during the month. If the respondent had been a victim of either property or violent crime, the average number of events attended per month rose to 27 and 34, respectively. Over 52% of all victims of violent crime reported having attended at least 30 evening events a month (Statistics Canada, 2011b).

8. Drugs and alcohol

According to the GSS, victims of crime consume slightly more alcohol per month than the representative individual. On average, Canadians over the age of 15 report drinking 5.50 times per month. Victims of crime, regardless of the nature of the act, drink on 5.57 occasions, while victims of violence drink on 5.59 (Statistics Canada, 2011b). Unfortunately, we do not have information on the quantity of alcohol consumed per drink.

Drug use, however, is more predominant among victims than among the overall population. Nearly one quarter of victims of violence indicated that they had used drugs at least once in the past month. The typical respondent reported using drugs less than once a month (0.59), while victims of violence reported using drugs 2.55 times a month and victims of property crime, about 0.76 times (Statistics Canada, 2011b).

9. Country of birth and minority status

Some 21% of the survey respondents indicated that they were born outside of Canada. However, only 17% of all victims were not born in Canada . Fewer than 10% who reported being victims of violence arrived in Canada after birth (Statistics Canada, 2011b).

The results from the 2011 GSS suggest that 13% of all Canadians identify as a visible minority. Victims of crime are generally similar to the general population, although only 11% of all victims categorize themselves as a minority; 9% report being victims of violence and 13%, victims of property crime (Statistics Canada, 2011b).

10. Aboriginal status

Finally, 3% of the Canadian population are Aboriginal—First Nations, Métis, or Inuit. Nearly 5% of those reporting being victimized in the last year are Aboriginal. Of those suffering assault or sexual assault, 7% and 8% classify themselves as Aboriginal (Statistics Canada, 2011b). Although the numbers are too small for systematic comparisons among specific crimes and should be treated with some caution, Perreault (2011) using the GSS finds that Canada's Aboriginal population is much more likely to be victims of violence, both non-spousal and spousal. Aboriginals are twice as likely to be victims of violence compared with non-Aboriginals (table 6) with a rate of 198 per 1,000 compared to a non-Aboriginal rate of 94 per 1,000. The change in scale needs to be emphasized here. This is per thousand not per one hundred thousand. Thus some *20%* of Aboriginal respondents reported being victimized compared to 9% of non-Aboriginals (Statistics Canada, 2011b). Aboriginal women report that they are two-and-one-half times as likely as non-aboriginal women to have been victims of spousal abuse (15% versus 6%) during the preceding five years (table 7) (Perreault, 2011).

Table 6: Aboriginal and non-aboriginal violent victimizations per 1,000

	Aboriginal	Non-aboriginal
Total non-spousal violent victimization	198	94
Sexual assault	70	23
Physical assault	107	58

Source: Perreault, 2011: chart 2.

Table 7: Percent of women reporting spousal victimization in the past 5 years

	Aboriginal (%)	Non-aboriginal (%)
Women reporting violent spousal victimization	15	6

Source: Perreault, 2011: chart 2.

If there is a message in the above numbers, it is that Aboriginal Canadians are far more likely than other Canadians to be victims of violence both non-spousal and spousal. Sexual assaults of Aboriginals (generally women) are three times as likely as non-Aboriginal, while physical assaults are twice as likely. Even though the numbers are subject to considerable uncertainty, there is an especially serious crime problem among Aboriginal Canadians. Summarizing the issue from slightly earlier data Brzozowski, Taylor-Butts and Johnson write: "Aboriginal people are much more likely than non-Aboriginal people to be victims of violent crime and spousal violence. Aboriginal people are also highly overrepresented as offenders charged in police-reported homicide incidents and those admitted into the correctional system. Furthermore, crime rates are notably higher on-reserve compared to crime rates in the rest of Canada" (2006: 1).

The cost of crime to the victims of crime

Calculating the cost to victims of crime is at once the most obvious and also the most difficult of tasks. We can clearly see the costs associated with property crime such as with a theft of something: a car, a purse, or an iPad.[26] More difficult is to recognize how our behaviour changes in response to the threat of crime: we buy locks, home security systems, dogs, insurance, and so on. More difficult still is the trauma associated with

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26. This is more subtle than it might at first appear. If your car is stolen, there is a school of thought that argues that this is no more than a transfer of wealth from the victim to the thief and therefore does not involve a loss in welfare since the object is still generating happiness for one party! People pay for theft insurance as a way of mitigating their losses. If insurance is "fair", then the value of the premiums is equal to the expected value of the losses (with some cost of administration.) Thus, all such insurance is one measure of the loss.

the criminal event. A violent act usually is associated with some kind of trauma, but even property crime can be accompanied by anger, frustration, and distress. Anyone who has had their dwelling burgled, or has had even insignificant things stolen will understand the sense of violation and dismay that accompanies the discovery of the theft. Do such feelings have value? Of course they do, but measuring that value systematically is remarkably difficult.

The cost of violent crime can be subtle as well. On the one hand, if we are confronted with someone who is about to hit us over the head with an iron bar, we recognize that we would pay anything to prevent this event. Yet, in fact, we always accept a certain level of risk while going about our daily activities. Many of us drive to work even though we know Canadians sustain 2,400 deaths a year (in 2008) attributable to driving.

The value of a human life

We implicitly place a value on our lives (and on other injuries) even though we do not necessarily recognize it explicitly. For example, consider the value of a life. There are a number of ways of valuing a life. First, some may argue that it is infinite. This may be a reasonable view in the abstract, but it is clearly not a generally held position. If we accepted that life had an infinite value, then it would not make sense to drive. That is, the finite probability of an infinite loss is still infinite and you would not do it.

Second, we may want to value a life by assessing the economic contribution that a person has made. This might mean measuring the value of a person's life though the output that was lost from their death. The problem on the face of it is that we might also want to account for their consumption. The final measure of the value of a person's life would then be the difference between their "production" and consumption: what we term the "bequest" or unconsumed output. There are other possible "economic" measures.[27] But, all of these calculations leave us uncomfortable since we are projecting value with little consensus on what is appropriate for the individual in question.

The statistical valuation of a life (SVL)

Perhaps a more sensible way to value someone's economic life is to ask how that person values it for himself or herself. This approach gives rise to what is termed the statistical valuation of life: SVL. The basic approach is to measure the wage that is paid to a worker as a function of the usual inputs of the earning function—education, experience,

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27. For example, we might measure the extent to which one person raises the productivity of others, or we might ask a jury using their own assessments to assign a value to life and limb.

marital status, and so on—and include a measure for the riskiness of the activity for which the worker is being paid. Typically this includes the probability of death and the probability of injury. To induce people to work at a riskier job requires a higher wage.[28] The statistical valuation of life is constructed by taking the increase in the wage and multiplying it by the number of hours worked. The calculation describes how much compensation a worker requires for incurring the risk associated with the job.[29]

Recent research into Canadian SVL suggests that a life is worth about $5.5 million (in 2012 dollars). That is, a group of workers will require a wage premium worth about $5.5 million to accept the probability that one additional worker will die on the job (authors' calculations; table 8).

Table 8: The cost of homicide, 2009 and 2012

	Number of homicides	Dollar value per life ($2012 millions)	Total dollar loss (billions)
2009	610	5.49	3.35
2012	543	5.49	2.98

Source: Statistics Canada[3], 2011; author's calculations.

This calculation is suggestive. We do not have a natural way of evaluating the deaths associated with crime. On the one hand, some participants who are killed are voluntarily engaged in a very risky lifestyle. On the other hand, innocents are also killed. Our approach statistically values a life at the average implied by the behaviour of the Canadian workforce. Since there have been 610 homicides in 2009, the cost of this crime is set at $3.35 billion.[30]

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28.   This is one side of the story that depends on a worker's taste for risk. On the other side of the story is the combination of risk and wages that is on offer by firms. Equilibrium in the market is characterized by equating the marginal cost of risk by firms to the marginal cost of risk by workers. Good discussions of this can be found in Rosen (1974) who developed the theory of "hedonic" pricing for risky markets, and Viscusi (1978) who has developed a myriad of sophisticated applications of the basic approach. The fundamental difficulty is deciding how to recognize that some workers are more risk tolerant than others and thus will tend to select into more risky activities.

29.   There are a host of important questions that deserve attention to develop the measure of SVL. These include things like the awareness by workers of risk, the relevant level of risk in an activity—some workers may be exposed to more risk than others at the same job, and so on.

30.   We are drawing the line here by not including the damage to others associated with death or injury. Obviously people around the victim are also affected. We will underestimate the cost of homicide if, on average, the victims are well regarded.

Valuing injury from crime

The cost of pain and suffering is a monetary valuation of the criminally induced impairment to wellbeing. Although profoundly more difficult to measure, in principle it is no different than the loss of property. There is no "market price" for pain. That being said, anyone who has suffered an attack or other loss knows how debilitating such a process can be, and it would be a travesty of accounting to ignore the intangible trauma of crime.

Three approaches to measuring the intangible pain and suffering resulting from criminal misconduct are [1] by judicial awards to the victims for pain and suffering, [2] by the amount victims have to pay to recover from the crime, and [3] by how much people are willing to pay to prevent criminal acts. Our final monetary figures for pain and suffering are, by choice, an under-representation of the emotional and physical damages that have disrupted the lives of the immediate victims and draw on each of these methods as the data permit. To value pain and suffering associated with assault and sexual assault, we examine past compensatory figures actually received by victims of crime. More specifically, we investigate Canadian civil court awards for victims of assault and sexual assault. The cases inspected offer general or non-pecuniary (pain and suffering) damages.

Finding the cost of crime to the victim[31]

Easton and Furness' (2013) findings for compensation payouts for victims of assault and sexual assault are summarized in **table 9**. These figures serve as benchmark findings. Absent court-based compensation figures for other crimes, the dollar figures for Assault 1[32] are employed as a point of reference to value the implicit non-pecuniary damages associated with other crimes.

Table 9: Compensation amounts ($2010) by offence

Offence	Amount in $	Offence	Amount in $
Assault 1	6,497	Sexual assault 1	13,870
Assault 2	18,349	Sexual assault 2	77,947
Assault 3	179,645	Sexual assault 3	116,509

Source: Easton and Furness, 2013.

In addition to homicide, for which we measure implicit pain and suffering through the SVL directly, we can estimate the pain and suffering of at least some other victims.

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31. The empirical findings described in this section are based on Easton and Furness, 2013.

32. We use Assault 1 as a benchmark figure insofar as it is the minimum level of compensation awarded by the courts in our sample and empirically among the more common of crimes of violence known to the police.

Drawing on the weights for the Crime Severity Index, an average offender was sentenced to 23 days in custody for common assault (Assault 1). To illustrate the methodology, we use the average sentence length[33] for each crime relative to common assault to estimate the pain and suffering costs for three additional important offences: robbery, attempted murder, and break and enter. This approach implicitly assumes that the proportion of pain and suffering relative to common assault is proportional to the average sentences levied by the courts.

The average incarceration sentences (in days) for persons convicted of three important offences are listed in column two of table 10. It should come as no surprise that there are more days in custody for each listed violent offence relative to that classified as a property. Attempted murder is worth approximately 61 times (1,411/23) the typical Assault 1 compensation. Following the same procedure, the comparative value of Break and Enter to Assault 1 is 8 times as painful.[34]

Table 10: Average sentenced incarceration and implied pain and suffering relative to common assault

Offence	Sentenced term (days)	Implied pain and suffering	Offence	Sentenced term (days)	Implied pain and suffering
Violent			Property		
Attempted murder	1,411	61	*Break and enter*	187	8
Robbery	583	25			

Source: sentenced term (days) from Babyak, Alavi, Collins, Halladay, and Tapper, 2009; authors' calculations.

To calculate the implied pain and suffering across all crimes, in table 11 for 2012, we illustrate with several specific crimes and then present figures for the total following the same procedure. Table 11 summarizes the findings. Adding pain and suffering calculations to every crime in proportion to the average sentences meted out by judges leads to a total cost of pain and suffering of $41.6 billion. Of this total, the top 10 offences generate about 70% of the pain and suffering.[35] We can extend our understanding of the cost of crime by computing the costs of: [1] fear of crime; [2] stolen and damaged goods; and [3] health and lost productivity.

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33. The Crime Severity Index weights reflect the average sentence meted out to criminals for each type of crime. In effect, we are weighting crimes in proportion to the length of sentence relative to the 23-day sentence for common assault, and using our estimated cost of pain and suffering drawn from the appellate court data in Easton and Furness, 2013.

34. Sentenced days are derived from the weights of the Crime Severity Index.

35. These include, in order: break and enter, robbery, mischief, fraud, theft under $5000, theft of a motor vehicle, sexual assault level 1, common assault 1, common assault 2, and shoplifting under $5,000.

Table 11: Valuation of pain and suffering by offence, 2012

Offence	Number of crimes known to the police, 2012	Pain and suffering per offence ($)	Total pain and suffering ($ millions)
Illustrative violent offences			
Assault 1	169,996	$6,789	$1,154
Assault 2	49,537	$19,173	$950
Assault 3	3,514	$187,718	$660
Sexual assault 1	21,422	$14,493	$310
Sexual assault 2	369	$81,449	$30
Sexual assault 3	130	$95,865	$12
Attempted murder	676	$307,996	$208
Robbery	27,680	$84,931	$2,251
Illustrative property crime			
Break and enter	175,712	$35,191	$6,184
Pain and suffering for all crimes known to the police*			$41,600

Note: *These constitute 179 crimes in 2012. The numbers of crimes vary slightly from year to year as some are very small in volume while others are added or re-categorized.

Source: Wallace et al., 2009; Babyak et al., 2009; Statistics Canada[3], 2011; Statistics Canada[11], 2013.

1. Fear of crime

People fear crime. The consequences of that fear often involve expenditures that we can measure. The calculation of the cost of fear is another component of violent crime monetization. More difficult to measure, however, are the changes in behaviour that are also a consequence of fear. Even more difficult still is the value of fear as an emotion—the intangible cost of crime.

For the purpose of this report, we sum two of the component valuations of the fear of crime. First, we account for the preventative financial outlays born by all citizens, whether victims of violent crime or not. Purchasing precautionary goods and services and crime-related information suggests trepidation. This leads us to infer that the assets are sought to reduce the probability of incurring harm. Second, as victimization data indicate that fear often serves to drive behavioural adjustments to one's daily routine, we value the time spent doing so. Our estimate is clearly an underestimate of the fear of crime.

Fear, spending and foregone income

Cycle Twenty-Three of the *General Social Survey* queried a representative sample of 19,422 Canadians about their perceptions of the Criminal Justice System and crime in Canada. In the survey, questions were asked about direct experiences with victimization

and whether these accounts were reported to police. To understand how behaviour changes because of crime, consider that in 2009, 13% of respondents purchased new locks and security bars for their homes. Furthermore, 10% installed electronic anti-theft devices while 3% stated they had taken part in a self-defence course (Statistics Canada, 2011b). These statistics only refer to the respondents' outlays in the 12 months prior to the survey. Columns two and three of **table 12** summarize the responses for these as well as additional questions revealing concern for personal security.

Table 12: Personal security, 2009, in $2012

	Percentage of people	Number of people	Per item cost ($)	Total cost (millions of $)
Carry a protective item	15	4,030,090	$30	$121
Locks/security bars	13	3,591,200	$75	$269
Burglar alarms/motion lights	10.2	2,813,089	$340	$956
Self-defence course	2.6	713,168	$80	$57
Dog	2.5	701,074	$500	$351
Gun	0.2	51,397	$350	$18
All items	—	—	—	$1.77

Source: Statistics Canada, 2011b; Statistics Canada[3], 2011; per item cost from online retail outlet survey (authors' calculation).

We divide the acquisition of self-defence mechanisms into six areas: acquiring new locks and security bars, obtaining burglar alarms and motion lights, taking part in a self-defence class, purchasing a dog, obtaining a gun, and carrying an object to safeguard wellbeing, and place a dollar value on each (Statistics Canada, 2011b). Columns four and five of table 12 identify per item and aggregate dollar values. The total dollar cost is $1.77 billion.

Time foregone for behavioural changes—crime prevention

Crime induces changes in behaviour in many ways. It can change the routes we take walking home. It can change the hours of the day when we engage in various activities. It can change what we do. These activities are termed "crime induced production". In the United States, Anderson (1999) valued some of these changes. For example, consider the time spent in using security devices such as locks and alarms. Anderson (1999) discovered that, based on the behaviour of 140 observed individuals, on average, each American adult allocates four minutes a day split equally between locking doors and windows and searching for keys. Anderson (1999) uses these four minutes "lost" to production as a lower bound for the time spent locking *all* assets and putting to use *all* protective instruments. These calculations reveal a surprisingly expensive activity.

To price the time sacrifice made when locking and securing one's belongings, Anderson uses the national average annual hourly wage. Anderson's assumption is that locking up is equivalent to "work". We do not see that as appropriate since one allocates one's time to activities other than work. Consequently, we use the average hourly value of annual income arguing that this better reflects the daily cost of locking up. Allocating four minutes per day for all 365 days a year to the prevention of crime implies a total of 1,460 minutes forgone. The cost per year per person is $188. For 23 million working Canadian adults who lock their doors, this means a total cost of $4.2 billion (Statistics Canada, 2011b; Statistics Canada[17], 2013).[36] In table 14 this is adjusted to 2012 dollars.

2.Stolen and damaged goods

Stolen goods

In 2009, 1.4 million individuals had property worth $2.8 billion stolen during the event of a crime[37] with over 5.8 million objects taken.[38] These include 230,000 bicycles, 755,000 electronic items, 42,000 cars, and 51,000 other vehicles stolen (Statistics Canada, 2011b). **Figure 32** illustrates the shares of all goods stolen by broad categories.

Although property stolen (and damaged) is categorized as a property offence, such incidents can occur together with either violent acts or non-violent crimes. The average value of thefts associated with violent acts is $988 while the average value of thefts of property only without violence is $633 (Statistics Canada, 2011b).

Damaged goods

The *General Social Survey* (2011) differentiates items stolen from items that an individual attempted to steal. It also attempts to capture whether or not property damage occurred and the value of the damage. The results indicate that attempted theft affected

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36. In Canada, in 2009, the average income of a non-elderly couple was $89,700. For a 16-hour day (8 hours of sleep) this implies an average income earned of $7.67 per hour or $0.128 per minute. Thus, the cost per year per person is $188. For the 22.6 million Canadians (between the ages of 18 and 64) who lock their doors this means a total cost of $4.2 billion (Statistics Canada, 2011b; Statistics Canada[17], 2013). Anderson (1999) uses the average wage to value the time lost. Using the average annual wage in Canada in 2009 ($20.40) would lead to an estimate of $11.6 billion in time lost (Statistics Canada[18], 2013). We have chosen to use the more conservative valuation.

37. This includes answers 1–3 and 7–14 of question cir_d010 to the following: household damage, an attempt to take something by force or having something taken by force, an attempt to break in or a break and enter, theft or attempted theft of a vehicle or parts of a vehicle, damage to one of your vehicles, an attempt to steal something else or other items being stolen, a physical attack, a threat of being hit or attacked or threatened with a weapon, an unwanted sexual touching, a sexual assault, and another crime (Statistics Canada, 2011b).

38. This includes objects and items actually stolen and thus does not include attempts.

Figure 32: Frequency with which items are stolen, among 1.4 million thefts, 2009
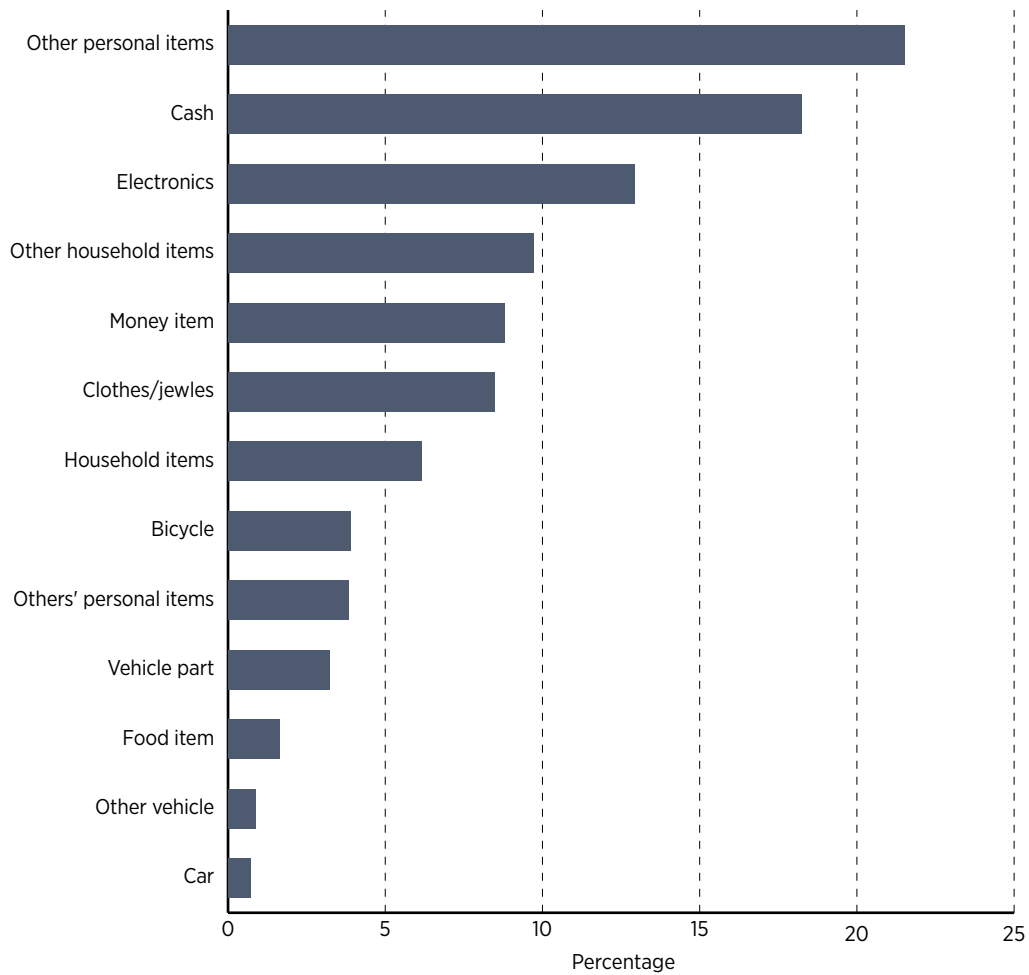
Source: Statistics Canada, 2011b.

approximately 404,000 additional individuals and another 864,000 had property damaged but not stolen. Added to the damage done to goods during violent crimes, the average value of the damage (per victim) is estimated to be $646 leading to a total cost of damage of $1.5 billion (Statistics Canada, 2011b). **Table 13** summarizes the findings for stolen and damaged goods with the value adjusted to 2012 dollars.

Table 13: Total value ($ billions) of stolen and damaged goods

Event	Cost
Stolen property	$2.98
Damaged property	$1.59
Total	$4.57

Source: Statistics Canada, 2011b; Statistics Canada[3], 2011

3. Health and lost productivity

We consider the medical costs associated with traumatic crime only. Considering only hospital and other physician services, we rely on earlier estimates. These costs respectively amount to $159 million. Were we to include the cost of medical care of drug use the amount would rise by $1.38 billion (Zhang, n.d.: 7, updated to 2012 prices). While we recognize that illegal drugs cause an increase in medical costs, by the same token prescription drugs are often taken illegally and some apparently illegal drugs are medicinal. There is sufficient ambiguity that we will use the more conservative figure of hospital and physician costs.

Lost productivity from crime is associated with people who are unable to work, find it difficult to work, or have to take time off to deal with the consequences after an incident. The *General Social Survey* (Statistics Canada, 2011b) suggests that of the 2 million people who feel they have been victimized about 61% are working. If we only look at lost income of those who are working and take time off to deal with their incident, the loss in production is worth about $1.47 billion. If we were to assume that all who were victimized were earning at the average hourly wage ($20.4), then the losses would total $2.8 billion (Statistics Canada[18], 2013). We will go with the more conservative figure but recognize it is an underestimate. In table 14 these costs are adjusted to 2012 dollars.

Canadian businesses also suffer losses not entirely captured in the victimization data

The cost of crime also should include the cost to businesses. This is something that has been underemphasized. When all is said and done, while most crime involving businesses does not involve violence, it is nonetheless the case that it is expensive to Canadian consumers who are consequently all victimized. In 2011, PWC (2008, 2014) found that in-store losses cost retailers approximately $4 billion, a rate of 1.04% down from a 2008 rate of 1.13%. The full cost of these crimes is a significant addition to the estimated cost of crime since, even when fully insured, the cost of that insurance is roughly equal to the cost of the crimes. Of course some losses are not insured and there are a variety of financial costs even when insurance is fully available. This estimate remains an underestimate of the full cost.

Summing up the cost for victims

There is no unique way to characterize the losses from crime. In table 14, our measure includes pain and suffering. We include this without apology because we believe that our estimate is a reasonable one based on data. A less extensive characterization of the losses would subtract the losses from pain and suffering. A more extensive would include higher medical costs.

Table 14: Summary of the cost to victims, 2009 and 2012, in $2012 billions

Category	2009	2012
Homicide (life value)	3.35	2.98
Goods stolen or damaged	4.57	n.a.
Pain and suffering*	43.61	38.62
Crime prevention time cost	4.47	n.a.
Personal security cost	1.77	n.a.
Productivity losses	1.56	n.a.
Business losses	4.0	n.a.
Direct medical costs	0.16	n.a.
Total	63.7	

Note: *Less pain and suffering from homicide, which is identified separately.

Sources: See tables 8, 11, 12, and 13.

The characterization of the victims of crime helps to delineate people who are most at risk.[39] As is apparent, crime is not just the purview of one income group or class, but its evil percolates through to all of us. We next examine the characteristics of the offenders.

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39.   What we have had to ignore. While it would be desirable to catalog all the costs of crime to victims, even with the more extensive estimates we have identified, we have left out a variety of costs. Emotional distress, fear of crime, costs to family and friends both pecuniary and non-pecuniary are beyond our ambit at this point. Yet these costs are real. Further research will hopefully shed light on an even more accurate accounting of the real costs to all the victims of crime.

3. The Offenders

The number of offenders may be measured as those who are caught and convicted, or by those who are accused. In what follows below, we use both types of measures as available. We first consider those who have been convicted of an offence of whom there are nearly 76,000 provincially and 23,000 federally (Calverley, 2010).

Age characteristics of offenders

Convicted offenders

In Canada, offenders are sentenced to federal prison only if their sentence for incarceration is two years or longer. In 2008/2009, 56.6% of provincial inmates and 53.1% of federal inmates were under the age of 35 when they last entered some form of custody (Calverley, 2010). **Figure 33** describes the age distributions of those admitted to Canadian provincial and federal custodial institutions. Inmates from age 20 to 29 constitute the greatest proportions in both institutional settings, with federal institutions housing a slightly older population. The age cluster with the highest proportion of sentenced persons provincially is 20 to 24; federally it is 25 to 29 (Calverley, 2010).

Figure 33: Inmates in federal and provincial jails, by age group, 2008/09
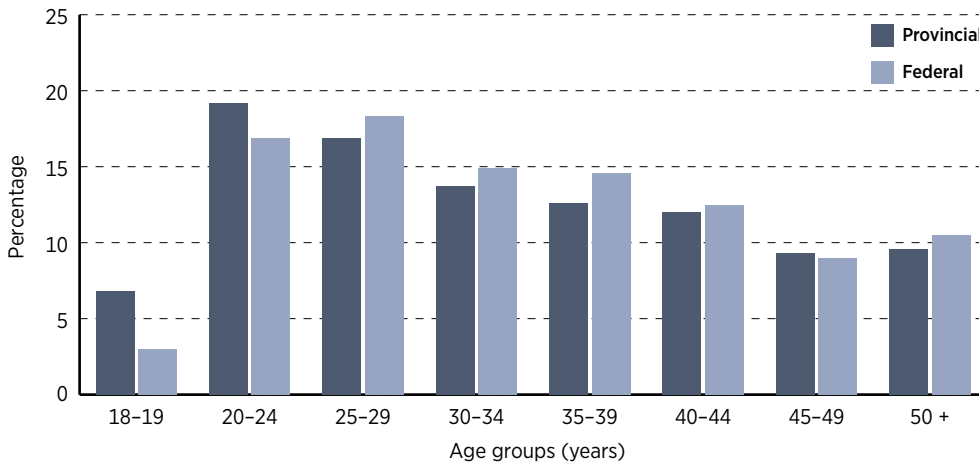
Note: the age information refers to the inmate's last admission.
Source: Calverley, 2010: table 9.

Accused offenders

Unlike the previous chart that dealt with *convicted offenders*, **figure 34** examines those who are accused of crime. In this case, we also look at the *number* of the accused by age to help give a sense of the number of people involved. From ages 16 to 19 there are over 40,000 accused in each age cohort (Dauvergne and Turner, 2010).

Figure 34: Number of persons accused (all criminal code excluding traffic), by age, 2009
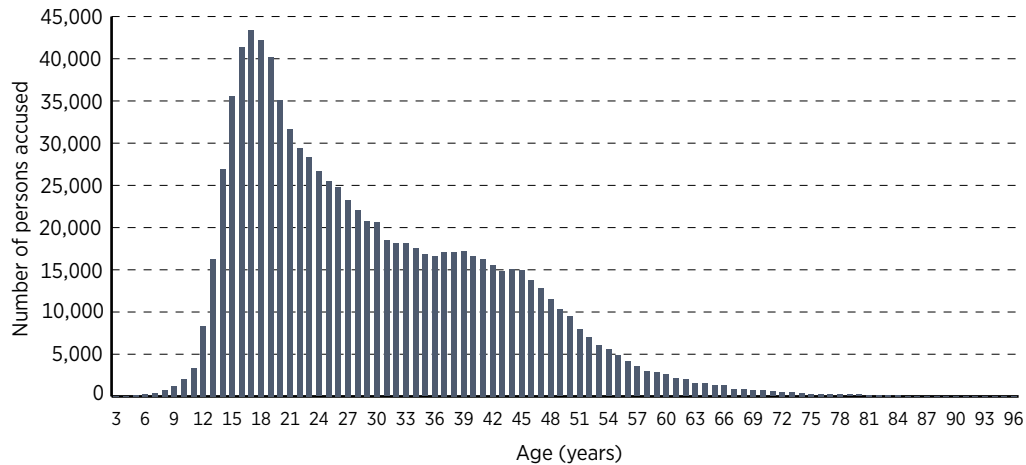
Source: Dauvergne and Turner, 2010.

Figure 35 looks at the age-specific crime rate. The axis on the left indicates the *rate per 100,000* at each age cohort of those who are *accused* for all criminal code offences (not including traffic) in 2009. The pattern of the number and the rates are consistent: the ages between 15 and 21 are high and 16 to 21 higher, and age 17 the highest (Dauvergne and Turner, 2010; Statistics Canada[19], 2013).

Those accused of property or violent crimes

Figure 36 indicates the distributions of the accused in property and violent crimes. The distributions peak at the same age of 17 years for both. One interesting feature of the figure is that the number accused of property crimes is well above the number accused for violent crimes from ages 13 to 30, but after that they remain essentially the same. That is, after age 30, the same number are accused of both violent and property crimes.

Of all crimes listed, those accused of robbery and homicide are most often the youngest; and of those accused of robbery 75.8%, and of homicide 70.7% are under the age of 35 (Thomas, 2010). Sexual assault, however, has the largest share of relatively older perpetrators. For non-violent offences, 39.7% and 36.4% of those accused of break and enter

Figure 35: Age-specific rate of persons accused (all criminal code excluding traffic), by age, 2009
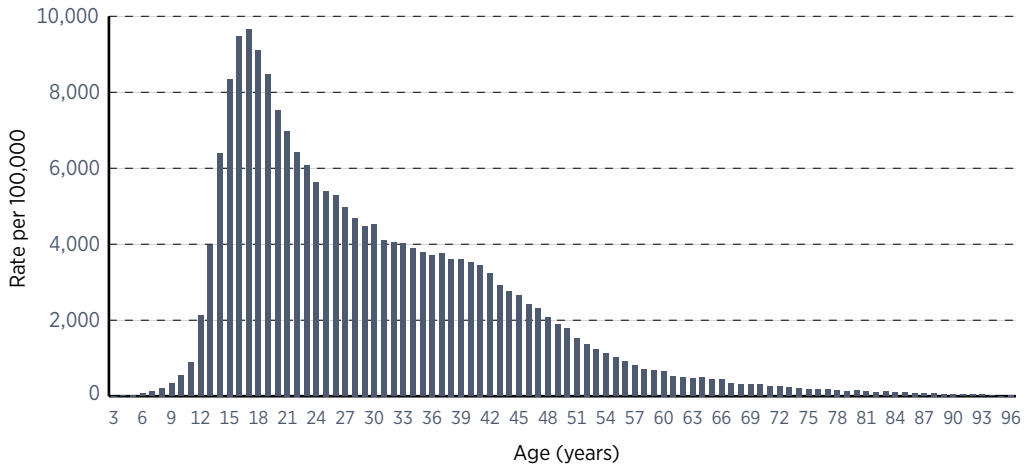
Source: Dauvergne and Turner, 2010; Statistics Canada[19], 2013; Brantingham, 2012.

Figure 36: Distribution of persons accused of property and violent crimes, by age, 2009
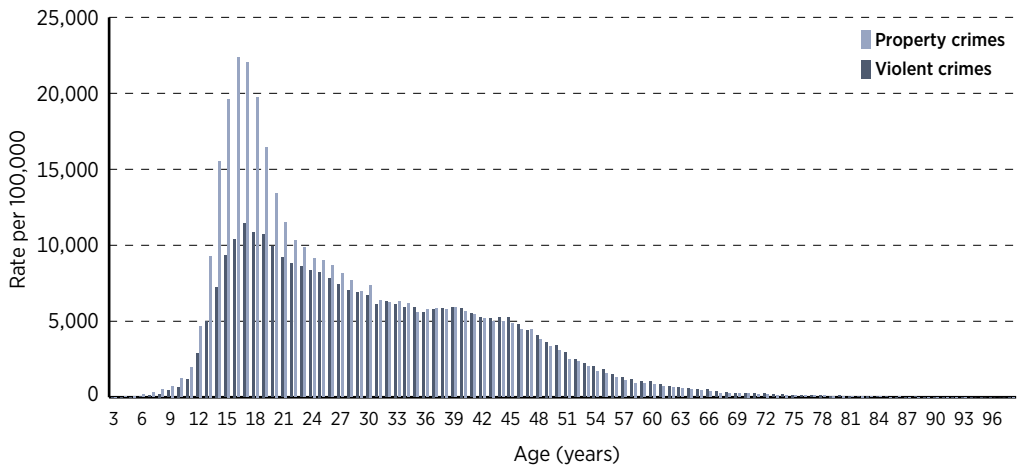
Source: Dauvergne and Turner, 2010; Statistics Canada[19], 2013; Brantingham, 2012.

and possession of stolen property, respectively, are younger than 25. Of all the crimes listed, table 15 reports the findings which describes the average ages of those accused of crimes, detailed by offence (Thomas, 2010). Not surprisingly, accused criminals tend to be young.[39] The average age for violent offenders in 2009 is 33 years while the mean age for property offenders is 32 (Thomas, 2010). The bolded values in table 15 indicate the age group with the highest proportion for each offence.

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39. We are not discussing young offenders, who constitute an entirely different category and clearly are at high risk to offend (see figure 36).

Table 15: Age of accused persons, by crime, 2009

Offence	18 to 24	25 to 34	35 to 44	45 to 54	55+
Violent offences					
Homicide	**43.3**	27.4	19.8	7.5	2.0
Attempted murder	**37.1**	28.9	17.6	10.7	5.7
Robbery	**47.8**	28	16.3	6.5	1.3
Sex assault	19.9	23.6	**26.3**	17.3	13.0
Major assault	**32.7**	29	22.1	12.1	4.1
Common assault	22.7	**29.3**	27.2	15.0	5.8
Property offences					
Theft	**29.0**	26.1	24.3	15.2	5.3
Break & enter	**39.7**	28.6	21.4	8.6	1.6
Fraud	28.1	**31.3**	24.8	12.1	3.7
Possession of stolen property	**36.4**	27.9	22.1	10.3	3.3
Other property crimes	**36.5**	29.0	22.8	9.5	2.2

Source: Thomas, 2010.

Sex characteristics of offenders

Crime is largely a male prerogative as they account for 80% of all criminal court defendants. Looking at the number of cases heard in adult criminal courts as detailed by sex, figure 37 paints a stark picture. In 2009, women represented 16.8% of all violent and 25.7% of all property defendants in the criminal cases heard. The largest female participation rate was seen in cases for theft (32.6%) while the smallest was for sexual assault (1.7%) (Statistics Canada[20], 2013).

Aboriginal status of offenders

Aboriginal peoples represented approximately 3.8% of the Canadian population in 2006 (Statistics Canada[21], 2013). Manitoba (12%), Saskatchewan (11%), and Alberta (5%) had the highest concentrations of Aboriginal persons while Prince Edward Island and Quebec (both at 1%) reported the fewest[40] (Calverley, 2010).

Despite the overall low proportion of Canadians identifying as Aboriginal, they form a substantial proportion of those who are in custody. Furthermore, that proportion appears to be increasing. Figure 38 shows the trend in the numbers of Aboriginal

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40.   We excluded Nunuvut, the Northwest Territories, and the Yukon, where percentages were 78%, 45%, and 22%, respectively (Calverley, 2010: table 7).

Figure 37: Men and women appearing in court for given crimes, 2009
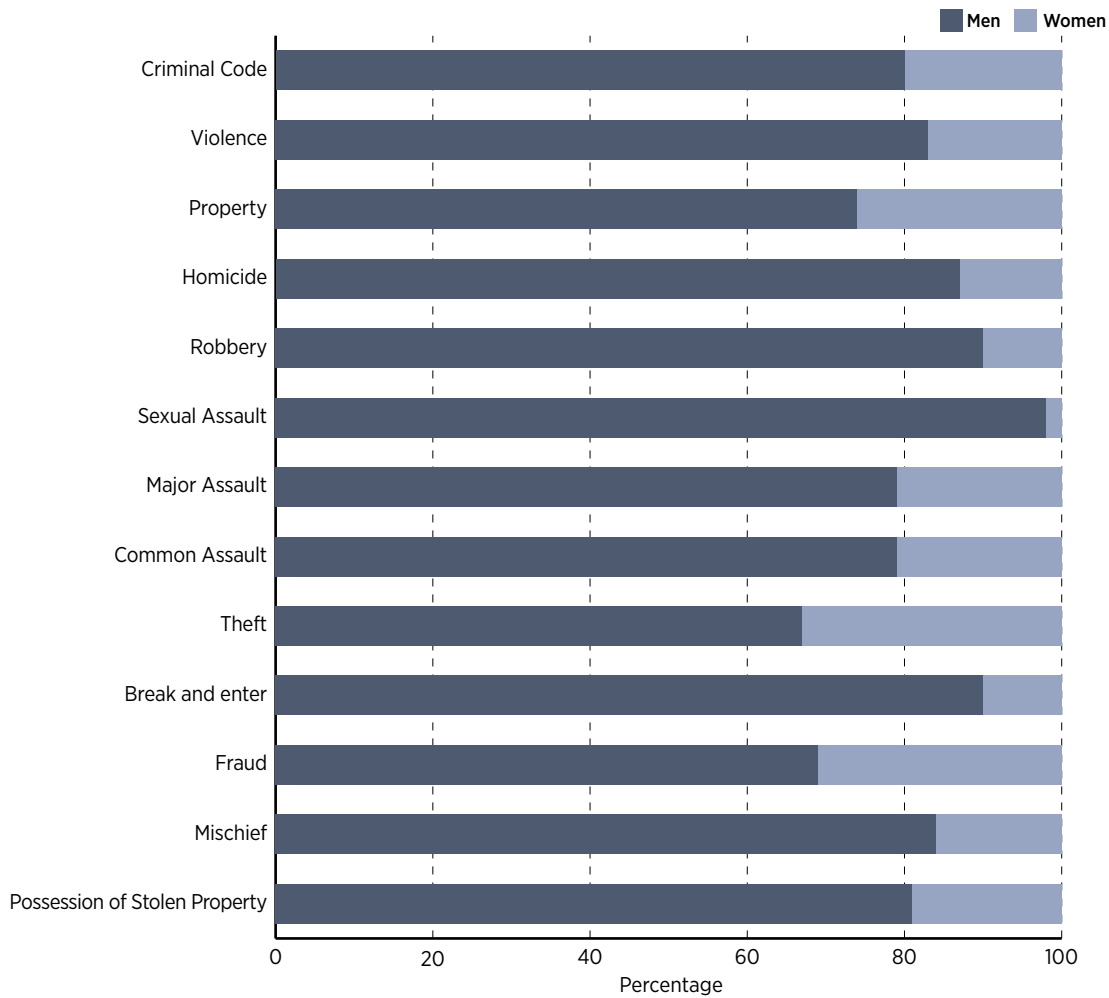
Note: Crimes where sex was unknown were excluded.
Source: Statistics Canada[20], 2013: Table 252-0044 for 2009; "Canada, All crimes" means all criminal code offences excluding traffic, and male and female.

offenders held in custodial institutions from 1998 to 2009. The staircase-like increase sees a rise from 13% in 1998 to 20% in 2008/2009 (Perreault, 2009; Calverley, 2010). In 2009, 27% of those held in provincial custody and 18% of those in federal custody were Aboriginal. In addition, 21% of those in remand, 18% of those on probation, and 20% serving conditional sentences are Aboriginal (Calverley, 2010).

Although the over-representation of Aboriginals in the Criminal Justice System is most surely a Canadian problem, there exist three provinces where the issue is overwhelmingly severe: Alberta, Saskatchewan, and Manitoba (Calverley, 2010). Despite the fact that these provinces have the largest proportion of Aboriginal citizens among the provinces, the number of Aboriginals from these provinces within Corrections Canada is

Figure 38: Percentage of all admitted to custody who are identified as Aboriginal, 1998/99–2008/09
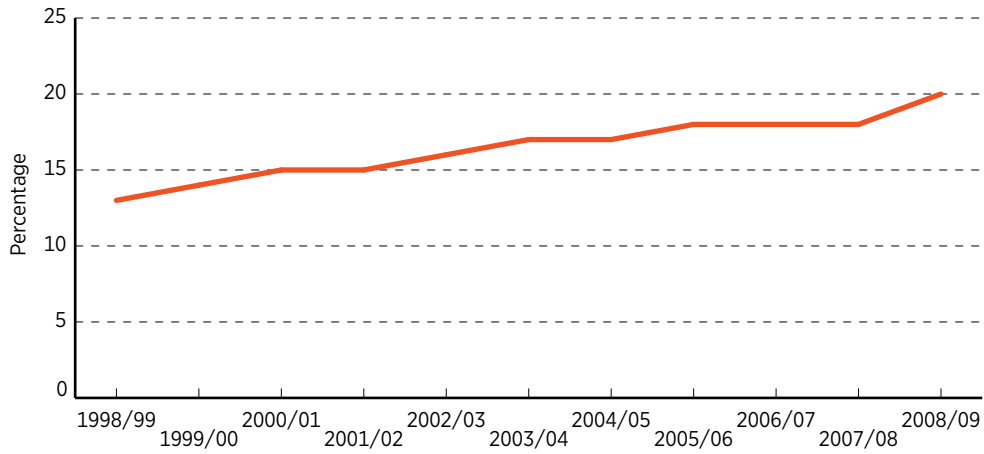
Sources: Perreault, 2009: table 3; For 2008/2009: Calverley, 2009: table 8.

disproportionately high (**figure 39**). We saw above that Aboriginal Canadians are more frequently victimized than non-Aboriginals. Similarly, Aboriginal rates of incarceration are also remarkably high.

Figure 39: Percentage of those admitted to Canadian Correctional Services in Alberta, Saskatchewan, and Manitoba who are Aboriginal, 2008/09
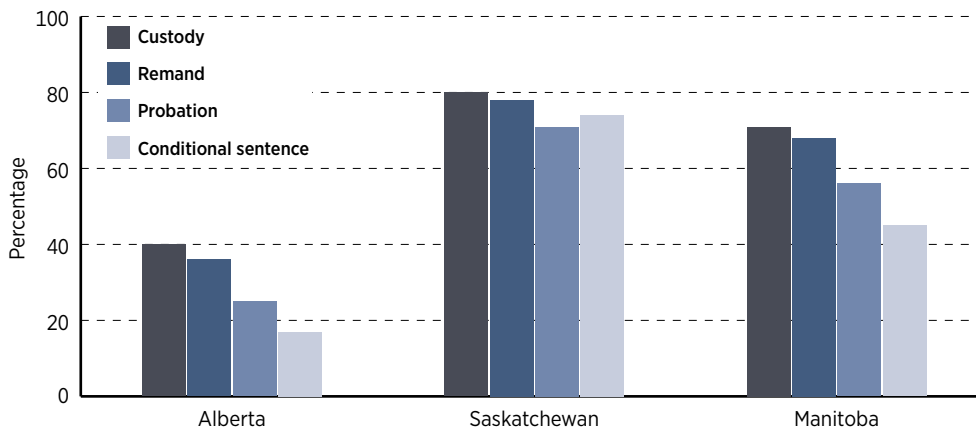
Source: Calverley, 2010: table 7.

Approximately 80% of individuals held within Saskatchewan's penal institutions are Aboriginal. Similarly, 71% and 40% of those incarcerated in Manitoba and Alberta are Aboriginal. In all three provinces, the proportion of Aboriginals in Canadian Corrections is the highest for custody and lowest for either probation or conditional sentences (Calverley, 2010).

Socio-economic characteristics of offenders

As a group, convicted offenders often have relatively low levels of education. They have had less employment and have many "needs", with addiction being among the most prominent. Single (and never married) individuals are more likely to be incarcerated than those who are in, or were previously in, a relationship (Calverley, 2010).

Results from the 2010 Correctional Services Survey (Calverley, 2010; Statistics Canada[22], 2013) indicate that for provincial offenders, 31% have not completed a high-school education in contrast to 11.3% of the general male population between the ages of 25 to 54. Of inmates most recently studied, only 3.1% (6.5%)[41] have received some post-secondary training and 7.5% (61.9%) had completed a post-secondary program or university. The most common academic level attained is secondary-school completion. Table 16 summarizes the findings for offenders held within provincial custody.

Table 16: Offenders' education attainment, 2008/09

Education level achieved	Percentage in provincial custody	Education level achieved	Percentage in provincial custody
No formal education	0.1	Completed secondary	44.6
Some primary	6.2	Some postsecondary	3.1
Completed primary	7.8	Completed postsecondary	7.5
Some secondary	30.8		

Source: Calverley, 2010.

Employment plays a large part in society and detachment from work prior to incarceration is common among offenders. In 2003/2004, 45% of those incarcerated were unemployed (yet able to work) prior to incarceration while 42% were employed (Beattie, 2005). Five years later there has been little change: 47% of inmates were unemployed prior to incarceration while 41% indicated they were employed (table 17) at least part time (Calverley, 2010).[42]

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41. Figures in parentheses indicate the share of the general male population between the ages of 25 and 54 who have completed a roughly comparable level of education.

42. The implication normally derived from this finding is that unemployment causes people to commit crime. There is some evidence that things are often the other way around: (a) criminal activity sometimes supplants legitimate work as the source of income as people quit work in order to have more time to burgle, steal, or deal drugs and also to have more leisure time; (b) people get funds to buy luxury goods from crime, use it to get into drugs, get addicted, and lose their jobs; (c) people earn an extensive criminal record so the next time they get out of jail they have a great deal of trouble finding a legitimate employer who will hire then; (d) many criminals have legitimate jobs but have a tough time holding them because they fight with their bosses (Holtzman, 1982).

Table 17: Employment status of convicted offenders, 2008/09

Employment status	Percentage in provincial custody	Employment status	Percentage in provincial custody
Unemployed (able to work)	47.3	Student, not employed	4.0
Employed (includes part time)	41.0	Retired, not employed	0.5
Not employed (disability or medical condition)	3.4	Other, not employed	3.9

Source: Calverley, 2010.

The many needs of the incarcerated offender

While incarcerated, offenders may be evaluated for certain health, social, or emotional issues. Inmates can indicate more than one need. Of those experiencing "needs", substance abuse was the most prevalent. Contrasting provincial and federal inmates indicated a higher prevalence for substance abuse among provincial inmates (91.8%, 76.9%), and antisocial interaction issues (85.3%, 70.5%), among others (Calverley, 2010). Most inmates have multiple needs.

4. Canadian Criminal Justice System

An overview of the justice system and its expenditures

The three components of the justice system are the police, the courts, and corrections. Each will be explored in some detail. In this overview, however, we see some broad trends over the past decade. Table 18 summarizes the cost of justice for the decade from 2002 to 2012.[43] The first three columns provide inflation-adjusted levels of spending while the second three deflate these numbers by population to give real per-capita expenditures.

The total cost of the justice system is displayed in the "Canada Total", row four. The amount we pay has increased by 36% from (roughly) $15 to $20 billion over the past decade. This spending means an increase of 22% from $480 to $580 for each Canadian. Provincial costs have been rising faster than federal costs, as the federal share of all justice spending has remained roughly constant, decreasing slightly from 27.7% to 27.2%. In terms of overall costs, Canadian policing costs are both the largest single component of the justice system and have risen the most (43%) over the period. Costs of the court system rose the least at 21% while corrections costs have grown by 32% (Story and Yalkin, 2013; Statistics Canada[23], 2013).

By jurisdiction, the overall costs of both the federal and provincial governments increased, by 33% in the case of the federal government and by 37% in the case of the provinces. Within federal spending, policing costs rose by 43% and corrections by 45% while federal court costs *decreased* by 14%. The provinces saw spending rise in all categories with the highest increase being policing (41%) followed by the courts (36%) and finally corrections (18%) (Story and Yalkin, 2013; Statistics Canada[23], 2013).

To set the stage for the remainder of this section, figure 40 displays the crime rate on the right-hand axis, and the total per-capita cost of the justice system as well as its

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43.   We do not have sufficient data to include private security costs fully in the time series. Police costs are divided between resources spent on crime and otherwise, as are court resources devoted to crime. The proportions are described in Yalkin and Story, 2013: section 2. These describe only those government expenditures associated by the Parliamentary Budget Office with crime. For example, they do not include money spent by defendants on legal fees nor private security as a part of "policing".

Table 18: A summary of government spending on Canadian justice, 2002 and 2012

	$ millions*			Per capita		
	2002	2012	% increase '02—'12	2002	2012	% increase '02—'12
Canada						
*Policing***	8,014	11,488	43%	256	330	29%
Courts	3,333	4,023	21%	106	116	9%
Corrections	3,620	4,781	32%	116	137	19%
Canada total	14,967	20,291	36%	478	583	22%
Federal						
Policing	1,259	1,931	43%	40	55	38%
Courts	1,017	875	−14%	32	25	−23%
Corrections	1,882	2,724	45%	60	78	30%
Federal total	4,159	5,530	33%	133	159	20%
Provinces						
Policing	6,755	9,557	41%	216	274	27%
Courts	2,316	3,148	36%	74	90	22%
Corrections	1,738	2,057	18%	56	59	6%
Provincial total	10,808	14,762	37%	345	424	23%

Notes: *These are inflation-adjusted values. **Policing does not include private security but does adjust for police time directed at crime. A similar adjustment is made for court time spent on criminal matters.

Source: Story and Yalkin, 2013; Statistics Canada[23], 2013. Population is from Statistics Canada[19], 2013.

components on the left axis.[44] Strikingly, costs throughout justice system continue to rise while the crime rate has been declining. Scaling things somewhat differently, the cost *per crime* reported to the police has increased from $6,245 in 2002 to $10,122 in 2012, a 62% increase. It may be that this is simply the result of better justice reducing the crime rate and reflects more expensive justice, or it may reflect an increase in the cost of justice and a crime rate that is falling for other reasons.

There are three fundamental subsections of Canada's Criminal Justice System (CJS): the police (or more broadly policing and security), the courts (or the judiciary), and correctional services. There are a number of additional public and private divisions—such as legal aid and private security and investigations—that complement the services provided by the CJS. We will describe each major component of CJS to identify both its output and the costs associated with its operation.

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44. To repeat: we do not have sufficient data to include the costs of private security in the time series. Police costs are divided between resources spent on crime and otherwise. These describe only those costs associated by the Parliamentary Budget Office with crime.

Figure 40: Crime rate compared to the cost of the justice system and its components, 2002–2012
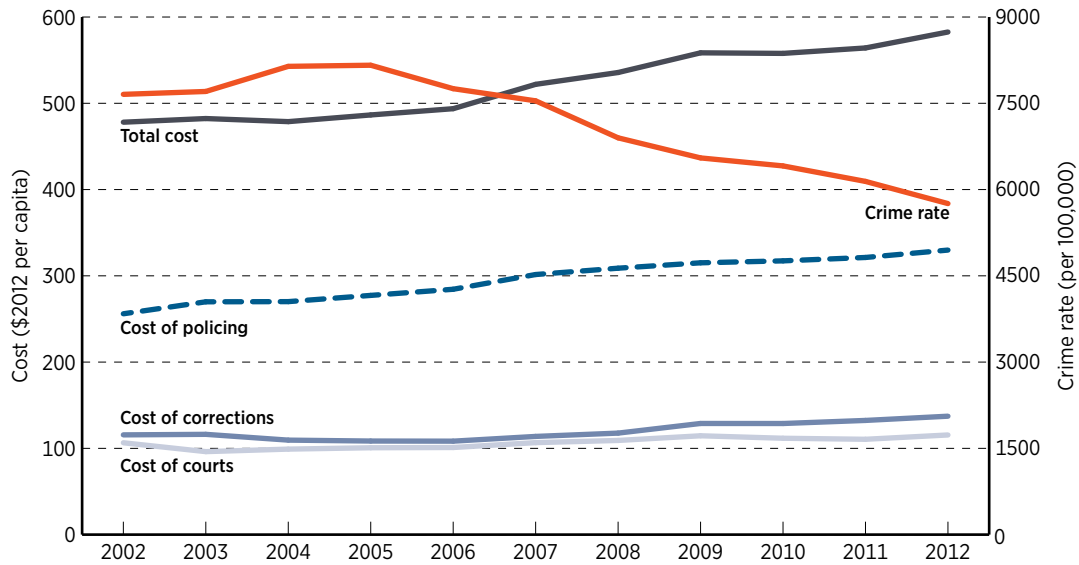
Notes: Inflation-adjusted dollars. The CPI adjustment uses an v41693271 rebased to 2012 = 100.
Source: Story and Yalkin, 2013.

1. Policing

Policing is a service that depends substantially on police officers in the same way that haircuts depend on barbers or piano concertos depend on pianists.[45] While it is surely true that we can enhance the effectiveness of police officers through better technology, better organization, and better education, fundamentally the police officer is the unit through which the activities of policing take place. There are many ramifications of this simple observation. The first is that what the police are paid will tend to rise at least with the overall level of wages in the economy and, consequently, so will the cost of policing.[46] A second observation is that, while we attempt to enhance the effectiveness of individual officers through better technology, better training, and better organization, these enhancements still work through the hands of the officer. Thirdly, anything that increases the time an officer spends in writing up charges, or increases the requirements of gathering and processing evidence or attending court, adds to the cost of policing and generates a reduction in measured efficiency.[47] This leads to a consideration of the number and costs of officers, and additionally of the number and costs of other agents providing security services.

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45. Increasing costs for the arts is developed by Baumol and Bowen (1966) and, for policing, by van Reenen (1999).

46. The cost of policing will increase as a weighted average of wage costs and other costs. Up to 90% of overall policing costs go to salary and benefits.

47. This is not to say that such additions to a police officer's duty should not take place, rather it recognizes that it has consequences for the performance of the crime prevention and crime catching roles.

The scale of policing

As we have seen above, the actual number of crimes known to the police is falling although violent crime is declining less quickly than property offences. At the same time, the amount of policing in Canada is on the rise both in terms of the number of officers and their costs. This is, to say the least, concerning. One observation that needs to be added to the puzzle is that there is a substantial and determined increase in the amount of private policing. The increase in the number of private security guards and investigators has been greater than the increase in public police.

On the one hand, we might think that the increase in the number of police officers was simply part of some politically motivated public-policy exercise during the past 15 years,[48] but the increase in the number of *private* security workers suggests that something else is at work. Private organizations care little for the measured crime rate: they do, however, care about the security of their property and personnel. To the extent that the falling rate of property crime is not reflected in falling costs of private security, we need to understand why. We could speculate that (a) the numbers on reported property crime are too low; (b) the cost of thefts is greater than in the past, thus encouraging more security; (c) or more police and/or private security deters crime successfully; (d) since policing is a service that depends in large measure on face to face interaction, its costs will tend to rise in proportion to the wages paid elsewhere in society, or (e) other explanations.

The rate of policing

In 2012, 69,539 men and women were actively employed in Canada as police officers. Relative to the Canadian population, there were 199.4 officers per 100,000 citizens: the *rate of policing*. The number of civilian workers employed, regardless of provincial or federal standing, was 28,220 (or a rate of 81 per 100,000), which leads to a rough total of 98,000 involved in policing and support (Burczycka, 2013).

As shown in **figure 41**, the rate of policing peaked in 1975 at 206.2 and remained relatively stable until 1991 (202.5) when it began to fall. By 1998, the rate bottomed out at 88% of its peak or a rate of 181.6, and began to rise steadily. The average increase in police rate between 1998 and 2009 was 0.8% per annum for a total of 9.5% (Statistics Canada[27], 2014). The rate of policing is today roughly the same as it was in 1974 and 1993.

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48. For example, Levitt (1997) finds that policing hires are linked to municipal elections with greater hiring during election years.

Figure 41: Number of police officers per 100,000 population, 1962–2012
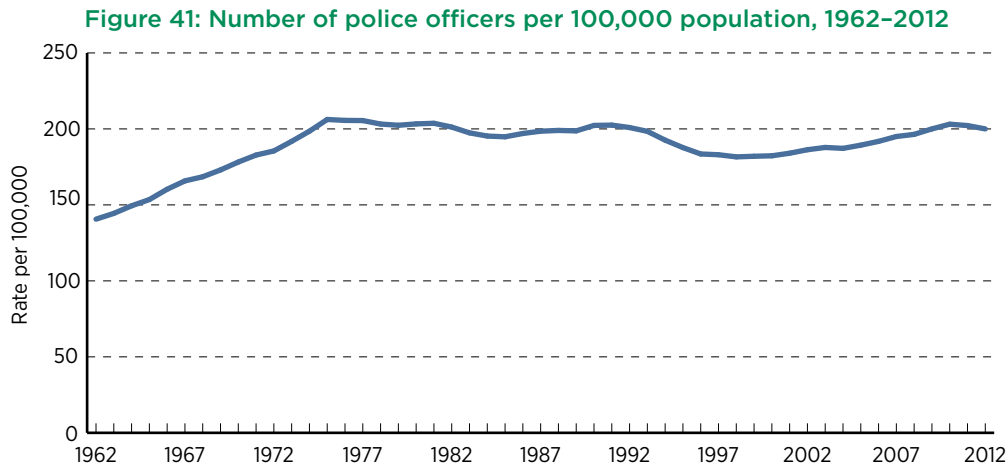
Source: Burczycka, 2013.

Figure 42 describes the distribution of police officers by province. Excluding the two territories and Nunavut, Manitoba had the highest police-officer rate in the country (209) in 2013 and Prince Edward Island had the lowest (160). We have left the Yukon, the NWT and Nunavut off the chart since their values for very small populations are 360, 441, and 360 officers per 100,000 and would dominate the figure.

Incidents per officer

The number of 2012 criminal-code incidents[49] per on-duty officer was 28. Since 1991, this figure has declined from a peak of 51 (Statistics Canada[27], 2013). The recent rate of incidents per officer resembles figures last seen in the mid 1970s. Since the peak in 1991, rates have declined 45% (**figure 43**).

Clearance rates

Clearance rates are the rate at which the police are either able to lay a charge or otherwise close crimes that are known to them.[50] Generally, the more cases that are closed by charge, the better the police are doing their work. The pattern of clearances is interesting and not altogether transparent. **Figure 44** plots the clearance rates on the left-hand axis as a percentage of crimes that are known to the police that have been cleared, and on the right-hand axis is the familiar crime rate from 1977 to 2012.

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49.   Crime-related calls for service over the last decade has remained stable at about 30%. In other words, at least 70% of what people call police about, expecting them to do something, does *not* involve a criminal code incident (House of Commons Standing Committee on Public Safety and National Security, 2014: 15).

50.   Cases cleared "otherwise" include those in which the suspect may have died, been dealt with on a more significant charge, and so forth.

Figure 42: Police officers per 100,000 population, by province, 2013

Number of officers (per 100,000)

- Manitoba
- Saskatchewan
- Nova Scotia
- Quebec
- Ontario
- British Columbia
- New Brunswick
- Newfoundland & Labrador
- Alberta
- Prince Edward Island
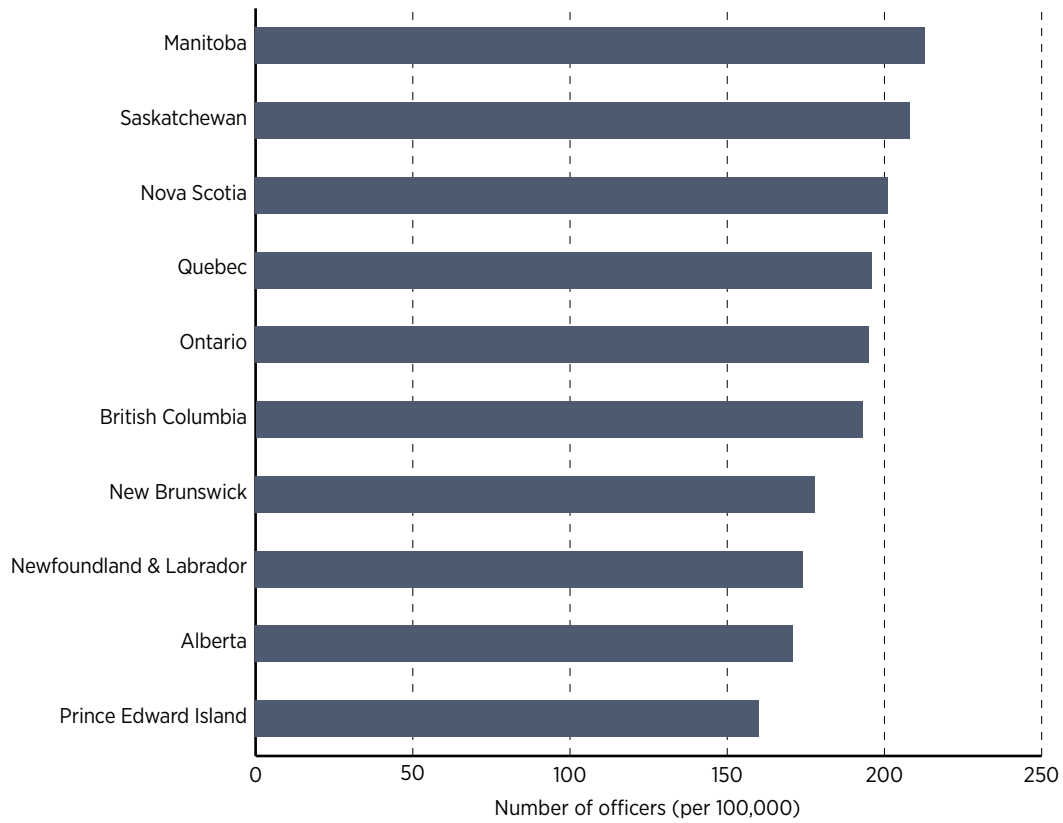
Sources: Statistics Canada[27], 2014; Hutchins, 2014.

Figure 43: Incidents per police officer, 1962–2012

Rate per 100,000

Source: Statistics Canada[27], 2014; Hutchins, 2014.

Figure 44: Crime and clearance rates, 1977–2012
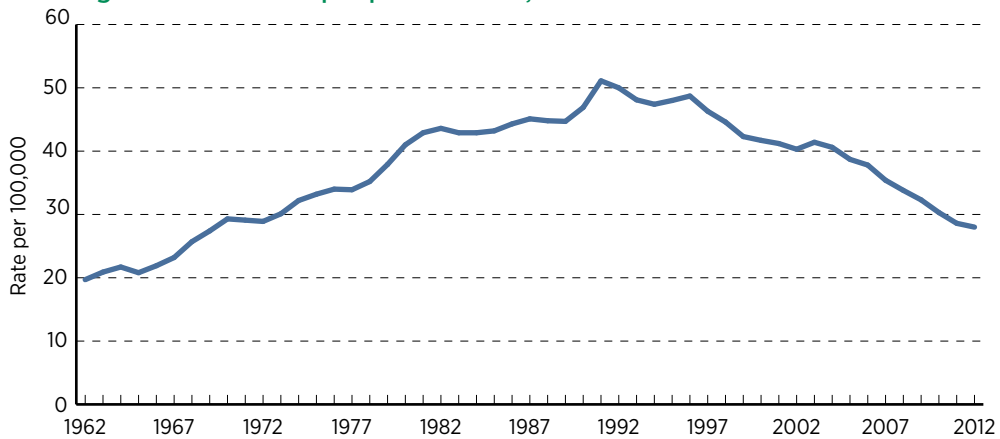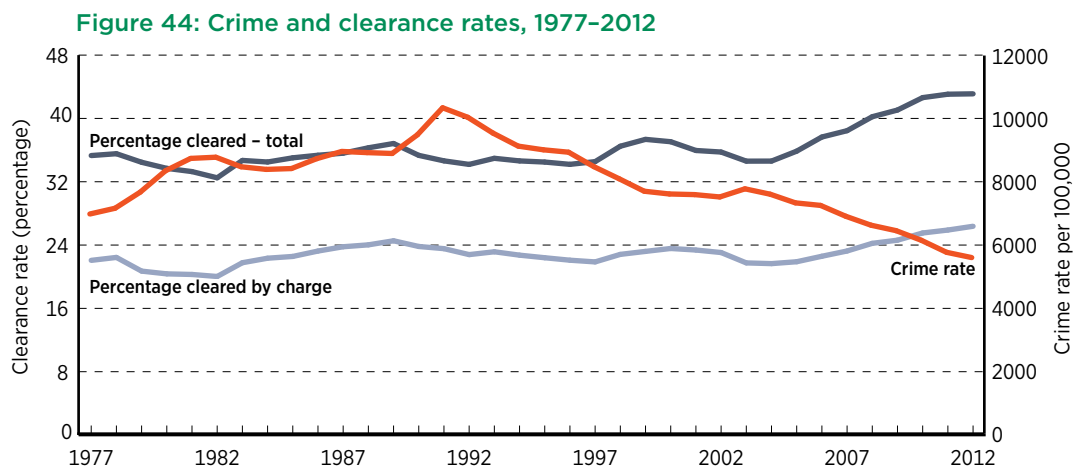
Sources: Statistics Canada[13], 2013; Statistics Canada[11], 2013.

What can we read from the figure? There are really two interesting and different observations that are present in the figure. First, it is clear that as the crime rate rose from the 1970s to 1991, the clearance rate fell until 1982 and rose until 1989. This was during a period in which the crime rate rose rapidly until 1982 and then fell off until 1985, when it began to rise again more or less to 1991. Since then, it has fallen more or less steadily. Clearance rates on the other hand fell for the decade between 1989 and 1997. From 1997 to 1999 they rose again and then again fell to 2004 when they began another increase (Statistics Canada[15], 2013; Statistics Canada[11], 2013), which they have continued to do for the past decade. Happily both clearances by charge and overall clearances have increased.

The Crime Severity Index

Since 2008, we have a new measure of the crime rate,[51] the Crime Severity Index, which weights crimes by the average sentence imposed by judges. Similarly, we have the clearance rates of those crimes. These have also been reconstructed to 1998. To illustrate, from 1998 **figure 45** includes both the (weighted) violent crime rate and an index of (weighted) clearance rates for violent crimes. Happily, as displayed for crimes of violence in figure 45, the weighted crime index displays the same patterns as the earlier unweighted clearance rates. Further, both property (not shown) and violent crime and their clearance rates are similarly related: recent decreases in crime have been associated with higher clearance rates (Statistics Canada[13], 2013). Linking the earlier unweighted clearance rates to the current weighted clearance rates displays the same patterns in both property and violent crime clearances. Since 2004, clearance rates have been rising across the board.

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51.   As discussed above, in table 1 and the discussion in the text, the definitions of the components of crime change significantly, reducing the usefulness of comparisons in the aggregate.

Figure 45: Weighted crime index and clearance rates, 1998-2012
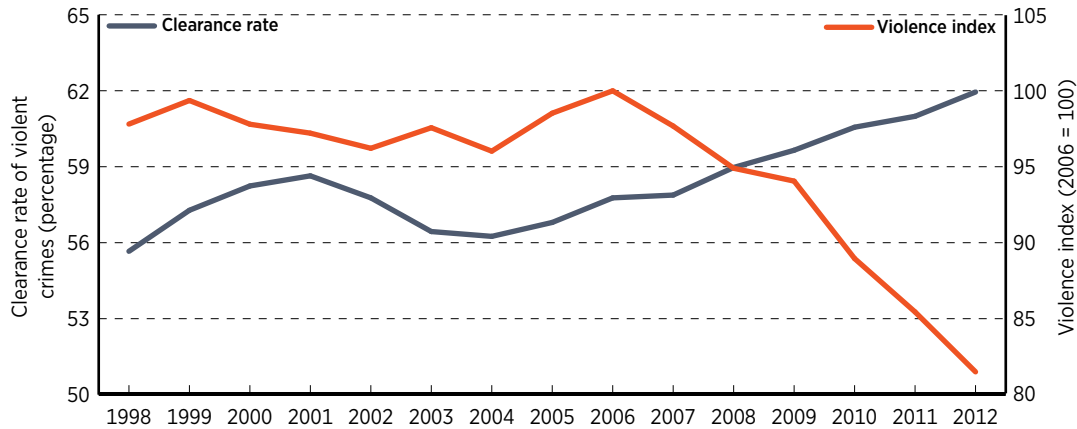
Source: Statistics Canada[13], 2013.

What makes this complicated is that, while clearances have been rising and the crime rate falling for the past decade, and there are clearly other periods in which there is a positive relationship between the crime rate and the clearance rate: higher clearances and higher crime rates. There are also periods in which falling crime rates have been associated with lower clearances. Obviously, there is no simple story in which we could say that higher clearances reduce crime, or that higher crime rates reduce clearance rates. While it is gratifying that in recent years the falling crime rate is also associated with higher clearance rates, the historical record gives us no assurance that this relationship need continue. It is a complex story that deserves more professional attention.

Although we have argued that the crime rate and the clearance rates are related, albeit highly imperfectly, this is not the only concern. We are also interested in the cost of policing. We begin by looking at the overall expenditures that are taking place in policing and then turn to more nuanced measures.

Expenditures

The sharp increase in the cost of policing since 1996

In 2012, the public expenditures for police (forces and total resources) was $13.5 billion, an inflation-corrected increase of 10.1% from 2008 with the single largest increase in per-annum expenditures during that period taking place in the Winter Olympic year of 2009.[52] For the average Canadian, $388 was being spent on policing in 2012 (Burczycka, 2010, 2012; Hutchins, 2014).

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52.   Data on expenditures were reported starting in 1986

Between 1986 and 2012, public expenditures (in inflation-adjusted dollars) on police services increased 93%. On average, the inflation-adjusted costs rose just under 3.6% per year. **Figure 46** summarizes the findings for the total budget of policing measured in billions of dollars, which can be read off the left-hand axis.

Figure 46: Total cost of policing and policing cost per crime known to the police, 1988–2011, in constant 2009 dollars
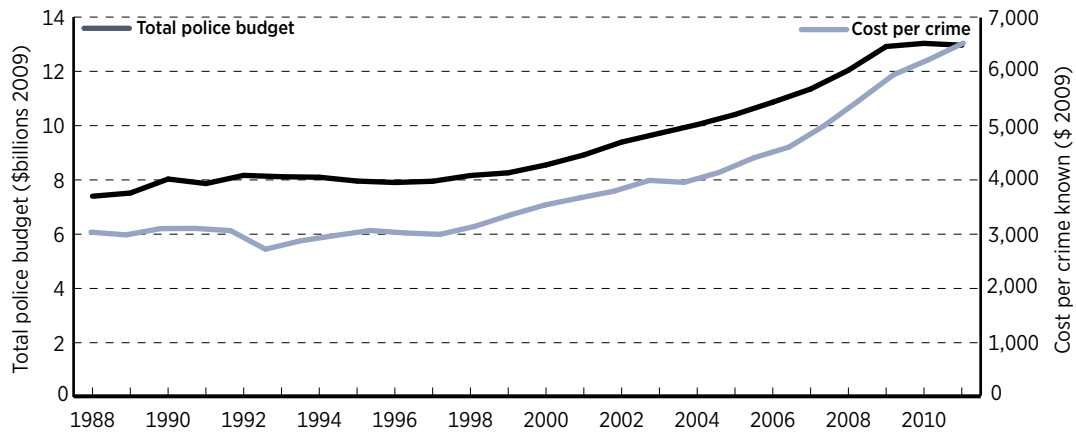
Sources: Statistics Canada[10], 2013; Statistics Canada[11], 2014; Statistics Canada[23], 2013; Statistics Canada[27], 2013. CPI adjustment as above.

A quarter century of cost increases

The actual cost of policing has risen in terms of the activities they are undertaking. Figure 46 also describes the real policing cost per crime known to the police (measured along the right-hand axis in real dollars), which gives a sense of the increase that has doubled the real cost of policing per crime (known to the police) since 1995 (Burczycka, 2010). The falling number of crimes and the gradually rising cost of policing generate the sharp increase in cost per crime after 1996. Whether this reflects difficulty in the process and cost of investigation arising from higher standards required by the courts as we discuss below, or some other cause, this increase is surely a concern and is a striking development.[53]

Although it is no more than a simple observation at this point, there are three important Supreme Court of Canada decisions that may indicate why policing costs have been rising. Why might policing costs be higher today than in the past? Although there are no definitive studies that we have been able to find, the figure 46 suggests that

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53. Public attention has focused on the time needed to develop a criminal mischief case when those involved in the Stanley Cup riot in Vancouver began to be charged a full three years after the event. As of June, 2014, the police continue to recommend charges to Crown prosecutors.

something happened in the early 1990s since the increase in costs began at that time. One possible source of higher costs of policing is that the police are now being held to higher standards in a number of different ways. Three cases in particular are likely to have raised the price Canadians pay for justice: the right to a state-funded lawyer (*R. v. Rowbotham et al.* (1988) 25 O.A.C. 321.); the right to a speedy trial (*R. v. Askov* [1990] 59 C.C. C. (3d) 499 (S.C.C.)); and the right to full disclosure of Crown evidence (*R. v. Stinchcombe* [1991] 3 S.C.R 326)). In a large trial, the last can be particularly onerous and costly.

Stinchcombe has imposed substantial burdens on police, Crown prosecutors, defence lawyers, and courts. Massive volumes of information must be prepared, transmitted, read, and interpreted. Police, for instance, are required by case law following from *Stinchcombe* to provide to Crown prosecutors, for disclosure to defence lawyers, copies or transcripts (validated by the original investigating officers) of all the following investigative materials: all audio and video tapes; notebook entries from all officers; reports; all source debriefings; all tips (and outcomes of tips); all connected cases; all affiant material; all wiretap information; all operational plans; all surveillance notes; medical records; all analyses of telephone records or other documents; undercover operation information; information relating investigative techniques considered, whether they were actually used or not; and, investigative team minutes of meetings or debriefings. In considering the scope of disclosure in 2003, the Supreme Court stated that "little information will be exempt from the duty that is imposed on the prosecution to disclose evidence" (*R. v. Duguay* [2003] 3 S.C.R. 307.)

A recent study found that the amount of time needed to complete the paperwork that is an essential part of policing has expanded from about an hour and a half per shift 30 years ago to over four hours per shift now. Further, most general duty police officers now spend more time on paperwork than on patrol and investigation combined. This change seems to be driven by changing legal demands for better and more detailed documentation of events by police and by development of tools such as mobile data terminals that make that documentation more feasible. (For further discussion of this issue in terms of expanding procedural demands on police time and costs, see Malm et al., 2006, 2007.)

An additional source of cost may arise from the capital-intensive technological improvements in policing that nonetheless put pressure on traditional police resources. For instance, as DNA technology has improved so that it can be used to extract good information from minute samples, the number of crime scene technicians and perimeter

general duty officers that must be assigned to a crime scene, and the amount of time they must spend working the scene has expanded enormously because now they must search in detail for those minute, sometimes even microscopic, bits of evidence.

Thus, increases in policing cost per crime may arise from the intensity with which criminal cases must be prepared, from the data requirements that are now possible, and from paperwork that tracks policing and from the possible mix of casework that policing entails. Other costs arise from the increasing role of the police as social workers who have first contact with many of the impaired members of society living on the streets.

The distribution of policing costs

Policing divisions in Canada are divided into three categories: municipal, provincial, and federal. Of the $12.3 billion spent in 2009, 54% was spent municipally, 21% provincially, and 25% federally (Burczycka, 2010). **Table 19** summarizes the findings and differentiates them by region. These proportions remain about the same each year.

Table 19: Expenditures ($000s) by region and by governmental division, 2009

Region	Municipal	Provincial	Federal	Total
British Columbia	782,110	313,508	186,640	1,282,258
Alberta	730,641	181,567	100,028	1,012,236
Saskatchewan	139,929	113,942	51,607	305,478
Manitoba	218,259	90,913	46,351	355,523
Ontario	3,253,037	706,800	—	3,959,838
Quebec	1,318,994	847,321	—	2,166,316
New Brunswick	83,439	64,441	29,588	177,468
Nova Scotia	120,850	88,530	40,460	249,839
Prince Edward Island	11,290	12,522	5,708	29,520
Newfoundland	—	105,753	23,785	129,538
Yukon	—	15,482	6,635	22,117
Northwest Territories	—	31,546	13,520	45,066
Nunavut	—	26,301	11,272	37,573
Provincial & territorial total	6,658,549	2,598,626	515,594	9,772,770
Other RCMP expenditures	—	—	2,544,127	2,544,127
Total	6,658,549	2,598,626	3,059,721	12,316,896

Source: Burczycka, 2010.

What is the most useful way of viewing expenditures on crime? We argue that instead of dollars per capita, a measure that is frequently reported, the more useful approach is to view the expenditures relative to the number of crimes known to the police. In contrast to per-capita spending, this view of expenditures highlights the putative reason that the expenditures are taking place. **Figure 47** gives these figures.

Figure 47: Policing cost ($000s) per crimes known to police, by province, 2009
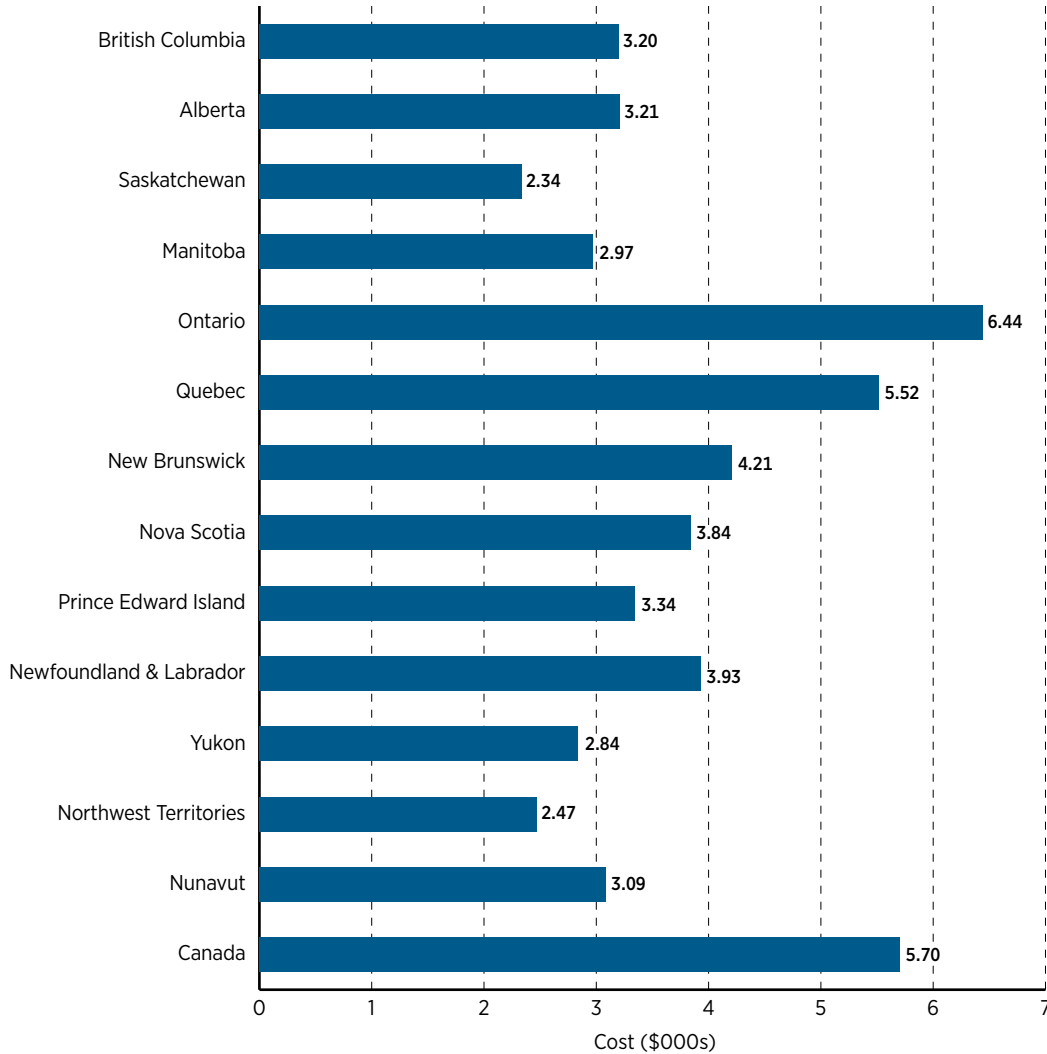
Sources: Burczycka, 2010; Dauvergne and Turner, 2010.

Interestingly, among the provinces, the cost per crime (known to the police) is about $5,700 on average in Canada, with the highest being in Ontario at $6,440 per crime; the cost in British Columbia is $3,200. Ontario spends a lot on each crime that is known, while the high volume areas, Manitoba and Saskatchewan, spend not so much: under $3,000 per crime that is known (Burczycka, 2010; Dauvergne and Turner, 2010). In

other words, in Manitoba and Saskatchewan, the areas with relatively high crime rates, much less is spent on policing compared to the lower crime areas like Ontario and Quebec. Equally interesting is that in Quebec and Ontario there is no federal contribution to policing (except of course for federal crimes and at airports and so forth), since both have their own provincial police.

To pose the questions starkly: what is the outcome of higher expenditures per crime? If we plot the cost per crime against the crime rate in the major provinces,[54] then as displayed in the **figure 48** we have a relationship that suggests that increased police costs per crime is associated with a lower crime rate. A 10% increase in the cost of policing per crime is associated with a crime rate 6% lower (Burczycka, 2010; Statistics Canada[11], 2013). Figure 48 shows a scatter plot of the association. This is a measure of association, not causation, but it does give one pause. Would doubling of the expenditures on policing per crime in Manitoba and Saskatchewan lower the crime rate? Would decreasing expenditures per crime in Ontario and Quebec increase crime? An alternative explanation is that policing (cost) is allocated in a way that is generally unrelated to the amount of crime. Thus low crime districts display relatively high costs per crime while high crime provinces show up as low expenditures areas per crime. We should insist that we know the answer since, if policing is effective, we might want to spend more resources in high crime areas to reduce the crime rate. If it has little effect, then we can reduce the expenditure in low crime rate regions without raising the crime rate.

Figure 48: Crime rate and cost ($000) per crime, by province, 2012
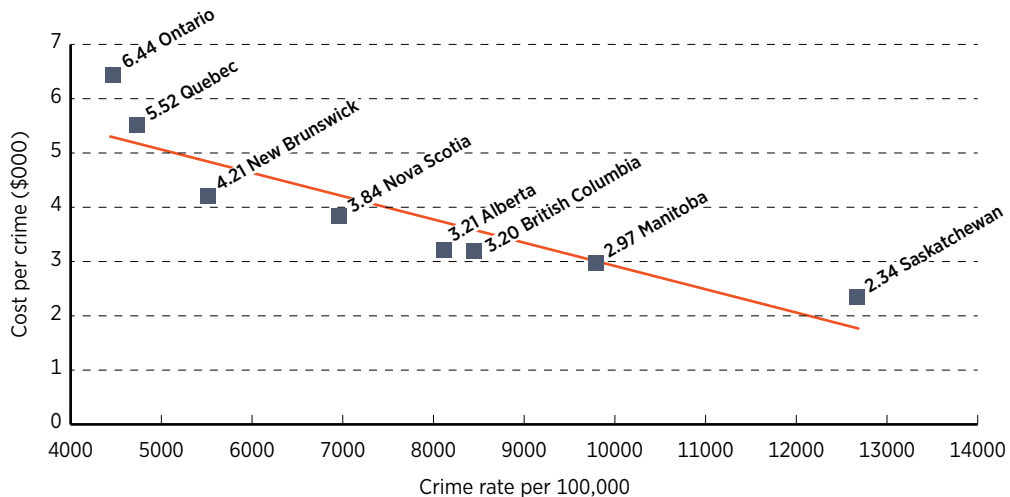
Source: Burczycka, 2010; Statistics Canada[11], 2013.

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54. We do not include PEI, Newfoundland, the Yukon, NWT and Nunavut.

Private Security

The number of police and the expenditures to support them are only part of the total cost of security—albeit the largest segment. The number of private security guards and investigators has been growing at a faster pace than the number of police officers. Recent data (**table 20**) show that in the previous decade, while the number of police officers (per 100,000) grew by about 9% from 184 to 202, the number of private security guards grew nearly 14% (Li, 2008; Statistics Canada[24], 2013; Burczycka, 2013).

As a result, the overall increase in the number of people engaged in protecting the public has increased during the early 2000s with the rate being higher than at any time in Canadian history. We have more policing and protection. We also have a lower and falling crime rate for property crime. Explaining why this is the case is an important discussion to have.

Table 20: Number of police and private security per 100,000 population, 1991–2011

-	2011	2006	2001	1996	1991
Police officer*	202	192	184	184	203
Total private security	318	321	280	284	297
Security guards		289	245	242	267
Private investigators	—	32	35	42	30

Note: *Uses Police Administrative Survey data.

Sources: Li, 2008; Statistics Canada[24], 2013; Burczycka, 2013.

The overall cost of private policing must be added to the cost of crime. **Table 21** gives the figures and the comparative wage bills. Of course, especially in the case of the police, salaries are only a part of the $12.3 billion total cost. They are included here simply as a point of reference. We do not have the non-salary expenses associated with private policing, so the estimate included in our discussion must be considered a lower bound on total policing costs. The total spent on security and policing is displayed in **table 22**.

Table 21: Salaries of security guards, investigators, and police, 2011

Job titles	Number	Average annual salary	Aggregate income ($ millions 2012)
Security guards and private investigators*	109,620	28,648*	3,140
Police officers	69,424	82,080	5,698

Note: *Data for security guards is for 2010 adjusted to 2012 dollars.

Sources: Li, 2008; Statistics Canada[24], 2013; Burczycka, 2013..

Table 22: The cost ($ billions 2012) of policing and security, 2010

Service	Cost
Police	11,488
Private security	3,140
Total	14,628

Sources: "Police" uses the PBO values in table 21 that corrects for the fraction of policing associated with crime-related activities. "Private Security" from table 17. "Private security" does not include non-salary expenses.

2. Correctional services

Once the police catch the offender, the ultimate Canadian sanction is incarceration. This is an expensive undertaking. The governance of the offenders who are sent to the Canadian Correctional Services is a shared provincial and federal responsibility. Canadian Correctional Services consists of two principal activities: custodial sanctions and community sanctions. The first deals with imprisonment; the second monitors probation and parole when the offender is granted some community access, or when conditional sentencing and monitoring is pursued as an alternative to incarceration.

A penal sanction of two years less a day means that the guilty party is overseen by provincial and territorial authorities. The federal system governs the regulation of those who receive a sentence of two years or more. However, all community-based corrections are regulated at the provincial and territorial levels (Landry and Sinha, 2008).

There are several ways to measure incarceration in Canada. We can look at new admittances to correctional institutions, which give a sense of the volume of activity and the number of people passing through the system (although of course the same person can be admitted more than once.) The second way is to look at average counts. Both are discussed below.

New admittances to Canadian Correctional Services

Over 374,000 individuals were admitted to Canadian Correctional Services in 2008,[55] which was about the same as in 2007, of whom 70% were placed in provincial custody. Of these, nearly 60% of the custodial entrants were housed in remand, which describes those who are awaiting disposition of their cases and who are either deemed not fit to

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55.   Note that this is the latest year the full information has been made available at the time of this writing.

be released on a surety or those who *choose* to remain in custody[56] (Statistics Canada[5], 2013; Calverley, 2010). The increasing number in remand is a dramatic change from the past about which more will be said below.

In addition to custodial sentences, there were a total of 112,034 persons who started community supervision programs, of whom 75% were placed on probation, while 16% began conditional sentences (that place offenders in community and stipulate court-imposed rules for a specific period of time). **Table 23** reports the numbers of those entering specific correctional divisions for 2008/2009.

Table 23: Admissions to Canadian Correctional Services, 2008/09

Custodial sanction		Community-based sanction	
Prov./terr. sentenced custody	81,806	Probation	84,281
Remand	153,774	Provincial parole	1,333
Other temporary detention	18,164	Conditional sentences	18,404
Total Prov./Terr. custody	253,744	Total Prov./Terr. community supervision	104,018
Federal custody	8,323	Community releases[1]	8,016
Total custodial supervision	262,067	Total community supervision	112,034

Note: Totals on community-based sanctions do not include the category "other community based admissions", which would add about 50,000 to these totals. The omission allows comparability with earlier data.

Source: Statistics Canada[5], 2013; Calverley, 2010.

Average counts

Although admissions gives a sense of the level of activity in correctional services, for many issues the average count of offenders is more useful. From **table 24** we can see that in 2008, 37,201 adults were held in custody on an average day.[57] Of this total, 23,307 were held in sentenced custody, 13,507 were held in remand, and 387 were held in other forms of detentions (Calverley, 2010). The Canadian incarceration rate per 100,000 adults in 2008 was 141, slightly less than a 1% increase from 2007, which was the same as in 1998, and a 3% increase from 1988 (Statistics Canada[1], 2011).

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56. It may seem peculiar that people would choose to remain in custody awaiting trial but judges have typically given "two for one" or even more. This means that, upon a guilty verdict and sentence, the time before sentencing would count at least double against the time meted out by the sentence. This practice has been sharply curtailed by recent legislation (*Bill C-25: An Act to amend the Criminal Code (limiting credit for time served)* February 22, 2010), that limits credit for time served to up to one day per day except in extraordinary circumstances, but also permits time served to be given no credit against sentence. To grant additional credit up to 1.5 to 1, the court is required to give an explanation (Calverly, 2010).

57. However, since we used 2008 figures for the number of admissions, we use 2008 for the average counts for comparability and consistency.

Table 24: Average counts of those in Correction's care, 2008/09

Disposition	Total provincial and territorial	Federal	Total
Sentenced custody	9,964	13,343	23,307
Remand	13,507	—	13,507
Other temporary detention	387	—	387
Total in Custody	23,858	13,343	37,201
Incarceration rate per 100,000 adults	90	51	141
Probation number	98,596	—	98,596
Conditional sentence	13,506	—	13,506
Provincial parole	696	—	696
Total community sentences	112,798	7,166	119,965

Source: Calverley, 2010.

In addition to those in custody, 119,965 people were, on average, under community supervision each day in 2008. Similar to patterns of new admissions, the vast majority (98,596) were on probation. Of the daily number of 13,506 offenders serving conditional sentences, approximately 7,166 per day were out on conditional release (Calverley, 2010).

By province

Table 25 shows the levels of incarceration and the crime rate by province. The interesting thing from a policy perspective is that the rate of incarceration is simply proportional to the crime rate in a province. If we look at the major provinces, an increase in the crime rate by 100 (per 100,000) leads to an average of 1.5 more incarcerations (per 100,000) (Calverley, 2010; Statistics Canada[11], 2013).

Trends, or their lack, in the use of correctional services

Figure 49 displays the rates of incarceration in Canada from 1978 to 2012. What is immediately apparent is that there are few changes over this 34-year period. The rate of incarceration overall has remained remarkably stable with the federal rate falling slightly in the past 15 years and the provincial rate rising slightly in the past five years (Statistics Canada[25}, 2013; Statistics Canada[26], 2013). Surprisingly, there is little evidence that the rate of incarceration is directly responsive to the crime rate although there are some gradual waves that may correspond to lagged responses to crime.

Crime and incarceration rates in Canada, 1978–2012

We would expect the rate of incarceration to be related in a general way to the crime rate. This is only broadly the case as displayed in **figure 50**. The right-hand axis displays a measure of the crime rate per 100,000 of the *total population*. The left-hand axis is the rate of

Table 25: Levels of incarceration per 100,000 adult population and the crime rate, by province, 2008/09

Province/Territory	Incarceration rate	Crime Rate
British Columbia	80	8,452
Alberta	104	8,117
Saskatchewan	187	12,667
Manitoba	177	9,793
Ontario	87	4,470
Quebec	72	4,735
New Brunswick	71	5,519
Nova Scotia	59	6,964
Prince Edward Island	83	6,181
Newfoundland & Labrador	68	6,719
Yukon	303	20,996
Northwest Territories	843	46,603
Nunavut	684	39,628
Canada	141	

Sources: Calverley, 2010; Statistics Canada[11], 2013.

Figure 49: Incarceration rates in Canada, 1978–2012
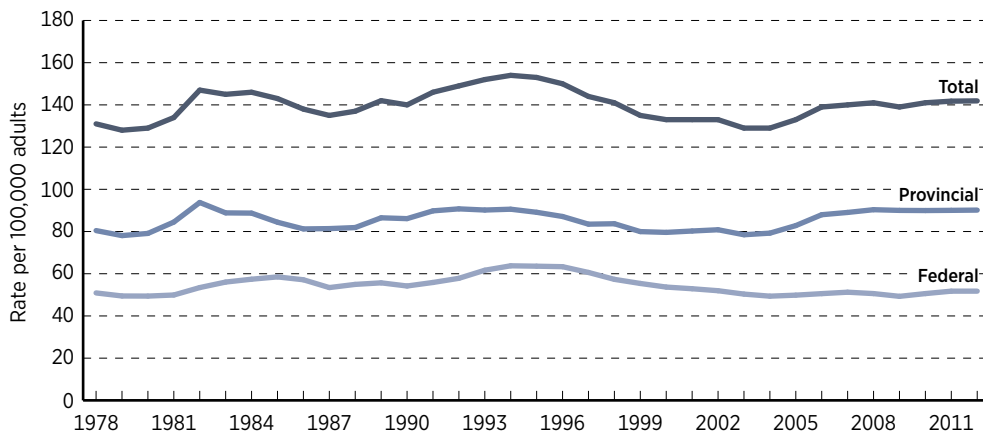
Source: Statistics Canada[25], 2013); Statistics Canada[26], 2013.

incarceration per *100,000 adults*. Although there is a general correspondence of direction in the sense that both were trending upwards until the mid-1990s and downwards through 2005, the crime rate (as extensively discussed above) has continued to fall since 1991 while the incarceration rate has remained at roughly the same levels since the late 1970s. This is a puzzle since it would be natural to expect at least some correspondence between them. Looking at either the violent or property crime rates does not diminish the puzzle.

Figure 50: Rates of crime and incarceration, 1978–2012
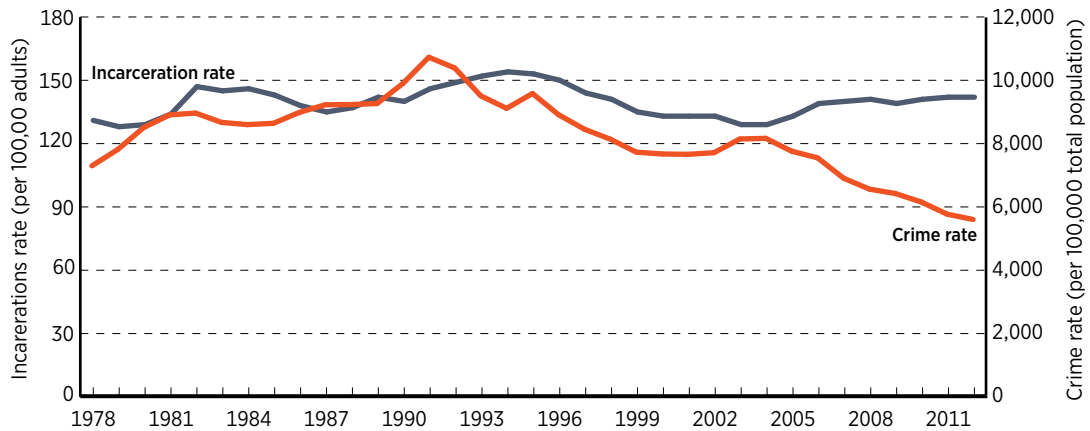
Sources: Statistics Canada[25], 2013; Statistics Canada[26], 2013. For crime rate: Statistics Canada[10], 2013; Statistics Canada[11], 2013.

The role of remand in incarceration rates

At least part of the puzzle has to do with the role of remand in the measured rates of incarceration. As discussed above, remand is the process whereby an accused is held in custody rather than being released and having some conditions placed on him by a judge. While the actual rates of incarceration have little changed over the past 35 years, the mix of measured incarceration has changed dramatically. **Figure 51** shows that, were the numbers on remand to be kept out of the total, the number incarcerated—those who have been sentenced—have actually mirrored the crime rate rather well by peaking in the mid 1990s and falling thereafter .

Figure 51: Incarceration rate with and without remand, 1978–2012
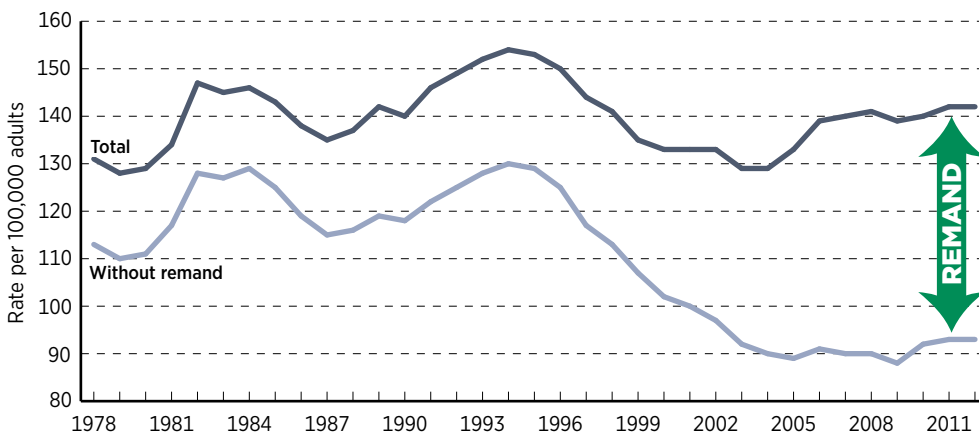
Sources: Statistics Canada[25], 2013; Statistics Canada[26], 2013.

More directly, in **figure 52** below, we can see that the remand rate now dominates the provincial incarceration rates. Note further, that when the remand rate is excluded,

Figure 52: Remand and federal and provincial rates of incarceration, 1978–2010

Source: Statistics Canada[25], 2013.
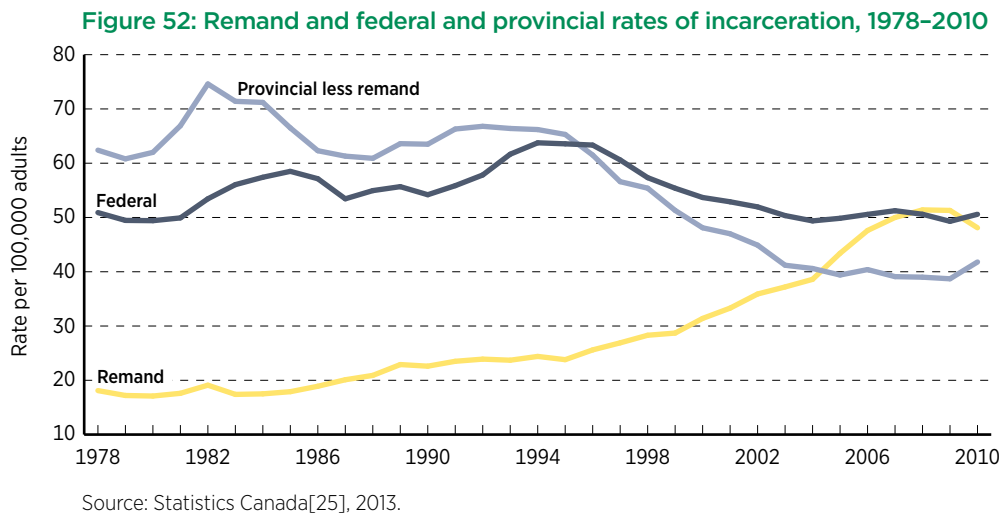
both the federal incarceration rate and the provincial incarceration rate fall roughly in proportion to the decreasing crime rate. The remand rate stands in sharp opposition to these trends. The rate of provincially (sentenced) incarcerated persons peaked at 74.6 (per 100,000) in 1982 while in 2009 the rate had dropped to 38.7. These numbers suggest a total decline in the rates of 48%. On the other hand, since 1978, the rates of those held in remand have increased nearly 4% per annum. Remand rates have increased over 189% since 1982 (Statistics Canada[1], 2011; Statistics Canada[2], 2011).

Figure 53 displays the ratio of remand to sentenced custody across the provinces (read off the left-hand axis) together with the crime rate (on the right-hand axis). The amount of remand is not evenly spread around the country, nor does it appear to be a function of the crime rate. If we look at the ratio of remand relative to those in sentenced custody in figure 53 below, we see that the big users of remand are not necessarily those with the highest levels of crime. Thus, it is hard to understand why it is that such high rates of remand appear where they do. The greatest use of remand is in Manitoba and Ontario, and yet they have dramatically different crime rates: Manitoba has one of the highest provincial crime rates and Ontario the lowest. Saskatchewan has the highest crime rate among the provinces but is in the middle of the pack as far as the use of remand (Statistics Canada[11], 2013; Calverly, 2010).

The important conclusion from figure 53 is that the stress on remand is not simply a question of some proportionality with the crime rate. It is an interaction of the players in the justice systems of the different provinces. Just as clearly, it is not a question of size since Ontario and Manitoba are so different yet they share a common remand rate. It is not an "east-west" relationship since, while British Columbia and Alberta are

Figure 53: The crime rate and the ratio of remand to provincial sentenced custody, 2008/09
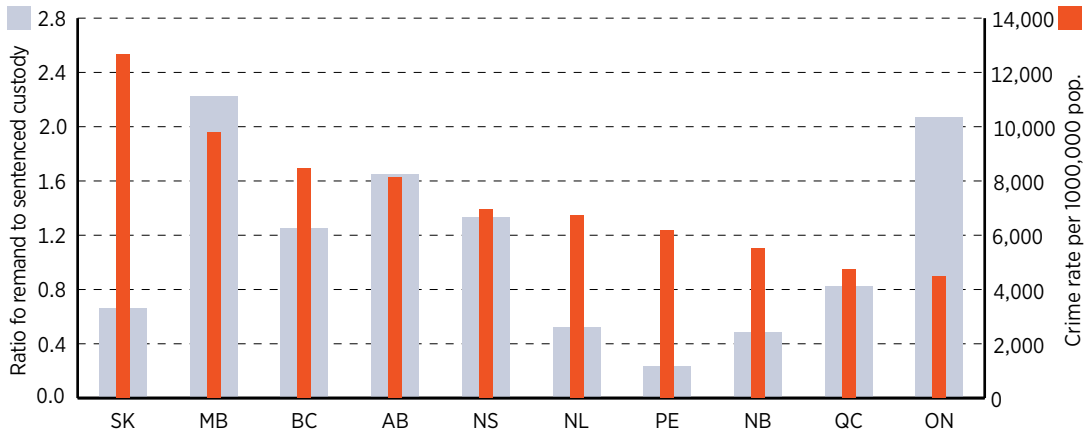
Sources: Statistics Canada[11], 2013; Calverly, 2010.

relatively similar in both crime rates and remand rates, they are more or less in the middle of the population pack and have remand rates much like the smaller province of Nova Scotia. Quebec, a large province, has both a low crime rate and a low remand rate while Ontario has a low crime rate and a high remand rate.

The source of the differences among remand rates is an important question. Is it a matter of sentencing? Do some provinces systematically treat accused sufficiently differently so as to encourage them to remain without bail? Is it some mix of offences that requires this peculiar combination of remand? Most importantly, is remand a good use of our resources?

Community corrections and probation

Displayed in **figure 54** are the community service and probation rates per 100,000 *adults* for the past 35 years. In 2012 over 111,000 people were in community supervision with the highest proportion (98,000) being on probation. Some 12,500 were serving conditional sentences in 2012. The use of community corrections and probation increased dramatically from the late 1980s to the early 1990s but fewer people are being sentenced to probation since the mid-1990s. This is presumably in some measure a reflection of the falling crime rate.

More interestingly, if we look at the use of probation relative to the crime rate, we get a very different story. By looking at the ratio, we are implicitly asking how likely it is that an offence would be to receive probation. **Figure 55** plots the ratio of probation relative to the crime rate. The sharply increased likelihood of an offence receiving probation is

Figure 54: Community sentencing and probation, 1978–2012
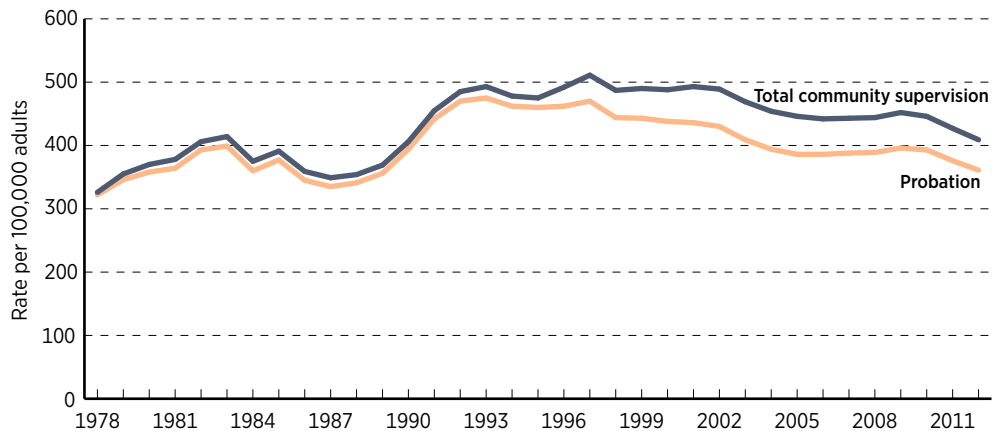
Source: Statistics Canada[25], 2013.

Figure 55: Crimes known to police and the ratio of probation to crimes known to police, 1978–2009
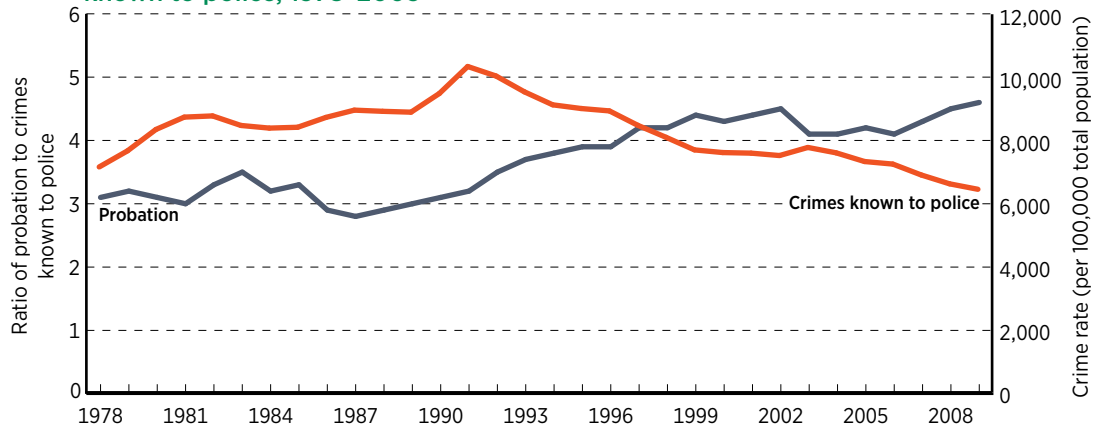
Sources: Statistics Canada[25], 2013.

apparent. This is a trend that has taken place since the mid-1980s albeit with fits and starts. Thus, the fall in the number receiving probation is in fact less than the fall in the crime rate itself. In this sense, probation is clearly more frequently used now than ever before.

Sentence lengths

Over the past 30 years, sentence lengths in prisons have changed dramatically. In 1978, an offender's expected sentence length was 5.13 years; in 2008, it had fallen to 4.47 (Statistics Canada[4], 2011). In 1978, 34% of those serving time in a federal institution were assigned sentences of two to three years,[58] 43% were to serve three to six years, 10% were given

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58.   Recall that federal prison is for those who receive custody sentences of two or more years while provincial jails house those who received sentences of less than two years.

terms of six to nine years, and 9% would serve nine years to life. By 2008, the proportion of offenders given two to three year sentences increased by half to 52% while the use of each of the longer terms had decreased. The percentages of offenders admitted to custody with three-to-six-year, and six-to-nine-year, terms had fallen to 35% and 6%, respectively. **Figure 56** describes the fraction of federal offenders by the duration of their sentence. In each case the bars describe the fraction for each of the three years 1978, 1992, and 2008. The data for 1978 illustrate a period in which there was relatively low rates of crime, 1992 is at the peak of Canada's crime mountain, and 2008 illustrates the recent events.

Figure 56: The changing pattern of sentences in federal incarceration, 1978, 1992, and 2008
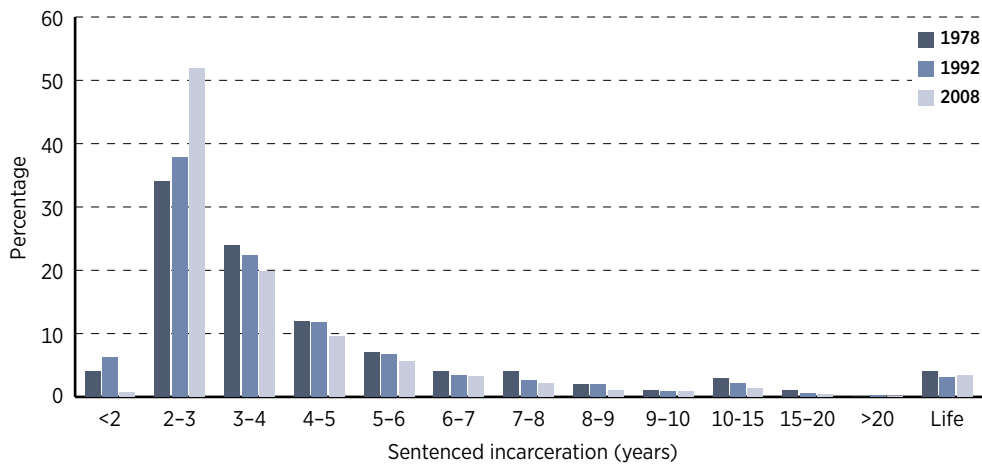
Source: Statistics Canada[4], 2011.

What the figure illustrates is that the fall in the average length of sentence has primarily been a result of the fraction of offenders receiving shorter sentences. This has been taking place more or less independently of the crime rate since the increase in shorter terms was relatively stable between 1978 and 1996 and then rose steadily from 1996 to 2003, at which point it once again stabilized at roughly 50% of all inmates.[59]

Expenditures

Canadians spend over $4.78 billion on corrections: from custody to parole services (Statistics Canada[27], 2013). The path of these expenditures is displayed in **figure 57**, where we have reported estimates from both Statistics Canada estimates and the Parliamentary Budget Officer (PBO) of total expenditure on corrections (when

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59. This has been driven, in part, by changes to the Criminal Code sections defining the purpose and principles of criminal sentencing that occurred during the mid-1990s. In particular, §718.2e specifies in part that "… all available sanctions other than imprisonment that are reasonable in the circumstances should be considered for all offenders".

Figure 57: Total real corrections expenses ($billions 2012) and crimes known to police, 1978–2012
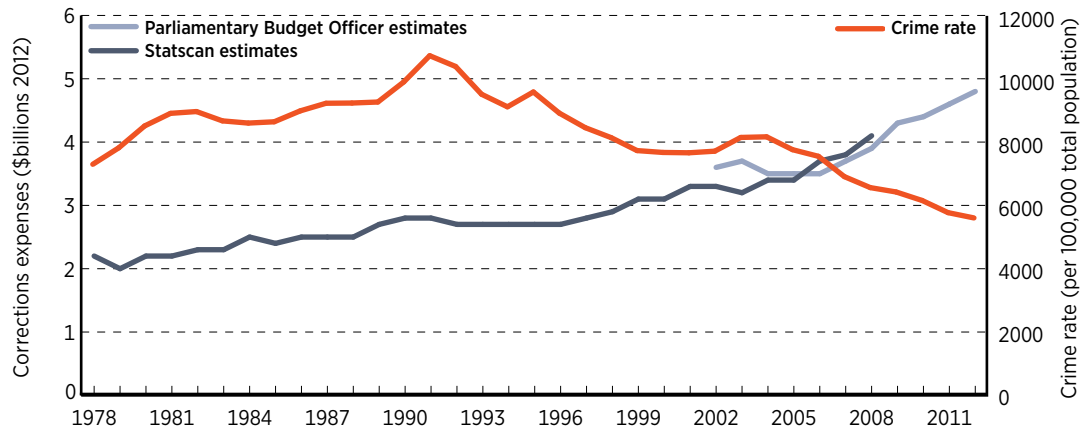
Sources: Statistics Canada[27], 2013; Hutchins, 2014; Story and Yalkin, 2013; Statistics Canada[23], 2013: CANSIM v41693271 rebased to 2012.

available.) As a reminder, we also include the crime rate. Over the decade from 2002 to 2012, the average real growth in annual spending is just over 3.2%. The Canadian economy in real terms grew at a rate of 2%. Thus, by any standard real resources spent on corrections is increasing while the crime rate is falling.

In 2012, when Corrections cost Canadians $4.78 billion or $138 per capita, drawing from earlier, more detailed, analysis finds nearly three quarters of the expense (72%) was allotted to custodial services while 13% and 14% respectively were spent on community services and headquarters and central services (Statistics Canada[27], 2013).

Column 2 of **Table 26** displays the cost of corrections services in Canada in 2010/11 (the last year for which detailed data are available, Statistics Canada[27], 2013) while column 3 reports the inflation adjusted expenditures of 1979 so that both are in the same 2011 dollars. Column 4 identifies the average annual growth in *real costs* that have taken place in broad categories of correctional expenses since 1979. Community and headquarters services have been the faster growth activities.

What the custodial dollar is being spent upon has also changed only slightly over the past 30 plus years, with less being associated with custody itself and more with other aspects of corrections services. **Table 27** shows that the custodial expenses have fallen as a share of total expenditures while community services, parole, and headquarters services have all risen. There has clearly been a change in emphasis as custodial sentences have decreased in duration, and more offenders are "doing time" in the community. The expenditure on headquarters services has also risen.

Table 26: Corrections expenses

Division	Corrections expenditures from 2010/11 ($ 2010/11)	Corrections expenditures from 1979 ($ 2011 inflation-adjusted)	Average annual percentage Increase in real costs, 1979–2008
Custodial	2,960,853,000	1,533,395,105	2.90%
Community	537,275,000	197,100,613	5.40%
Headquarters	569,725,000	234,677,273	4.50%
Parole	52,658,000	27,876,750	2.80%
Total	4,120,511,000	1,993,049,740	3.30%

Sources: Statistics Canada[27], 2013; Statistics Canada[27], 2013: CPI: Cansim v41693271 adjusted to 2011 base; Hutchins, 2014.

Table 27: Shares of the Corrections Canada expenses (% of total spending), 1979 and 2010/11

	Custodial	Community	Headquarters
1979	77	10	12
2010/11	72	13	14
Percentage change	−6.5	34	16

Sources: Statistics Canada[27], 2013; Hutchins, 2014.

Looking at the cost per day of housing inmates (real $2012) (**figure 58**), it is clear that, although federal costs have understandably always been more expensive than provincial costs, since the early 1990s when they were almost equivalent, the daily costs of federal incarceration have doubled while provincial costs have remained at roughly the same levels. Thus, the increase in the average daily cost of incarceration is primarily driven by federal costs, and it is a trend that has been taking place for the past 15 years (Statistics Canada[27], 2013). In sum, the cost of Corrections for 2012 was $4.78 billion.

Figure 58: The daily cost (real $2012) per inmate of federal and provincial incarceration, 1978–2008
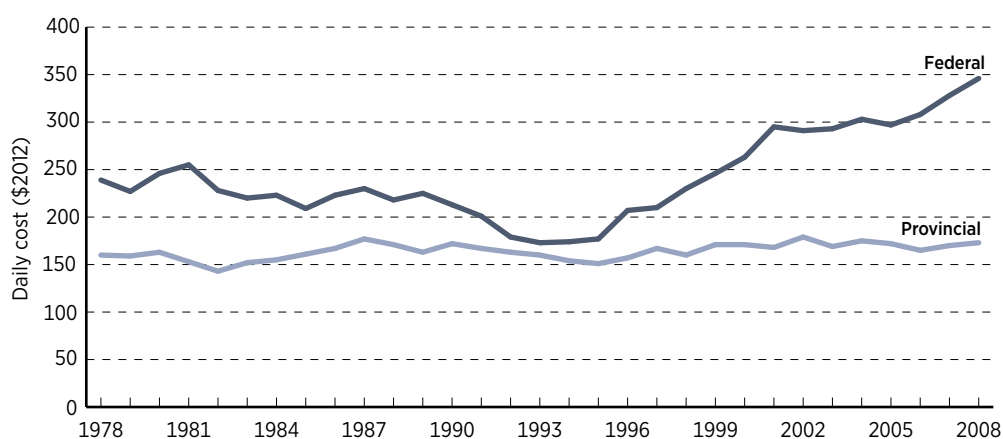
Sources: Statistics Canada[27], 2013; Hutchins, 2014.

3. Judiciary

In 2011/2012 there were 386,451 cases that received some kind of decision in the courts. This is down from 410,051 in 2009/2010 (Boyce, 2013). Looking in detail at 2008/2009, table 28 describes the total number of cases heard for 2009 as well as the number of charges laid[60] for a select set of crimes. Common assault and theft are amongst the most frequently heard cases. In 2009, common assault represented 13% and theft 14%.[61] Among property crimes, theft, fraud, possession of stolen property, mischief, and break and enter were among the most common (Thomas, 2010).

Table 28: Charges laid and cases heard, 2008/09

Offence	Charges	Cases
Total	1,161,018	392,907
Violent	238,567	95,345
Homicide	412	263
Attempted murder	591	193
Robbery	10,644	4,360
Sexual assault	8,654	4,008
Major assault	50,012	21,549
Common assault	91,353	38,276
Property	276,395	96,863
Theft	80,362	42,010
Break & Enter	27,513	11,422
Fraud	66,758	14,957
Mischief	40,240	14,716
Possession of stolen property	51,997	11,822

Sources: Thomas, 2010.

Another natural question is to ask how many cases are completed over the years. Figure 59 plots the latest information for completed cases against the crime rate. As the crime rate (plotted on the right-hand axis) has fallen in the past five years (to 2010/11), the completion rate of cases (plotted against the left-hand axis) has increased.

60.   There are some slight discrepancies between the numbers reported in Thomas (2010) and Boyce (2013).

61.   These percentages were computed from a total that does not include traffic offences.

Figure 59: Completed cases and crime rate, 2005–2010
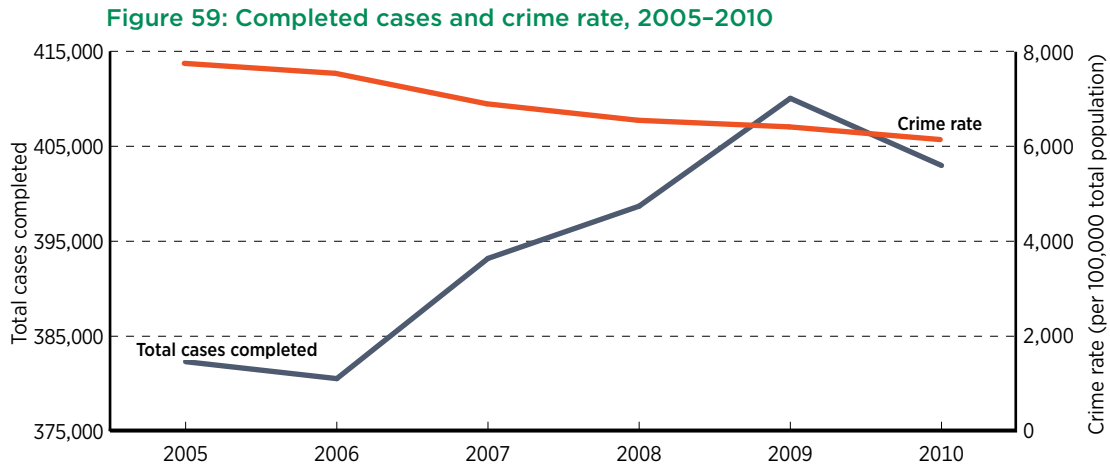
Source: Dauvergne, 2012: table 1.

One of the most embarrassing lacunae in Canadian data is information on Canadian courts. We have found little systematic assessment of the cost of the courts in Canada since Statistics Canada published its *Courts Personnel and Expenditures Survey, 2002/03* except for numbers published by the Parliamentary Budget Office in 2013 (Story and Yalkin, 2013),[62] which are frequently incomplete and are frequently (informed) estimates. Thus, we have no systematic way of assessing whether the courts are getting more or less effective in dealing with the cases that they see, let alone understanding how much we as a society are paying. For a developed nation, this is disappointing to say the least. And, it is not as if there are not problems. The long times involved in bringing cases to court are a subject of increasing concern. How bad is it?

The expanding work involved in handling criminal cases—a self-inflicted wound?

There is a broad perception in the Canadian criminal justice community that criminal cases have become increasingly complex and increasingly inefficient over the course of the past 40 years. Chief Justice McLachlin has decried the massive increase in the time it takes to try a murder case as imposing urgent problems and incalculable costs on the criminal courts. Justice Finlayson of the Ontario Court of Appeal earlier described Canadian criminal process as bogged down in a procedural morass of almost Dickensian proportion (LeSage and Code, 2008: 5).

In a report to the Attorney General of Ontario exploring the problems posed by large, complex criminal trials, Patrick LeSage and Michael Code observed that:

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62. The PBO study is excellent as far as it goes. It reviews the courts, police and corrections, but not in the detail.

the criminal trial courts have had to absorb a continuing onslaught of new Charter remedies, new common law evidence principles, new legislative procedures and new offences over the past 20 to 30 years. It is hardly surprising, in these circumstances, that the short, simple and efficient criminal trial of the 1970s has been replaced by the long, complex and often inefficient criminal trial of the 21st century. (2008:14)

Data from the *Adult Criminal Court Survey* conducted by the Canadian Centre for Justice Statistics at Statistics Canada makes clear the fact that the quantum of work and time necessary to conduct criminal trials has expanded. While the *number* of criminal cases completed in Canadian criminal courts has remained relatively stable over the past decade and a half, the proportion of those cases that take a year or more to complete has more than doubled from around 8% of all criminal cases to more than 16% of all cases. The proportion of serious and complex criminal cases taking more than a year to complete has expanded even more: more than 24% of all fraud cases now take more than a year in court; more than 26% of robbery cases take more than a year; more than 43% of sexual assault cases take more than a year; and 23% of cases involving criminal-code traffic offences now take more than a year to complete. Homicide cases are particularly noteworthy, in keeping with Chief Justice McLachlin's comments noted above: about 10% of homicide cases completed in 1994/95 took a year or more; in 2009/10, 49% of all homicide cases completed had taken a year or more in court.

This expansion of the work needed to conduct a criminal trial has important implications for the costs of criminal justice. More resources are required at every level: more prosecutors, more defence lawyers (most of whom end up paid by the Crown through legal aid plans or through *Rowbotham* applications), more judges, more sheriffs and bailiffs, more registry clerks, more court houses; and, because many more accused persons are spending more time in custodial remand rather than on bail, more jail cells. In addition, longer criminal process results in much higher legal fees for the accused (or the responsible state agency[63]).

Just as importantly, more complex cases require more investigative and administrative muscle, which means time, effort, and money from the investigating authorities,

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63. Legal aid raises an interesting question. If legal aid pays for a defence, then the putative imbalance between the resources of the prosecution and the defence is rebalanced. Part of the rationale for the requirement that guilty verdicts be "beyond reasonable doubt" is that the Crown has more resources than the defendant. Perhaps the more equal resources should lead to a less strict standard of proof. See Cooter and Ulen, 2000: 431 for a discussion.

namely, the police. The three cases discussed above—*Rowbotham*, *Askov*, and *Stinchcombe*—are all part of this pattern of complexity enforced by the courts. Thus, the pattern of rising costs in the justice system is beginning to take shape.

Table 29 makes the same point quantitatively over the past decade. There are two measures of the time it takes to complete a court case: the median number of days[64] and the average number of days. Both the median and average number of days have risen substantially in the past decade. We identify both measures because the average number of days a case may take to completion may be influenced by particularly long cases giving a spurious impression that all cases are of increasing duration. However, the median is also rising, which tells us that more cases are assuredly taking longer to process.

Table 29: Time to justice—the increasing length of time (in days) for a case to be completed in adult criminal court, 2001/2002 and 2008/2009

Case Type	Median			Average		
	2001 /02	2008 /09	Percentage increase	2001 /02	2008 /09	Percentage increase
Total cases	78	124	59%	170	229	35%
Crimes against the person	104	162	56%	171	233	36%
Crimes against property	82	109	33%	208	242	16%
Administration of justice offences	27	75	178%	118	187	58%
Other Criminal Code offences	74	154	108%	157	273	74%
Criminal Code traffic offences	73	150	105%	157	242	54%
Other federal statutes	91	134	47%	177	256	45%

Note: The provinces covered in the earlier data do not include British Columbia, Manitoba, or New Brunswick. See Robinson and Thomas for details of coverage.

Sources: Robinson, 2003; Thomas, 2010.

While the time to process violent crimes averaged more than half a year with even common assault taking as much, property crime took even longer. Even mischief took an average of more than a half a year to process. These remarkably high numbers on the face of it suggest that the courts are not processing cases in a timely fashion. But is this the case and, if so, what may account for it?

The growth in the length of time to process a case may also be seen by province. **Table 30** displays the increases in median time for criminal cases for crimes against the person and crimes against property. Unfortunately we do not average times for cases

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64. The median defines the point at which there are as many cases above (the median) as below (the median).

Table 30: Median times (days) to completion for a case, by province, 1995, 2000, 2005, 2010

	BC	AB	SK	MB	ON	QC	NB	NS	NL
Crimes against the person									
1995	—	101	98	—	119	159	—	94	78
2000	109	127	127	—	134	139	87	150	105
2005	136	139	127	162	155	202	105	166	161
2010	144	145	134	194	148	230	121	197	176
Crimes against property									
1995	—	60	51	—	70	134	—	78	28
2000	99	107	107	—	91	120	57	135	53
2005	96	126	119	144	92	176	61	142	102
2010	93	125	83	145	78	207	71	172	111

Note: "—" indicates no data available.   Source: Statistics Canada[29], 2013.

over this period. The evidence however is consistent. Time to completion has risen significantly in the past two decades. What is a little disconcerting is the wide range of variation in case times across the provinces. Perhaps there is a simple answer to why this is the case, but it is striking.

Trial outcomes

In general, about two thirds of those brought to trial are found guilty, about 3% are acquitted, and most of the rest have their cases stayed or dismissed. Figure 60 spells out the consequences of 386,000 court cases.

Fortunately, from the perspective of the public purse, days *sentenced* to incarceration do not mean days actually spent in jail or prison. However, less happily, it may have other consequences. To know the number of days actually spent in jail, it is important to remember that there are both general release rules and statutory release requirements. The *days sentenced* in table 31 is the average days to which a criminal is sentenced drawn from the Crime Severity Index.[65] It is not, however, the average number of days of physical incarceration. To permit reintegration into the community, statutory eligibility is after two thirds of a sentence has been served in federal custody. Provincial parole is possible after one third of the sentence has been completed. So, if a prisoner is well behaved, we can expect possible outcomes as described in table 31. Thus if you were a criminal facing a decision whether to commit a crime or not, table 31 might offer some guidance as to the real penalties to be faced.

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65.   See, for example, Wallace, Turner, Matarazzo, and Babyak, 2009.

Figure 60: Distribution of case outcomes, 2011/12

Cases heard 386,451		

Decision		
Acquittal 3%	Guilty 64%	Other 33%

Sentence		
Custody	Probation	Fine

	Custody	Probation	Fine
All crimes*	35%	45%	29%
Violent crimes	34%	75%	7%
Property crimes	40%	50%	13%
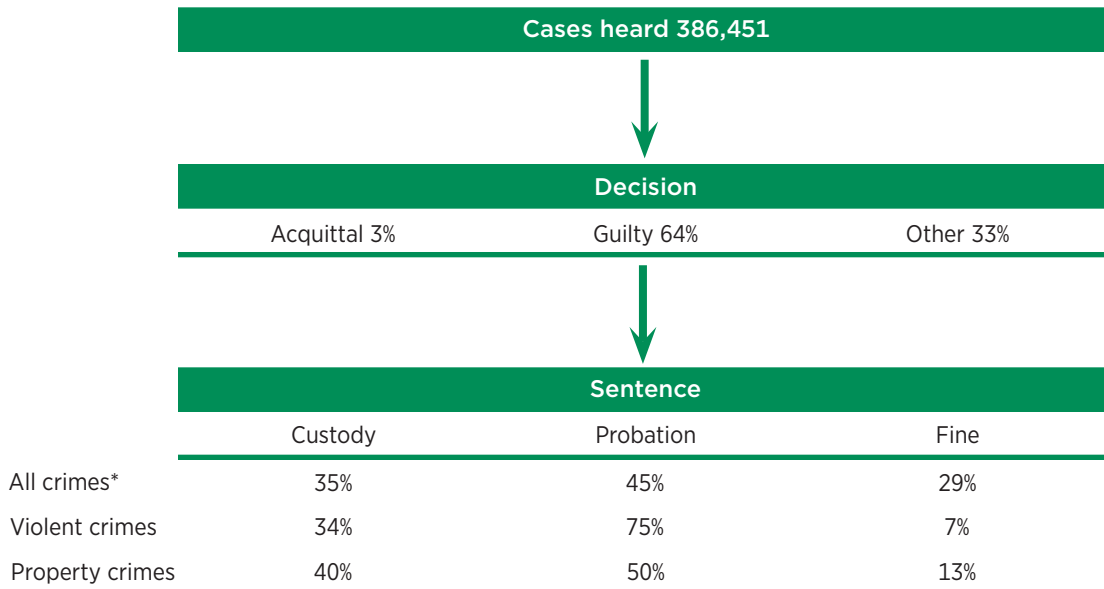
Note: * "All crimes" includes crimes other than violent and property crimes, including crimes against the administration of justice, drug crimes, etc.; thus the sum of violent and property crimes will not necessarily add up to the total of all crimes.

Source: Boyce, 2013: tables 4 and 5.

Table 31 computes the expected time served in prison for a variety of offences taking into consideration all stages of the criminal justice process from the perpetration of the offence to the time incarcerated. One might think of the table as the putative reflections of a potential offender as he is poised to break and enter, commit a robbery, or engage in mischief, or any of the other crimes described in the table. Column [1] displays the offences.

Column [2] indicates the percentage of crimes cleared by charge. For our offender (again, who is poised to commit a crime) this reflects only a rough measure of the probability of apprehension since the table includes only crimes known to the police. Recall that the general public believes (according to the Social Survey) that there are many crimes that are not reported.

Once a charge is laid, our miscreant is aware that he may "do time", but column [3] describes the percentage of cleared cases that actually go to court, and column [4] identifies the probability that the case results in a guilty finding. Column [5] describes the likelihood that a custodial sentence is imposed, while column [6] reports the average length of that sentence in days.

The sentence that is imposed in column [6], however, is not what the potential felon sees as he stands at the door of the house ready to, say, break and enter. If he does his calculus correctly and takes account of the probability of apprehension and being charged, the probability of going to court and being found guilty of the particular

Table 31: Probability (%) of custodial sentence and expected time (days) in jail, 2008/09

[1] Offences	[2] Cleared by charge (%)	[3] Charge taken to court (%)	[4] Found guilty (%)	[5] Custodial sentence imposed (%)	[6] Sentence (days)	[7] Expected time to serve (days)	[8] Expected time off the street (days)
Crimes against the person							
Homicide	66	65	48	76	7,042	1,094.5	730
Attempted murder	68	28	22	81	7,042	235.1	157
Robbery	35	41	67	76	583	42.6	14.2
Sexual assault	44	47	44	54	224	10.9	3.63
Other sexual offences	48	24	70	62	296	14.6	4.86
Major assault	70	42	56	43	405	28.6	9.55
Common assault	48	41	52	15	23	0.3	0.11
Uttering threats	35	37	54	32	46	1	0.34
Criminal harassment	40	37	52	26	45	0.9	0.31
Other	41	31	46	46	143	3.9	1.29
Crimes against property							
Theft	10	48	69	40	48	0.6	0.22
Break and enter	10	42	72	57	187	3.2	1.07
Fraud	25	22	68	34	109	1.4	0.45
Mischief	7	34	61	20	30	0.1	0.03
Possess stolen property	69	23	57	49	77	3.3	1.11
Administration of justice offences							
Fail to appear	96	21	53	41	16	0.7	0.23
Breach of probation	83	30	81	52	33	3.5	1.17
Unlawfully at large	79	33	82	82	39	6.9	2.32
Fail to comply with order	89	22	68	42	24	1.4	0.46
Other	43	33	72	31	48	1.5	0.52
Other criminal code offences							
Weapons offences	49	22	64	36	99	2.5	0.82
Prostitution	69	51	33	27	211	6.5	2.17
Disturb the peace	4	29	65	16	9	0	0
Other							
Impaired driving	78	42	80	10	15.5	0.39	0.13
Drug possession	46	40	52	15	7.8	0.11	0.04
Drug trafficking	71	42	57	46	109	8.5	2.8
Youth Acts	72	22	77	32	24	0.92	0.31
Other federal statutes	15	39	81	27	83	1.04	0.35

Sources: Column 2: Statistics Canada[11], 2013. Columns [3], [4], and [5]: Thomas, 2010: tables 1 and 4. Column [6]: Brantingham, 2012. Column [7] is the product of percent cleared by charge, percent of charges becoming court cases, the percent guilty, the percent of guilty sentenced to incarceration, and number of days of the sentence. Column [8] equals expected time to serve multiplied by the fraction of sentence before eligibility for parole.

offence, and then the probability that he will be incarcerated, his expected jail time is the days of the imposed sentence discounted by the probability that he will face the sentence at all. Column [7] reports the "expected" days to which he is sentenced—the days of the imposed sentence multiplied by the probability that he will actually face the that sentence since even facing the judge is anything but a certainty. And finally, as he is about to commit his crime, our felon may ask himself how long he actually expects to be incarcerated and physically off the street.

Column [8] reports the result. It reflects the duration of the sentence for the crime, the probability that he will be captured, charged, convicted, sentenced to incarceration, and the reality that he is eligible for parole after a only a fraction of his sentence is served.
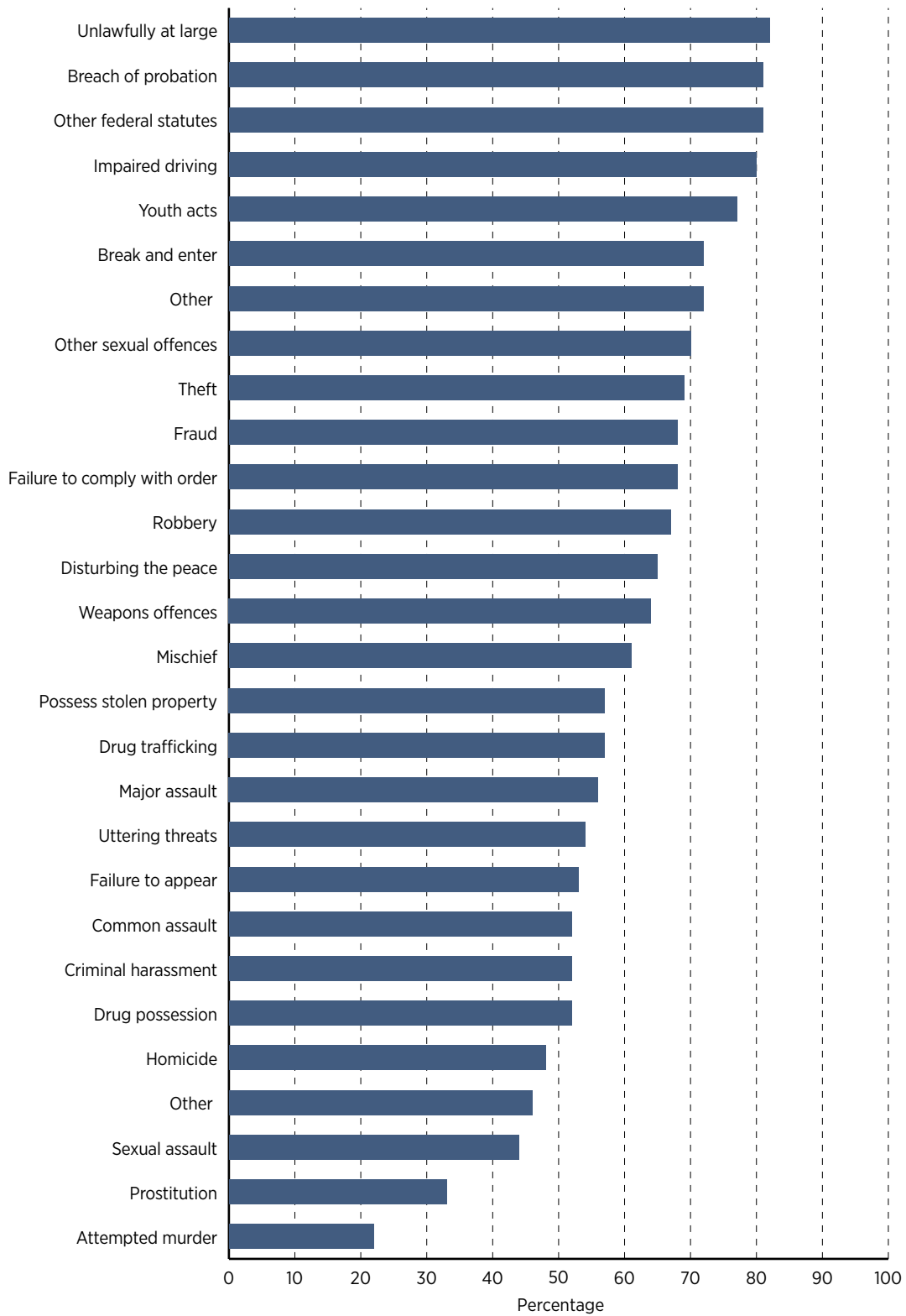
The findings indicate that there are few deterrence effects. Not surprisingly, a (potential) criminal contemplating performing an act of violence can be expected to serve a longer prison sentence than for property offences. However, in all cases, the anticipated punishments are considerably less than substantial. Robberies yield an *expected* term per offence of just over two weeks, while major assault and sexual assault are associated with durations of approximately three and two weeks, respectively. Offenders convicted of the most heinous of all violent acts, homicide, can *expect* to be confined for just over a year. Oddly enough, break and enter is associated with a smaller expected value than possession of stolen property. Nearly 15 years later, Brantingham and Easton's comment remains suitable, "If these are the costs facing those contemplating criminal acts, there would seem to be little to deter them from acting" (1998: 30).

Sixty-five percent (or 262,616) of all cases resulted in guilty findings. Of the total, approximately 3% (13,059) were acquitted, 30% (122,807) were stayed, and 1% (4,858) had findings of other types. Since 1994, there has been an overall downward trend (or a 6% total fall) in the percentage of guilty findings and the overall percentages of acquitted and stayed offences have increased (Statistics Canada[7], 2011).

Guilty findings are more common for non-violent offences. Of the total property and violent cases heard in 2009, 63% and 53% of the defendants were found guilty. Within these two major categories,[66] break and enter cases were most likely (70%) to end in guilt, while attempted murder cases were least likely (20%). **Figure 61** illustrates the percentage of guilty findings for various violent and property offences.

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66. The crimes that we look into here are homicide, attempted murder, robbery, sexual assault, major assault, common assault, theft, break and enter, fraud, mischief, and possession of stolen property.

Figure 61: Percentage of guilty findings, by crime, 2008/09

Crime	Percentage
Unlawfully at large	82
Breach of probation	81
Other federal statutes	81
Impaired driving	80
Youth acts	77
Break and enter	72
Other	72
Other sexual offences	70
Theft	69
Fraud	68
Failure to comply with order	68
Robbery	67
Disturbing the peace	65
Weapons offences	64
Mischief	61
Possess stolen property	57
Drug trafficking	57
Major assault	56
Uttering threats	54
Failure to appear	53
Common assault	52
Criminal harassment	52
Drug possession	52
Homicide	48
Other	46
Sexual assault	44
Prostitution	33
Attempted murder	22

Source: Table 31.

Sentencing

The *Adult Criminal Court Survey* (Thomas, 2010) collects information on the types of sentences ordered after findings of guilt. The statistics are categorized into six group-ings: prison (custody), conditional sentences, probation, fine, restitution, and other. As it is possible that an offender be assigned more than one sentence after a single find-ing of guilt, the number of rulings need not sum to the number of guilty cases. **Table 32** reports the distribution of outcomes of sentencing. Of the 262,616 persons found guilty of a crime in 2009, approximately one third were given a custodial sentence, 45% received probation, 30% were ordered to pay a fine, and only 3% to make restitution (Thomas, 2010). In addition, 4% were given a conditional sentence.

Table 32: Distribution of types of sentence, 2008/09

Crime	Prison	Conditional sentence	Probation	Fine	Restitution	Other*
Violent	32%	5%	75%	7%	1%	68%
Homicide	78%	2%	11%	3%	1%	66%
Attempted murder	74%	0%	16%	5%	0%	37%
Robbery	77%	5%	51%	0%	2%	58%
Sexual assault	55%	12%	66%	3%	0%	54%
Major assault	43%	9%	71%	7%	2%	62%
Common assault	14%	3%	80%	9%	1%	79%
Property	38%	6%	59%	14%	9%	45%
Theft	38%	5%	53%	18%	5%	42%
Break and enter	58%	9%	65%	3%	7%	35%
Fraud	32%	11%	66%	11%	17%	48%
Mischief	2%	2%	71%	15%	19%	66%
Possession of stolen property	5%	5%	49%	17%	4%	38%
All crimes	33%	4%	45%	30%	3%	52%

Note: *The category "Other" sentences include absolute and conditional discharge, suspended sentence, community ser-vice order, and prohibition order, among others.

Source: Thomas, 2010: table 4.

Thirty-two percent of violent offenders and 38% of property offenders receive a cus-todial sentence. Nearly 40% of all guilty findings for violent crimes are for common assault, which lead to custodial sentences only 14% of the time. Homicide, attempted murder, and robbery, which are the crimes most often associated with custodial terms (at 78%, 74%, and 77%, respectively), make up 0.3%, 0.08%, and 5.6% of the total vio-lent cases with guilty findings (Thomas, 2010).

For violent offences, probation is most often used for cases of assault and sexual assault. It is used roughly 50% of the time for robbery but less than 20% for both homicide and attempted murder. In violent crime cases, restitution is seldom made and fines are required in only a small fraction of the cases other than for assault (Thomas, 2010).

For all property crimes examined, probation is a more likely sentence for offenders than is custody: 71%, 66%, and 65% of mischief, fraud, and break and enter cases concluded with terms of probation. For property crimes, fines and/or restitution are used more frequently. For both fraud and mischief, restitution is ordered for 20% of the cases[67] (Thomas, 2010).

Trends in sentencing

Since 1994, the use of custodial sentences (regardless of the type of offence) has increased roughly 3%. While the use of imprisonment for each of the six violent crimes analyzed declined, the change in its use varies among the property offences. Incarceration increased 43% from 1994 to 2009 for theft, an offence that represents 45% of all guilty findings in property cases. It also increased for mischief and possession of stolen property, although the changes were less substantial (Thomas, 2010).

Contrary to the trends in incarceration, there were only three crimes for which the use of probation from 1994 to 2009 fell: homicide, attempted murder,[68] and sexual assault. During this period probation use for all crimes increased from 37% of the cases to 45% (Thomas, 2010). Further, the use of fines has decreased; since 1994, 38% fewer cases with a finding of guilt employ fines as a sentence.

Severity of sentences

Not surprisingly, the length of a sentence is dependent not only on the general category of the crime (violent or property) but, more importantly, on the severity of the act itself. Table 33 displays the mean and median length of custodial and probation sentences (counted in days).

The mean custody sentence for all crimes is 118 days, or roughly one third of a year. The median prison term is considerably shorter, however, at 30 days or one month. As the average probation term (1.2 years) is also greater than the median (1 year), it is evident

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67. Note that fines are ordered as well, just to a lesser degree.

68. This could be due to the variability in the distribution of homicide cases over time. Probation jumps from a maximum of 43% to a minimum of 8%. Within homicide, probation is available for manslaughter and for infanticide but not for murder 1 or 2.

Table 33: Mean and median days sentenced to custody and probation, by offence, 2008/09

Offence	Custody		Probation	
	Mean	Median	Mean	Median
Violent	233	75	488	365
Homicide	2,510	1,825	898	1,095
Attempted murder	2,223	1,715	730	730
Robbery	613	420	665	730
Sexual assault	505	360	686	730
Major assault	165	90	515	365
Common assault	49	30	399	365
Property	107	30	443	365
Theft	52	30	406	365
B&E	254	150	549	540
Fraud	120	50	493	365
Mischief	35	15	375	365
Possession of stolen property	84	45	421	365
All crimes	118	30	451	365

Source: Thomas, 2010: table 5.

that the data are biased upwards. In fact, other than homicide, the average custodial and probation lengths are greater than (or equal to) that of their medians (Thomas, 2010). This means that there are a large number of relatively short sentences and a few long ones.

Persons convicted of homicide receive the longest custodial and probation terms. The median incarceration sentence is five years and following imprisonment they may serve probation, which often lasts an additional three years. Those found guilty of attempted murder serve the second-longest prison terms (4.7 years) followed by robbery (1.2 years) and sexual assault (one year). The median probation sentence for attempted murder, robbery, and sexual assault was two years (Thomas, 2010).

Table 33 indicates that break and enter and fraud are the only two property offences whose median custodial and probation terms are greater than at least one of the violent offences median sentences. The median custodial terms for break and enter, fraud, and possession of stolen property were 400%, 67%, and 50% greater than the median prison sentence for property crimes. Other than break and enter, all subcategories of property crime had median probation terms of one year (Thomas, 2010).

In section 5, Canadian sentencing and the amount of crime, we address some of the consequences for the amount of crime and its dependence on the length of sentence.

Expenditures

Neither Statistics Canada nor an independent organization offer details on the total cost of the Canadian Judiciary for the last decade. Nor is it easy to identify breakdowns by different services provided nationally or provincially. The Parliamentary Budget Office (PBO), however, has recently filled in some of the more important costs being measured. **Figure 62** shows the growth in real costs associated with criminal matters developed by the PBO. Interestingly, the real cost of the courts have risen at the provincial level and fallen at the federal level as shown in figure 62. One possible reason for such a pattern is the decrease in the crime rate and, in particular, the seriousness of offences, as discussed above. The most serious crimes are treated in federal courts. But having said that, we think it interesting that the volume of cases before the courts has been rising provincially, if not federally, while of course the crime rate has been falling.

Figure 62: Costs ($billions 2012) of federal and provincial criminal courts, 2002–2012
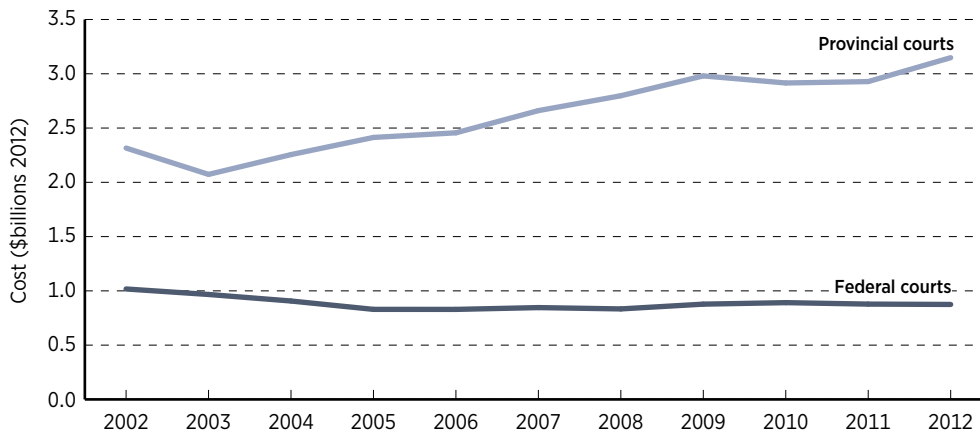
Source: Statistics Canada[30], 2013.

4. Legal aid

Size of the legal aid services

Government-supported legal aid arose in 1972. Until that time, legal aid was provided *pro bono* by lawyers. From 1972 through the late 1980s, the cost of legal aid rose rapidly to over $400 million (or $640 million in $2012), in part because of an unlimited commitment by the federal government to split the cost with the provinces. In effect, the provinces, who deliver legal aid, were spending 50 cents to get a dollar's worth of spending (Brantingham, Brantingham, and Easton, 1994: table 6). **Figure 63** indicates that by the mid-1990s total legal aid costs (on both criminal and civil cases) had risen to $900

Figure 63: Total real expenditure ($millions 2012) on legal aid, 1983–2012
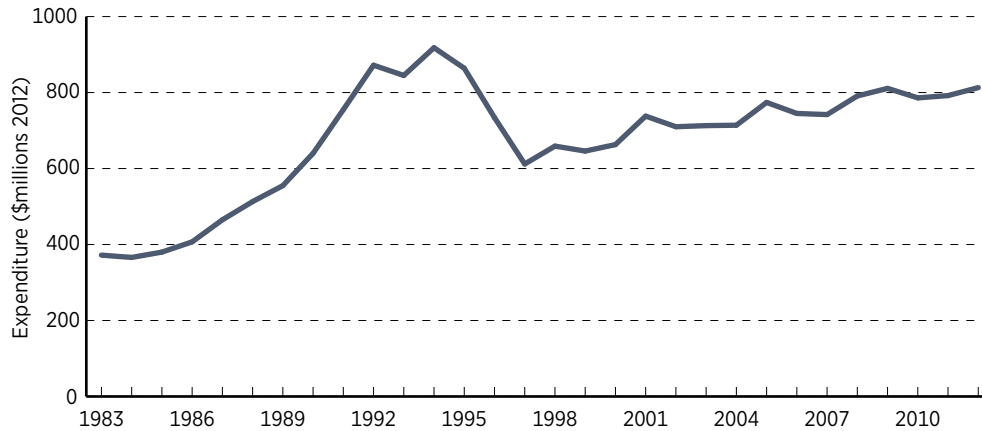
Source: Statistics Canada[32], 2013; Statistics Canada[33], 2013.

million (in inflation adjusted dollars) and the Federal government capped its commitment. Legal aid was directly affected with a reduction in the number of cases and their costs. By 2012 Canadians spent $357 million on criminal legal aid.

One thing that remains surprising with respect to legal aid is the extent to which it varies among the provinces. And this variance is consistent over the years. Brantingham, Brantingham, and Easton (1994) provide an extensive discussion of these differences from the 1980s and early 1990s and we see them again in table 34, which summarizes the differences among the provinces. The first column reports the number of approved criminal applications, the second column the number of those applications that are approved per 100,000 of population (to scale the extent of each province's legal aid program), and the final column reports the costs per criminal application approved. Noteworthy are the high per-case expenditures in Ontario, British Columbia, and New Brunswick among others. The much lower costs in Quebec, Manitoba, and Nova Scotia certainly are worthy of comparison since they serve more clients (relative to the size of their populations.)

From table 34, figure 64 plots the cost per approved criminal case against the approved criminal applications per capita. From the figure, it would appear that the higher the cost per approved application, the fewer the number of cases approved. This may provide some food for provincial thought.

While almost all legal-aid revenue comes from government, only the provincial and territorial levels provide funds for both civil and criminal aid. Contributions made by the federal government are for criminal affairs only.

Table 34: Number and cost per approved criminal legal aid application, 2012

Province/Territory	Number of approved applications	Approved applications per 100,000 population	Cost per approved application
British Columbia	19,636	432	2,253
Alberta	24,973	642	1,614
Saskatchewan	12,803	1,177	1,209
Manitoba	22,655	1,812	847
Ontario	58,847	439	2,374
Quebec	113,938	1,409	591
New Brunswick	1,411	186	2,747
Nova Scotia	13,468	1,425	916
Prince Edward Island	1,185	816	718
Newfoundland & Labrador	3,172	602	2,125
Yukon	1,254	3,460	944

Sources: Calverley, 2010; Statistics Canada[11], 2013.

Figure 64: Cost ($) per approved criminal application and the number of approved applications per 100,000 in the provinces and territories, 2012
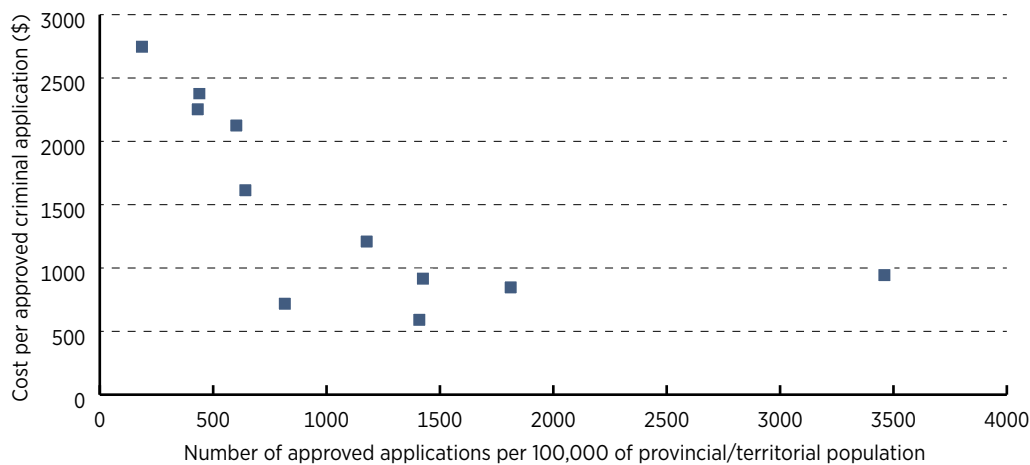
Sources: Table 34.

Legal aid in Canada cost $741 million in 2008/09 (or $790 million in 2012 dollars). Of this total, $312 million were spent on criminal, and $285 million on civil, direct legal services, and $144 million were allocated to central administration and other expenditures (Statistics Canada[10], 2011). By 2012, legal aid expenditures totaled $813 million, of which $357 million were spent on criminal legal aid.

A fraction of the administrative and other costs are expended on criminal cases. We estimate the proportions spent[69] by prorating the share of costs as a function of the costs of the civil and criminal programs. **Table 35** summarizes the findings in column one. In the second column, we assume that the criminal legal-aid applications that were refused would have to be fulfilled privately. In this case, we assume the same average cost as for the accepted legal-aid criminal cases. The third column sums the first two. All are in 2012 dollars.

Table 35: Legal defence costs ($2012 millions) for criminal matters, 2002–2012

	Real expenditures on legal aid*	Real cost of privately supplied defence	Total defence
2002	322.1	271.2	593.3
2003	341.5	269.7	611.2
2004	344.8	255.8	600.6
2005	402.8	285.7	688.5
2006	382.3	253.4	635.7
2007	389.1	245.2	634.2
2008	413.2	263.4	676.7
2009	416.3	256	672.3
2010	406.6	261.3	667.9
2011	413.6	258.6	672.2
2012	430.7	260.7	691.4

Note: * Sum of expenditures on Criminal Applications plus a pro-rata share of non-program expenditures.

Sources: Statistics Canada[31], 2013; Statistics Canada[23], 2013.

5. Canadian sentencing and the amount of crime[70]

One of the enduring issues that bedevils the study of crime and punishment is whether there is a payoff to higher sentences in the form of reduced crime. Although there was a lively debate about the importance of incentives in deterring homicide with respect to capital punishment (Avio, 1979; Layson, 1983) in Canada, there has been relatively little written more generally about the quantitative consequences of punishment on the amount of Canadian crime.

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69. We know that $312,262,000 was spent on criminal matters and $285,130,000 was spent on civil. The combined total is $597,392,000. Of the total spent, 52% was spent on criminal matters and thus 48% on civil. We use these proportions to approximate the amount spent on criminal matters from the administrative and other categories. (Administrative costs = $106,790,000; 0.52 × $106,790,000 = $55,531,000. Other costs = $39,985,000; 0.52 × $39,985,000 = $20,792,000.)

70. This section is drawn from Easton, 2014.

We think of the "supply" of crime as a function of a large number of variables associated with the costs and benefits of crime to the criminal. Among the administrative variables that purport to be of importance is the effect of punishment on the crime rate, yet we find little in the Canadian literature to support this supposition generally.[71] Is there a *prima facie* case for crime reduction related to the severity of punishment in Canada?[72]

If we imagine that the supply of each crime is a function of the duration of punishment for that crime, then the number of offences for each type of crime (known to the police) can be related statistically to the level of sentence.[73] Looking at data from 1998 through 2010, a cross section for each year links the level of punishment (measured in days sentenced for each crime) to the amount of each crime type. This is no more than a simple correlation but the results are at least *prima facie* evidence that is consistent with deterrence in Canada. **Table 36** reports that on average measured over the 12 years in the table a 10% increase in the level of sentence results in roughly a 4% decrease in the amount of crime.

Table 36: Percentage change in the number of crimes in response to a 10% increase in sentence length, 1998–2010

	Change			Change			Change
1998	−4%		2003	−4%		2008	−6%
1999	−5%		2004	−4%		2009	−6%
2000	−3%		2005	−4%		2010	−4%
2001	−4%		2006	−5%			
2002	−3%		2007	−5%		Average	−4%

Source: Easton, 2014.

71. The certainty of punishment rather than the severity of punishment is sometimes seen as a more effective way of deterring crime (von Hirsh et al., 1999; Durlaf and Nagin, 2010), although severity reduces crime through incapacitation as well. Others claim no deterrent effect of the length of punishment (Farrington et al., 1994; Wright, 2010).

72. Whether this is deterrence and/or incapacitation depends upon a number of conditions. If incarcerating one criminal merely means that another non-criminal turns to crime, then it is entirely a matter of deterrence. Otherwise, incapacitation will be part of the reduction of crime, too.

73. Supply is expressed as a (log-linear) function of the duration of sentenced incarceration and a host of other *j* variables (X_{ij}) including sociological and economic characteristics relevant for crime *i*:

$$lnS_i = \beta_0 + \beta_1 lnX_{pi} + \sum_{j=1}^{N}\beta_i X_{ij}.$$

5. Conclusion

What, then, are the overall costs of crime in Canada?

We have cataloged a wide range of estimates. The most limiting is that there is no Social Survey devoted to crime each year so we are left using relatively dated estimates of some of the more interesting aspects of crime. Further, while recent estimates of the cost of policing, corrections, and the judiciary are an excellent first pass and should embarrass governments into providing more transparent costing estimates of their basic services, there are still a number of important issues that are begging for consensus. Foremost among these is what we want to use as an estimate of the cost of pain and suffering arising from criminal acts. Second, what crimes are we not measuring well enough to feel confident that we have identified the most important sources of criminal activity? Does the Social Survey give enough useful indicators to suggest that it should be established on an annual basis?

So what are the costs of crime in Canada? **Table 37** displays our most complete estimate of $85.2 billion, which is for the year 2009/10. It includes crime measured by the Social Survey as well as values for private and personal security, crime prevention time costs, stolen and damaged property, productivity, business and direct medical losses.

Table 38 provides a more extended picture detailing the cost of the justice system together with our estimates for pain and suffering. However, we have imputed the costs associated with private and personal security, crime prevention time costs, stolen and damaged property, productivity, business and direct medical losses at their 2009/10 values. This imputation distinguishes the estimates of table 38 from the more precise ones of table 37.

Table 37: the best data estimate for the cost ($2012 billions) of crime, 2009/10

Policing	10.6
Courts	4.4
Corrections	4.3
Total justice	19.3
Private security (2010 data)	3.1
Personal security	1.8
Pain and suffering	47.0
Crime prevention time costs	4.2
Stolen and damaged property	4.3
Productivity losses	1.5
Business losses	4.0
Direct medical	0.1
Total	85.2

Sources: As catalogued in the text.

From 2002 to 2012, the cost of crime decreased by 6%, primarily due to the reduction of the number of crimes, their severity, and the consequent decrease in the amount of pain and suffering they entailed. Total justice costs for policing, corrections and the courts rose by 35% in the same period.

Table 38 presents both information and a challenge. On the one hand, we have the calculations for all years in terms of 2012 dollars, including those years in which we have only partial information. Our hope is that we can "fill in the gaps" as time goes on. The purpose for doing so is to permit sensible decisions about the level of crime prevention, deterrence, and retribution in a systematic way. Do we spend too much on policing, incarceration, and courts? Or do we spend too little? These are exactly the kind of questions these data will help to decide. The cost of crime in the best year for which we have data, 2009, is $85.2 billion in 2012 dollars. This is over 5% of national income or perhaps two years' worth of economic growth in the current recovery. And of course this cost is incurred year after year.

Table 38: The cost ($2012 billions) of crime, 2002–2012

	Policing	Courts	Corrections	Total justice	Pain and suffering	Total cost of crime*
2002	8.0	3.9	3.6	15.5	52.2	86.7
2003	8.5	3.6	3.7	15.8	54.0	88.8
2004	8.6	3.7	3.5	15.8	53.1	87.9
2005	8.9	3.8	3.5	16.2	52.1	87.3
2006	9.3	3.8	3.5	16.6	51.9	87.5
2007	9.9	4.0	3.7	17.6	49.9	86.5
2008	10.3	4.2	3.9	18.4	47.9	85.3
2009	10.6	4.4	4.3	19.3	47.0	85.2
2010	10.8	4.3	4.4	19.5	44.9	83.5
2011	11.1	4.3	4.6	20.0	42.6	81.7
2012	11.5	4.5	4.8	20.8	41.6	81.5
Percentage change 2002–2012	44%	17%	33%	35%	−20%	−6%

Note: *The "Total cost of crime" includes the values for private and personal security, crime prevention time costs, stolen and damaged property, productivity, business and direct medical losses at their 2009/10 values. Thus the table is less accurate for all years in which the social survey is not available and is reported separately from table 37, which displays the more accurate figures for that period across all categories.

Sources: As catalogued in the text.

Appendix: Comparison of Crimes Known to the Police and Crimes Reported in the Social Survey

There are a number of crimes reported in the Social Survey that are not clearly associated with crimes in the criminal code. Table A1 gives a sense of what is reported in the Social Survey. Clearly there is no simple correspondence between the categories and the crimes that are known to the police characterized by the criminal code, some of the most important of which are listed in table A2.

Table A1: "Crimes" reported to the Social Survey across Canada, 2009

Reported Event	Number
Sexual assault	387,263
Robbery	126,566
Attempted robbery	107,263
Assault	945,284
Break and enter	630,549
Attempted break and enter	242,271
Theft of motor vehicle	90,793
Theft of motor vehicle parts	307,652
Attempted theft of motor vehicle parts	346,098
Theft of personal property	1,624,687
Attempted theft of personal property	167,502
Theft of household property	1,263,487
Attempted theft of household property	39,815

Source: Statistics Canada, 2011b.

Table A2: Crimes known to the police, characterized by the criminal code

Abduction under 14 contravening custody order	Counterfeiting currency
Abduction under 14, by parent/guardian	Criminal harassment
Abduction under 14, not parent/guardian	Criminal negligence causing bodily harm
Abduction under 16	Criminal negligence causing death
Advocating genocide	Criminal organization, commit offence for
Anal intercourse	Criminal organization, instruct offence for
Arson	Criminal organization, participate in activities of
Arson—disregard for human life	Crystal Meth, importation and exportation
Assault, level 1	Crystal Meth (Methamphetamines), trafficking
Assault, level 2	Customs Act
Assault, level 3	Dang. op. evading police, causing bod. harm
Assault against peace/public officer	Dang. op. of motor vehicle evading police
Assaults, other	Dangerous op. evading police, causing death
Attempts, conspiracies, accessories	Dangerous operation, causing bodily harm
Attempted murder	Dangerous operation, causing death
Bankruptcy Act	Dangerous operation vehicle, vessel, aircraft
Bestiality, commit/compel/incite	Discharge firearm with intent
Betting house	Disordely houses, gaming and betting
Breach of probation	Disturb the Peace
Break and enter	Driving while prohibited (Fed.)
Break and enter, firearms	Ecstacy, importation and exportation
Canada Shipping Act	Ecstacy (Methylenedioxamphetamine), production
Cannabis, importation and exportation	Ecstacy (Methylenedioxamphetamine), traffick
Cannabis, possession	Escape/Helps to escape from lawful custody
Cannabis, production	Excise Act
Cannabis, trafficking	Explosives causing death/bodily harm
Child pornography, production/distribution	Extortion
Cocaine, importation and exportation	Failure to appear
Cocaine, possession	Failure to comply with order
Cocaine, production	Failure to comply or refusal (drugs)
Cocaine, trafficking	Failure to provide blood sample (drugs)
Competition Act	Failure to stop or remain (Fed.)
Conspire to commit murder	Firearm transfers/serial numbers
Controlled drugs, trafficking	Firearms, unsafe storage
Corrupting morals	Firearms Act
Corrupting morals of a child	Firearms and other offensive weapons

Table A2: Crimes known to the police, characterized by the criminal code

Firearms documentation/administration	National Defence Act
Fraud	Obstruct public/peace officer
Fraudulent transactions re contracts/trade	Offences against the admin. of law and justice
Gaming house	Offences against public order
Harassing phone calls	Offences against rights of property
Heroin, importation and exportation	Offences against the person and reputation
Heroin, possession	Offences relating to currency
Heroin, production	Offensive weapons, other
Heroin, trafficking	Offensive weapons, explosives
Hostage-taking	Offensive weapons, prohibited
Immigration and Refugee Protection Act	Offensive weapons, restricted
Impaired op., failure to provide blood sample	Other CDSA, importation and exportation
Impaired op., failure to provide breath sample	Other CDSA, possession
Impaired operation, causing bodily harm	Other CDSA, production
Impaired operation, causing death	Other CDSA, trafficking
Impaired operation (drugs), causing bodily harm	Other Criminal Code
Impaired operation (drugs), causing death	Other Criminal Code, traffic violations (Fed.)
Impaired operation (drugs) vehicle, vessel, aircraft	Other Federal Statutes
Impaired operation vehicle, vessel, aircraft	Other related violations causing death
Incest	Other sexual violations
Income Tax Act	Other violations related to gaming/betting
Indecent acts	Other violent violations
Infanticide	Pointing a firearm
Intimidation, other	Possess stolen property
Intimidation, justice system participant	Possession, Crystal Meth (Methamphetamines)
Invasion of privacy	Possession, Methylenedioxamphetamine (Ecstasy)
Invitation to sexual touching	Prisoner unlawfully at large
Kidnapping	Proceeds of crime (CC)
Luring a person under 18 via computer	Proceeds of crime (CDSA)
Manslaughter	Production, Crystal Meth (Methamphetamines)
Mischief, general	Prostitution, bawdy house
Mischief, $5000 or under	Prostitution, Obtains/Communicates under 18
Mischief over $5000	Prostitution, other
Mischief to religious property motivated by hate	Prostitution, procuring
Murder, 1st degree	Prostitution under 18, living off the avails
Murder, 2nd degree	Public Health Act

Table A2: Crimes known to the police, characterized by the criminal code

Public incitement of hatred	Theft over $5,000
Removal of children from Canada	Theft over $5,000, shoplifting
Restricted drugs, possession	Theft over $5,000 from a motor vehicle
Restricted drugs, trafficking	Theft over $5,000 of a motor vehicle
Robbery	Theft under $5,000
Robbery of firearms	Theft under $5,000, shoplifting
Sexual assault, level 1	Theft under $5,000 from a motor vehicle
Sexual assault, level 2	Theft under $5,000 of a motor vehicle
Sexual assault, level 3	Trafficking in persons
Sexual exploitation	Trap likely to or causing bodily harm
Sexual interference	Trespass at night
Sexual off., public morals, and disorderly conduct	Unauthorized importing/exporting of weapons
Street racing, dangerous operation, bodily harm	Unauthorized recording of a movie
Street racing, dangerous operation, death	Unlawfully causing bodily harm
Street racing, dangerous operation of motor vehicle	Using firearm/imitation in commission of offence
Street racing, death, criminal negligence	Uttering threat to person
Street racing, negligence, bodily harm	Uttering threats against property/animals
Terrorism, commission/Instr. to carry out terrorist act	Voyeurism
Terrorism, facilitate terrorist activity	Weapons possession
Terrorism, freezing of property, disclosure, audit	Weapons possession contrary to order
Terrorism, harbour or conceal terrorist	Weapons trafficking
Terrorism, hoax	Wilful/forbidden acts in respect of property
Terrorism, participate in activity of terrorist group	Youth Criminal Justice Act
Terrorism, property or service for terrorist activity	

Where we think there is some correspondence is reported in table A3. For the crimes listed, we have aggregated the theft of household and personal property of the survey and have aggregated the Theft over and under $5,000 of crimes known to the police. These numbers should be taken with caution. Elsewhere in the social survey, when asked why they do not report to the police, many responded that it was "not important enough" to report. In the case of sexual assault, assault, robbery, and break and enter, about 30% answered in this way. The reasons that people say they do not report are listed in the subsequent table A4.

Looking at table A3 nonetheless suggests that the majority of crimes are not reported in these important categories. For example, in the case of sexual assault, approximately 5% are reported and even if 29% were not important enough to be reported, there is still considerable room for improvement.

Table A3: Comparing the number of crimes in the Social Survey to the number of crimes known to the police

	Crimes reported in the Social Survey	Crimes known to the police	Ratio of crimes known to police to crimes reported in Social Survey (%)
Sexual assault	387,263	20,921	5%
Robbery	126,566	32,463	26%
Assault	945,284	237,566	25%
Break and enter	630,549	205,760	33%
Vandalism	917,999	362,182	39%
Theft of personal property	1,624,687		
Theft of household property	1,263,487		
Theft over/under $5,000		574,950	20%

Table A4: Why was crime reporting in Social Survey not reported to the police? Percentage of respondents giving specified reason

	Sexual assault	Robbery	Assault	Break and Enter
Not important enough to respondent	29.4	30.5	24.3	32
Dealt with another way	27	2.9	29.7	12.6
Fear of publicity/news coverage/other	15.7	10.2	11.4	11.9
Incident was a personal matter	15.3	9.8	9.4	5.8
Police couldn't do anything.	4.5	9.5	9.2	21.6
Did not want to get involved with the police	3.9	9.4	5.2	2.9
Fear of revenge by offender	1.8	5.4	6	3
Have little or no confidence in the CJS	0.8	11.7	2.6	1
Police would be biased	0.8	0	0.2	0.5
Police wouldn't help	0.7	5.9	2	4.2
Insurance would not cover	0	0	0	2.1
Nothing was taken or items recovered	0	4.8	0	2.4

Source: Statistics Canada, 2011b.

Note on the Crime Severity Index

The Crime Severity Index uses the average sentence awarded by judges to weight the number of crimes used to compile the overall rate of crime (Babyak, Alavi, Collins, Halladay, and Tapper, 2009; Wallace, Turner, Matarazzo, and Babyak, 2009). This improves on the simple summation of the number of all crimes regardless of severity. However, it is not necessarily an ideal index. For example, some crimes are more difficult to solve than others. If we were looking at police resources, then we might want to weight by the difficulty in getting a perpetrator caught. The index would then reflect the cost of catching the bad guy. If we were to weight by the damage done by a particular crime, then that would be a cost of crime as seen by the victim. One can imagine a variety of weighting schemes depending on what the focus is. The Crime Severity Index, by using days-sentenced-to-incarceration weights, reflects the composite decision by judges to denounce, deter, protect, and deflect, which is encapsulated in the number of days of a custodial sentence.

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Stephen Easton

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monographs and books. Among his most popular work with the Fraser Institute has been "Marijuana Growth in British Columbia" (Fraser Institute, 2004) and the ongoing *Report Card on Elementary and Secondary Schools* (together with Peter Cowley, Fraser Institute, <http://www.fraserinstitute.org/report-cards/overview.aspx>). More recently he has examined criminal networks: "Understanding Optimal Criminal Networks" in *Global Crime* (2009) (with Alexander Karaivanov). His most recent book, *The Run to the Pennant: A Multiple Equilibria Approach to Professional Sports Leagues* (Springer, 2014), with Duane W. Rockerbie indicates more about the breadth of his interests. Professor Easton has been an associate editor of *Economic Inquiry*, a member the Board of Editors of the *Canadian Journal of Economics*, and an organizer of the France-Canada Rountable.

Hilary Furness

Hilary Furness graduated from Simon Fraser University in 2010 with a bachelor (hons) degree in Economics and a minor in Criminology. During the following two years, she worked as an Intern at the Fraser Institute and a Research Assistant at Simon Fraser University. In 2012, Ms Furness began a Masters of Economics and Juris Doctorate joint-degree program at Queen's University; she is currently working at a national law firm and plans to graduate in the summer of 2015.

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