PART III

The Economic Costs of Crime in Nova Scotia

Chapters 7, 8, 9 and 10 address only the value of direct economic losses due to crime which are calculable in monetary terms. But there are also psychological costs, like the trauma of being violated. And there are clearly indirect consequences of crime. High crime areas may induce individuals to live elsewhere if they fear their possessions will be stolen, entailing moving expenses. Property values may decline, potential investors may be discouraged, and tourism may be affected if the likelihood of personal loss is high. Fear of violence, personal violation or theft may also restrict movement and reduce economic activity, particularly at nighttime. There is also an economic opportunity cost to foregone activities, and to the time and effort devoted to replacing stolen possessions, producing and installing security devices, and recovering from and fighting crime.

Because these and other indirect costs are not measured, the losses described in the next four chapters clearly understate the full economic impact of crime and are therefore described as "conservative" estimates. They estimate only:

- those direct victim losses due to property crime and violent crime that are calculable in monetary terms;
- public expenditures on police, courts and prisons; and
- individual defensive expenditures on security devices and crime prevention.

The conservative estimate omits some direct monetary losses for other crime categories, such as property damage to vehicles and hospitalization costs due to accidents caused by impaired driving – a criminal offence, and the economic and medical costs of "victimless" crimes like illegal drug use and prostitution.

Despite these limitations, the trends in victim losses, public expenditures on justice, and defensive expenditures over time provide an indicator of the economic impact of changes in the crime rate. They also demonstrate clearly that a decline in personal security and quality of life due to crime directly lowers the economic standard of living. And they demonstrate the absurdity of adding these costs to our official estimates of economic well-being and of assuming that any kind of growth signifies an increase in prosperity.

Because of the severe limitations of the conservative estimate in actually describing the full economic impact of crime, chapter 11 attempts to construct a more "comprehensive" estimate of crime costs, based on court awards for "shattered lives," and retail trade figures on "shrinkage" due to theft, which translates into higher consumer prices. Valuations of unpaid work from the first two modules of the Genuine Progress Index are also used to approximate some of the costs of activity loss due to crime. Even this "comprehensive" estimate clearly does not include many of the indirect costs of crime mentioned above.

In the chapters that follow, economic costs and potential savings are listed for each section separately. The cumulative total costs are given in the summary table in chapter one, along with total potential savings to Nova Scotia that would accrue if crime rates were still at 1962 levels. From the GPI perspective, which distinguishes economic activity that causes benefit from that which causes harm, these savings from lower crime rates would be available for more productive purposes like investments in education and public health.

7. Victim Property Losses

The cost estimates in this chapter represent the total value of direct victim property losses due to crime. Many of these losses are uncompensated and borne entirely by the victims. To the extent that they are compensated by insurance claims, the cost is borne by society in the form of theft insurance premiums. In order to avoid double-counting, only the difference between actual insurance claims and premiums will be listed separately under "defensive expenditures" in chapter 10.

As noted in chapter 5, Nova Scotia's property crime rate is still well below the Canadian average. While property crimes constituted 62% of total criminal code violations nationwide in 1997, they amounted to only 48% of Nova Scotia's 77,696 reported criminal code incidents.[1] In the course of these crimes it is estimated that Nova Scotians lost more than $100 million in property and money, equal to the total production value of the entire forestry and logging industries in the province. In the last two decades Nova Scotians have lost more than two billion dollars in property and money due to crime, equal to a quarter of the provincial debt (Table 7.1).[2]

If reported property crimes had been at 1975 levels, Nova Scotians would have saved $34 million in property and money in 1997. If crime had remained at 1962 levels, they would have saved $80 million. If crime levels had remained at 1962 levels throughout the last 35 years, Nova Scotians would have saved a total of $1.8 billion in direct property losses alone.

That substantial saving would have contributed to a higher quality of life and been available for more productive welfare-enhancing investments. Either the money was spent replacing lost property or it produced a direct decline in living standards. If it was invested in higher theft insurance premiums, it incurred an opportunity cost in lost investment opportunities that will adversely affect future generations. Rather like government budgets, the annual deficit caused by direct victim losses is enlarging the crime-related debt society carries.

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[1] Statistics Canada, Rebecca Kong, "Canadian Crime Statistics, 1997", *Juristat,* volume 85-002-XPE, volume 18, no. 11.

[2] See Appendix for more detailed description of methodology. In sum, average loss per incident is derived from Brantingham, Paul and Stephen Easton, "The Crime Bill: Who Pays and How Much?", *Fraser Forum,* 1996, The Fraser Institute, page 23, which in turn derives its values for motor vehicle theft from the Insurance Corporation of British Columbia, and for other crimes from Statistics Canada, *Juristat,* volume 12, no. 5, 1981. Losses per crime are not available separately for the provinces, and it is therefore assumed that the national averages apply to Nova Scotia. Number of crimes in each category is from Statistics Canada, *Juristat*, volume 85-002-XPE, 1997. Monetary figures have been translated into 1997 dollars using Statistics Canada, *The Consumer Price Index*, volume 62-001, for Nova Scotia and Halifax. Forestry industry figures are from Statistics Canada, *Provincial Gross Domestic Product by Industry, 1984-1997,* catalogue no. 15-203-XPB, page 20. NOTE that robbery is officially classified as a "violent crime" rather than a "property crime", but property losses due to robbery are included here in order to maintain consistency in this report.

Though Nova Scotians still have lower property losses due to crime, there has been a gradual decline in comparative advantage over time. Averaged out among *all* households, including those that were not victims of crime, direct victim losses in 1997 were $297 per household in Nova Scotia compared to $319 nationwide. In 1962 the loss was $132 per household in Nova Scotia compared to $205 in Canada as a whole. In other words, Nova Scotian households enjoyed a 36% economic advantage in reduced property crime losses compared to other Canadian households in 1962, but only a 7% advantage in 1997.[3]

Needless to say, *actual* average property losses for crime victims are about 10 times higher than these per household figures, and the overall erosion in Nova Scotia's crime-related quality of life advantage is considerably more dramatic when the other costs detailed in the following chapters are added to direct victim property losses.

These differences are hidden in our current accounting system. Strictly speaking, the narrowing of the income gap between Nova Scotians and other Canadians since 1962 should be adjusted at least to reflect the differences in household property losses due to crime. In other words, the good news is that Nova Scotians retain a direct income advantage in lower property crime losses. The bad news is that Nova Scotians are rapidly losing this advantage and will do so completely if current trends continue.

In Table 7.1 below, victim losses (in millions of 1997 dollars) are derived from the Solicitor-General's estimates on average losses per property crime in Canada, as follows:

- Theft: $2,188;
- Mischief: $655;
- Break and Enter $2,370;
- Motor Vehicle Theft: $3,728;
- Robbery $2,934;
- Fraud $3,625.

As noted in Chapter 4, these are the only values available at present. But they are based on national figures and are badly outdated. A comparison with comparable and more recent U.S. figures issued by the U.S. Federal Bureau of Investigation, reveals that the robbery and theft losses given here may be overestimated, while the motor vehicle loss is probably understated, and the break and enter losses are broadly comparable. Paul Smith, N.S. Department of Justice, concurs with these suppositions.

There is a pressing need for a provincial level victim survey that can determine average property losses for different crime categories. In the meantime, future updates of this report might wish to discount the values given here according to the ratio between average Nova Scotian and Canadian consumption levels (from Statistics Canada's *Family*

[3] Direct victim property losses ($102.4 million in N.S. and $3.5 billion in Canada) are divided by the number of dwellings (344,779 in N.S. and 10,899,427 in Canada) to derive losses per household. Dwelling counts are from Statistics Canada, *A National Overview: Population and Dwelling Counts,* catalogue no. 93-357-XPE, page 11, and from the 1961 census.

Expenditure Survey), or according to relative weekly salaries, since lower levels of affluence are likely to produce lower dollar theft losses. We have not done this here, in part because of the significant crime costs omitted from this study. As Chapter 4 notes, the probable overestimates in this section are more than compensated by the omissions, exclusions and underestimates elsewhere.

Table 7.1: Direct Victim Losses due to Property Crime, Nova Scotia, 1962 – 1997
(Millions of 1997 dollars)

	Break & Enter	Motor Vehicle Theft	Robbery	Theft	Fraud	Vandalism	Annual Total	Potential Savings '75	Potential Savings '62
1962	5.21	2.62	0.26	11.38	1.74	1.93	23.14		
1963	6.67	2.86	0.26	13.60	1.74	2.27	27.39		4.25
1964	6.93	2.91	0.28	14.45	1.82	2.44	28.84		5.70
1965	5.91	3.32	0.39	15.24	2.35	2.52	29.74		6.60
1966	6.22	2.81	0.32	15.70	1.93	2.58	29.55		6.41
1967	6.57	2.91	0.43	14.96	2.03	2.56	29.46		6.32
1968	7.37	3.45	0.43	18.78	2.65	2.93	35.60		12.46
1969	9.33	4.05	0.48	20.40	3.07	3.20	40.52		17.38
1970	9.56	3.40	0.39	22.28	3.23	3.43	42.29		19.15
1971	10.65	4.69	0.52	22.55	4.26	3.50	46.18		23.04
1972	11.26	4.71	0.69	21.98	4.13	3.33	46.10		22.96
1973	12.70	4.87	0.53	23.00	4.16	3.58	48.83		25.69
1974	14.02	5.41	0.93	26.98	5.07	4.17	56.58		33.44
1975	16.94	6.65	0.99	31.53	6.53	5.02	67.67		44.53
1976	18.62	7.07	1.02	34.20	6.46	5.78	73.15	5.48	50.01
1977	17.58	7.37	0.85	33.95	6.27	6.13	72.16	4.49	49.02
1978	17.51	6.84	1.07	35.30	7.35	6.48	74.55	6.88	51.41
1979	18.05	8.10	0.93	39.29	7.87	7.11	81.34	13.68	58.20
1980	19.89	7.93	1.21	41.57	8.02	6.72	85.34	17.68	62.20
1981	20.91	7.66	1.21	47.96	9.03	7.50	94.27	26.60	71.12
1982	19.54	6.22	1.10	50.55	10.78	7.40	95.61	27.94	72.47
1983	16.86	5.36	1.17	48.91	12.26	7.05	91.61	23.94	68.47
1984	18.05	5.28	1.08	51.28	12.81	7.08	95.58	27.91	72.43
1985	19.09	5.78	0.81	51.02	15.14	7.12	98.97	31.30	75.82
1986	20.41	5.86	0.67	53.38	15.17	7.51	103.00	35.33	79.86
1987	20.66	5.55	0.79	53.87	15.36	7.91	104.14	36.47	81.00
1988	20.34	5.50	0.91	54.06	15.20	8.31	104.31	36.65	81.17
1989	18.30	6.04	0.88	54.11	17.26	8.70	105.29	37.62	82.14
1990	22.40	6.55	0.88	59.27	17.76	9.10	115.96	48.29	92.82
1991	27.81	7.39	1.36	62.00	20.03	10.44	129.04	61.38	105.90
1992	25.27	7.03	1.36	56.76	19.21	9.70	119.33	51.67	96.19
1993	22.23	6.62	0.96	53.22	15.50	8.63	107.17	39.50	84.03
1994	20.79	6.23	1.09	49.77	15.30	8.10	101.29	33.62	78.15
1995	20.94	6.70	0.89	49.13	15.24	7.82	100.72	33.05	77.58
1996	22.52	8.98	1.27	47.26	14.28	8.42	102.74	35.07	79.59
1997	21.79	9.54	1.25	47.19	14.28	8.38	102.42	34.75	79.27
Total	**578.91**	**204.28**	**29.70**	**1,346.87**	**335.26**	**214.86**	**2,709.88**	**669.30**	**1,876.78**

8. Victim Losses: Violent Crime

This chapter will tabulate only those victim costs of violent crime that can be directly measured in monetary and market terms. These are of three types – direct monetary losses; hospitalization costs; and productivity losses. Clearly these do not come close to estimating the actual costs of violent crime, and must be regarded as extremely conservative.

For example, the loss of a human life is clearly far more costly in human and social terms than the economic loss of productive output. Even more seriously, the murder of an elderly person, age 65 or over, counts for nothing in this estimate since homicide assessments are in terms of economic productivity only. Future research on the lost consumption of victims may partially overcome this problem. As before, only reported crimes are counted. Non-hospital medical and drug costs, counseling costs and other expenditures are also excluded because accurate data are not currently available.

These limitations produce significant underestimates of victim costs due to violent crime. Chapter 10 strives to give a more accurate (if less precise) portrait of actual crime costs by including estimates for victim pain and suffering based on court awards.

8.1 Direct Monetary Losses due to Assault and Sexual Assault

Direct financial losses in money and possessions stolen from victims of assault and sexual assault amounted to more than $600,000 in 1997 (Table 8.1). This represents a 450% increase in annual victim losses in real terms since 1962. A cumulative total of $11.8 million worth of possessions has been stolen from victims of assault and sexual assault during this 36-year period. If the rate of victimization had remained at 1962 levels the potential savings in direct monetary losses due to assault would have been about $8 million. And if the rate had remained at 1975 levels there would have been a saving of approximately $4 million.[4]

[4] Solicitor-General of Canada, *Canadian Urban Victimization Survey, Bulletin 5: Cost of Crime to Victims,* 1985, page 3. This report notes that a dollar loss occurred in 32% of sexual assault incidents and 18% of assaults, and that the mean net dollar loss (after recovery) for those incidents where an economic loss took place was $266 for sexual assault incidents and $224 for assaults ($372 and $314 in 1997 dollars). These ratios and losses are applied to the number of reported incidents to construct the table that follows. See Appendix for more details.

Table 8.1: Direct Victim Monetary Losses due to Assault and Sexual Assault, Nova Scotia, Constant 1997$, ($000s)

Date	Estimated $ Loss: Sexual Assault	Estimated $ Loss: Assault	Total $ Loss: Assault & Sexual Assault	Potential Savings if Rate Remained at '62 Level	Potential Savings if Rate Remained at '75 Level
1962	26.5	83.7	112.2		
1963	29.7	93.8	125.4	15.2	
1964	37.3	117.8	157.1	46.9	
1965	37.4	118.3	157.7	47.5	
1966	40.8	129.2	172.0	61.8	
1967	40.0	126.4	168.3	58.1	
1968	43.9	138.8	184.7	74.5	
1969	47.4	150.0	199.4	89.2	
1970	49.8	157.4	209.1	98.9	
1971	51.4	162.7	216.1	105.9	
1972	28.3	152.9	203.2	93.0	
1973	51.2	162.1	215.3	105.1	
1974	53.8	170.0	225.8	115.6	
1975	57.5	181.8	241.3	131.1	
1976	60.1	190.1	252.1	141.9	12.8
1977	59.8	189.2	251.0	140.8	11.6
1978	64.6	204.3	270.8	160.6	31.5
1979	65.1	205.9	273.0	162.8	33.7
1980	69.6	220.1	291.7	181.5	52.3
1981	70.3	222.4	294.8	184.6	55.4
1982	72.1	228.1	302.2	192.0	62.8
1983	75.2	237.4	314.4	204.2	75.1
1984	75.7	239.5	317.2	207.0	77.9
1985	76.4	241.5	319.8	209.6	80.5
1986	80.8	255.7	338.5	228.3	99.2
1987	86.6	273.9	362.5	252.3	123.2
1988	93.2	294.8	390.0	279.8	150.7
1989	103.2	326.5	431.7	321.5	192.3
1990	123.3	361.2	486.5	376.3	247.2
1991	134.4	418.1	554.5	444.3	315.1
1992	163.0	460.3	625.3	515.1	386.0
1993	160.9	452.2	615.1	504.9	375.7
1994	143.2	474.3	619.5	509.3	380.2
1995	140.7	484.0	626.8	516.6	387.4
1996	137.2	499.0	638.2	528.0	398.8
1997	139.1	475.9	617.0	506.8	377.6

Sources: Solicitor General Canada. *Canadian Urban Victimization Survey: Cost of Crime to Victims, Bulletin No. 5,* 1985, p. 2& 3. Statistics Canada. *Canadian Crime Statistics,* 1990-1997, table 3.3. Statistics Canada. Cansim CD Rom, Cat. No. 10F0007XCB, matrix 2200. See methodology section in Appendix for more details.

8.2 Hospitalization Costs

A seven city Statistics Canada victim survey in 1982 found that 350,000 criminal incidents resulted in 50,500 nights in hospital and 405,700 days lost due to some form of incapacitation.

Extrapolating from these data, Nova Scotia victims spent an estimated 2,412 days in hospital as the result of criminal activity in 1997. At an annual operating expense of $662 per patient day, hospitalization expenses due to crime amounted to $1.6 million in 1997. Hospitalization costs due to crime have risen by more than 1000% since 1962, due in part to higher violent crime rates and in part to higher hospitalization costs (Table 8.2).

Since 1962 an estimated $28 million has been spent on hospitalization due to violent crime in Nova Scotia. Had hospitalization expenditures due to crime remained at 1962 levels an additional $25 million would have been available for progressive social programmes including improved medical care. If both variables had remained at 1975 rates $14.5 million would have been saved.

Caution must be exercised when interpreting these data. Savings would have been considerably less had the cost per day for hospitalization remained constant over time. It is possible to impute a constant dollar figure for hospital care so that hospital expenditures due to criminal activity can be isolated from general increases in hospital costs. However in reality, Nova Scotia taxpayers have to pick up the bill for crime related hospitalization regardless of increases in the cost of hospital care. Because it more closely approximates a full cost accounting of crime, the GPI therefore includes increased hospital expenditures as part of crime-related hospitalization costs.

Data were not available for non-hospital medical costs, counselling and drug expenses due to crime. For future updates of this study, it is recommended that if direct data on medical costs cannot be obtained from victimization surveys, estimates be made by applying the overall ratio between medical spending and hospital expenditures in Canada to the $1.6 million hospitalization estimate in this chapter.

Table 8.2: Cost of Hospitalization due to Crime in Nova Scotia.
Constant 1997$, ($000s)

Date	Estimated $ Cost	Potential Savings if Rate Remained at 1962 Level	Potential Savings if Rate Remained at 1975 Level
1962	137		
1963	160	23	
1964	173	36	
1965	176	39	
1966	175	38	
1967	171	34	
1968	190	53	
1969	200	63	
1970	209	72	
1971	235	98	
1972	237	100	
1973	272	135	
1974	347	210	
1975	479	342	
1976	571	434	92
1977	545	408	66
1978	555	418	76
1979	643	506	164
1980	655	518	176
1981	715	578	236
1982	859	722	380
1983	848	712	370
1984	894	757	415
1985	947	811	469
1986	1044	907	565
1987	1070	933	591
1988	1138	1001	659
1989	1255	1118	776
1990	1485	1348	1007
1991	1765	1629	1287
1992	1857	1720	1378
1993	1765	1628	1287
1994	1598	1461	1119
1995	1567	1430	1088
1996	1643	1506	1164
1997	1621	1484	1142

Sources: Sources: Solicitor General Canada. *Canadian Urban Victimization Survey: Cost of Crime to Victims, Bulletin No. 5,* 1985, p4. Statistics Canada. Cansim CD Rom, Cat. No. 10F0007XCB, matrix 2200. Statistics Canada. *Hospital Indicators*, Cat. No. 83-246, Table and *Hospital Statistics,* Cat.No.83-217, Table 12. See chapter 4 for more details on methodology and data sources.

8.3 Potential Production Losses

8.3.1 Homicide Victims: Measurement System and Results

The relatively few instances of homicide in Nova Scotia may produce dramatic fluctuations in the number of homicides committed from one year to the next, making annual trend assessments problematic. In order to assess long-term trends more reliably and to average out annual fluctuations, the period 1962-1997 has been divided into six six-year periods. From the first period to the most recent period, here has been a 78% increase in the murder rate.

Comparing the same two periods, the actual number of murders has risen from 48 to 106 (chart 8.1). From 1962 to 1967 there were an average of eight murders a year. Between 1968 and 1991, the number of murders remained steady, averaging 13 a year. From 1992 to 1997, there were an average of 18 murders a year. Since 1962 there have been a total of 463 murders in Nova Scotia.

The economic cost of these murders is assessed by calculating the lost potential production of homicide victims, or the productive capacity lost when homicide victims aged 18-65 are taken from the workforce. No argument is made that this even begins to approximate the real losses due to murder. The assessment of potential production losses is simply a proxy measure to indicate that homicide does have direct economic costs. A clear flaw in this method is that no valuation for production losses is made for elderly homicide victims, since they are no longer in the workforce. The estimates given in this section should therefore be regarded as extremely conservative.

Though care has been taken in developing the methodology described below, the use of production losses to estimate murder costs cannot be taken too literally. The limited data available suggest that homicide victims actually have higher rates of unemployment and marginal employment than the general population.[5] But since production loss is the only valuation used in the conservative crime estimate of the value of a human life, the assumption is made that victims could have contributed a full-time full year of work. Even if they were not actually working these hours at the time they were killed, the method is justifiable from the perspective of "opportunity cost." It is the contribution they *could* have been making to the economy had they lived.

Even this full-time full-year production loss estimate yields a life value estimate considerably below that used by Transport Canada for traffic fatalities (see below). Therefore, it is not considered justifiable to discount the value further to take into account actual employment status at the time of the crime.

[5] Paul Smith, N.S. Department of Justice, personal communication, 17 March, 1999.

The investment-based approach of the Genuine Progress Index is applied here to human capital, just as it is to produced, natural and social capital elsewhere. From that perspective the death of a homicide victim cannot be "expensed" in a single year, but must be measured over the productive life span of the individual. This is one of the principal differences between the GPI accounting method and the current income approach of the GDP, and is more in line with sound business practices that see capital investments and their depreciation as principal determinants of the rate of future service flows.

For example, current accounting methods "expense" highway capital costs as if they were consumed in the same year as the expenditure, with previous investments effectively regarded as sunk costs. The GPI, by contrast, regards highways as capital investments that produce a return over their expected life span, and which are subject to depreciation if they are not properly maintained. "Ignoring sunk costs," as Douglass Lee notes, "is a short-run perspective that is incompatible with the long-term existence of the highway system."[6]

Similarly, the GDP counts only current year timber, fish and produce sales, and thus effectively counts the depletion of natural resources as economic gain. The GPI, by contrast, regards the health of the natural resource base itself as the source of wealth, and counts deterioration in soil and forest quality or decline in fish stocks as depreciation of the natural capital asset. By the same logic, high levels of child poverty are regarded in the GPI as a failure to invest in human capital, since poverty is positively correlated with poor health, premature death and poor educational attainment, all of which carry high social costs in the future and result in lower workplace productivity.

Natural, social and human capital are therefore viewed in the same way that a factory owner sees the need for investment in plant and capital equipment and measures its depreciation over its expected life-span. The responsible owner or manager recognizes that if he sells off his machinery or allows it to fall into disrepair, future service flows will suffer, the enterprise will lose competitiveness, and the potential for long-term wealth will be undermined.

Application of this investment-based accounting approach to all forms of capital is the only way to ensure long term social sustainability, and is the essence of any "sustainable development" strategy. Without it we have no way of measuring whether current levels of economic activity are likely to leave the next generation better or worse off than the current one. It is a profound shift in view that regards the strengthening of educational, health and environmental quality not merely as current year expenditures but as direct investments in social, human and natural capital.

The approach also has a sound economic basis in the Hicksian definition of income as the maximum amount that can be spent on consumption in one period without reducing real consumption expenditure in future periods.[7] This requires that the productive capacity of capital be maintained so that it provides undiminished potential to support present and

[6] Lee, Douglass, *Full Cost Pricing of Highways,* Transportation Research Board, U.S. Department of Transportation, January, 1995, page 13.
[7] Hicks, J.A., *Value and Capital,* 2nd edition, Oxford University Press, Oxford, 1946.

future generations, and measures long-term prosperity according to our ability to live off the interest of capital rather than by depleting capital stocks.

Applying this accounting approach to measuring the loss of human capital in the case of a homicide victim requires that the full productive life span of the victim be considered and that production losses be "expensed" on an annual basis over that expected life span rather than deducted in a single year. The method is the same that Douglass Lee applies to investment-based highway accounting – namely to measure the replacement costs of the existing system and then to annualize those costs. This is probably the first attempt made to assess lifetime potential production losses of homicide victims in this way.

Cold-hearted though this approach appears on the surface, it actually serves in practice to recognize lifetime human potential rather than simply to "write off" the loss of life and then forget about it. The major flaw in its current application is to confine that human potential to market economic production alone, but this is consistent with the narrow approach adopted in the "conservative" estimate of crime costs altogether. Clearly the loss of a human life in practice is far greater than the loss of economic production in the market place.

In the comprehensive cost estimate in chapter 11, the homicide victim's unpaid work is included. Even this, of course, is a very limited view of full human potential and worth, and so court awards for pain and suffering are also used to assess values for emotional losses due to violent crime in that comprehensive estimate.

Whether human life should be assessed in monetary terms at all is answered in accord with the principles laid out in section 4 (3) of the forward. Just as insurance companies put dollar values on human lives and limbs in order to ensure that losses are compensated in practice, it is necessary to assess losses in monetary terms here only so long as current social norms use monetary values as measures of worth and policy prioritization. If human needs were met other than through monetary compensation, monetization here would be unnecessary. The GPI approach may therefore be understood in the perspective of social acceptance of the need for monetary assessments of human losses by courts and insurance companies.

For the purposes of this report, GPI Atlantic has tabulated data on all homicide victims in Nova Scotia back to 1921. Age data has been assessed to determine the number of victims who would have been of working age (16-65 years) in any given year. For example, if someone age 20 were murdered in 1950, the value of one year of productive work would be assessed as a cost of crime for each year up to 1995. Similarly, a 20 year old killed in 1996 would register only one year's lost potential production in 1997, but the costs of that crime would continue to appear in the Genuine Progress Index until the year 2042.

The crime of homicide meant that 452 people were lost to the workforce in 1997 in Nova Scotia. In stark terms this means that one of the six victims of homicide in 1932, an infant boy, would still have been in the workforce had he lived. By recognising this fact, and giving his absence meaning in economic terms, we are actually remembering the boy in some small

way. Based on the average weekly wage of $503.77[8] homicide victims would have added an additional $11.8 million to the Nova Scotia economy in 1997 had they lived.[9]

However wages represent only a portion of the value of actual output or economic production, which is a more accurate gauge of the actual economic loss sustained by the death of that worker. In order to gauge the actual value of lost production, the Nova Scotia GDP is divided by employment figures to obtain the real GDP per person at work, $51,855 in 1997. Multiplied by the 452 homicide victims between 1921 and 1997 who would have been of working age in that year, this yields a total loss of productive output of $23.4 million. This is the figure used in the GPI conservative estimate for the economic loss due to homicide.

In this way, the 1997 homicide cost actually reflects homicide rates in earlier years. Conversely, a higher homicide rate in 1997 will not show up immediately in the GPI, but will continue to reverberate as higher crime costs for the expected life span of the victims.

Again, this methodology is consistent with the approach used for natural capital accounting. Soil erosion in the 1970s or the over-harvesting of fish in the 1980s and timber in the 1990s will produce a loss of goods and services well into the 21st century. Conversely, restorative forestry costs in the present are, in effect, compensation for prior damage or losses. The reinvestment in natural capital will not show up as gain until an increased flow of services is produced 50 or 60 years hence.

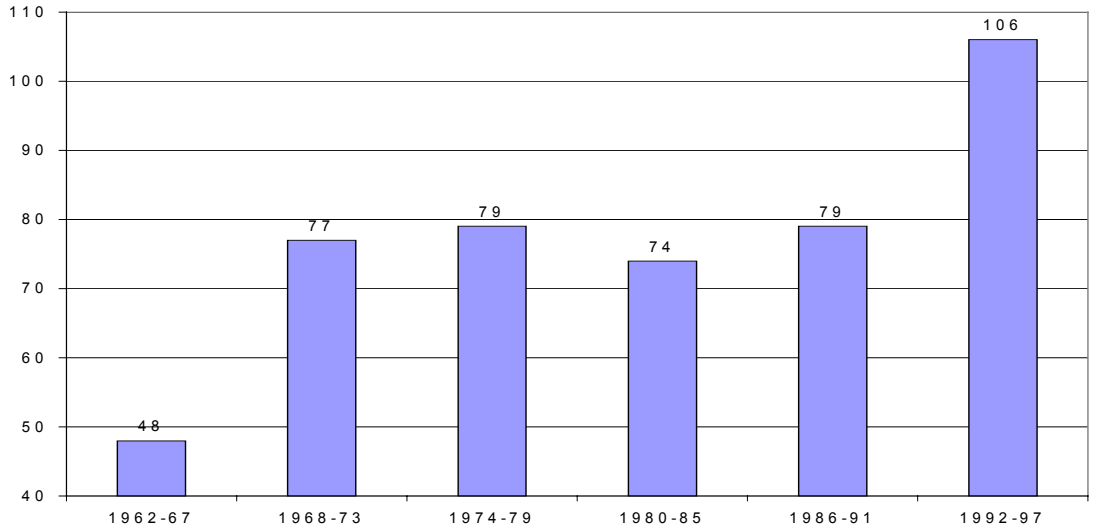
The method is explained in detail here for two reasons:

a) As far as we know, it is the first time that it has been applied to an assessment of crime costs in general and to homicide costs in particular.
b) It helps explain an approach that will be used throughout the Genuine Progress Index in valuations of natural resources, health, education and other variables, and goes to the heart of sustainable development accounting practices.

To test whether the $23.4 million figure derived from the method described above is realistic in absolute terms, we have applied Transport Canada's monetary cost valuation of $1.56 million per road fatality to the average of 18 murders to per year for the 1992 – 1997 period. There is no intrinsic reason why a homicide victim should be counted differently than a road fatality. This completely different valuation method would yield an annual loss of $28 million a year due to homicide in Nova Scotia. It can be seen that the GPI methodology yields a somewhat more conservative result, but one that is within a reasonable range of alternative valuation methods.

[8] Statistics Canada. *CANSIM Database*, Cat. No. 10F0007XCB, matrix 4330, "Average Weekly Earnings (including Overtime) of all Employees, Firms of all Sizes, by Industry, 1980 SIC, Unadjusted Data, N.S., Monthly and Annual".
[9] See Appendix on methodology for details.

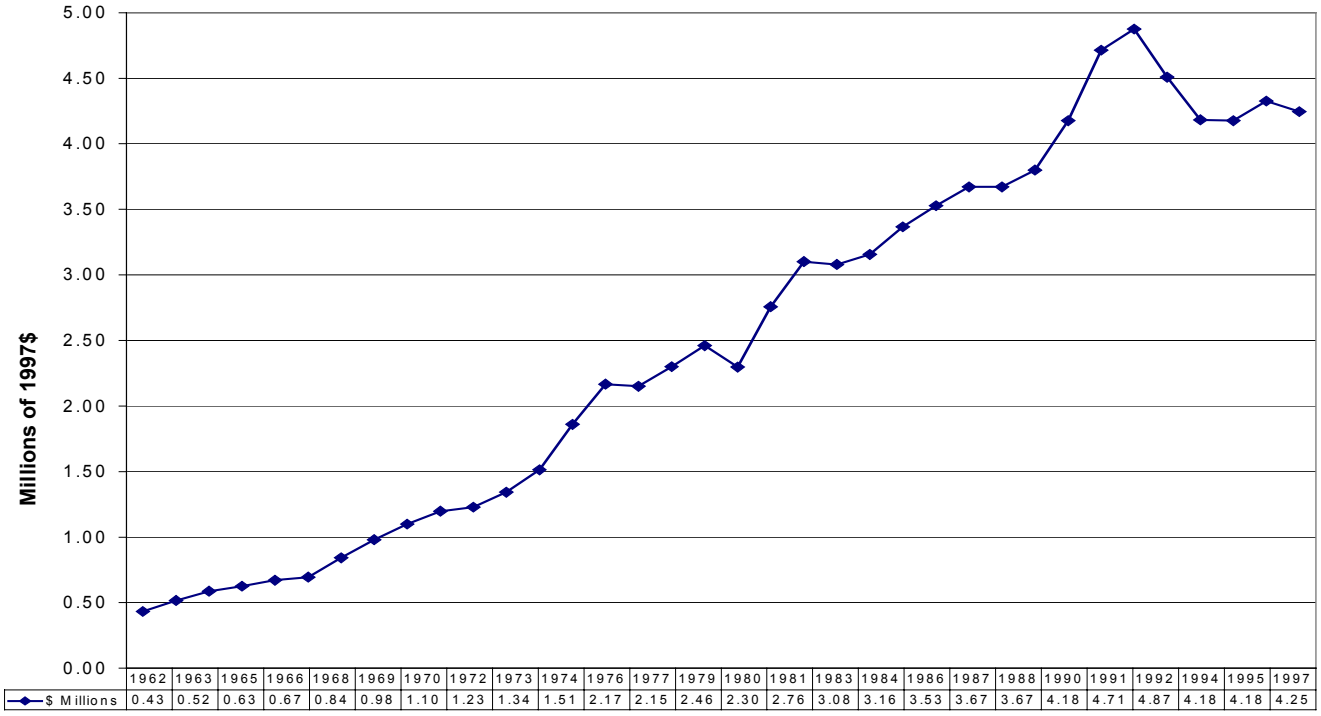
Chart 8.1: Number of Murders in Nova Scotia, 1962-1997



8.3.2 Production Losses Due to Absenteeism Caused by Crime

In 1997, absenteeism due to crime cost the economy nearly $2 million in lost wages, again using the assumption of full-time full-year employment status as described above. This is a three-fold increase since 1971. However, each worker contributes more to the economy than his worth in wages. The actual contribution of workers' production to the Gross Domestic Product also includes profit they generate for the firm in which they are employed, part of which is then invested in capital improvements. Work days lost due to absenteeism caused by crime has therefore been calculated by the loss to the GDP as a whole rather than by wage equivalents alone. In 1997 the economy lost $4.25 million due to crime-induced absenteeism. Since 1962 the cumulative loss due to crime-related absenteeism is $43 million (Chart 8.2).

Chart 8.2: Loss to the Economy (GDP) due to Absenteeism Caused by Crime



	1962	1963	1965	1966	1968	1969	1970	1972	1973	1974	1976	1977	1979	1980	1981	1983	1984	1986	1987	1988	1990	1991	1992	1994	1995	1997
$ Millions	0.43	0.52	0.63	0.67	0.84	0.98	1.10	1.23	1.34	1.51	2.17	2.15	2.46	2.30	2.76	3.08	3.16	3.53	3.67	3.67	4.18	4.71	4.87	4.18	4.18	4.25

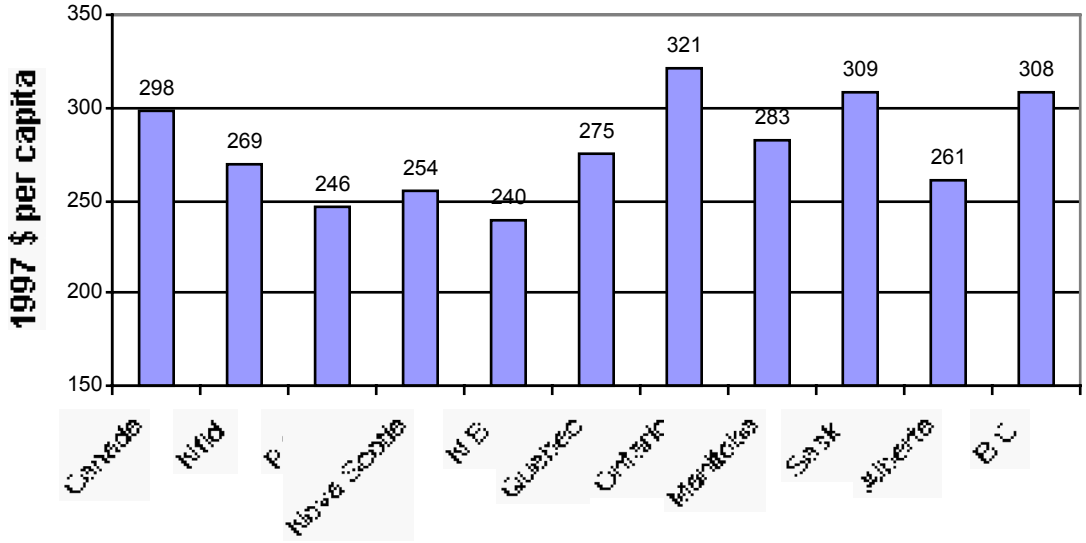
9. Public Justice Costs

Expenditures on police, courts and prisons are direct taxpayer costs that are the direct consequence of criminal activity. In other words, without crime they would not be required. More crime translates into more spending on police, lawyers, court costs and prisons which appears in the GDP as economic growth. From the GPI perspective, less crime and lower public justice expenses are positive signs, which translate into taxpayer savings available for health care, education and other welfare-enhancing activities.

The per capita costs of the criminal justice system in Canada and in Nova Scotia for 1997 are given in Chart 9.1, with the distribution of those costs summarized in Chart 9.1a. Expenditures on police account for 55% of the public justice bill, corrections for 29% and courts for 16%.[10] More detailed descriptions of each component appear in the following sections.

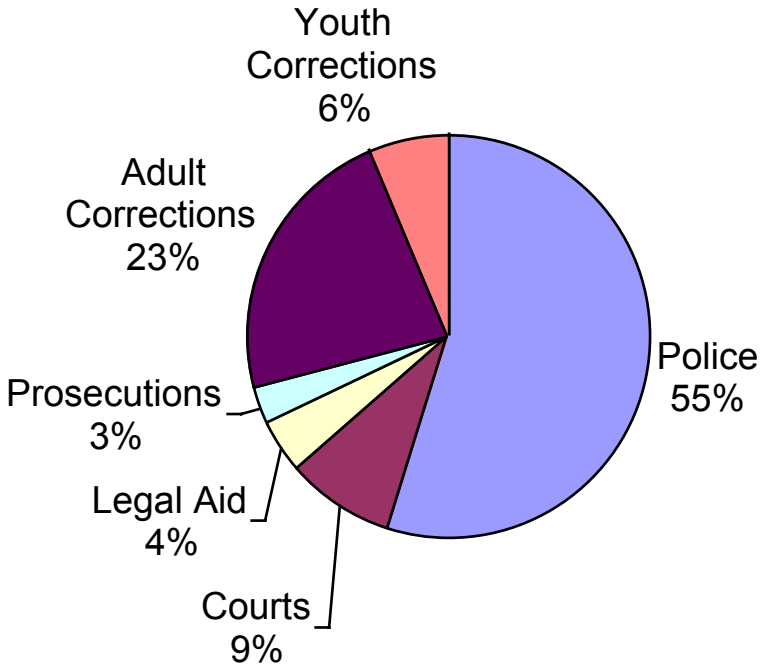
[10] Statistics Canada, Canadian Centre for Justice Statistics, *Canadian Criminal Justice at a Glance,* page 8.

Chart 9.1: Per Capita Justice Expenditures, Canada and Provinces[11] (1997 $)



[11] Statistics Canada, *Juristat,* catalogue no. 85-002-XPE, volume 17, no. 3. NOTE: The composite statistics here are for 1994/95, adjusted to 1997 dollars. In the following sections, 1997 data for Nova Scotia is applied to the estimates wherever recent figures are available. In addition, these composite figures, as supplied by Statistics Canada, exclude some significant expenditures, such as prosecutions and municipal courts. These are added in the more detailed section break-downs in this chapter. For this reason, the composite total for Nova Scotia in this chart does not exactly match the total derived from the following sections. This chart is therefore presented for comparative purposes only, and includes the cost of police, most courts, adult and youth corrections, and legal aid. The composite total derived from the separate sections should be regarded as more inclusive and accurate.

Chart 9.1a: Distribution of Public Justice Costs, Nova Scotia, 1994-95[12]



9.1 Police

Dr. Don Clairmont, Department of Sociology, Dalhousie University, points out that the Atlantic region generally has high service delivery costs on a per capita basis, compared to the rest of the country, for most public services. This is due to greater population dispersion and less urban concentration.[13] Police strengths and prison costs should be seen in that context. For this reason, the following comparative estimates of ratios of police to population ratios should be treated with caution.

The correlations between police strength and crime rates are complex, as regression analyses carried out by the Canadian Centre for Justice Statistics (CCJS) have demonstrated. While simplistic causal links cannot be drawn, the CCJS conclusions demonstrate the importance of raising the issue of the relationship between police strength and crime rates:

[12] Statistics Canada, *Juristat,* catalogue no. 85-002-XPE, volume 17, no. 3, table 5, page 12. Distribution is based on 1994-95 figures, but is not believed to have changed significantly since then. To the estimates given in Table 5 of that document have been added the estimated Nova Scotia share for federal corrections, courts, prosecutions, and RCMP expenditures, as described in more detail in the rest of this chapter.
[13] Dr. Don Clairmont, personal communication, 18 March, 1999.

...The incidence of crime is increasing more rapidly than the ability of police forces to deal with it. As we have seen, crime has increased more than police strengths[14].

The major caveat for the data presented below, therefore, is that statements about the nature of the links between crime rates and police to population ratios should be treated as hypotheses to be tested, rather than as definitive conclusions.

In 1997 there was one police officer for every 584 Nova Scotians. In 1965 we needed only one police officer for every 848 Nova Scotians. In 1977, Nova Scotia needed only 74% the number of police officers per 100,000 as the rest of the country to keep the peace, because of the lower crime rate in the province. Today the province has 94% as many police per 100,000 as the Canadian average (Table 9.2, Charts 9.2 and 9.3). [15]

In 1997 municipal and provincial expenditures on policing in Nova Scotia totaled $105.6 million.[16] Nova Scotia taxpayers' share of non-provincial RCMP costs, based on share of the national population, was $38.1 million.[17] The total bill paid by Nova Scotia taxpayers for policing in 1997 was therefore $143.7 million.

Not only are there more police per population, but the cost of policing has risen. In the last 10 years alone the cost per police officer across Canada has gone up more than 15%, from $95,000 to $110,000 per officer in constant dollars, when civilian support staff are included.[18] Since 1974 the number of police officers has grown by 33% in Nova Scotia compared to 14% in Canada as a whole, producing a correspondingly higher per capita cost increase.[19]

[14] Statistics Canada, Canadian Centre for Justice Statistics, *Criminal Justice Trends Canada from 1962: Corrections Program,* page 17.

[15] 1965 police data from Statistics Canada, *Police Administration Statistics, 1967-77,* catalogue no. 85-204, page 27. 1997 police data from Statistics Canada from Statistics Canada, *CANSIM Database*, catalogue no. 10F0007XCB, matrix 301. Population data from Statistics Canada, *CANSIM Database,* catalogue no. 10F0007XCB, matrix 1. See Appendix on methodology and data sources for more details. The N.S. Department of Justice, Policy, Planning and Research Division, points out that part of the change in proportion could be due to cut-backs in other provinces and to differing population concentrations and dispersions. Personal communication, 17 March, 1999.

[16] Statistics Canada. February 1999. *Police Personnel and Expenditures in Canada – 1997 and 1998.* Cat. No. 85F0019, p.17.

[17] Statistics Canada, Canadian Centre for Justice Statistics, *Police Administration Annual Survey,* catalogue no. 85F0019-XPE, February, 1999. RCMP Federal, Administration, Headquarters and Training Academy costs not paid for by the provinces came to $1,220 million in 1997. Using a simple population share ratio (3.12% of the total), it has been assumed that the Nova Scotia share of these costs came to $38 million in 1997.

[18] The figures are derived by dividing the total cost of policing by the number of police officers. Because the total policing expenses include the costs of civilian support staff, whose work is essential for policing functions, these per-officer figures are clearly not police officer salaries. The authors are grateful to Karen Swol, Survey Manager, Police Administration Survey, Canadian Centre for Justice Statistics, for her expert advice and assistance with this section of the report.

[19] Statistics Canada, *CANSIM* matrix 301.

From the GPI perspective, this increased spending, due partly to a more rapid increase in the crime rate from a markedly lower base, represents a decline in comparative advantage for the province. If the policing expenditures had remained at the 1962 level, Nova Scotian taxpayers would have saved $129 million in 1997. This could have paid the salaries of 2800 additional teachers or 3700 additional nurses. In total, Nova Scotians would have realized a cumulative saving of more than $2billion since 1962 if provincial policing expenditures had remained at 1962 levels.

Halifax had one officer for every 479 citizens in 1997, compared to one police officer for every 584 citizens in Nova Scotia as a whole.[20] Table 9.3 lists police to population ratios in different Nova Scotia municipalities.

Kit Waters, Director of Policy Planning and Research, N.S. Department of Justice, correctly points out that there are many other factors related to the increase in officer strength other than an increase in crime rates. She notes that having more police on the streets produces higher reported rates of crime, both as a result of increased police initiative and from the creation of more reporting opportunities. In addition the emphasis on community based policing in recent years will, if successful, have produced more confidence in the police and consequently higher reported crime rates.[21]

From that perspective the low reported crime rates of the 1960s and the fewer officers per capita at that time may reflect less reporting as much as less crime. As noted in chapter three, evidence is not currently available to estimate the precise relationship between officer strength, crime rates, and reporting rates. The authors therefore acknowledge that the assumption in this section that more police are "needed" due to higher crime rates should be seen as a hypothesis rather than as a proven fact.

Despite or perhaps because of the increased number of police, the Nova Scotia reported crime rate has quadrupled since 1962 and nearly doubled since 1974. It is now 98% of the Canadian average compared to 66% 25 years ago. In 1974 there were 29 reported crimes per police officer in Nova Scotia; in 1984 there were 43 reported crimes per officer; and in 1996 there were 48 reported crimes per officer, ratios that are almost identical with the Canadian average.

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[20] Statistics Canada, *Crime and Police resources in Canadian Municipalities, 1997,* catalogue no. 85-223, December, 1998. The authors with to thank Karen Swol, Survey Manager, Police Administration Survey, Canadian Centre for Justice Statistics, for her assistance with these data. She points out that the Halifax figures are for the Halifax regional Municipality police force only, and exclude RCMP officers. Since RCMP strengths are not available by municaplity, comparisons of total police strengths between municipalities are difficult. Police to population ratios in Table 9.3 exclude RCMP officers (personal communication, 6 April, 1999). John Turner, Chief, Policing Services Program, Canadian Centre for Justice Statistics, points out that comparisons of police strengths between Canadian cities should use Census Metropolitan Area (CMA) data (personal communication, 7 April, 1999). Because of time constraints, we have omitted such a comparison from this report.

[21] Statistics Canada, Besserer, "Criminal Victimization: An International Perspective," *Juristat,* catalogue no. 85-002-XPE, volume 18, no. 6, reports that 80% of Canadian respondents say their police are doing a good job, the highest percentage of any industrialized country.

While the increase over time is certainly due in part to higher reporting rates for some crime categories, the numbers may also indicate that the dramatic increase in the proportion of police per population has not stemmed the rise in crime. Depending on which factor is seen as the causal component, the increased number of police may lead to higher reporting rates, or higher actual crime rates may necessitate more police. The truth is probably a combination of both factors. A Canadian Centre for Justice Statistics analysis of the relationship concluded that "the incidence of crime is increasing more rapidly than the ability of police forces to deal with it."[22]

Table 9.2: Population per Police Officer, Canada and Provinces, 1965 – 1997

	1965	*1974*	*1997*
Canada Average	**612**	**476**	**554**
Newfoundland	933	734	710
Prince Edward Island	1048	667	673
Nova Scotia	**848**	**671**	**584**
New Brunswick	1055	654	584
Quebec	595	416	540
Ontario	631	467	535
Manitoba	814	539	514
Saskatchewan	851	369	547
Alberta	739	544	636
British Columbia	689	567	583

Sources: 1965 Police data from Statistics Canada, *Police Administration Statistics, 1967-77,* Cat. No. 85-204, p.27. 1974 & 1997 Police data from Statistics Canada, Cansim matrix 301, Cat. No. 10F0007XCB. Population data from Statistics Canada, Cansim matrix 1, Cat. No. 10F0007XCB. See Appendix for methodology.

[22] Statistics Canada, Canadian Centre for Justice Statistics, *Criminal Justice Trends Canada from 1962, Corrections Program,* page 17.

Chart 9.2: Population per Police Officer, Nova Scotia and Canada, 1977 - 1997

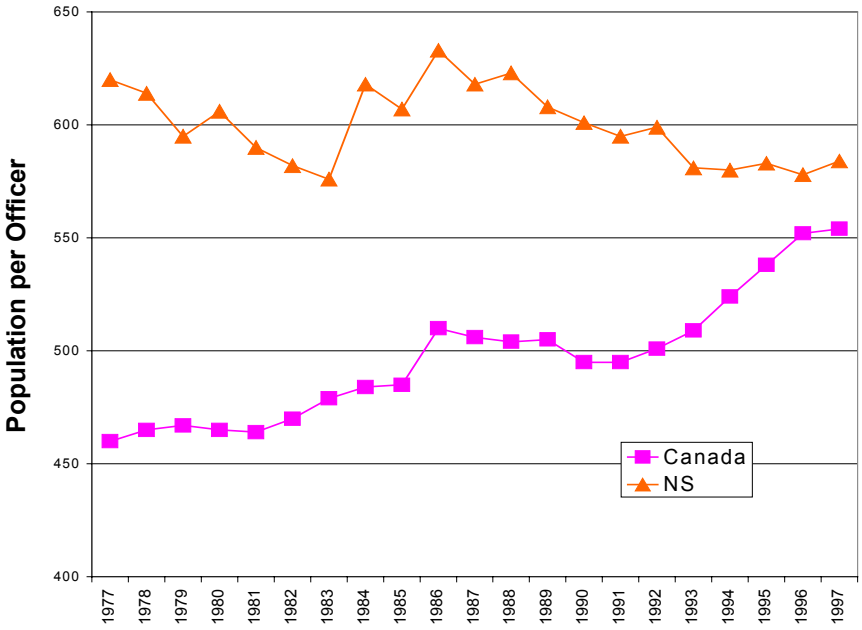

Chart 9.3: Nova Scotia Police Strength in Relation to Canada, 1977-1997
(N.S. police per 100,000 as percentage of Canada police per 100,000, Canada = 100)

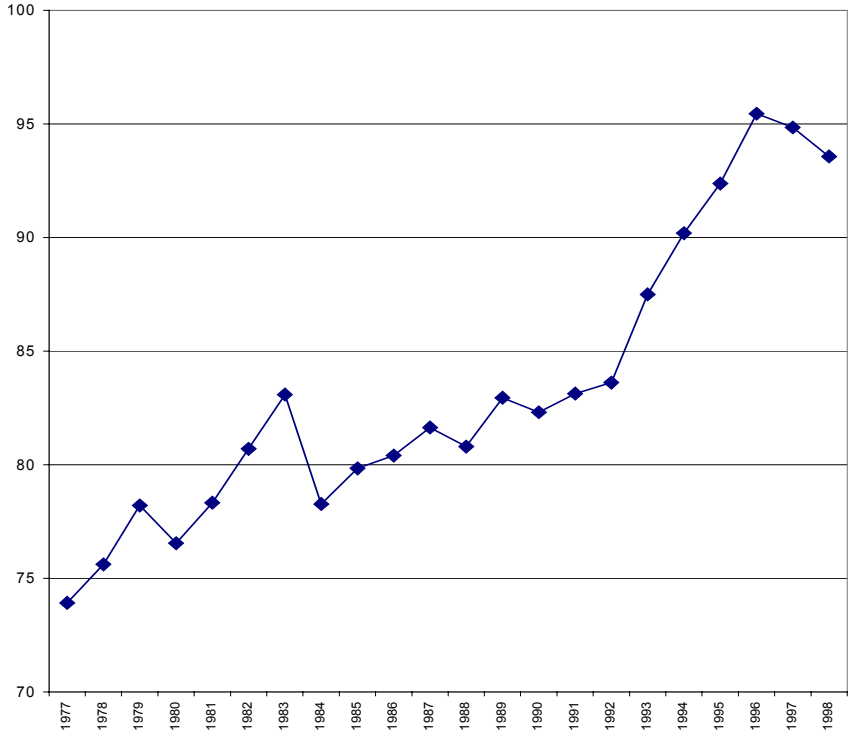

Table 9.3: Police Strength and Costs, Nova Scotia Municipalities

Police Force	Police Officer Total	Per Capita Cost	Population per Police Officer
Halifax	435	162	460
Cape Breton	154	129	462
Amherst	19	121	537
Bridgewater	18	140	444
Kentville	13	131	462
New Glasgow	29	127	486
Stellarton	9	114	589
Truro	27	164	444
Yarmouth	16	116	494
Annapolis Royal	3	209	200
Berwick	6	150	383
Hantsport	4	186	300
Lunenburg-Mahone Bay	10	157	370
Middleton	6	195	300
Springhill	9	149	467
Trenton	7	169	414
Wolfville	11	163	345
Antigonish	8	99	588
Digby	5	148	440
Oxford	3	142	467
Parrsboro	3	115	533
Pictou	6	93	650
Port Hawksbury	5	75	840
Shelburne	4	108	550
Windsor	6	107	633

Source: Police Resources in Nova Scotia, 1996[23]

[23] Nova Scotia Department of Finance. *Nova Scotia Statistical Review, 1998*, p.121.

9.2 Court Costs

The economic costs of the criminal court system include salaries of judges, prosecutors and defence lawyers, including legal aid staff, plus overhead and administrative costs. Civil justice costs are not included in this study, nor is the lost economic production due to court time of jurors and witnesses. .

Across Canada, Statistics Canada has estimated that legal aid constitutes about 4% of total public justice spending, prosecutions account for 3%, and other court costs for another 9%.[24] This includes both federal and provincial spending. Since precise court costs are not separately available for the provinces, the Nova Scotia share has been extrapolated from Statistics Canada estimates for criminal court costs in Canada to estimate a 1997 expenditure of $39.4 million for total public criminal court costs, including legal aid, in Nova Scotia.[25]

The estimate includes one-half of legal aid spending in the province, the approximate percentage attributable to criminal cases.[26] Nova Scotia's prosecution expenses in 1994-95, the latest available year for precise data, were nearly $8 million, the second highest per capita rate in the country.[27] The Nova Scotia share of federal prosecution costs is estimated at about $1.3 million per year, based on population share. These expenses are also included in the composite $39.4 million estimate, as are half the expenses of municipal courts, normally excluded from the composite court cost figures released by Statistics Canada.

The total estimate has been tested against a model used by the Fraser Institute and found to be comparable.[28] Because many of the estimates in this section are derived rather than

[24] Statistics Canada, Canadian Centre for Justice Statistics, "Justice Spending in Canada," *Juristat,* catalogue no. 85-002, volume 17, no. 3, January, 1997. See footnote for Chart 9.1a above.

[25] Statistics Canada, *Juristat,* catalogue no. 85-002-XPE, volume 17, no. 3, table 5, "Spending on Selected Justice Services in the Provinces and Territories", notes that municipal courts, amounting to 15% of the caseload in Nova Scotia, are excluded from the provincial estimates provided. Using the 50% break-down of civil and criminal cases derived from the legal aid figures, we have therefore added an additional 7.5% to the criminal court costs to account for the cost of municipal court proceedings.

[26] The 1995 / 96 ratio of legal aid expenditures in Nova Scotia was almost exactly 50:50 for criminal and civil justice cases. Statistics Canada, *Legal Aid in Canada,* catalogue no. 85FOO15XPB, page 43.

[27] Statistics Canada, Canadian Centre for Justice Statistics, "Prosecutions: Resources, Expenditures and Personnel, 1994-95", *Juristat,* catalogue no. 85-402,October, 1996, page 4, table 1. Statistics Canada, Canadian Centre for Justice Statistics, Denyse Carriere, "Adult Criminal Court Statistics," *Juristat,* catalogue no. 85-002, volume 18, no. 7, page 6 indicates that Nova Scotia has the second highest number of prosecutors in the country on a per capita basis, but the second lowest rate of convictions (59.1%), and the lowest rate of any province on a per prosecutor basis.

[28] About one-half of all legal aid cases in Canada are attributable to civil rather than criminal cases, according to Statistics Canada. See also Brantingham and Easton, *The Crime Bill,* op. cit., Fraser Forum, page 28, for the methodology used to derive estimates for Canadian criminal court costs. The authors of that study use the percentage of legal aid cases attributable to criminal cases (50%) to estimate the percentage of total Canadian court costs devoted to criminal proceedings, and assign legal aid and

direct measurements, it is recommended that future updates of this report investigate judicial costs in more detail than has been possible here.

With cuts in government services, legal aid services are in a state of crisis across the country, and it has been suggested that more people are appearing in court without adequate legal representation.[29] According to Statistics Canada, "fewer people are applying for legal aid, and even fewer applications are being approved for full service."[30] Nova Scotia is now in the final year of a four-year budget reduction program that has included cutting the number of approved cases.

Legal aid spending in Nova Scotia dropped by 8% between 1995 and 1996. Nevertheless, Nova Scotia still approved 76% of applications for legal aid in 1996-97 compared to only 62% nationwide. 59% of legal aid approvals in the province were for criminal cases, while most approvals across the country were for civil cases. Nova Scotia's legal aid spending, while below 1991 levels, is still more than double the level 10 years ago.[31]

While the nationwide decline in legal aid in the 1990's appears superficially as a fall in crime costs and partially reflects declining crime rates since 1991, it may also reflect a decline in due process afforded to those charged with an offence. As noted at the beginning of chapter 5 above, the correlation of economic costs with crime rates rests on the assumption that there is no erosion of civil rights. Otherwise it would be possible to reduce crime rates through police state measures. Further research is necessary to determine whether cuts in legal aid have in fact reduced opportunities for a fair trial.

While this study deals only with the costs of crime, civil justice costs are also "regrettable" expenditures in so far as litigation cannot be considered to enhance welfare and is generally considered necessary in response to perceived harm or wrong-doing. In addition, many civil cases arise from crime. If the justice system as a whole is understood as necessary to redress perceived wrongs, then it makes sense to consider civil justice expenses as "costs" rather than "gains" to the economy in the same way that crime costs are considered in this study. If total court costs, including legal aid and prosecution expenses, were included in this study, another $40 million would be added to the bill.

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prosecution expenses in the same way. In 1992 dollars, the Nova Scotia population share of the Fraser Institute's total estimate for Canadian court costs, including legal aid and prosecutions, would be $32.5 million. Adjusted to 1997 dollars, the amount is $34.3 million, which is comparable to the estimate derived here directly from Canadian criminal court costs. The difference in the two estimates can be explained because the GPI estimate includes the Nova Scotia share of *federal* prosecution costs, because it is derived directly from criminal court costs rather than extrapolated from total court costs, because it adds in municipal court costs, and because the GPI estimate is from more recent data. With appropriate adjustments for the additional costs included in the GPI estimate, the total expense would be almost identical to the Fraser Institute result.

[29] Statistics Canada, Canadian Centre for Justice Statistics, Johnstone, Rebecca and Jennifer Thomas, "Legal Aid in Canada: 1996-97", *Juristat,* catalogue no. 85-002, volume 18, no. 10, page 9

[30] Johnstone, op. cit., *Juristat,* catalogue no. 85-002, volume 18, no. 10.

[31] Johnstone, op. cit., *Juristat,* catalogue no. 85-002, volume 18, no. 10, page 8, table 5.

Because this study does not does not include civil justice costs, spending on lawyers is also excluded, with the exception of legal aid and prosecution costs for criminal cases. If future updates of this work include the costs of litigation as regrettable expenditures, either Statistics Canada Family Expenditure Surveys or else earnings data can be used to assess legal costs.

Extrapolating from national data, Nova Scotia households would have spent more than $33.3 million in 1996 on legal services, though a custom tabulation of the provincial micro-data will likely reveal a lower per capita expenditure in the province than the national average. Nova Scotia miscellaneous household consumption expenditures are about 90% of the national average, while the province has only 81% as many lawyers on a per capita basis. For this reason, the $33 million estimate should probably be discounted by a further 10% to $30 million for a more accurate extrapolation. [32]

Alternatively, earnings data for Nova Scotia reveal lawyer costs of $86.8 million in 1995. This would include business and government as well as household spending, but does not include costs for paralegals and legal secretaries, nor of law firm overheads. Paralegals earn an additional $8.5 million in Nova Scotia, and legal secretaries earn $17.4 million, for a total "litigation cost" of $112.8 million for the legal profession.[33] These data are given for illustrative purposes only in order to reveal the magnitude of civil justice costs. Clearly further analysis would be required before these costs could be included in an estimate of total justice costs.

The logic for including these costs in future updates of this study is that, from the GPI perspective, a less litigious society enhances the quality of life, and frees money for more productive investments. Higher per capita spending on litigation signifies a more contentious and less harmonious society, and a potential growth of social conflict which carries its own costs. As with crime, a decline in legal spending is more likely a sign of progress than the increased spending currently assessed as a contribution to well being and prosperity.

If less lawyers mean less litigation, Nova Scotia is a considerably less litigious and contentious society than the United States, and somewhat less litigious than Canada as a whole. There is one lawyer for every 700 Nova Scotians compared to one for every 300 Americans and one for every 500 Canadians. But perhaps Nova Scotians are taking each other to court more than they once did. Between 1990 and 1995 alone, the proportion of

[32] Statistics Canada, *Family Expenditure in Canada,* catalogue no. 62-555: Legal expenditures are included in "Miscellaneous Expenditures" (Lines 3600-3622), with legal services on Line 3603 disaggregated at the national level only in the published reports. In Canada as a whole, legal services amount to 7.67% of total miscellaneous expenditures. Applying the same ratio to Nova Scotia yields a per household average expenditure of $99.40 on legal services, compared to the Canadian average of $110 per household. The household expenditure is then multiplied by the 335,150 Nova Scotia households.

[33] Earnings data are from Statistics Canada, EO 12 (Line 4112), indicating 1,350 lawyers with average earnings of $64,310, for a total of $86,818,500. Nova Scotia has 81% as many lawyers as the Canadian average, and Nova Scotia lawyers earn 83% the average earnings of lawyers in the rest of the country.

lawyers to the general population rose by 6% in Nova Scotia compared to 3% nationwide. As with crime, the GPI sees less legal spending as a quality of life advantage that still obtains in the province. But the recent trend is disturbing, and a valuable but invisible asset may be eroding.

9.3 Corrections

Among the many forms of sentencing, only corrections costs are included here. From the GPI perspective, fines have a neutral function, since they are simply a transfer of funds from one population group to another. On the one hand, they can be seen as providing social benefit and a potential increase in welfare. On the other hand, there is an opportunity cost to these fines. Had the crime not been committed, these fines could have been invested in welfare-enhancing activities rather than as a form of restitution for harm done. For this reason, fines are omitted from the calculations.

It costs taxpayers an estimated $121 to keep an inmate in a Nova Scotia prison for a single day, or $44,165 for a year (Table 9.4).[34]

Table 9.4: Daily Cost per Inmate in Nova Scotia Provincial Jails
(1997 Constant Dollars)[35]

Year	*Cost Per Day*
1978	$86
1980	$88
1982	$95
1984	$88
1986	$109
1988	$121
1990	$135
1992	$128
1994	$120
1996	$119
1997	$121*

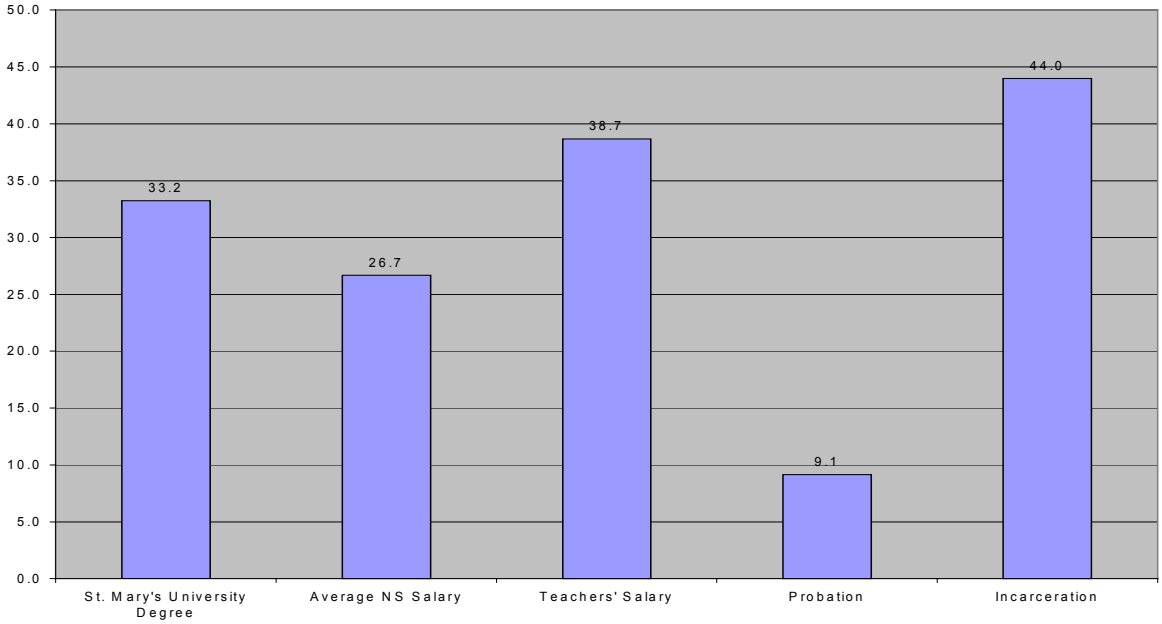
*Estimate

[34] Paul Smith, N.S. Department of Justice, correctly points out that, due to the large fixed costs of running a prison, an increase in bed days will cause average daily costs per inmate to drop, while a decrease in bed days will cause average daily costs per inmate to increase. The authors agree with Mr. Smith that a per capita cost estimate would be a better measure. In this study, per capita crime costs have been calculated only for the final composite total described in chapter 1. Future updates of the study might estimate per capita costs for each crime cost category, including incarceration costs.

[35] Statistics Canada. *1978-1996 Adult Correctional Services in Canada.*(Statistics Canada Catalogue No. 85-211), Table 11. The average daily inmate cost has been calculated by dividing the *Institutional Operating Costs* by the *Total days Stay.* The average daily inmate cost is translated to 1997 constant dollars by using the Consumer Price Index.

The institutional operating cost for Nova Scotia provincial jails for 1997 is estimated to be $17.6 million.[36] Most of the expenses are for staffing, since corrections require almost a one-to-one ratio of custodial staff to inmates: 0.88 staff per inmate in prisons.[37] For the cost of incarcerating an inmate for a year, forty four thousand dollars, it would be possible to hire an extra secondary school teacher (average salary $37,138) or to send a person to university for a three year undergraduate degree (including full-credit tuition, residence accommodation and meal plans).[38] Considering the correlation between crime and low education, certain preventive investments may be more cost-effective than dealing with the consequences of crime (Chart 9.4).

Chart 9.4: The High Cost of Incarceration



The $17.6 million annual provincial incarceration costs are only for custodial service expenditures. When Community Supervision Services and Headquarters and Central

[36] Statistics Canada. 1978-1996 *Adult Correctional Services in Canada.*(Statistics Canada Catalogue No. 85-211), Table 11. Inmate days are 1996 figures, but estimates are in 1997 dollars. Statistics Canada, "Average Daily Inmate Cost of Corrections by Province", *Juristat,* catalogue no. 85-002, volume 12, no. 22, page 8, and Statistics Canada, *Criminal Justice at a Glance,* catalogue no. 85-211.

[37] Brantingham and Easton, *The Crime Bill,* The Fraser Forum, page 29.

[38] Footnote and pie chart. The cost of a three year degree at Saint Mary's University in Halifax is based on data from the 1998-99 Registration catalogue, p.21. A Canadian student taking five full undergraduate courses pays $4025.50, a meal plan costs $4950, and apartment rental on campus is $2105. The total cost for the year is $11080. To get the total cost for a degree the one-year total has been multiplied by three. The average salary for secondary school teachers in Nova Scotia is from Statistics Canada, 1996 Census, Cat. No. 93F0029XDB96005. The data is for 1995, but has been updated to 1997 figures using the Consumer Price Index. The average wage in Nova Scotia is from Statistics Canada, 1999. *Employment, Earnings and Hours, October 1998,* p. 53.

Services costs are included, as they should be to estimate the full costs of adult corrections resulting from crime, the total cost to the taxpayer is in excess of $25 million. (Chart 9.5).[39]

Nova Scotia spends a considerably smaller percentage of its Adult Corrections budget on Custodial Services than any other province in Canada and this has been the case for the last five years.[40] This leaves more money and resources for community supervision programs.[41] The Nova Scotia government's commitment to restorative justice, conditional sentencing and adult diversion programs would seem to indicate that the Justice Department will continue to favour community programs over incarceration.[42]

In fact, the most dramatic increases in Nova Scotia Corrections have been in community supervision and probation. The number of offenders committed to community supervision rose 73% between 1992 and 1996 to 8,370.[43] The average number of offenders partaking in Nova Scotia probation programmes increased by 22% during the same period to 4,339.[44] Probation supervision costs the taxpayer only $1,344 a year per offender, a fraction of the cost of incarceration.[45]

It should be noted that "parole" is quite different from probation or community supervision, which are alternative sentencing options. Parole refers to prisoners released back into the community after a penitentiary stay. These ex-prisoners are required to report to a parole officer regularly for a specified period of time. Provincial expenditures on parole and approved temporary absence programs are included in the total provincial correctional expenditures described above. However, the authors are uncertain whether the Nova Scotia share of federal parole costs is included in the estimate of federal penitentiary costs described below. If not, these need to be calculated, based either on the provincial share of the general taxpaying population or on the percentage of Nova Scotia inmates in federal penitentiaries.

[39] Statistics Canada, March 1997, *Adult Correctional Services in Canada, 1995-96*, catalogue no. 85-211, page 48.
[40] Statistics Canada, March 1997, *Adult Correctional Services in Canada, 1995-96,* catalogue no. 85-211-XPB, table 8.
[41] Statistics Canada, March 1997, *Adult Correctional Services in Canada, 1995-96,* catalogue no. 85-211-XPB, table 8.
[42] Nova Scotia Department of Justice, June 1998. *Restorative Justice: A Program for Nova Scotia.*
[43] Statistics Canada, March 1997, *Adult Correctional Services in Canada, 1995-96,* catalogue no. 85-211-XPB, table 21.
[44] Ibid.
[45] Average offender count on probation program is from Statistics Canada, March 1997, *Adult Correctional Services in Canada, 1995-96,* catalogue no. 85-211-XPB, table 21. The cost of probation is from Statistics Canada, March 1997, *Adult Correctional Services in Canada, 1995-96,* catalogue no. 85-211-XPB, table 10. See Appendix on methodology for calculation.

Chart 9.5: Adult Corrections Expenditures in Nova Scotia

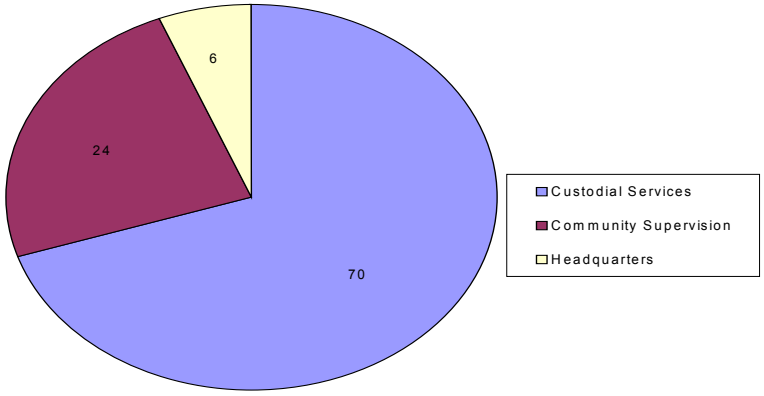
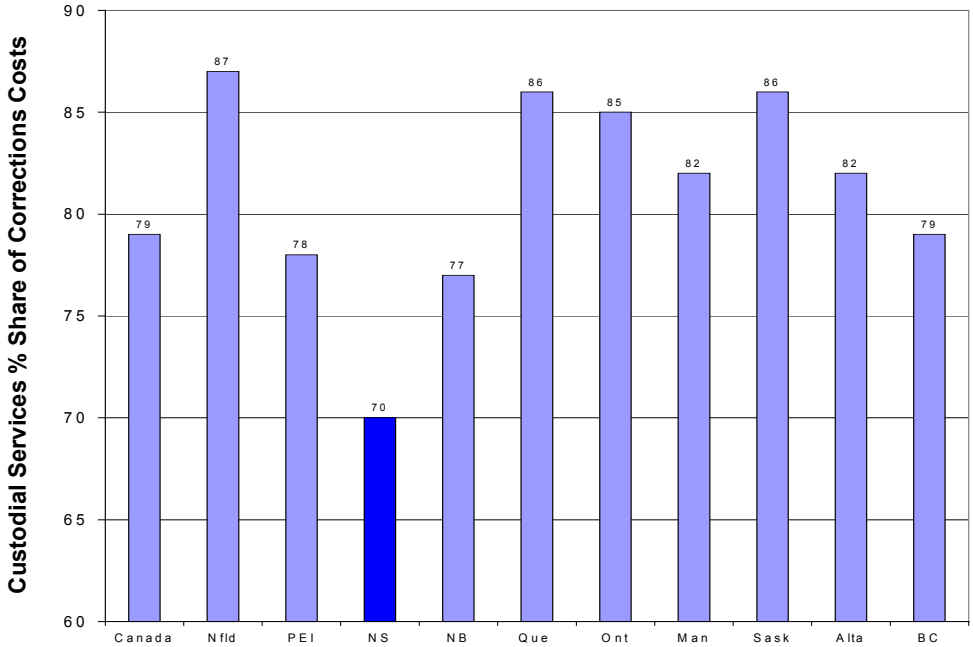


Chart 9.6: Nova Scotia Spends Less on Imprisonment in Proportion to Total Corrections Costs than other Provinces



The overall cost of corrections in Nova Scotia, including probation and administrative costs has increased by nearly 80% since 1979 from $14 million to $25 million a year in constant dollars.[46] On a per capita basis, Nova Scotians are each spending 60% more on corrections than they were in 1979, compared to an increase of only 3% nationally. Nova Scotians are still spending less on corrections than other Canadians but, as with the crime rate, the gap is narrowing. In 1979, Nova Scotians spent only 53% as much as other Canadians on corrections. In 1996, they were spending 81% as much (Charts 9.7, 9.8 and 9.9).[47]

However, in marked contrast to trends in the United States (see below), most of the increased corrections costs are not for imprisonment. In fact, the actual rate of incarceration has declined since the early 1980s with the growing use of community supervision and probation instead of imprisonment (Chart 9.10). Sentenced inmate counts have actually dropped from a high point of 6.4 per 10,000 adults in 1982 to 4.4 per 10,000 in 1997, due to increased reliance on adult diversion programs, conditional sentencing and other alternatives to incarceration. With the exception of a dramatic decline to custody admission rates due to the Bail Reform Act of 1970-71, on register inmate counts have remained fairly steady since the Second World War at about 6 per 10,000 population.[48]

In fact, Nova Scotia still has the lowest rate of imprisonment in the country, 36% below the national average, though *median* sentences are consistently longer than the Canadian average, 60 days in 1996 compared to 31 days for the rest of the country. [49] Only one in eight people charged in Nova Scotia ends up in prison, compared to one in five in the rest of Canada. Of those actually found guilty of a crime, Canada imprisons one-third, and Nova Scotia only one-fifth. 55% of convictions in Nova Scotia result in a fine.[50] In 1996, just 2,113 offenders were given prison sentences.

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[46] Statistics Canada. *Adult Corrections in Canada*, table 8, catalogue No. 85-211.

[47] Municipal, provincial and federal data for Corrections dating from 1963 are available, but they are not comparable to the data from 1979 to 1997. Paul Smith, N.S. Department of Justice, points out that in 1986 the province took over the running of provincial institutions from the municipalities, accounting for a large part of this increase in expenditures. It is not clear to the authors at the time of publication whether the Statistics Canada data, on which these figures are based, include municipal prison costs. In any case, future updates of this section should ensure that municipal prison costs prior to April, 1986 are factored in to the calculation. In addition, the narrowing of the gap between Nova Scotia and the other provinces may be due as much to cost cutting by other jurisdictions as to increased expenditures by this province.

[48] Inmate counts supplied by Paul Smith, N.S. Department of Justice, personal communication, 17 March, 1999.

[49] Statistics Canada, *CANSIM database,* matrix 318. Note that comparative incarceration rates are subject to several alternative interpretations. Comparing "on-register" counts, which include inmates on temporary leaves of absence, work programs and other leaves, yields different results than comparing "in-house" counts. Even within in-house counts, there are significant differences between comparing total incarceration rates, including prisoners on remand awaiting trial, and comparing only sentenced inmates. Additional confusion exists in assessing the provincial proportion of federal penitentiary inmates. For this reason, the comparative incarceration rates given here vary somewhat from the international comparison below, since attempts have been made to reconcile the latter figure with U.S. estimates.

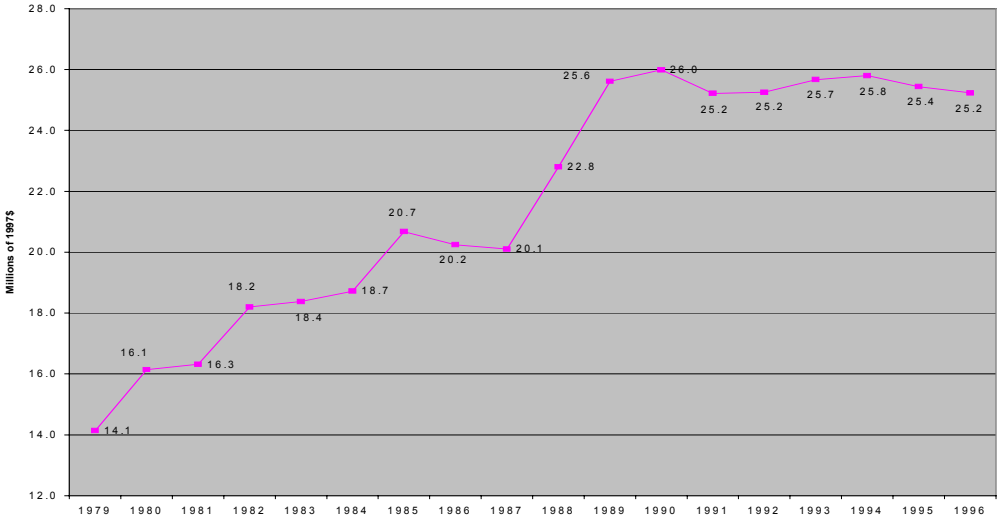
[50] Statistics Canada, Canadian Centre for Justice Statistics, Denyse Carriere, "Adult Criminal Court Statistics," *Juristat,* catalogue no. 85-002, volume 18, no. 7, April, 1998, pages 1 and 9.

In other words, the Nova Scotia pattern seems to be to keep less serious offenders out of prison, but to send serious offenders to jail for longer. This would also help explain the high rate of Nova Scotia prisoners with prior convictions noted earlier. Indeed, for each of the last 20 years, Nova Scotia has imposed longer sentences than the national average. Over the past two decades, Nova Scotia courts have handed down average median sentences of 52 days compared to the national average of 30 days.[51]

Also, as demonstrated below, Nova Scotia has the highest rate of admissions to federal prisons in the country, 3.6 per 10,000 adult population, compared to 2.0 per 10,000 in Canada as a whole. This is significant, since federal admissions are generally for serious offences and carry sentences of two or more years.

Still, despite the propensity to keep minor offenders out of prison in the province, long sentences for serious offences are still the exception to the rule. In Nova Scotia 37% of prison sentences are for less than one month and only 6% of all prisoners are sentenced for a year or more. In 1997-98, the *average* sentence length in the province was 114 days, with an average sentence served to release of 55 days.[52] Though media publicity tends to emphasize the most sensational and alarming crimes, the vast majority of prison sentences are actually for relatively minor crimes, such as non-payment of fines.

Chart 9.7: Cost of Corrections in Nova Scotia
(1997$ millions)



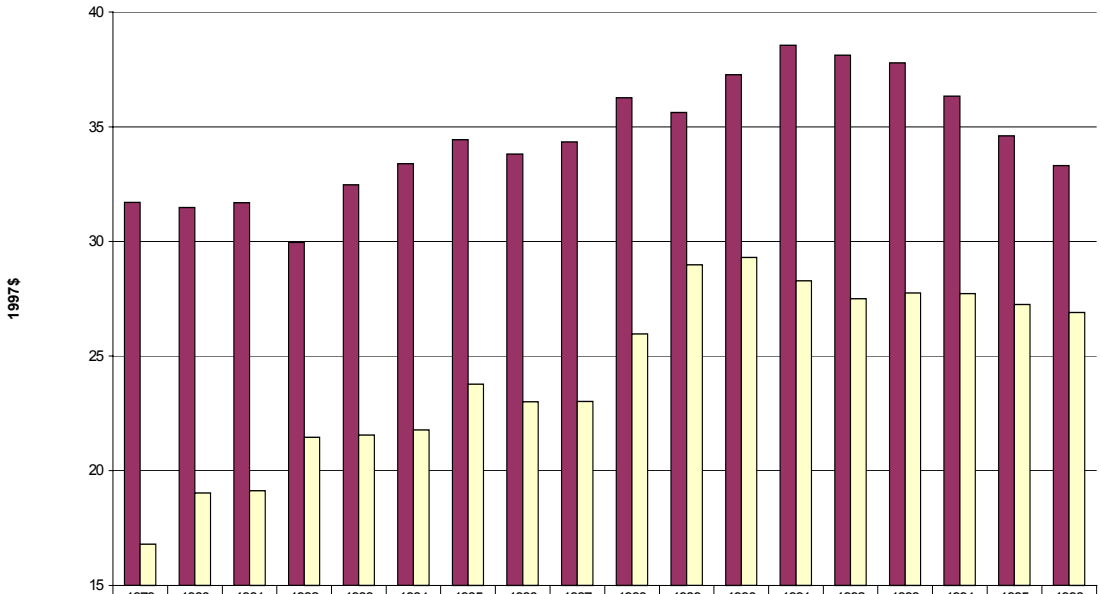
The "typical" Nova Scotia prisoner is between 20-24years old, male, and sentenced to a 1-3 month term for a property crime. 19% of prison sentences are for violent crimes, 24% are for property crimes, 12% for impaired driving, and 22% for other offences, such as

[51] Idem.
[52] Paul Smith, N.S. Department of Justice, personal communication, 17 March, 1999.

obstruction of justice or non-payment of fines.[53] In the last ten years there has, however, been a significant change in the cause of admissions. Just as the violent crime rate in the province has increased more rapidly than the property crime rate, violent crime prison admissions have jumped from less than 30% of property crime admissions 10 years ago to more than 70% today.

Charts 9.8 and 9.9: Nova Scotia per capita Corrections Costs have Risen in relation to Canada

Chart 9.8: Nova Scotia and Canada per capita Corrections Costs, 1979 - 1996



	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Canada	32	31	32	30	32	33	34	34	34	36	36	37	39	38	38	36	35	33
Nova Scotia	17	19	19	21	22	22	24	23	23	26	29	29	28	27	28	28	27	27

[53] Statistics Canada, *Adult Correctional Services in Canada, 1995-96,* catalogue no. 85-211-XPB, pages 56-58.

Chart 9.9: Nova Scotia Costs as Percentage of Canadian Costs: Canada = 100

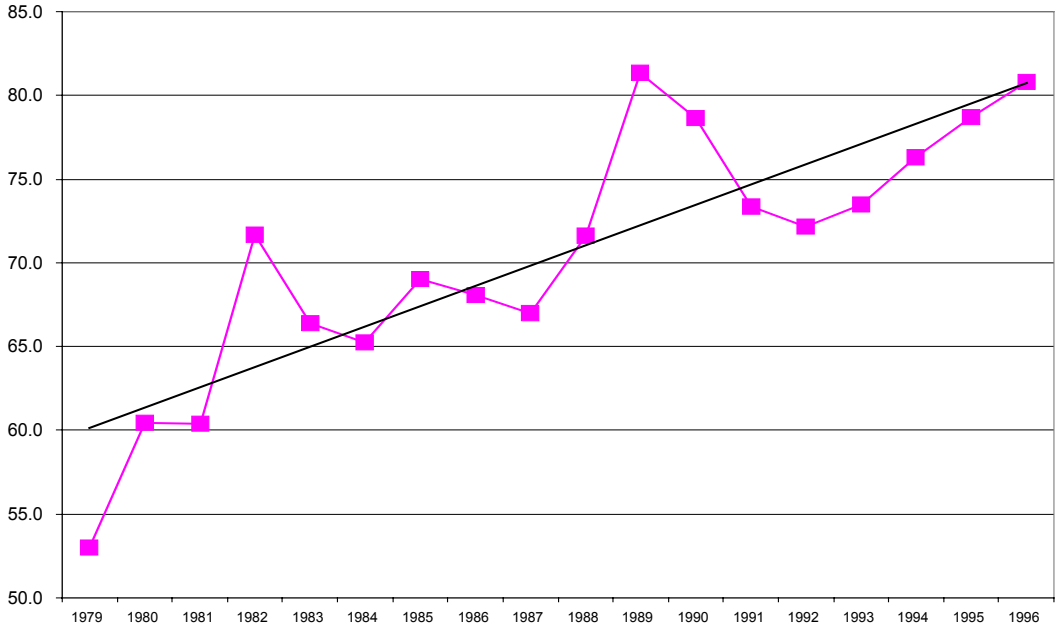
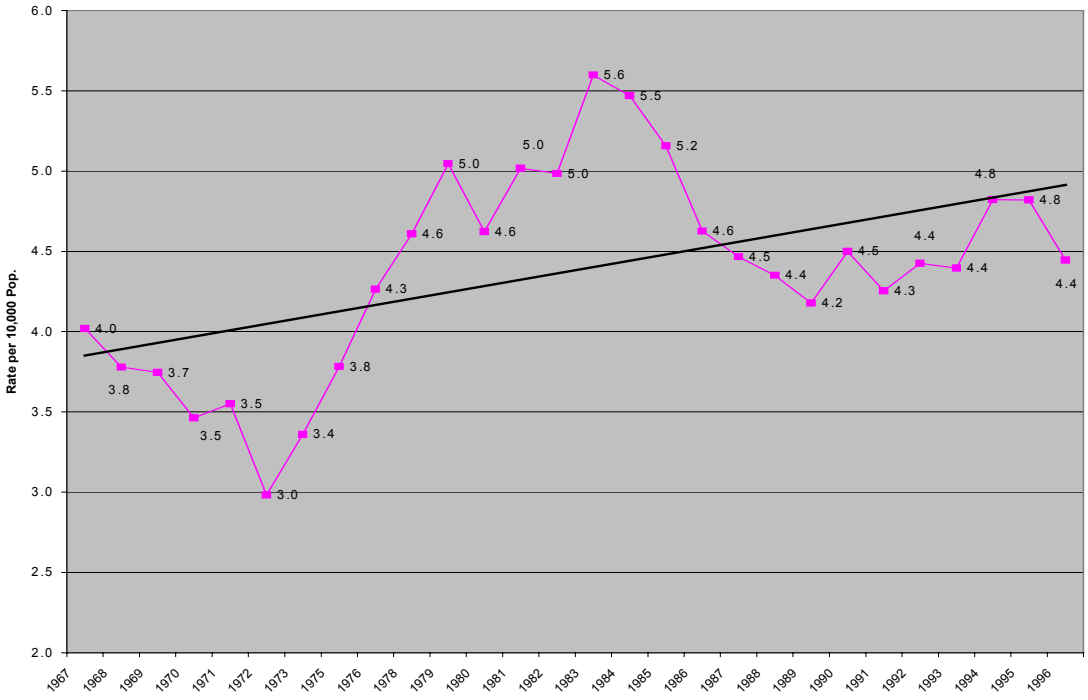


Chart 9.10: Inmates in Nova Scotia Provincial Prisons, 1967 - 1997
(Rate of Incarceration per 10,000 population)



9.3.1 Federal Penitentiary Costs

Since Nova Scotia taxpayer dollars fund both federal and provincial prisons, federal expenditures on Nova Scotia criminals must be added to the corrections costs. Federal prisons house the most serious offenders. It costs $133 a day or $48,500 a year to imprison someone in a federal penitentiary, which hold criminals with sentences of two or more years.[54] Since the general population pays the taxes that fund federal penitentiaries, the Nova Scotia share of the nearly one billion dollar cost of operating federal corrections, based on share of the general population, comes to 30 million dollars of taxpayers money.[55]

Estimating the cost of federal corrections based on population probably underestimates the real cost of incarcerating Nova Scotia criminals in federal institutions. Without knowing the number of federal inmates sentenced in the province it is not possible to calculate the real cost of crime attributable to inmates who committed their crime in Nova Scotia. However, Nova Scotia inmates make up a larger share of the penitentiary population than Nova Scotians do of the general population. Nova Scotia has had the highest rate of admissions to federal penitentiaries per 10,000 adults charged of any province for the last two years, and has incarcerated federally at a higher rate overall for the last five year period based on aggregate figures for that period (Chart 9.11).

This trend is also true in relation to the general adult population. The Nova Scotia rate of admissions to federal custody in 1996 was 80 per cent higher than the national average of two adults per 10,000 population (Chart 9.12). If admissions are an accurate indicator of prison population, and federal corrections costs were apportioned according to the home province of admissions, Nova Scotia would be responsible for 5.88 per cent of incarceration costs instead of the 3.13 per cent the taxpaying population currently pays.[56] In such a scenario Nova Scotia would have to pay $57 million.

The relatively high proportion of Nova Scotian federal penitentiary inmates appears to be directly correlated with sentencing trends, since federal prisons house inmates sentenced to two or more years. As noted above, Nova Scotia sends less people to prison than any other province, but imposes longer sentences than the other provinces.

[54] Statistics Canada, *Adult Correctional Services in Canada, 1995-96,* catalogue no. 85-211-XPB, page 85. The numbers are for 1996 but have been altered to 1997 values using the Consumer Price Index.
[55] See Appendix on methodology for more details.
[56] Statistics Canada. March 1997. *Adult Correctional Services in Canada, 1995-96*. In 1995-96 there were 259 admissions from Nova Scotia, and 4402 in Canada overall.

Chart 9.11: Nova Scotia Criminals are Sent to Federal Penitentiaries at Higher Rate than Other Provinces
(Admissions per 100,000 adults charged)

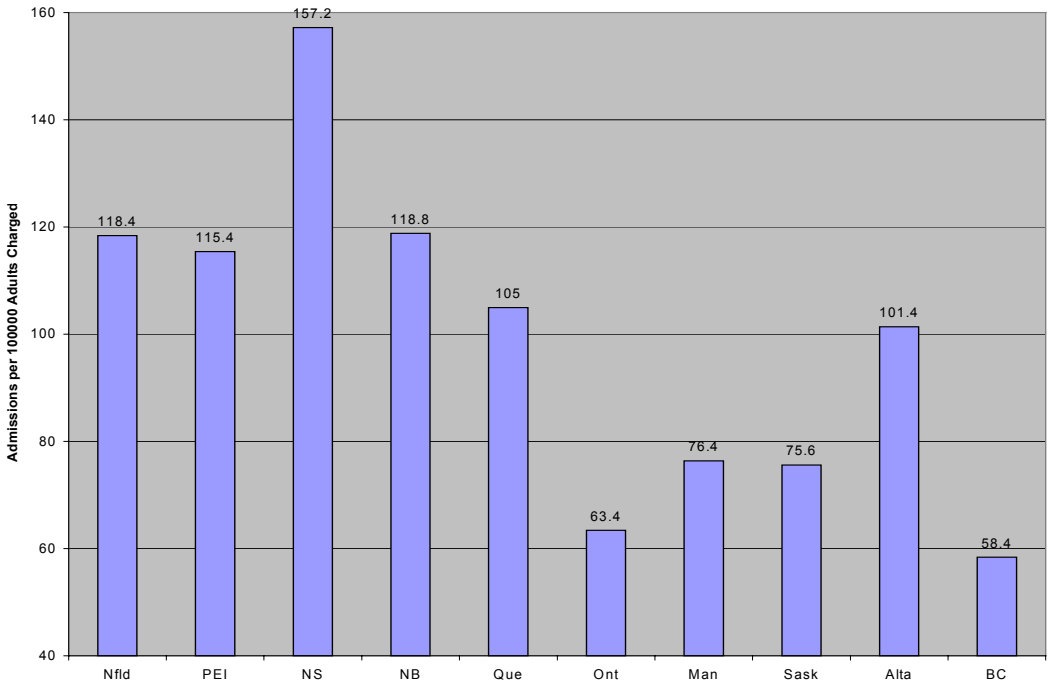
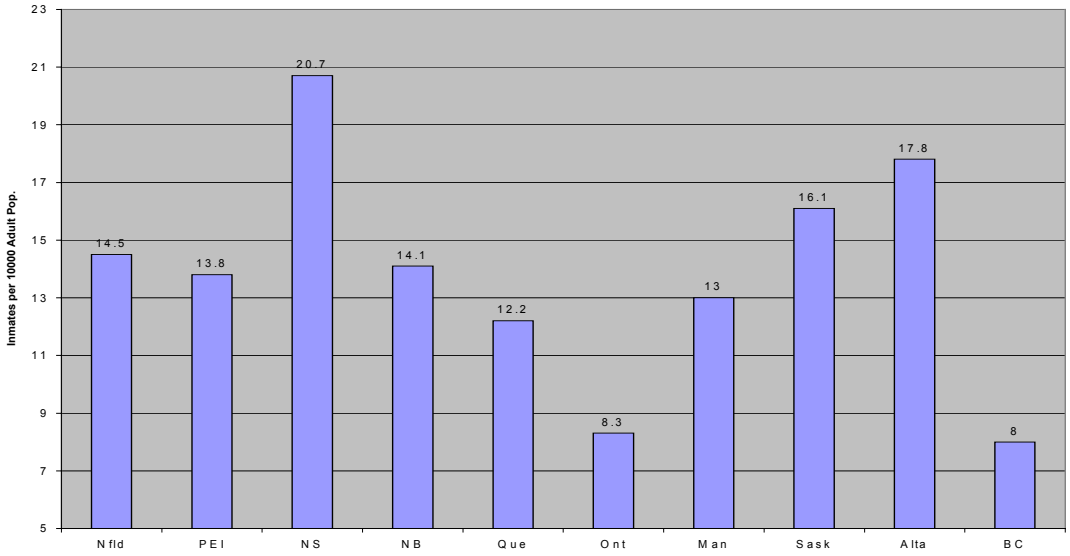


Chart 9.12: Inmates per 100,000 adult population in Federal Penitentiaries, by Province



9.3.2 Lost Economic Production

Counting only the 28% of inmates who were employed at the time of incarceration, the lost economic production of prisoners would cost the Nova Scotia economy an additional $1.25 million a year, at average weekly industrial wages. This is based on 22% who were employed full-time, and 6% working at part-time, seasonal and other forms of employment. Since the education data in chapter 6 indicate generally lower educational levels for inmates, the cost estimate here has been discounted for the lower wages paid to less educated workers for a total estimated loss of about $1 million a year.[57]

Kit Waters, Director of Policy Planning and Research, Nova Scotia Department of Justice, points out that offenders frequently contribute "volunteer" community service work as a condition of their sentence. Future updates of this report might include positive valuations of the social benefits provided, using the replacement cost estimates for voluntary work described in chapter 11.2.2. These could then be netted against the lost economic production estimates given in the above paragraph.

9.3.3 Youth Corrections

In 1996-97 on average there were 174 youths, 17 and younger, in custody in Nova Scotia. This represents a rate of 23 per 10,000 youths.[58] In the same period, the average number

[57] Employment data from Paul Smith, N.S. Department of Justice.
[58] Statistics Canada, "A Profile of Youth Justice in Canada", *Juristat,* catalogue no. 85-544, page 44.

of youths on supervised probation at month end in Nova Scotia was 1,495, a rate of 197 per 10,000 youths.[59] This is broadly in line with the national average. In 1995 the government of Nova Scotia spent $16.7 million on youth corrections, in constant 1997 dollars.[60]

Kit Waters, Director of Policy Planning and Research, N.S. Department of Justice, points out that there is also a significant federal contribution for justice costs associated with young offenders. Time did not permit an examination of the extent to which this federal spending is included in the public justice costs described here. Future updates of this study may need to adjust the youth corrections expenditures accordingly.

9.3.4 Total Corrections Costs

Adding together provincial and federal corrections expenses in Nova Scotia, including parole, probation and community supervision, plus youth corrections costs and inmate production losses, means that the corrections system as a whole costs Nova Scotians $75 million a year.

9.3.5 Comparison with United States Corrections

The United States spends 50 billion dollars a year on corrections.[61] This amounts to $US186 or $CAN280 per person per annum, compared to $92 per person per year in Canada[62] and just $78 in Nova Scotia[63]. The United States has the second highest rate of incarceration in the world after Russia, with 0.67 percent of its population behind bars. The average American spends 3.6 times as much jailing people as the average Nova Scotian.

The American prison population has grown by an average 6.2% annually throughout the 1990's, and has more than doubled over the last 12 years. At the end of 1985 there were 313 adult prisoners for every 100,000 U.S. residents. By mid-1998, the figure was 668 per 100,000, just behind Russia's rate of 685 prisoners per 100,000. In 1996 the United States had 600 prisoners per 100,000 compared to Russia's 690. At the present rate of growth, the United States will very soon be the world's leading jailer.

At mid-1998, U.S. jails and prisons held 1.8 million people, according to the U.S. Bureau of Justice Statistics, compared to 744,208 at the end of 1985. In 12 years the number of U.S.

[59] Ibid., page 48.
[60] Statistics Canada. "Justice Spending in Canada", *Juristat,* Statistics Canada Cat. No. 85-002, Vol. 17, No.3.
[61] Estimate is based on data from *Statistical Abstract of the United States, 1997*. 117th edition, U.S. Department of Commerce. See Appendix on methodology and data sources for more details.
[62] Statistics Canada, " Justice Spending in Canada", *Juristat,* , Vol.17, No.3, p.12.
[63] Statistics Canada. Cansim matrix 1. Population estimate for 1997 is 945,080.

adults in prison has more than doubled. The Justice Department reported that in June 1998, federal and state prisons held 1.2 million people, while local jails held another 600,000.[64]

By contrast, Nova Scotia's incarceration rate is 62 per 100,000 population, less than 10% the American rate.[65] The Canadian incarceration rate of 115 per 100,000 is the fourth highest in the world, after South Africa at 265 per 100,000. Internationally, Nova Scotia's incarceration rate is comparable to that in western European countries, and is almost identical to that in Sweden (Chart 9.13).[66]

Stated another way, the United States has 11 times as many of its people behind bars as Nova Scotia. One out of every 150 Americans is behind bars, compared to one out of every 900 Canadians and one out of every 1600 Nova Scotians.
In the last fifteen years the United States has increased spending on corrections by more than 230%. For the average American this translates into an almost threefold per capita increase from $US64 per year in 1993. Prisons are one of the fastest growing areas of the American economy, and the growth has helped fuel the increase in the American GDP.

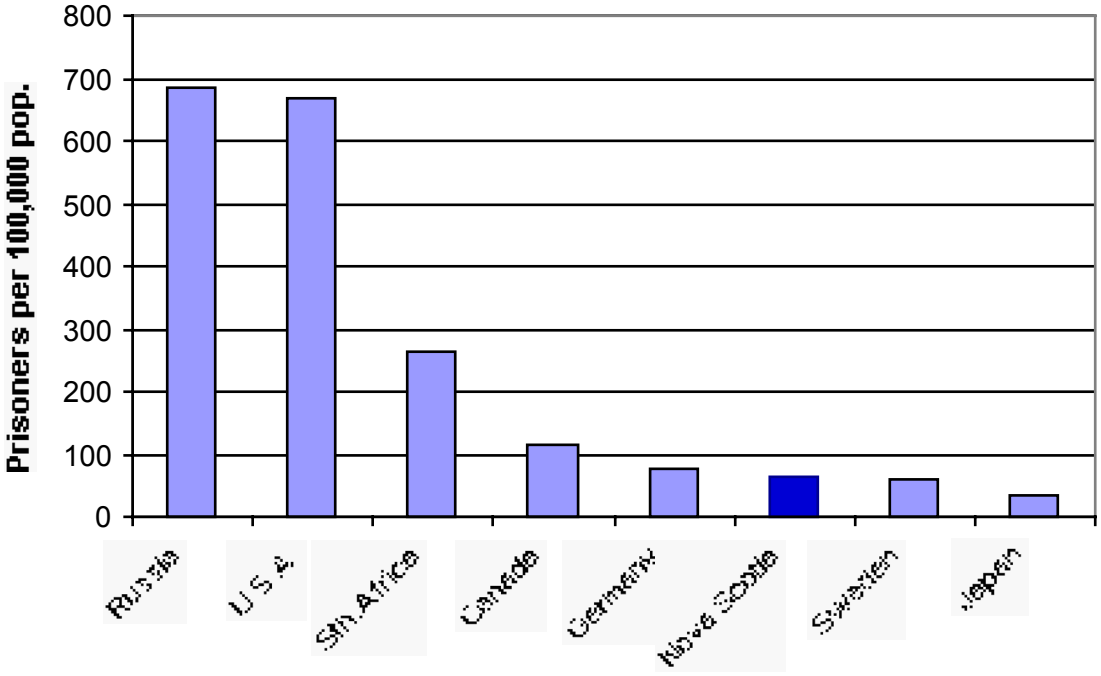
Economic analysts, praising the "robust" American economy with its "miraculous" growth rates, rarely consider what is driving this growth and whether it is contributing to an actual improvement in the average American's standard of living and quality of life. They largely ignore GDP architect Simon Kuznets' admonition always to examine the type and purpose of growth in determining a nation's welfare. There is a strange paradox in a society conventionally described as prospering and with a booming economy on the one hand, while at the same time doubling its prison population and locking up more of its citizens than ever.

The GPI is unambiguous on this issue. Higher crime costs signify the deterioration of a vital social asset, a degraded quality of life, and a setback for social progress. This has very practical economic implications that have a direct impact on well being and prosperity. The money Nova Scotians save by a relatively lower corrections bill can be spent on social programs and activities that enhance their quality of life and raise their

[64] U.S. Bureau of Justice Statistics, as reported by The Associated Press, *The Chronicle-Herald,* 15 March, 1999, page A10.
[65] Data supplied by Policy, Planning and research Division, N.S. Department of Justice. As of June 30, 1998, there were 365 "in-house" inmates in provincial prisons, including 259 sentenced, 89 on remand, and 17 "other status". This is the same date for which the U.S. data are issued by the U.S. Bureau of Justice Statistics. For 1997-98, there were also 221 federally sentenced prisoners resident in Nova Scotia at the time of admission. We have attempted to use incarceration statistics for Nova Scotia that appear to be as comparable as possible to those issued by the U.S. Justice Department. Thus, the 62 per 100,000 figure includes only in-house inmate counts for sentenced prisoners and those on remand and excludes inmates "on register" but on temporary leaves of absence, work programs and other forms of institutional leave. This may explain why this figure is not entirely reconcilable with inmate counts and incarceration rates mentioned earlier in this section. Some of the discrepancy may also lie in the difficulty in identifying the Nova Scotia proportion of inmates in federal penitentiaries.
[66] Statistics Canada, Canadian Centre for Justice Statistics, "Criminal Victimization: An International Perspective", *Juristat,* catalogue no. 85-002-XPE, volume 18, no. 6, 1996. The 1996 International Crime Victimization Survey included 11 industrialized countries among the 34 countries surveyed.

standard of living, giving them a comparative quality of life advantage over the U.S. in this area. By measuring crime costs in economic terms, it is possible to assess the extent of the loss in social progress due to regrettable expenditures.

Chart 9.13: International Rates of Incarceration
(Inmates per 100,000 population)



Sources: U.S. Bureau of Justice Statistics (June 1998 data); Nova Scotia data for June 1998 supplied by Policy, Planning and Research Division, N.S. Department of Justice; Russian data from The Sentencing Project, U.S.A., reported in *The Chronicle-Herald,* 15 March, 1999, page A10; Statistics Canada, Canadian Centre for Justice Statistics, *Criminal Victimization: An International Perspective* (1996 figures for 11 industrialized countries including USA, Russia, Sth. Africa, Canada, Germany, Sweden, Japan);

Prison statistics reveal graphically some U.S. quality of life sacrifices, such as the dramatic division of that society on racial lines. For example, 63% of U.S. jail inmates in 1996 belonged to racial or ethnic minorities. The rate of prison incarceration is eight times higher for blacks than for whites, and 3.5 times higher for Hispanics than for whites. The lifetime chance of a black man spending time in a federal or state prison is now 28.5% in the U.S. If local and county jails were included, holding about half as many inmates again as federal and state prisons, the chance of a black man being jailed is probably over 40%. In other words, the U.S. is putting a very large proportion of its black male population behind bars.

More generally the high rate of incarceration in the United States may signify a serious erosion of civil liberties and civil rights in that country. On December 31, 1997, U.S. state prisons were operating at between 15% and 24% above capacity, while federal prisons were operating at 19% above capacity. The overcrowding in American prisons is due to a higher ratio of guilty verdicts resulting in incarceration, and longer sentences. Since the increased prison population comes at a time when the crime rate is falling, it appears that the crime rate is being reduced in part by removing large portions of the population from society for long periods at considerable public expense.

However, locking offenders up more frequently and for longer periods in overcrowded conditions negatively impacts the civil rights of offenders, which ultimately cannot be separated from the civil rights of the general population. Since a cardinal tenet of civil liberties is that punishment fit the crime, the current trend towards excessive sentencing and the clear preference for punishment over prevention raises serious questions about the extent to which Canadians may wish to adopt the U.S. social and economic model despite its impressive GDP growth rates.

The U.S. solution to rising incarceration costs and a growing prison population is increasingly to turn American prisons over to the private sector, a model attracting growing attention in Canada. To make a profit, low operating costs may be achieved through reductions in space per prisoner, lower pay rates for guards, and cuts in rehabilitation programs. But more and longer prison sentences and a high rate of recidivism stimulate economic growth and increase profits for prison operators, leading Ed Finn of the Canadian Centre for Policy Alternatives to point out that private prisons rest on the assumption that "more crime equals more profits". [67]

9.3.6 Implications and Conclusion

Since the GPI is based on long-term cost-benefit analysis rather than the current income approach of the GDP, it necessarily questions whether initial cost savings from private prisons may be false economies from a social cost-accounting perspective, unless prison profits were based on a completely different criterion like reduced recidivism rates.

The policy issues raised in crime cost accounting raise similar questions about other economic stimuli like increased gambling, divorce, sickness, overeating, stress, accidents, toxic pollution and natural resource depletion, all of which make the GDP grow. The GPI approach inevitably focuses more attention on preventive strategies rather than symptomatic treatment, and evaluates growth strategies strictly in terms of their long-term impact on the overall standard of living and quality of life.

From this perspective, the critical variables in crime reduction are the socio-demographic correlations described briefly in chapter 6, since they reveal areas where preventive

[67] On the appropriateness of the private prison model for Canada, see Ed Finn, "More Crime = More Profits", *Canadian Forum*, September, 1996, pages 7 and 8.

interventions have the highest potential yield from cost-effective investments that can enhance the quality of life. In its emphasis on prevention, on the judicious evaluation of long-term benefits and costs, and on recognising limits to growth, the GPI accounting approach is more conservative than one which promotes limitless growth without regard to quality.

9.4 Victims' Assistance Fund

The Nova Scotia Justice Department's Victims' Services Division administers a Victims' Assistance Fund for victims of crime generated from a victim surcharge on fine and non-fine dispositions on both provincial statute and federal offences.[68] The fund is used for services, research and promotion of the rights of victims of crime, but cannot, by law, be used to provide direct compensation to individual victims.

Most of the revenue comes from motor vehicle and liquor control offences. Due to a decline in charges laid, there has been an annual decrease in surcharges collected in each of the last six years for a total loss of 20% since 1992. The 1997-98 surcharge collected was $650,405, and there is currently $706,000 in uncommitted revenues in the fund.

Total awards for 1996/97 were $792,372. Awards are made by the Director of Victim Services.[69] On an annual basis the Victims' Assistance Fund supports the Child Victim Witness Program and staffing for the Regional Victims' Services offices. It has also supported new initiatives such as the Production of Records in Sexual Offences Pilot Program, and the Department's Framework for Action Against Family Violence. Since its initiation in August, 1989, disbursements and commitments from the fund total nearly $6.2 million.

This spending is included in this section because it is a publicly administered justice program not accounted for in other sections of this chapter. It may be argued that the fund is simply a transfer of funds form offender to victim, and not therefore a cost to society. Yet it is included here as a cost of crime, since there is an opportunity cost to the investment. The fund represents money that could be spent more productively on welfare-enhancing measures if the crimes had not occurred. In fact, the decline in surcharge revenues in proportion to a diminution of charges laid illustrates the direct connection between these revenues and expenditures on the one hand, and the rate of crime on the other. Victimization itself is regrettable, and the funds spent assisting victims are "regrettable" for the same reason – society wishes that they would not need to be spent, and could instead be invested in more productive actions.

[68] This section is based on N.S. Department of Justice, Victim Services' Division, "Victims' Assistance Fund," *Activity Report 1997/98,* pages 50-56

[69] Information on administration of program from Joanne Marriott-Thorne, Victim Services Division, Nova Scotia Department of Justice, personal communication, 19 March, 1999.

Strictly speaking, all Justice Department spending is a defensive expenditure for the same reason, and a cost of crime paid by the taxpayer. If crime were to disappear, the spending would not be necessary and could be invested in more productive activities. While crime exists, it is an essential expenditure. However, due to time constraints, the Justice Department budget has not been analyzed here, and only the Victims' Assistance Fund included in the calculations as a very direct and immediate crime cost.

10. Private Defensive Expenditures

Defensive expenditures in this context are those undertaken by households and businesses to protect themselves against crime. They do not contribute to welfare in a positive sense, but are designed to guard against any decline in security and well-being, or to compensate for a past decline. Clearly the public costs described in the last chapter can be viewed as defensive expenditures as well. But this chapter focuses on private spending on locks, burglar alarms, surveillance systems, security guards, and theft insurance premiums for the purpose of crime prevention and detection.

Lars Osberg and Andrew Sharpe argue that such defensive spending is analogous to intermediate inputs in production, such as the expenses which firms incur to bring materials to the work site.

> *Since intermediate inputs in the business sector are netted out in the calculation of value added, it can be argued that similar expenditures by households should be subtracted from marketed consumption to obtain a better estimate of true consumption flows. Similarly, if the good that individuals want to consume is "a crime free street," but it now takes a greater expenditure on police services to produce that good, this should not be counted as an increase in consumption.*[70]

10.1 Defensive Expenditures and Fear of Crime

Defensive expenditures increase in direct response to the fear of crime and to subjective perceptions of the likelihood of crime, as well as to objective changes in the crime rate itself, and are, therefore, an important indicator of public perceptions of personal security.

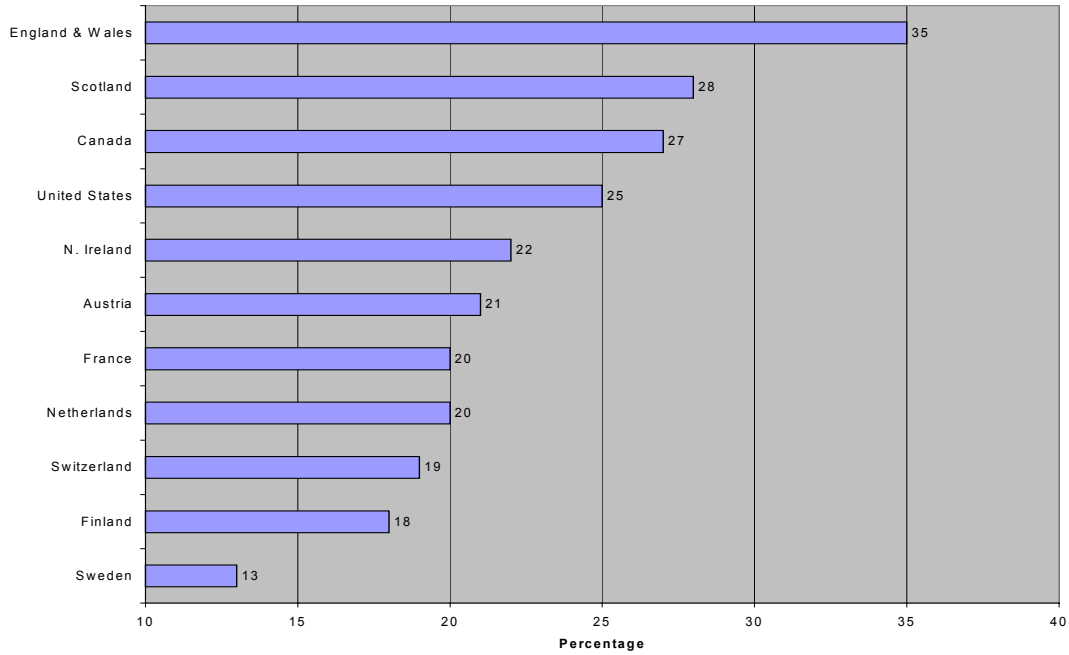
Once again, our conservative definition of costs is confined to monetary expenditures only. Fear of crime can clearly produce defensive behaviour as well as defensive expenditures. Restricting one's movements by staying home at night, or taking a taxi to avoid walking in the dark may be reactions to the fear of crime that have a direct impact on the quality of life and, in some cases, produce indirect costs that are not measured here.

Overall Canadians feel less safe than they did just a few years ago. In 1996, 27% of Canadians reported that they did not feel safe walking alone in their area after dark, compared to 22% who gave that response in 1992. Compared to 10 other western countries surveyed in the 1996 International Crime Victimization Survey, Canadians felt less safe than any country except the United Kingdom. 25% of Americans did not feel safe and only 13% of Swedes said they did not feel safe (Chart 10.1).[71]

[70] Osberg, Lars and Andrew Sharpe, *An Index of Economic Well-being for Canada,* presented to the Centre for the Study of Living Standards Conference on the State of Living Standards and the Quality of Life in Canada, Ottawa, October 30, 1998, pages 8-9.

[71] Statistics Canada, Canadian Centre for Justice Statistics, Besserer, Sandra, "Criminal Victimization: An International Perspective", *Juristat,* catalogue no. 85-002-XPE, volume 18, no. 6, March 1998, page 9.

Chart 10.1: Percent of Population Who Do Not Feel Safe Walking Alone in Their Area After Dark, International Perspective



Source: Sandra Besserer, Statistics Canada, "Criminal Victimization: An International Perspective, Results of the 1996 International Crime Victimization Survey, *Juristat,* catalogue no. 85-002, volume 18, no.6, page 9, figure 11.

Data for the Halifax-Dartmouth area shows a different trend. The 1984 Canadian Urban Victimization Survey found that 48 per cent of Halifax-Dartmouth interviewees felt unsafe walking alone in their neighbourhood after dark.[72] The same survey showed that only 40 per cent of respondents from across Canada reported similar feelings.[73] Recent data indicates that Nova Scotians feel safer in their communities than had previously been the case. Thirty per cent of Nova Scotians felt unsafe walking alone in their community at night in 1993. By 1998, according to the Nova Scotia Justice Department, only 19 per cent reported such feelings.[74] If the data are comparable to those in the International Crime Victimization Surveys described above, then they seem to contradict the national trend.

Paul Smith, Nova Scotia Justice Department, notes that an in-depth re-interviewing process following the 1995-96 British victimization survey revealed that the survey probably overestimated the "fear of crime" by 15-20%. The interviews suggested that

[72] Ministry of the Solicitor General of Canada. *Programs Branch User Report: Preliminary Findings of the Canadian Urban Victimization Survey: Halifax-Dartmouth,* catalogue no. 1984-50, page17, table 8.
[73] Ibid, Table 9.
[74] Nova Scotia Justice Department Website: http://www.gov.n.s.ca/just/outcomem.htm.

many of the respondents' fears were actually related to specific and particular circumstances, and were not generalized as the survey results implied.[75] For this reason, the results reported in this section should be treated with caution.

However, it is also clear that fear of crime translates into actual defensive behaviour. 24% of Canadians said that they avoided certain places or people when they were last out in their area after dark, up from 20% in 1989 and 21% in 1992. Canada ranked third after the USA (29%) and the United Kingdom (28%) in adopting such defensive behaviour.[76]

Canadian women are more than four times as likely to feel unsafe walking alone in their area after dark, and about three times as likely to worry about being home alone at night. Persons 65 and over are twice as likely to feel unsafe walking alone in their area after dark than others.[77]

30% of Canadians feel the chance of break-in is "likely" or "very likely" in the next 12 months, the third highest rate among the surveyed countries, and well ahead of the United States (23%), Sweden (16%), Austria (13%) and Finland (11%). In the 1993 General Social Survey, 25% of Canadians reported feeling worried when alone in their homes in the evening or at night.[78]

Not surprisingly, Canada also ranks third among countries adopting special household security measures, after Great Britain the USA. 78% of Canadian households have a burglar alarm, special door locks, special door/window grills, a watch dog, a high fence, a neighbourhood watch scheme, or a security guard or caretaker compared to only 54% of Austrians, 53% of Swedes, and 49% of Swiss. The use of each of these seven specific measures was higher than average in Canada.[79]

Again, trends over time are significant, because the fear of crime and defensive expenditures in Canada appear to be growing despite a downturn in the actual crime rate since 1991. Between the 1992 and 1996 victimization surveys, burglar alarm use in Canadian households increased from 12% to 19%, the use of special door locks was up from 42% to 52%, and the proportion of households with watch dogs increased from 23% to 27%.[80]

In sum, the fear of crime translates into actual monetary expenditures on crime prevention, which are assessed in the remainder of this chapter.

[75] Paul Smith, personal communication, 26 March, 1999.
[76] Statistics Canada, Canadian Centre for Justice Statistics, Besserer, Sandra, "Criminal Victimization: An International Perspective – Results of the 1996 International Victimization Survey," *Juristat,* catalogue no. 85-002, volume 18, no. 6, March, 1998, page 10.
[77] Statistics Canada, Sacco, Vincent, "Fear and Personal Safety", *Juristat,* catalogue no. 85-002, volume 15, no. 9, March 1995, page 1.
[78] Op. cit., page 5; and Statistics Canada, Besserer, op. cit., page 9.
[79] Statistics Canada, Besserer, op. cit., pages 9 and 10.
[80] Op. cit., pages 10 and 11.

10.2 Derived Estimates for Home Security Spending

Evidence from victimization surveys indicates that across Canada, households are investing more money in home security systems than ever before. Burglar alarm use in Canada increased from 12% of households in 1992 to 19% in 1996, and the use of special door locks rose from 42% of households in 1992 to 52% in 1996.[81] No separate data are available for Nova Scotia. Are these growing crime prevention expenditures a sign of increased well being and prosperity, as the use of the GDP as a measure of progress implies? Or are increased home security expenditures regrettable costs, signifying a less secure society and eroded quality of life?

The Genuine Progress Index takes the latter view and counts home security expenditures as defensive measures designed to protect against a further decline in well being. If crime rates decreased and Canadians felt more secure, the money saved could be invested in activities that enhanced well being and the quality of life in absolute terms.

Using 1982 constant dollars, the original U.S. Genuine Progress Index estimated that the costs of crime borne directly by households was $20.1 billion in 1992. Of this total, $5.2 billion was spent on locks and safe deposit boxes, and another $2.8 billion was spent on burglar alarms and other electronic security systems.[82]

Using the original GPI methodology, Hans Messinger and Abe Tarasofsky of Statistics Canada have made an estimate of crime costs for Canada, which is used in Osberg and Sharpe's new *Index of Economic Well-being for Canada.* In constant 1992 dollars, this amounts to $112 per capita in 1971, rising 39.4% to $156 in 1997. Converted to 1997 dollars, this amounts to $118 in 1971 and $165 in 1997.[83]

Of this total, direct victim crime costs have already been counted in chapters 6 and 7 of this report. Therefore, only household spending on security devices is counted here, amounting to 39% of the household costs estimated in the U.S GPI, or $61 per capita in Canada. Government and business costs are excluded *a priori* in the U.S. GPI, and so this figure reflects only spending on home security devices.

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[81] Statistics Canada, Canadian Centre for Justice Statistics, "Criminal Victimization: An International Perspective", *Juristat,* catalogue no. 85-002-XPE, volume 18, no. 3, 1996.

[82] Cobb, Clifford, Ted Halstead and Jonathan Rowe, *The Genuine Progress Indicator: Summary of Data and Methodology,* Redefining Progress, San Francisco, September, 1995, pages 17-18. The 1992 figures are derived by using Cobb et. al.'s assumed 2.8% growth rate in spending on locks and safe deposit boxes based on their $4.3 billion estimate for 1985 from Laband, David and John Sophocleus, "An Estimate of Resource Expenditures on transfer Activity in the United States", *Quarterly Journal of Economics,* August 1992, pages 959-983. Their estimate for alarms and electronic security systems is from Parr, Gary, "$12.5 Billion Targeted for 1995", *Security Distributing and Marketing,* January, 1995.

[83] Messinger, Hans and Abe Tarasofsky, "Measuring Sustainable Economic Welfare: Looking Beyond GDP", paper presented at the annual meeting of the Canadian Economics Association, St. Johns, Newfoundland, June, 1997; Osberg and Sharpe, op. cit., page 9.

Here we have further reduced this estimate by two factors. The 1996 International Crime Victimization Survey found that 78% of Canadian households had at least one security measure, such as burglar alarms and special door locks, compared to 84% of U.S. households that employ such measures.[84] Using this proportion would reduce per capita spending on security devices to $57 for Canada.

We have further taken the comparative rate of police-reported break and enter offences for Nova Scotia and Canada as a proxy for the likelihood of household investment in security devices. In 1997, Nova Scotia reported 9193 break and enter incidents compared to 373,355 in Canada as a whole. In proportion to population, the Nova Scotia break and enter rate is 22% less than the Canadian rate.

We have therefore assumed that annual expenditures on security devices in Nova Scotia amount to $44.5 per capita, compared to $57 in Canada as a whole. This amounts to $42.1 million a year in Nova Scotia and $1.7 billion a year in Canada, in direct proportion to the comparative rate of break and enter offences. Adjusted to 1997 dollars, as used in this report, the totals are $45.47 million in Nova Scotia and $1.84 billion in Canada. Because no direct measurements are available, we have assumed a constant ratio between the rate of break and enter offences in the province and defensive expenditures on security devices. (Table 10.1)

Since 1962 a cumulative total of more than $1.2 billion has been spent on security devices in the Nova Scotia. If 1962 estimated levels of expenditures had been maintained the potential savings to the province would have been in excess of $815 million. If the Nova Scotia public had continued spending at the same rate as that of 1975 the potential savings to 1997 would have been around $160 million.

It should also be noted that this may be a low estimate for Nova Scotia, because the assumption that household expenditures are reduced by the lower rate of break and enter offences is not proven. Thus, the International Crime Victimization Survey found that 53% of Canadians who believed the chance of break-in was “very likely” or “likely” used special door locks, compared to 52% of those who thought it unlikely. As well, Canadians who had been victimized during the previous five years were no more likely to have special home security measures than those who had not been victimized.[85] Nevertheless, this report errs on the side of conservatism by discounting Nova Scotia expenditures by 22% until better evidence is available.

The best circumstantial evidence for a direct relationship between break and enter rates and defensive expenditures is found in Statistics Canada’s 1988 General Social Survey, which reported that 14% of Atlantic region households installed security devices in 1987 compared to 23% in Canada as a whole.[86] This corresponds to 61% of the Canadian

[84] Statistics Canada, Besserer, Sandra, “Criminal Victimization: An International Perspective”, *Juristat,* catalogue no. 85-002-XPE, volume 18, no. 6, page 10.
[85] Statistics Canada, Besserer, op. cit., page 11
[86] Statistics Canada, Sacco, Vincent, and Holly Johnson, “Patterns of Criminal Victimization in Canada,” General Social Survey Analysis series no. 2, catalogue no. 11-612, March, 1990, Figure R, page 81.

average. In that year the per capita rate of police-reported break and enter offences in the Atlantic provinces was 59.5% of the Canadian rate. The Nova Scotia rate in that year was 70.8% of the Canadian rate.[87]

An alternative method of assessing household defensive expenditures would be to determine the average cost of each type of household security measure and to apply this to the percentage of households that use these measures. Thus, the 1996 International Crime Victimization Survey found that 52% of Canadian households use special door locks, 19% have a burglar alarm, 20% have special door/window grills, 19% have a high fence, 27% have a watch dog, 12% employ a caretaker or security guard, and 34% participate in a Neighbourhood Watch program.[88]

For example, Weiser deadbolts sell in Nova Scotia for between $53 and $220 before tax.[89] Though time did not permit a full costing of such specific household defensive expenditures based on sample sales data for the present report, this method could in future provide a useful test for the estimate derived above. As a small step in this direction, GPI Atlantic has made calculations for annual expenditures on locks.

Statistics Canada's *Products Shipped by Canadian Manufacturers, 1994-95* gives the value of locks and keys produced in Canada as $431 million for 1995.[90] To this must be added imports of locks and keys to the value of $295 million.[91] Locks and keys exported from Canada, amounting to $140 million,[92] are subtracted from this total for a total value of $586 million. Translated to 1997 dollars this amounts to $603 million.

There are three major qualifications to this figure, which make it likely that $603 million is a significant underestimate of actual Canadian expenditures on locks and keys:

1) This is not the retail price of locks and keys, but the value after manufacture. In the case of imports and exports, it is the value at the point of entry or exit. No figures are available for retail sales of locks and keys in Canada, either in absolute numbers or in dollar values.
2) The figure also does not include the costs of installation.
3) It should be noted that the $603 million figure applies to all locks and keys used in government and business enterprises as well as households. Since this section focuses on home security devices, we have not adjusted the figure upwards to represent the normal retail mark-up, on the assumption that this downward bias will compensate for any potential double-counting in the government and business sectors.

[87] These are derived figures. The break and enter rates are arrived at through the number of incidents and population data. Statistics Canada *Cansim disc* Cat. No. 10F0007XCB, "Crimes by Actual Offence," Matrix No. 2200, and Statistics Canada *Cansim disc* Cat. No. 10F0007XCB, "Quarterly Estimates of Population for Canada, Provinces and Territories," Matrix No.1.
[88] idem.
[89] Based on visit to Kent Building Supplies, Micmac Mall, Dartmouth, Nova Scotia.
[90] Statistics Canada, *Products Shipped by Canadian Manufacturers, 1994-95,* sections 8301, 8301.2 and 8301.4, catalogue no. 31-211-XPB, page 223, table 1.
[91] Statistics Canada, catalogue no. 65-203-XPB, pages 1043-1045, lines 8301.10 to 8301.70.
[92] Statistics Canada, catalogue no. 65-202-XPB, pages 751-753, lines 8301.10 to 8301.70.

Nevertheless the $603 million value is used to provide a provisional estimate here for the purposes of testing the derived estimates given above. Based on the Nova Scotia share of Canada's break and enter incidents, provincial expenditures on locks and keys would be $3.5 million in 1962, and $14.8 million in 1997.

Compared to the estimate of $45.5 million in Nova Scotia and $1.84 billion in Canada for total expenditures on security devices, derived from Messinger and Tarasofsky above, it seems reasonable that locks and keys would amount to one-third of total defensive security expenditures. In dollar values, U.S. spending on locks accounted for slightly under one-third of the US GPI estimate for defensive expenditures due to crime, with safe deposit boxes, burglar alarms and other electronic security systems accounting for the rest. In other words, this preliminary test using Canadian manufacturing data indicates that the estimate of $45.5 million used in this report is a fair one.

Table 10.1 The Cost of Household Defensive Measures in Nova Scotia, 1962 – 1997
(millions of 1997$)

Date	Defensive Expenditures	Potential Savings if 1962 Levels Maintained	Potential Savings if 1975 Levels Maintained
1962	10.87		
1963	13.93	3.06	
1964	14.47	3.60	
1965	12.33	1.46	
1966	12.98	2.11	
1967	13.72	2.84	
1968	15.38	4.51	
1969	19.47	8.60	
1970	19.96	9.09	
1971	22.23	11.36	
1972	23.50	12.63	
1973	26.50	15.63	
1974	29.26	18.39	
1975	35.35	24.48	
1976	38.86	27.98	3.50
1977	36.68	25.81	1.33
1978	36.54	25.67	1.19
1979	37.67	26.80	2.31
1980	41.51	30.64	6.16
1981	43.63	32.76	8.28
1982	40.78	29.91	5.43
1983	35.20	24.32	-0.16
1984	37.66	26.79	2.30
1985	39.84	28.97	4.49
1986	42.59	31.72	7.24
1987	43.51	32.24	7.76
1988	42.45	31.58	7.10
1989	38.18	27.31	2.83
1990	46.75	35.88	11.40
1991	58.03	47.16	22.68
1992	52.74	41.87	17.39
1993	46.38	35.51	11.03
1994	43.40	32.52	8.04
1995	43.70	32.83	8.35
1996	47.00	36.13	11.64
1997	45.47	34.60	10.11
	1208.13	**816.76**	**160.40**

10.3 Security Guards and Private Investigators

Because security guards and private investigators are employed mostly by government and business, these expenditures were not included in the U.S. GPI estimates for crime costs. This is due to two accounting assumptions:

1) The U.S. GPI excluded government spending *a priori*, because the index was based only on personal consumption.
2) Business expenses are intermediate costs, and therefore show up ultimately in the price of products and services sold to consumers, which again are measured in the personal consumption data.[93]

The estimate by Messinger and Tarasofsky that is also used by Osberg and Sharpe follows that methodology, and thus also excludes spending on security guards and private investigators. Because the derived estimate in section 10.2 above is based explicitly on *household* spending on crime prevention, in accordance with these assumptions, separate estimates are also made in the Nova Scotia GPI for business losses due to crime. When these losses are passed on to consumers in the form of higher prices, that portion of spending is in fact a cost of crime, and is counted as such in this report.

Messinger and Colman have recognized the limitations of this "macro approach" that focuses from the start on creating a bottom line index. By excluding government and business expenditures, the original GPI could not provide comprehensive estimates for each component of the index, and thus has limited utility for policy purposes. To identify cost-effective crime prevention strategies, for example, policy-makers need to see a breakdown of the total costs of crime. For this reason the Nova Scotia GPI begins with as complete a description of each component of the index as possible, before any attempt to eliminate double-counting and to compile a composite index of sustainable development.[94]

Because they are not counted in the estimate in section 10.2 above, expenditures on security guards and private investigators are added here. The Solicitor-General's Department, which licenses private security guards and investigators, shows that there were 2008 licensed guards and investigators in Nova Scotia in 1997-98, a 12% increase from the previous year.[95] Statistics Canada employment and earnings data shows that salaries paid to security guards and private investigators came to $56.3 million in 1997 (Table 10.2).

Extrapolating back to 1962, Nova Scotia businesses and individuals have spent a cumulative total of $1.7 billion in 1997 dollars on private security guards and

[93] Cobb, et. al., op. cit., page 17.
[94] Messinger, Hans and Ronald Colman, *Measuring Sustainable Development: A Nova Scotia Pilot Study,* paper presented to the Centre for the Study of Living Standards Conference on the State of Living Standards and the Quality of Life in Canada, Ottawa, October 31, 1998, page 4.
[95] Document PS540N00, "Private Guard Licensing System", from Karen Forsyth, Department of the Solicitor-General; provided by Paul Smith, N.S. Department of Justice.

investigators since 1962. If the need for the services of the two professions had been maintained at the rate experienced in 1962 over $900 million could have been saved and spent on more productive and welfare-enhancing activities. The potential savings if the 1975 rate had held steady to the present day would have been about $200 million.[96]

Brantingham and Easton's report on crime costs for the Fraser Institute correctly points out that since overhead, clerical and managerial expenses are counted in the estimate of public policing costs, these should be taken into account in estimating private security costs as well.[97] Assuming that private security has the same overhead as public policing, we should add 24% to the total for salaries for a total 1997 expenditure of $69.8 million in Nova Scotia.

Interestingly, Nova Scotia proportionately spends one-third less on a per capita basis on security guards than the national average. This reflects a property crime rate almost 20% less than the national average, and a rate for serious violent crimes less than two-thirds the national average. From the GPI perspective, this savings is a direct quality of life advantage enjoyed by the province that translates into potential productive investments in welfare-enhancing activities.

However, the trends bears close watching. The Fraser Forum report demonstrates that the number of private security guards is increasing much faster than the number of police in Canada. There are today almost twice as many private security guards in the country as police. In 1971 there were only 28% more. But because private security guard salaries are so much lower than police salaries, the total salary bill for private and public policing is almost identical.[98]

If there is a gradual and subtle privatization of society's policing functions, what are the implications of this trend? The subject is beyond the scope of this study, but is worth investigating. From the perspective of crime costs, lower salaries paid to private security guards may keep policing expenses down. But the social costs may be considerable if property is less equitably protected.

[96] Sources for Table 10.2: Statistics Canada. *1961 Census of Canada*, vol. 3, part 3, "Wage-Earners: Earnings & Employment," p. 21.35. *1971 Census of Canada*, vol.3, part 6, "Income of Individuals," p.17.25. *1981 Census of Canada,* "Worked in 1980 – Employment Income by Occupation," Cat. No. 92-930, p. 1.45. *1986 Census of Canada,* The Nation: Employment Income by Occupation, Cat. No. 93-116, p.1-47. *1996 Census of Canada,* CD Rom Cat. No. 93F0029XDB96005, p. 2.85. See Appendix on Methodology and Data Sources for more details.
[97] Brantingham and Easton, *The Crime Bill,* The Fraser Forum, page 28.
[98] Idem.

Table 10.2: The Cost of Security Guards and Private Investigators Operating in Nova Scotia, 1962-1997, (Millions of 1997$)

Date	Total Salaries of Security Guards & Private Investigators	Potential Savings if 1962 Levels Maintained	Potential Savings if 1975 Levels Maintained
1962	22.8		
1963	25.1	2.3	
1964	27.4	4.6	
1965	29.8	7.0	
1966	32.1	9.3	
1967	34.4	11.6	
1968	36.7	13.9	
1969	39.0	16.2	
1970	41.3	18.5	
1971	42.5	19.7	
1972	43.6	20.8	
1973	44.7	21.9	
1974	45.8	23.0	
1975	46.9	24.1	
1976	48.0	25.2	1.1
1977	49.1	26.3	2.2
1978	50.2	27.4	3.3
1979	51.4	28.6	4.5
1980	52.5	29.7	5.6
1981	55.4	32.6	8.5
1982	58.4	35.6	11.5
1983	61.4	38.6	14.5
1984	64.4	41.6	17.5
1985	67.4	44.6	20.5
1986	64.4	41.6	17.5
1987	61.4	38.6	14.5
1988	58.4	35.6	11.5
1989	55.4	32.6	8.5
1990	52.4	29.6	5.5
1991	53.0	30.2	6.1
1992	53.5	30.7	6.6
1993	54.1	31.3	7.2
1994	54.6	31.8	7.7
1995	55.2	32.4	8.3
1996	55.8	33.0	8.9
1997	56.3	33.5	9.4

10.4 Other Business Defensive Expenditures

The Retail Council of Canada reports that store theft costs retailers $4 billion a year.[99] Extrapolating according to both population share and comparative theft rates, this would mean a loss of $118 million a year in Nova Scotia, costs which produce higher prices for consumers. Retailers respond to this threat by hiring security guards and installing electronic surveillance equipment and other crime prevention and detection systems.

This report follows the Australia Institute's GPI methodology in including the cost of "target hardening" in estimates of crime costs.[100] Hellman points out that situational crime prevention strategies, including target hardening and "operation identification" techniques, are designed to "increase the cost of doing business for criminals."[101] Of course, they also increase the cost of doing business for business, which is passed on to consumers in the form of higher prices.

The Retail Council of Canada reports that 56% of respondents with annual sales under a million dollars, reported spending more than 0.51% of sales revenues on loss prevention equipment. For larger retailers, defensive spending may take the form of electronic article surveillance (EAS). According to K-Mart President, Don Beaumont, loss prevention is actually built into the layout of new or renovated stores throughout Canada.

Once sophisticated target hardening is employed in some stores, there is increasing pressure for other businesses to follow suit, in order to prevent the displacement of theft onto softer targets. Thus, Safeway spokesman Grant Hardman has expressed concern that electronic article surveillance in some grocery chains will drive criminals to Safeway stores that have not installed the system. In response, Mike Boudreau, director of loss prevention for Atlantic Wholesalers, based in Dartmouth, N.S., claims that this is a good argument for all stores to install EAS.

Clearly the salaries of loss prevention officers like Boudreau should also be included in business crime prevention costs. However, no direct measurements are available for large retailer investments in target hardening and crime loss prevention. Since slightly more than half the Retail Council of Canada respondents reported spending *more* than 0.51% of sales on loss prevention equipment, that figure may be assumed here to represent a median estimate for business expenditures.

On the basis of Boudreau's argument that loss prevention techniques in one establishment produce pressure on other retailers to adopt similar measures, it will further be assumed that all these costs are passed on directly to consumers in the form of higher prices. If this were not the case, then those businesses that did invest in such equipment might experience a decline in their profit margins and become less competitive than businesses that somehow managed to prevent crime without such investments.

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[99] *Canadian Press* Newswire, April 15, 1996, from CBCA Database.
[100] Hamilton, Clive, *The Genuine Progress Indicator: A new index of changes in well-being in Australia,* The Australia Institute, October, 1997, page 42.
[101] Hellman, op. cit., page 105.

Statistics Canada's monthly retail sales figures[102] are used here to estimate the percentage of all retail sales revenues that can be attributed to business defensive expenditures on electronic article surveillance and other crime prevention and detection equipment. 0.51% of the $7.255 billion in annual retail sales in Nova Scotia amounts to $37 million for 1997.

This means that the average Nova Scotia household pays $110 a year more in higher prices for groceries and other household goods due to in-store crime prevention and detection measures. The average Canadian household pays $121 a year more for this particular crime cost. If crime prevention and detection costs were similar for other areas of consumption expenditures than retail sales, which is likely but not currently known, then the average Nova Scotian household would be spending $158 a year more in higher prices, based on annual average consumption expenditures of $30,469 per household. The average Canadian household would be spending $174 extra a year based on average household consumption of $34,024.[103]

In estimating past business costs due to crime, we have assumed that business defensive expenditures are directly proportional to changes in the crime rate for common theft (Table 10.3). This parallels our earlier assumption that household defensive expenditures on security equipment are directly proportional to the rate of break and enter incidents over time.

Clearly it is desirable to replace these derived estimates with more direct measurements. The addition of a few key questions to existing Statistics Canada business surveys could provide much more accurate information on these issues in the future.

Based on the estimates in Table 10.3, cumulative total business defensive expenditures since 1962 in Nova Scotia amount to about $850 million. If 1962 expenditures had been maintained to date shopkeepers and store owners would have saved $780 million, and if the 1975 level had held steady retailers would have saved $380 million. Since these losses are passed on to the consumer through higher prices, it can be assumed that consumer shopping bills would be proportionately lower had lower rates of defensive expenditure continued.

Not included in these estimates are business defensive expenditures on internal fraud investigations and other internal company measures designed to prevent corporate and white collar crime. Because this entire category of crime is so hard to document, it is currently excluded from this study. As noted earlier, the magnitude of corporate crime may be enormous, with costs estimated at up to 50 times the value of street crime.[104] There are many other indirect defensive expenditures, such as the development of computer software programs for the criminal justice system and for business crime detection, that are also excluded from these estimates. The fact that these costs are indirect should not obscure the reality that they contribute directly to higher prices for goods and services paid by the public.

[102] Statistics Canada. E-Stat Table, Cansim matrix 2399.
[103] Estimates based on 335,150 households in Nova Scotia, and $10,900,500 households in Canada. Annual consumption expenditures of $30,469 per household in Nova Scotia and $34,024 in Canada are from Statistics Canada, *Family Expenditure Survey,* 1996. Of this total approximately 70% is taken as retail goods expenditures.
[104] Gabor, op. cit. estimates the annual costs of corporate crime at $200 billion in Canada.

Table 10.3: Business Defensive Expenditures on Crime Prevention Equipment, Nova Scotia 1962-1997, (Millions of 1997$)

Date	Expenditures	Potential Savings if 1962 Levels Maintained	Potential Savings if 1975 Levels Maintained
1962	2.1		
1963	2.8	0.71	
1964	3.4	1.25	
1965	3.9	1.81	
1966	4.4	2.33	
1967	4.7	2.55	
1968	6.3	4.24	
1969	7.4	5.31	
1970	8.8	6.73	
1971	9.8	7.69	
1972	10.3	8.17	
1973	11.1	8.99	
1974	14.0	11.84	
1975	16.6	14.52	
1976	18.7	16.56	2.04
1977	18.3	16.23	1.71
1978	20.5	18.36	3.84
1979	23.6	21.46	6.93
1980	23.4	21.33	6.81
1981	28.2	26.13	11.61
1982	29.1	27.03	12.51
1983	30.3	28.19	13.67
1984	35.0	32.92	18.39
1985	37.8	35.72	21.20
1986	40.0	37.87	23.35
1987	42.7	40.56	26.04
1988	44.4	42.32	27.80
1989	43.9	41.84	27.32
1990	45.8	43.68	29.16
1991	42.9	40.77	26.25
1992	40.6	38.52	23.99
1993	39.5	37.44	22.92
1994	37.0	34.94	20.42
1995	35.8	33.71	19.19
1996	36.7	34.54	20.02
1997	37.2	35.10	20.57

Sources: Retail sales: Statistics Canada. E-Stat Table, Cansim matrix 2399 http://cansima.statcan.ca/cgi-win/CNSMCGI.EXE and Cansim CD Rom, Cat. No. 10F0007XCB, Theft: Statistics Canada *CANSIM Database,* CD Rom, Cat. No. 10F0007XCB, matrix 2200. See Appendix on methodology for more details. Savings calculations are based on estimated expenditure levels in 1962 and 1975.

10.5 Theft Insurance Premiums

Theft insurance is clearly a regrettable expenditure due to crime that reduces spending on welfare-enhancing measures. Designed to guard against losses due to crime, it is as defensive in nature as the installation of burglar alarms or the hiring of security guards. A small portion of life insurance premiums and a portion of other insurance that compensates for bodily harm are protections against losses due to violent crime. But because of the difficulty in estimating these percentages accurately, they are presently excluded from the estimates here, and only theft insurance is considered.

Since direct victim losses from property crimes have already been counted in chapter six, only the difference between premiums and claims is counted here, in order to avoid possible double counting. In other words, it is assumed that theft insurance claims actually compensate a portion of victim losses due to property crime. Only the amount paid in premiums above and beyond these claims is therefore truly a "defensive" expenditure.

In 1997 the theft insurance portin of property insurance premiums was $25 million higher than claims for property theft. Between 1962 and 1997 the cumulative total difference between premiums and claims is estimated at $424 million. Because the data used in compiling this information are from two disparate sources, calculating the potential savings if premiums were at 1962 and 1975 levels, as in earlier sections, is problematic. The historic figures have to be reconciled with modern data before such estimates can be attempted.

Statistics Canada's 1993 General Social Survey (GSS) reported that of all stolen property incidents, nothing was recovered in 82.5% of cases. The 1988 GSS reported that nothing was recovered in 85.6% of cases. In that year all stolen goods were recovered in 7% of cases and some portion were recovered in another 7%. The 1985 Canadian Urban Victimization Survey (CUVS) reported that nothing was recovered in 87% of cases (Chart 10.2).105

Insurance claims for property theft have steadily declined. The 1993 GSS reported that only 11% of victims surveyed received insurance compensation for stolen property, and 27% were compensated for motor vehicle theft. The 1988 survey reported that 12% of property crime victims received insurance compensation while 79% did not even try to claim. For motor vehicle theft, 30% of victims received insurance compensation in 1987, and 62% made no claims. The 1985 CUVS reported that private insurance provided compensation for stolen property in about 19% of cases.[106]

[105] Statistics Canada, General Social Survey, catalogue no. 12 FOO 42-XPE, table 27; Statistics Canada, catalogue no. 11-612, page 102, table 27; Statistics Canada, Canadian Urban Victimization Survey (CUVS) no. 5, *Cost of Crime to Victims*, 1985, page 3, table 4.

[106] Statistics Canada, General Social Survey, catalogue no. 12 FOO 42-XPE Table 34; Statistics Canada, catalogue no. 11-612, page 113, table 34; Statistics Canada, CUVS, no. 5, *Cost of Crime to Victims,*1985, page 3, table 4.

These averages conceal a significant distribution difference. The CUVS revealed that the recovery rate, through both police intervention and insurance claims, is much higher for those in the highest income bracket than for those with lower incomes. As a result, the mean net loss from property crime is actually less for the wealthiest sector than for those with lower incomes.107

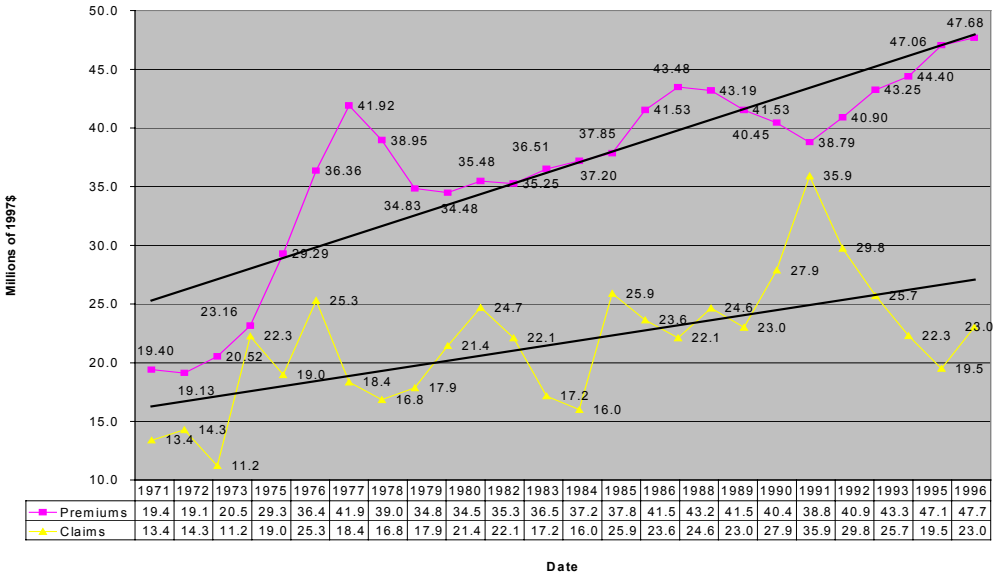
However, the most significant trend in theft insurance has been the growing gap between claims and premiums. Between 1971 and 1996 theft insurance premiums in Nova Scotia have jumped by 142%, while claims have gone up by only 72% in constant dollars. In 1971, claims amounted to 69% of premiums. In 1996, claims were just 48% of premiums. Claims are still at the same level they were 25 years ago, while premiums have doubled in that time. Interestingly, insurance companies have also reported record profits - $1.6 billion in 1995 – as the gap between premiums and claims has widened dramatically.

While there have been fluctuations in these proportions over time, the gap between premiums and claims in the province has been growing steadily wider since 1991. Theft insurance premiums have continued to rise even while the property crime has been declining (Chart 10.2).

In 1996 defensive expenditures in theft insurance premiums minus claims amounted to $24.6 million, down slightly from $27.6 million in 1995. These two years represent the largest recorded gaps between premiums and claims. Because claims were greater in some years than others, the trend line for this item does not follow the steady direction of crime rates. In fact, the measurements given here are not derived from the crime rates but are based directly on insurance industry figures.

[107] CUVS, op. cit., page 4, table 5.

Chart 10.2: Property Theft Insurance Premiums and Claims, Nova Scotia, 1971-1996 (1997$ millions)



	1971	1972	1973	1975	1976	1977	1978	1979	1980	1982	1983	1984	1985	1986	1988	1989	1990	1991	1992	1993	1995	1996
Premiums	19.4	19.1	20.5	29.3	36.4	41.9	39.0	34.8	34.5	35.3	36.5	37.2	37.8	41.5	43.2	41.5	40.4	38.8	40.9	43.3	47.1	47.7
Claims	13.4	14.3	11.2	19.0	25.3	18.4	16.8	17.9	21.4	22.1	17.2	16.0	25.9	23.6	24.6	23.0	27.9	35.9	29.8	25.7	19.5	23.0

11. Comprehensive Estimates

The true or full costs of crime are significantly greater than the direct economic losses and expenditures described in chapters 7-10 and which together make up the GPI "conservative" estimate of crime costs. But crime may also shatter lives, cause psychological trauma and long-term physical disabilities, restrict movement, disrupt plans, lower property values and have a variety of negative consequences that induce further social and economic losses not measured in the "conservative" estimate. To give just one concrete example, 85% of women who report wife assault also indicate that they experience negative emotional effects, which may in turn require counseling, drug treatment, legal assistance and other costs.

Several crime costs are omitted from this study altogether, because data are unavailable, including the costs of impaired driving, non-hospital medical and drug costs due to violent crime, economic losses due to juror and witness time in court, private legal defence costs, most employee theft in government and business except for retail trade, health costs and production losses from drug and prostitution offences, and so on.[108] In addition, most corporate crime, fraudulent professional claims, tax evasion, embezzlement and other white-collar crimes are rarely prosecuted and, are therefore excluded from this study because of lack of data.

However, this chapter does attempt to estimate five categories of costs which are not included in the conservative estimate of crime costs, but for which it is possible at least to derive certain estimates. While certainly not a complete description of crime costs, the "comprehensive" cost estimate attempted in this chapter at least begins to approximate a truer picture of how crime actually affects people and of the larger losses incurred by individuals and society.

The five categories of losses which, together with the conservative estimate in chapters 7-10, make up the comprehensive estimate of crime costs in this chapter, are:

1) ***Unreported Crimes***. The conservative estimate counts only losses due to police-reported crimes.[109] In this chapter, victim surveys are used to estimate losses due to unreported crimes.
2) ***Unpaid Work Losses***. The conservative estimate of crime costs includes only economic losses to the market economy, and excludes any losses incurred through the disruption of lives outside the work place. Since the Genuine Progress Index values

[108] Legal costs are given in Chapter 9. Since civil justice costs are omitted from the final totals in this study, and because it has not been possible to break down private legal expenditures into criminal and civil costs, therefore private legal spending on criminal cases is also omitted from this report.
[109] Two exceptions are the hospitalization costs and production losses due to absenteeism caused by violent crime in chapter 8, since these estimates are based on victim surveys which include both reported and unreported crime and are not calculated on a per incident basis.

unpaid work as well as paid work [110], hourly values from the first two modules of the GPI are used to estimate losses of voluntary work, community service and household production due to crime.

3) ***"Shrinkage"***. Reports from the retail trade industry are used to estimate inventory losses due to theft. These losses are generally passed on to the consumer in the form of higher prices.
4) ***Insurance Fraud***. Reports from the insurance industry are used to estimate the additional amount paid by consumers in higher premiums due to fraudulent claims against insurance companies. In order to avoid double-counting, theft insurance premiums, already considered in chapter 10, are excluded from the estimates in this chapter.
5) ***"Shattered Lives"***. Most importantly, court awards for grief and suffering are used to approximate the human and psychological costs of crime that cannot be captured in a simple economic cost analysis. For example, the only victim cost included for homicide and assault in the conservative estimate is the economic production lost through work place absence. Clearly this is a severe underestimate of the losses actually experienced both by victims and their families and friends. Losses incurred by family and friends are effectively ignored entirely in the conservative estimate, though children may lose their parents and spouses may suddenly be forced to fend for themselves. In fact, the economic production estimate in chapter 8 effectively places no value at all on the murder of an elderly person who no longer works in the market economy.

   To remedy these shortcomings, this chapter uses estimates from a University of Ottawa criminology study that examines court awards, and from a Fraser Institute study by criminologists Brantingham and Easton that derives economic estimates for "shattered lives" due to crime, in order to produce a more comprehensive estimate of crime costs in Nova Scotia.

Again it must be repeated that, while these five costs form the basis for our comprehensive estimate of crime costs, they still exclude some major categories of loss mentioned earlier. Gabor, for example, estimates that there is $200 billion worth of corporate crime annually in Canada compared to $3-4 billion of street crime; that tax evasion costs Canadians $30 billion a year; and that between $300 and $400 million worth of services are fraudulently claimed every year in Canada.[111] While this crime translates directly into higher prices and reduced services for Canadians and thus constitutes an actual economic loss, it is excluded entirely from this study due to lack of hard data, except for the rare instances where cases are brought to court.

[110] Colman, Ronald, *The Economic Value of Civic and Voluntary Work in Nova Scotia,* GPI Atlantic, Halifax, July 1998 and February 1999; Colman, Ronald, *The Economic Value of Unpaid Housework and Child Care in Nova Scotia,* GPI Atlantic, Halifax, November, 1998.
[111] Gabor, Thomas, *Everybody Does It! Crime by the Public,* University of Toronto Press, Toronto, 1994, pages 91, 93, 94, 118.

11.1 Unreported Crimes

The conservative estimate of crime costs in chapters 7 – 10 considered only police-reported crimes. However, there are many more crimes that are not reported to police. Victim surveys in Canada have found that less than 30% of personal thefts and just over half of violent assaults were reported to police. By contrast, motor vehicle theft is mostly reported, probably because reporting renders the victim eligible for insurance claims.[112]

There have been only two national Canadian victim surveys administered as part of the 1988 and 1993 General Social Surveys (GSS). In 1981, a Canadian Urban Victimization Survey (CUVS) collected data for seven Canadian cities. With the exception of one pilot study in British Columbia and a study of burglary victims in Toronto, no major victimization surveys were undertaken before the 1980s, and there is therefore no way of knowing to what extent changes in reporting rates influenced the official crime statistics in the 1960s and 1970s.[113]

While the CUVS is not entirely comparable to the later (GSS) surveys, it does appear that police reporting rates increased for assaults and for break and enter incidents between 1982 and 1993, though they seem to have decreased for robbery. Unfortunately the data are insufficient to estimate how much of the increase in reported crimes is due to higher reporting rates in some categories.

A 1997 Statistics Canada publication compares data collected from the General Social Survey victim surveys (GSS) of 1988 and 1993 with Uniform Crime Reporting (UCR) statistics (Table 11.1).[114] The 1981 Canadian Urban Victimization Survey (CUVS) provides data specific to Halifax-Dartmouth (Table 11.2).[115]

Table 11.1: Ratio of Total Crimes (GSS) to Police-Reported Crimes (UCR)

Crime	GSS/UCR Ratio, 1988	GSS/UCR Ratio 1993
Sexual Assault	–	1.8:1
Robbery	3:1	2.7:1
Assault	2:3:1	1.8:1
Break and Enter	1.3:1	1.2:1

[112] Assault ratio from 1988 and 1993 General Social Survey data compared to Uniform Crime Reporting statistics, in Statistics Canada, *An Overview of the Differences between Police-Reported and Victim-Reported Crime, 1997,* catalogue no. 85-542, pages 9-11; personal theft ratio from Solicitor-General Canada, *Canadian Urban Victimization Survey: Reported and Unreported Crimes,* bulletin no. 2, 1984, page 5.
[113] Evans and Leger, op. cit., page 167.
[114] Statistics Canada. May 1997. *An Overview of the Differences between Police-Reported and Victim-Reported Crime, 1997.* Cat. No. 85-542, p.9-11.
[115] Solicitor General Canada. 1984. *Canadian Urban Victimization Survey: Reported and Unreported Crimes.* Bulletin No.2, p.5.

Table 11.2: Percentage of Criminal Incidents Coming to the Attention of the Police, Canadian Cities, 1982

Crime	Halifax-Dartmouth: %	Seven-City Average: %
Sexual Assault	29	38
Robbery	45	45
Assault	35	34
Break and Enter	61	64
Motor Vehicle Theft	74	70
Household Theft	48	44
Personal Theft	28	29
Vandalism	40	35
Overall % Reported	42	42
Overall % Not Reported	58	58

Based on these ratios, the number of unreported crimes in Nova Scotia is estimated in Table 11.3 below. Because of the inadequacy of the data, no claim to accuracy is made here. However, the 1982 survey indicates that Halifax reporting rates were in line with the national average at that time, and it is therefore assumed that Nova Scotia reporting rates are not markedly different from the Canadian averages given in the General Social Survey. Since accurate time series are not available for unreported crimes, the same ratio will be arbitrarily applied to all years in the summary estimates in chapter 1. It is one of the recommendations of this study that annual victim surveys be conducted at the provincial level to provide more reliable data.

The average property losses per crime used in Table 11.3 are the same as those in chapter 7, and are based on estimates by the Solicitor-General derived from a victim survey. Since police-reported crimes are likely to be more serious than unreported crimes and to involve larger losses, the loss calculations in chapter 7 are likely to be serious underestimates, since they are based on average losses in the victim survey which includes both reported and unreported crimes. Conversely, the use of these average losses per crime in this section is likely to inflate the losses actually incurred in unreported crimes. However if the same average loss per crime is used here as in chapter 7, the disparities should even out, and the total comprehensive estimate for victim losses in both reported and unreported property crimes will reflect the actual values in the victim surveys which include both categories.

The same reasoning applies to monetary losses, hospitalization costs and production losses due to violent crime. The results in chapter 8 are also based on the average losses per incident reported in victim survey data, which includes both reported and unreported crime. Since reported crimes are likely to be considerably more serious than unreported ones, the monetary loss, hospitalization cost and production loss estimates in chapter 8

should be considered underestimates and those in this chapter will be overestimates. Again, the comprehensive loss estimate will even out these results to reflect the actual survey data.

Adding together losses from reported and unreported property crime, Nova Scotians lost nearly $270 million in money and property in 1997 (Table 11.3). Based on reported crime rates over time, and assuming a constant ratio between reported and unreported crime, the cumulative loss in property and money due to all crime since 1962 is more than five billion dollars.

Table 11.3: Estimated Victim Losses from Unreported Property Crimes, Nova Scotia, 1997, (1997$ millions)

	# Reported Incidents	#Unreported Incidents	Average Loss/Crime	Total Loss Unreported	Total Loss All Crime
Theft	21,568	50,325	$2,188	$110.1	$157.3
Break/Enter	9,193	1,837	$2,370	$4.4	$26.2
Motor Veh. Theft	2,558	900	$3,728	$3.4	$12.9
Vandalism	12,788	19,182	$655	$12.6	$21.0
Fraud	3,861	9000	$3,625	$32.6	$46.9
Robbery	425	722	$2,934	$2.1	$3.3
			TOTAL:	**$165.2**	**$267.6**

NOTES:

- Estimates of unreported crime incidents are based on the ratio between total crimes reported in victim surveys in the 1993 General Social Survey and in the Halifax-Dartmouth rates reported in the 1982 Canadian Urban Victimization Survey, in proportion to reported crimes in the Uniform Crime Reporting statistics.
- No estimates are available from the victim surveys for unreported fraud. The ratio of unreported to reported fraud has here been assumed to be the same as that for theft.
- Robbery is officially classified as a violent crime rather than a property crime, but property losses due to robbery are included here, as they have been in chapter 7.
- Average losses per crime are from the Solicitor-General Canada, in Statistics Canada, *Juristat,* volume 12, no. 5, 1981, except for motor vehicle theft, which is from the Insurance Corporation of British Columbia, as reported in Brantingham, Paul, and Stephen Easton, "The Crime Bill: Who Pays and How Much?", *Fraser Forum,* 1996, The Fraser Institute, page 23.
- The total losses in column 5 add the unreported losses from this table to the reported losses from chapter 7. Since the average loss per crime is taken from the victim surveys and includes both reported and unreported crime losses, this total loss figure in column 5 can be considered more reliable than the separate estimates for either reported or unreported crimes, since the former are likely to be more serious than the latter and to involve larger losses.

Victim monetary losses from unreported assaults and sexual assaults, hospitalization costs due to unreported violent crime, and economic production lost due to absenteeism, cost Nova Scotians an estimated $5.2 million in 1997. Reported and unreported incidents combined cost Nova Scotians $11.7 million (Table 11.4). Based on reported rates of assault and sexual assault over time, and assuming the same ratio of reported to unreported incidents which is particularly questionable in this case, the cumulative cost of victim losses due to assault and sexual assault in Nova Scotia since 1962 is nearly $250 million.

Since the data on both hospital stays and absenteeism are from victimization surveys, the basis for calculation is the same for both reported and unreported crimes: Based on the Solicitor-General's report, for every 100 criminal code incidents, victims spent 3.15 days in hospital, and missed 25.3 days of work. From this we have extrapolated that Nova Scotians spent an estimated total of 4,405 days in hospital due to crime in 1997, and missed an estimated 35,383 days, or about 100 person-years of work due to crime.

As mentioned above, because these losses are averaged out over reported and unreported crimes, the reported costs listed below are likely to be underestimated and the unreported costs to be overestimated. More credence may be given to the total rather than to the break-down between the two categories.

Table 11.4: Estimated Victim Losses due to Unreported Assault and Sexual Assault, Nova Scotia, 1997, (1997$ millions)

	Reported Incidents	Unreported Incids.	Total Incidents
# Incidents	9598	7678	17,276
Monetary Losses	$0.62	$0.49	$1.11
Hospitalization	$1.62	$1.30	$2.92
Absenteeism	$4.25	$3.40	$7.65
TOTAL LOSSES	**$6.49**	**$5.19**	**$11.68**

NOTES:

- The ratio between total incidents in the 1993 General Social Survey victim survey and reported crimes in the Uniform Crime Reporting statistics is the same for assault and sexual assault (1.8:1). For this reason, they are considered together here.
- In 1997 there were 8,431 reported cases of assault, and 1,167 reported cases of sexual assault in Nova Scotia.
- As in the previous table, the average losses per crime are taken from the victim surveys and include both reported and unreported crime losses. Therefore the total loss figure in column #3 can be considered more reliable than the separate estimates for either reported or unreported crimes, since the former are likely to be more serious than the latter and to involve larger losses.

11.2 Unpaid Work Losses

While the conservative estimate of crime costs in chapters 7 – 10 assesses only market production losses, the actual loss experienced by crime victims and by society at large clearly goes beyond the work place. An assault victim may not be able to take care of children or household tasks, and may incur additional expenses by hiring someone to perform this work. A crime victim may also be unable to perform customary voluntary and community service work.

Since the Genuine Progress Index explicitly values this unpaid productive work, it should also be included in the comprehensive assessment of production losses due to crime. The GPI uses Statistics Canada's definition of unpaid work as only that which could be performed for pay by a third party in the market economy. In other words, loss of leisure time due to crime and loss of household activities which do not constitute work that could be replaced for pay, are not considered here. The dollar figures may be taken as a proxy for lost quality of life in the home and in the community due to crime, as experienced by the recipients of household services and of volunteer services.

11.2.1 Lost Household Work

As noted in section 11.1 above, there were an estimated 35,383 work days lost to crime in Nova Scotia in 1997. At eight hours a day, this amounts to 283,064 hours of work lost. Based on Statistics Canada's time use and labour force surveys, the second GPI module on the *Economic Value of Unpaid Housework and Child Care in Nova Scotia* found that Nova Scotian adults put in an average of 25% more unpaid household work hours per year than paid work hours.[116] This would indicate 353,830 hours of lost unpaid household work.

Statistics Canada has determined that the market value replacement rate for household domestic services in Nova Scotia is $9.20 an hour in 1997 dollars. For child care, the going rate is $7.58 an hour. It should be noted that only "primary child care" is counted here, meaning time spent exclusively relating with children, such as feeding and washing them, changing diapers and putting them to bed. Time spent caring for children while doing other tasks is not counted. Apportioned among the actual hours spent doing household chores and primary child care, the average is $9.02 an hour.[117] This signifies what it would cost to hire someone to do the equivalent work performed without pay in

[116] Colman, Ronald, *The Economic Value of Unpaid Housework and Child Care in Nova Scotia,* GPI Atlantic, November, 1995, page 48. Unpaid work hours from Statistics Canada, *Households' Unpaid Work: Measurement and Valuation,* catalogue no. 13-603E, 1995; paid actual average work hours for all jobs, from Statistics Canada, *Labour Force Annual Averages, 1996,* catalogue no. 71-220-XPB, table 19, page B-47.

[117] Replacement values from Statistics Canada, *Households' Unpaid Work,* catalogue no. 13-603E.

the household. On this basis, unpaid household work time lost due to crime in Nova Scotia is worth $3.2 million a year.

Chapter 8 indicated that 452 person-years of work were lost to the Nova Scotia economy in 1997 due to homicide. Each Nova Scotian contributes an average of 1,230 hours per year of unpaid household work to the economy,[118] resulting in more than half a million hours of lost unpaid work time per year due to homicide, worth $5 million in 1997. If impaired driving deaths were included the total would clearly be much higher.

Lest this calculation sound merely like an academic statistical exercise, it should be remembered that it reflects very real and experienced losses. The loss in unpaid work is actually the loss in child-rearing time experienced by the child of a murdered parent, or the necessity for the spouse of a homicide victim to manage all household duties alone or else to contract these lost services out for pay in the market economy. The assignment of dollar values is necessary only because market statistics so dominate our assessment of costs and benefits that these unpaid work costs would otherwise likely be overlooked and ignored.

Needless to say, there are many untested assumptions built into these calculations, including the fact that crime prevents the accomplishment of household tasks at the same proportional rate as it prevents the undertaking of paid work. On the other hand, a ransacked home or personal theft may require additional unpaid work time beyond the normal weekly quota, in order to repair the damage and replace lost articles. There is no way of testing these assumptions.

The monetary values should therefore be understood simply as a proxy for household quality of life lost due to crime. The reason for the inclusion of some estimate here is simply that it is more reasonable and accurate to acknowledge in some way the cost of crime as it affects household work rather than to ignore it entirely as market statistics, and the conservative estimate in chapters 7-10, do.

11.2.2 Lost Volunteer Work

The average Nova Scotian puts in 3.38 hours of volunteer work every week outside the home. This work provides direct benefit to the elderly, sick, disabled, children and youth, and other vulnerable groups, as well as to the environment, the local community, and society at large. Nova Scotians serve at food banks and soup kitchens, provide assistance to victims of abuse, lead scout groups, coach sporting teams, help out at hospitals and nursing homes, and provide countless other voluntary services for a cumulative total of

[118] Colman, Ronald, *The Economic Value of Civic and Voluntary Work in Nova Scotia,* GPI Atlantic, Halifax, November, 1998.

about 134 million hours a year. Based on total hours contributed, Nova Scotians have the highest rate of voluntary activity in the country, 26% above the national average.[119]

As noted above, Nova Scotians missed an estimated 283,064 hours, or 147 person-years, of paid work due to crime in 1997. If Nova Scotians contributed 176 average hours per year of voluntary work, Nova Scotian crime victims would have missed nearly 26,000 hours of voluntary work a year due to crime, creating an substantial loss of services to recipients.

Statistics Canada has calculated the replacement rate for voluntary services in Nova Scotia at an average $13.02 an hour. This signifies what it would cost to hire someone in the market economy to perform equivalent work. On this basis, voluntary services lost due to crime amount to more than $340,000 a year in Nova Scotia.

If the voluntary services of homicide victims are included, on the basis of 452 lost person-years of work in 1997, as described in the previous section, an additional 80,000 additional hours of lost voluntary work worth must also be included. This is worth more than one million dollars, for a total of $1.37 million a year.

These calculations do not include *either* the unpaid work losses of offenders *or* the community service work contributed by offenders as conditions of their sentence. While the latter is not strictly speaking "voluntary," it may be argued that it nevertheless makes a contribution to society and should therefore be counted as a benefit in this section on voluntary work.[120] Future updates of this report might include valuations of this work.

11.2.3 Volunteers for Law and Justice Organizations

Aside from the victim losses described above, the existence of volunteer organizations devoted to law and justice issues must be counted as a cost of crime by the criteria used in this study. The time actually spent on crime prevention and detection activities by volunteers for Neighbourhood Watch, the Crime Prevention Society, Block Parents and Crime Stoppers must be counted as a defensive expenditure in the same way as hiring security guards or investing in alarm and surveillance systems. The functions performed are similar and have the same purpose. – crime prevention. Lower crime rates would render such voluntary activity less necessary, and the time of these volunteers would correspondingly be freed up for more welfare-enhancing activities.

Legal aid volunteers, voluntary parole and probation officers, volunteers for Victim Services, and voluntary organizations like the John Howard Society and the Elizabeth Fry Society, which work with prisoners and ex-prisoners, do not perform preventive

[119] Statistics Canada, *Initial Data Release from the 1992 General Social Survey on Time Use,* catalogue no. 11-612, #30, Table 1.
[120] This insight is contributed by Kit Waters, Director of Policy Planning and Research, Nova Scotia Department of Justice, personal communication, 26 March, 1999.

defensive functions, but deal directly with the consequences of crime after the fact. Their activities are more similar to some of those described in chapter 9 on public justice costs. Nevertheless, they exist as a direct result of crime.

Again, if there were less crime, there would be correspondingly less need for this voluntary work. In the meantime, volunteer efforts that are the consequence of crime, should be valued. If paid legal aid services are counted as public justice costs, then voluntary legal aid services should also be counted in some way. If impaired driving costs were included in this study, the work done by volunteers for groups like Mothers Against Drunk Driving would also be included here.

According to Statistics Canada's volunteer surveys, law and justice volunteers account for about 1.2% of all volunteers. However, they put in the longest hours of any group of volunteers, six hours and 40 minutes a week on average, compared to a weekly average of 3 hours and 23 minutes a week for all volunteers. About 3,500 Nova Scotians volunteer their time for legal aid work, Neighbourhood Watch, Crime Stoppers and other crime prevention groups, and prisoner support networks, contributing more than 23,000 hours a week or 1.2 million hours a year to this voluntary work. Based on the volunteer replacement rate of $13.02 an hour, their work is worth nearly $16 million a year to the Nova Scotia economy and to society.[121]

11.2.4 Total Unpaid Work Costs

Adding together all three categories above, more than $25 million worth of unpaid work per year in Nova Scotia is due to crime, partly as victim production losses, partly as defensive expenditures, and partly as contributions to the court and corrections systems.

11.3 "Shrinkage"

Shrinkage is the retail industry term for unexplained inventory losses which are primarily due to shoplifting and employee theft. It is the difference between the inventory recorded in business ledgers and that actually on the shelves. While some of the loss may be due to accounting errors, there is no reason to assume that such honest errors would err more on the side of inventory losses than gains, and these are therefore assumed to be neutral.

The retail industry reports annual average shrinkage of 1.56%. Based on 1997 annual retail sales of $7.3 billion, the loss due to shrinkage was $113.8 million in Nova Scotia. For earlier years, it has been assumed that shrinkage rates have changed in direct proportion to the changing incidence of reported theft in society at large. Shrinkage costs have therefore been derived in proportion to both retail sales and reported theft rates in

[121] Average weekly hours and volunteer numbers for law and justice volunteers from Duchesne, Doreen, *Giving Freely: Volunteers in Canada,* Statistics Canada, Labour Analytic Report No. 4, catalogue no. 71-535, #4, Minister of Supply and Services, Canada, August, 1989.

those years. On that basis, it is estimated that shrinkage cost Nova Scotians $6.4 million in 1962, and $50.8 million in 1975, compared to $113.8 million in 1997 (all figures in constant 1997 dollars).

The figure is comparable to the estimate in chapter 10, based on the Retail Council of Canada's estimate that store theft costs retailers $4 billion annually in Canada. Extrapolating for Nova Scotia on the basis of both population and comparative property crime rate, the cost of store theft to Nova Scotian retailers, and ultimately to consumers, is about $118 million a year. The slightly more conservative figure of $113.8 million is used here.

Since these costs are passed on to the consumer in higher prices, this means that the average Nova Scotia household paid $340 more in 1997 due to in-store retail theft. If the same proportional cost of shrinkage were to apply to all consumption expenditures, the figure would be $484 a year. For Canadian households nationwide, the comparable losses are $370 for retail expenditures and $530 for all consumption expenditures.

If these higher prices due to shrinkage are added to the costs of in-store crime prevention and detection equipment considered in Chapter 10, then the average Nova Scotian household is paying $448 extra per year in higher prices for groceries and other retail goods due to crime. The loss is $642 per year per household in higher prices for all consumption expenditures, if the same rates of in-house theft and electronic surveillance expenditures apply to non-retail business establishments.

If the $53 million spent annually by business and government on private security guards is also passed on to the public in the form of higher prices and taxes, this translates into an additional $158 per year per household. ***In sum, Nova Scotian households are probably paying $800 a year total in higher prices due to crime, amounting to 2.6% of their annual consumption budget.*** Nationwide, the figure is closer to $900 a year.

These hidden expenses are concealed in the everyday price tags of groceries and other consumption items. Although they constitute real losses for individuals, these additional expenses and higher prices are all currently counted as adding to the gross domestic product and contributing to economic growth. By contrast, the Genuine Progress Index considers these business crime costs and correspondingly higher consumer prices as losses that depress the index. If theft rates decrease, and shrinkage and defensive expenses diminish accordingly, the GPI regards the reduced expenditures and lower prices as savings that can be invested in more constructive and productive activities, and the index rises accordingly.

11.4 Insurance Fraud

Like shrinkage, insurance fraud leads to higher prices for consumers. According to Ann Walker of the Canadian Coalition Against Insurance Fraud, an industry-sponsored group, fraudulent claims against insurance companies add an average of 15% to the cost of insurance premiums for Canadians.[122]

Based on this 15% rate, higher premiums cost Nova Scotians $25.5 million in property insurance and $45.2 million in auto insurance in 1997, for a total of $70.2 million in higher prices due to fraud. Since the $25 million excess of premiums over claims for theft insurance in particular has already been counted as a defensive expenditure in chapter 10.5, it is necessary to deduct 15% of that amount here, or $3.8 million, in order to avoid double-counting. Thus $66.4 million annually should be added to the comprehensive costs of crime as a result of higher prices due to insurance fraud. Put another way, if individuals did not break the law by submitting fraudulent insurance claims, Nova Scotians would save $200 per household every year in insurance payments.

11.5 "Shattered Lives"

In the words of the Solicitor-General, quoted in chapter 3.3:

> *Many of the most important costs of crime – the psychological and emotional suffering of victims, the fear and insecurity of those who believe they are at risk, the pain and often anger of the families of victims, the loss of freedom and potential productive labour that incarceration means for the criminal who is caught – cannot be measured in dollars. But these largely unmeasurable costs must be a significant part of any cost-benefit equation.*[123]

A crime victim, if injured or disabled by a violent attack, may experience a severe curtailment of his activities for the rest of his life. Families of victims may suffer long-lasting trauma. Crime diminishes the quality of life in countless overt and subtle ways. Here only the grossest and most direct forms of pain, suffering and grief are considered in estimating the effect on lives actually "shattered" by crime. The term is taken from a Fraser Institute report, which in turn bases its cost estimates for "shattered lives" on a University of Ottawa Criminology Department study that examines court awards for victim suffering.[124] The awards were for suffering, disabilities and disamenities resulting

[122] Jeffrey Simpson, "Insurance Claims Costly for Everyone", *The Chronicle-Herald,* Halifax, 21 December, 1998, pages A1 and A2.
[123] Solicitor-General of Canada, "Cost of Crime to Victims", *Canadian Urban Victimization Survey,* no. 5, 1985, page 1.
[124] Welsh, Brandon, and Irvin Waller, *Crime and its Prevention: Costs and Benefits,* Department of Criminology, University of Ottawa, April, 1995; Brantingham, Paul, and Stephen Easton, "The Crime Bill: Who Pays and How Much?", *Fraser Forum,* The Fraser Institute, 1996.

from crimes such as assault, rape and murder, and also includes additional costs of social services used by victims.

The GPI estimate for the cost of "shattered lives" due to crime is derived from these earlier studies. Using the University of Ottawa study, the Fraser Institute estimated that the cost of "shattered lives" due to crime added $12.1 billion a year in Canada in 1993 dollars, or $12.6 billion converted to 1997 dollars. This added 72.5%, to that study's conservative estimates of crime costs based on direct victim losses, economic production losses, public justice costs and spending on private security guards.

By population share alone, the Nova Scotia share of this federal total would be $393 million a year. However, we have adjusted this total to account for the fact that serious violent crimes in Nova Scotia average 36.7% below the national average, on the assumption that the cost of "shattered lives" is directly proportional to the seriousness of violent crimes. Therefore, 63.3% of $393 million is $249 million, which is the estimate for the cost of "shattered lives" due to crime in Nova Scotia used in this report.[125]

It is rightly argued that the actual losses incurred due to suffering, disabilities and disamenities caused by crime cannot be compensated or valued in dollar terms. However, it also widely accepted that the insurance industry places dollar values on lives and limbs, and that courts grant monetary awards for grief and suffering in order to ensure that losses do not go entirely uncompensated and that there is at least some compensatory principle in effect.

The same principle should apply in our national and provincial accounting systems. While market values dominate the policy arena, the cost of ignoring non-market losses is likely to be their relegation to lower status in the policy agenda. For this reason, proxy monetary values for non-market factors are used in the Genuine Progress Index to ensure their adequate recognition at least until such time as environmental, social and quality of life variables are considered in their own right in all aspects of the policy process. As an interim measure, assigning dollar values is simply a communication tool to give these non-market values greater attention in the market economy that dominates our thinking. The monetary valuations are never intended as substitutes for the physical, human, time use and environmental quality values on which the dollar estimates are based and of which they will always be crude approximations.

In this case, the $249 million estimate for shattered lives due to crime in Nova Scotia is intended simply to point to the true human and emotional reality underlying the actual cost of crime as experienced by the people of this province. The point is worth

[125] It is recognized that court awards for grief and suffering may also include some of the factors considered in the estimation for the loss of unpaid work, and that there may therefore be an element of double-counting in using the Fraser Institute estimate. However, the valuation of unpaid work is based on production value only, and the discounting of the Fraser Institute estimate by 37% for Nova Scotia is considered a conservative step already. Therefore no further attempt has been made here to estimate whether a percentage of the shattered lives estimate is previously counted as unpaid work loss. Future updates of the report might fine-tune this estimate accordingly.

emphasizing here, as the same principle has already been applied to the monetary valuations of voluntary, community service and household work in the first two modules of the GPI released last year, and will appear again in the environmental and natural resource accounts to be issued later this year.

The GPI estimate for comprehensive crime costs is within the range of earlier studies estimating crime costs for Canada. The Fraser Institute estimated Canadian crime costs at $37.3 billion in 1993 dollars; and the National Crime Prevention Council estimated the 1996 costs at $46 billion. Converting to 1997 dollars, and estimating the Nova Scotia share of these costs on a population basis only, would indicate a Fraser Institute estimate of $1.2 billion and a N.C.P.C. estimate of $1.5 billion for the province. While some of the measurement methods and costs included differ, the results are broadly comparable.