

## An update of long-term trends in property and violent crime in New South Wales: 1990-2010

Steve Moffatt & Derek Goh

**Aim:** The aim of this paper is to analyse the trends in the rates of annual recorded incidence of 10 major categories of property and violent crime for the period 1990 to 2010 in New South Wales.

**Method:** The data presented here are an annual update of the property and violent crime trends reported in Moffatt & Poynton (2006). Kendall's trend test was run on the 21 annual rates<sup>1</sup> for each of the 10 major offence categories.

**Results:** Some categories of crime in NSW are now at the lowest levels they have been for over 20 years. Comparing per capita rates of crime in 2010 with per capita rates in 1990, the Bureau found that the rate of:

- murder is 50 per cent lower
- motor vehicle theft is 70 per cent lower
- break and enter non-dwelling is 62 per cent lower
- break and enter dwelling is 43 per cent lower
- robbery with a weapon not a firearm is 23 per cent lower
- robbery with a firearm is 66 per cent lower; and
- robbery without a weapon is 5 per cent lower.

The falls in these categories of crime, however, have been matched by increases in recorded rates of assault, sexual assault and 'other' sexual offences. Compared with 1990 the rate of:

- assault is 86 per cent higher
- sexual assault is 128 per cent higher; and
- other<sup>2</sup> sexual offences is 67 per cent higher.

**Conclusion:** In the period since 1990, assault and sexual assault rates recorded significant long term upward trends whilst the other eight offences analysed in this report were trending down or stable. The 2010 sexual assault rate was the highest recorded since 1990. Assault has remained stable since 2001 and is now showing signs of a decline. Property crimes have shown the biggest declines since 1990.

### Data Sources

With the exception of murder, the data presented here refer to the number of police recorded criminal incidents per 100,000 population. For murder, rates are calculated on the numbers of murder victims per 100,000 population. Data from the NSW Police Force Computerised Operational Policing System (COPS) have been used to calculate offence rates for the period 1995-2010. Criminal incident data for 1994 and for the years prior to the introduction of COPS have been taken from the Bureau's recorded crime statistics report series *NSW Recorded Crime Statistics*.

There have been two small adjustments to the data series since 1995, the first in the 2009 update<sup>3</sup> and another this year. Until this year, revision of NSW Police data by the Bureau only revised incident counts for the immediate past 24 months of data. Today, due to improvements in data extraction, we are now able to revise the complete NSW Police data set back to 1995 each time we take a new data extract. Hence some series have been adjusted upwards for past years. This has not altered any of the long term trends. The average annual update for any of the tabulated counts in Table A1 is approximately 1.4%. This year's revision is expected to be a once only adjustment of that size. Some incidents may only become accepted<sup>4</sup> at much later dates

than their report date, for example a suspected murder where remains were only found, say three years after the initial report date. These longer term revisions arise because our crime data is compiled using report dates and some incidents may not be included in a current year if ongoing investigations mean that the incident has not been accepted by the time the extract is downloaded. This is more likely to occur for offences such as murder and sexual offences.

Given that recorded crime data include only crimes that come to the attention of the police and not all criminal acts are reported to the authorities, the trends in recorded crime presented here should be interpreted in conjunction with data from crime victim surveys. A summary of these data is provided in Moffatt and Poynton (2006) and more recently in the 2009-10 Crime Victimization catalogue (ABS, 2011). This ABS publication contains two years of personal and household crime summary data obtained from a national survey, some of which is disaggregated to state level (see pages 11 to 16). For NSW, the latest report states that physical assault for those aged 15 and over was reported to police 54.5% of the time (up from 48.8% in 2008-09) with a personal victimisation rate of 2.4% (down from 2.8% in 2008-09). For households, NSW break-ins were reported 69.5% of the time (down from 75.6% in 2008-09) with a household victimisation rate of 2.5% (down from 3.0% in 2008-09). For NSW the estimates of the reporting rates were not significantly different to the first survey of 2008-2009, but some of the victimisation rates such as threatened assault, robbery and attempted break-in have shown a statistically significant decline.

## Personal crime

Figure 1 shows the number of *murder* victims in NSW per 100,000 population from 1990 to 2010. Figures 2, 3 and 4 show respectively the number of recorded *assault*, *sexual offences* and *robbery* incidents per 100,000 population from 1990 to 2010. The major points to note from these figures are:

- A significant downward trend is apparent in the NSW *murder* rate (down 50% since 1990). Apart from the 2004 recorded rate of 1.1 murder victims per 100,000 population (which was below the long-term linear trend), the recent annual murder rates (1.2 in 2009 and 1.0

in 2010) have continued back on trend showing strong linearity with the  $r^2$  measure of goodness of fit remaining around 0.75.

- A significant upward trend in the NSW *assault* rate (up 86% since 1990). However the past 11 years have remained statistically stable and the graph shows that a turning point may have been passed. In the early 1990's the recorded *assault* rate was about 500 incidents per 100,000 population climbing to over 1,000 incidents per 100,000 population by 2001 and remaining around 1,000 to 2008. The 2010 recorded rate at 951 incidents per 100,000 population is 6.4% lower than 2008 and 11% below the peak in 2002.
- Over the period from 1990 to 2010 NSW recorded increases in the crime rate of both *sexual assault* (up 128%) and *other sexual offences* (up 67%). In both cases, the sharpest rises occurred in the mid to late 1990s and the statistical trend test for *other sexual offences* as reported last year continues

Figure 1: Murder rate for NSW, 1990-2010

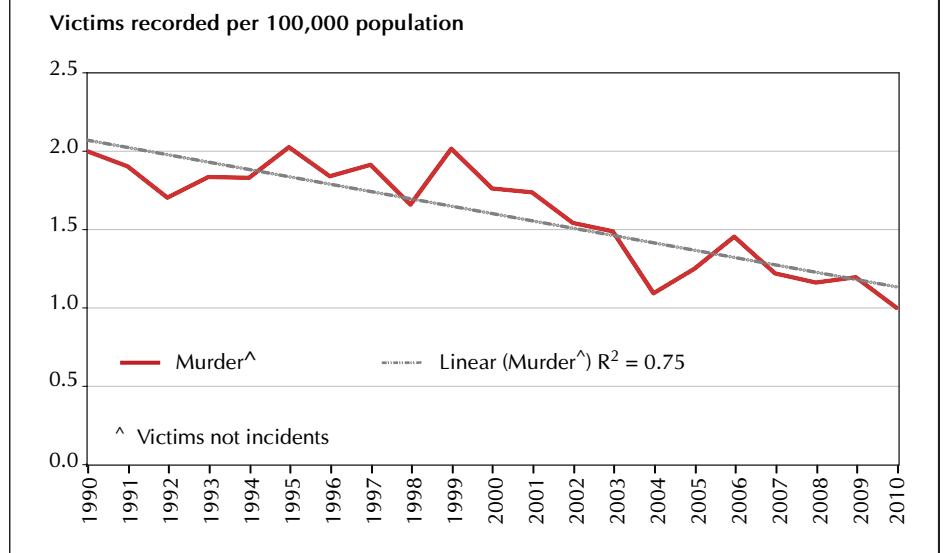
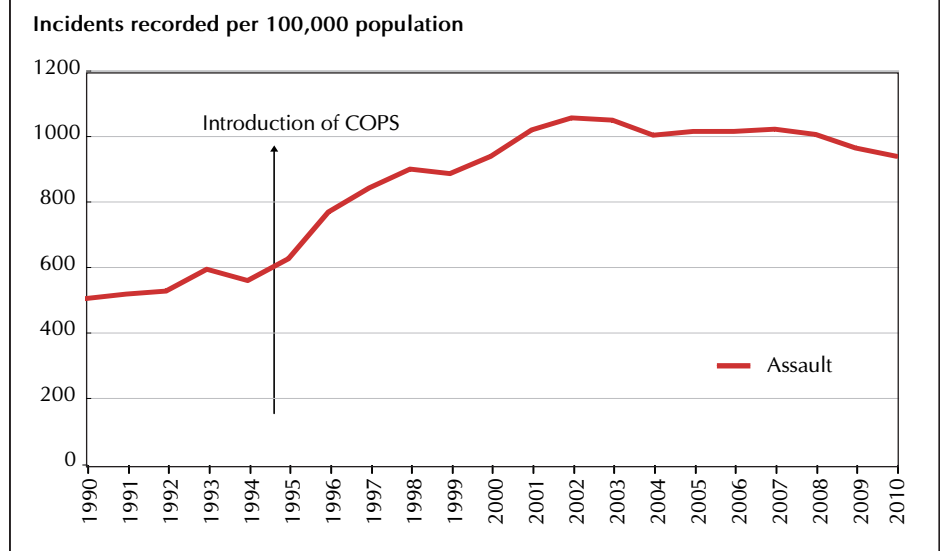
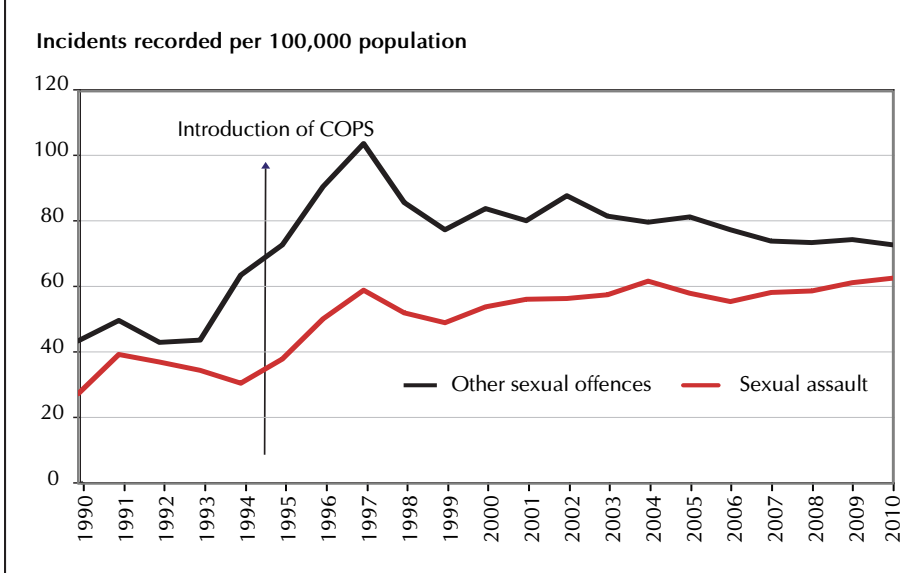


Figure 2: Assault rate for NSW, 1990-2010



**Figure 3: Sexual offences rate for NSW, 1990-2010**



to be stable. *Sexual assault*, however, is the only offence reporting 2010 as having the highest rate over the years since 1990 and remains the only offence registering an upward trend over the period from 2000 to 2010.

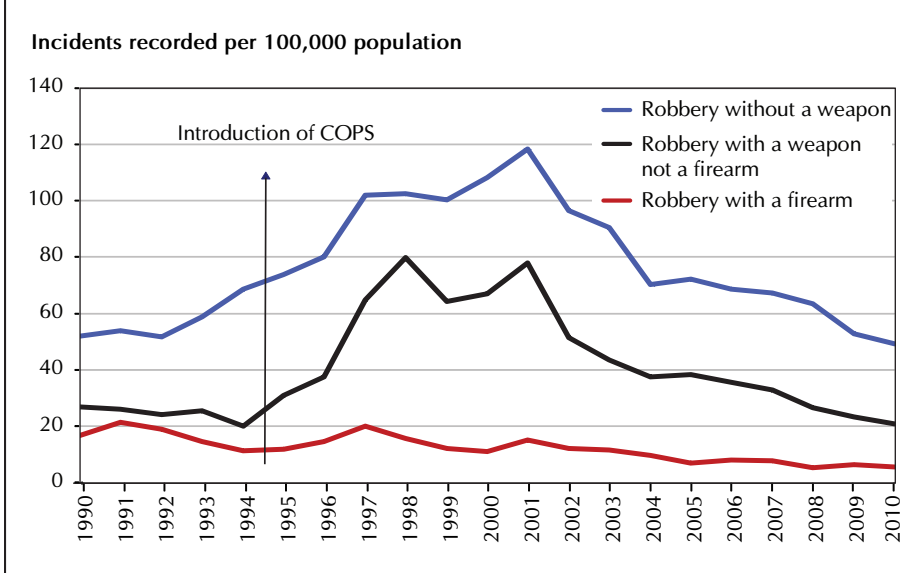
- Recorded rates of *robbery without a weapon* and *robbery with a weapon not a firearm* reflect levels seen around 1990 and continue to show declines (see Figure 4), even though the long-term trends are still registering as statistically stable. A significant and consistent downward trend continues for the NSW rate of *robbery with a firearm* (down by 66% since 1990). The 2010 rate is well below half of the early 1990s rate, when fitted to a linear trend (see Figure 4a).

### Property Crime

Figure 5 shows recorded rates for three major theft categories with significant downward trends: *break and enter dwelling*, *break and enter non-dwelling* and *motor vehicle theft*. The major points to note from this figure are:

- The overall shapes of the graphs for these offences show remarkable similarity. The rates of *motor vehicle theft* and *break and enter non-dwelling* continue to track one another closely as has been the case since the late 1990s. In fact the correlations between all the series in Figure 5 are 0.90 or higher since 1990.
- Recorded rates of *motor vehicle theft* continue to decline significantly (down by 70% since 1990). After a fall in this theft category in the early 1990s the incident rate began to increase from 1993 onwards. From about 1997, the rate of *motor vehicle theft* stabilised at around 800 incidents per 100,000 persons and then dropped sharply from 2001 onwards, having registered a 65% fall since 2000.
- Break and enter dwelling* rates recorded sharp rises in the late 1990s, but since 2001 have been on a monotonic decline as have the rates

**Figure 4: Robbery rate for NSW, 1990-2010**



**Figure 4a: Robbery with a firearm rate for NSW, 1990-2010**

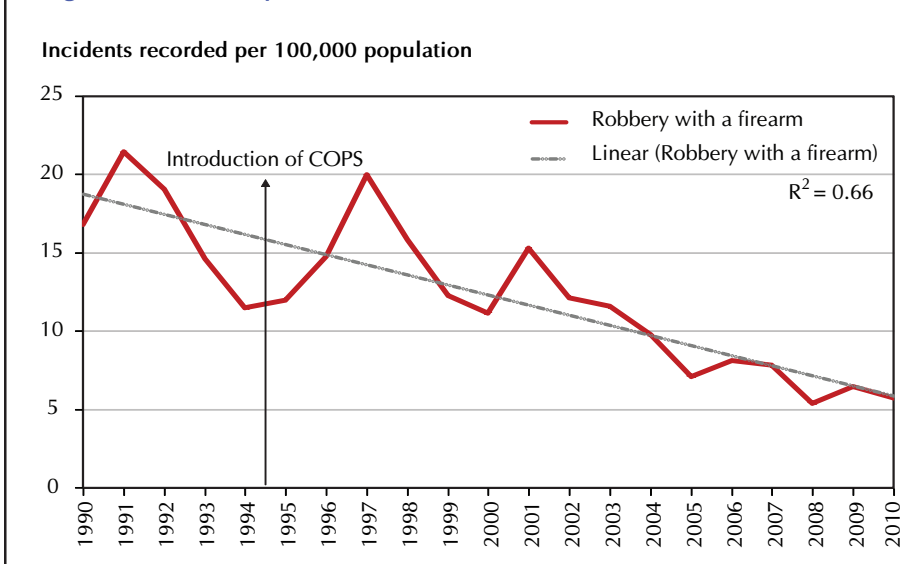
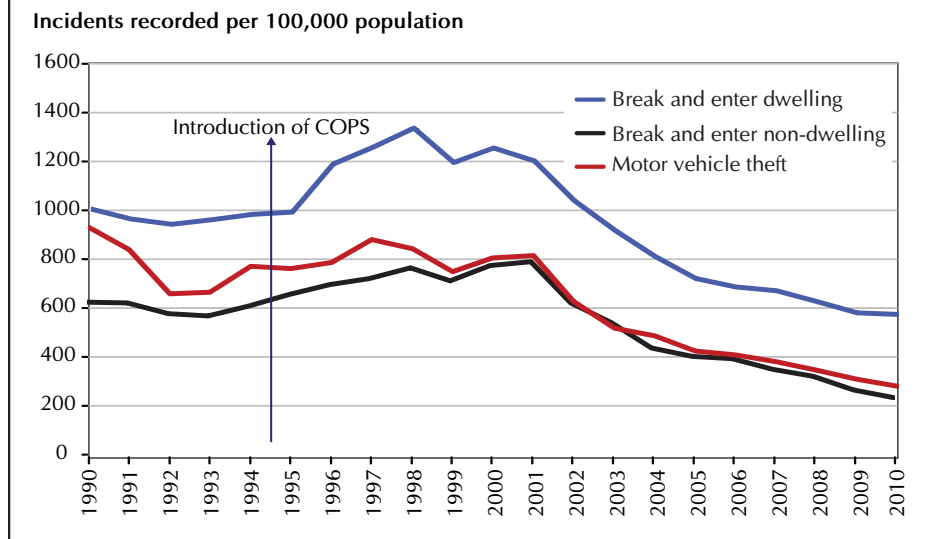


Figure 5: Burglary and motor vehicle theft rate for NSW, 1990-2010



for *break and enter non-dwelling* and *motor vehicle theft*. All three series shown in Figure 5 have more than halved since 2001 and are now well below the recorded 1990 levels. With the addition of the 2010 data, household burglary appears to have stabilised whilst motor vehicle theft and non-household burglary have continued to decline.

the crime did not occur. In which case the incident would be categorised as 'rejected'. Thus recorded crime statistics from August 2008 to the present have not contained 'doubtful' incidents. In order to present a continuous series BOCSAR decided to retrospectively limit recorded crime statistics to only 'accepted' incidents. To do this we removed the 'doubtful' incidents from crime data from January 1995 to August 2008. This resulted in a slight revision of incident counts (and hence rates) from 1995 to 2008 to those reported in earlier versions of this brief. As we are unable to view which incidents were doubtful in the period 1990 to 1994, the series were not adjusted in these years.

## Notes

1. For the rate calculations, population data were obtained from the Australian Bureau of Statistics publication: Regional Population Growth, Australia, 2008-09, Cat. No. 3218.0 (for population estimates 1990 to 2009). As no population estimates were available for 2010 at the time this report was prepared, rates for 2010 were calculated using 2009 population estimates.
2. The offence category *other sexual offences* includes recorded incidents of indecent assault, acts of indecency, grooming / procuring and other sexual offences (e.g. wilful and obscene exposure, peep or pry).
3. Prior to August 2008, if police suspected a criminal incident reported to them did not occur they could record it as 'doubtful'. In the past BOCSAR's recorded crime statistics have included 'accepted' and 'doubtful' incidents. In August 2008 NSW Police removed the 'doubtful' category from COPS, instead directing police officers to categorise these incidents as 'accepted' unless evidence existed to indicate

4. For a criminal incident to be counted in the BOCSAR data for publication it must have a status of 'accepted' in the NSW Police Force Computerised Operational Policing System (COPS).

## References

- Australian Bureau of Statistics 2011, Crime Victimisation Australia, 2009-10, Cat. No. 4530.0, ABS, Sydney.
- Australian Bureau of Statistics 2010, Regional Population Growth, Australia, 2008-09, Cat. No. 3218.0, ABS, Sydney.
- Moffatt S. & Poynton S. 2006, 'Long term trends in property and violent crime in NSW: 1990-2004', *Crime and Justice Bulletin*, no. 90, NSW Bureau of Crime Statistics and Research, Sydney.

## Appendix

**Table A1. Number of criminal incidents recorded by NSW Police by year and offence type**

	<b>Murder<sup>^</sup></b>	<b>Assault</b>	<b>Sexual assault</b>	<b>Other sexual offences</b>	<b>Robbery without a weapon</b>	<b>Robbery with a firearm</b>	<b>Robbery with a weapon not a firearm</b>	<b>Break and enter dwelling</b>	<b>Break and enter non-dwelling</b>	<b>Motor vehicle theft</b>
1990	119	29,776	1,606	2,552	3,022	981	1,568	58,862	36,639	54,488
1991	115	31,014	2,343	2,942	3,173	1,265	1,542	57,155	36,838	49,758
1992	101	31,773	2,220	2,583	3,080	1,132	1,444	56,437	34,754	39,423
1993	110	36,076	2,083	2,646	3,525	877	1,528	58,036	34,379	40,169
1994	83	25,732	1,397	2,908	3,120	522	912	44,850	27,858	35,304
1995	124	38,785	2,345	4,484	4,526	732	1,901	61,004	40,400	47,005
1996	114	48,242	3,134	5,647	4,969	913	2,337	74,019	43,537	49,125
1997	120	53,516	3,721	6,533	6,406	1,251	4,079	79,240	45,468	55,523
1998	105	57,727	3,314	5,462	6,508	1,001	5,067	84,971	48,739	53,719
1999	129	57,515	3,165	4,981	6,431	784	4,134	76,992	45,953	48,295
2000	114	61,571	3,512	5,465	7,030	721	4,354	81,654	50,423	52,510
2001	114	67,816	3,711	5,300	7,787	1,004	5,128	79,342	52,226	53,769
2002	102	70,834	3,754	5,846	6,399	804	3,408	69,248	41,446	41,876
2003	99	70,879	3,863	5,461	6,038	771	2,903	61,503	36,318	34,748
2004	73	68,104	4,155	5,365	4,719	656	2,526	54,745	29,720	32,995
2005	84	69,419	3,938	5,511	4,876	480	2,594	48,887	27,563	28,945
2006	99	70,053	3,797	5,302	4,678	552	2,427	47,031	27,096	28,155
2007	84	71,411	4,052	5,123	4,644	539	2,270	46,642	24,373	26,614
2008	81	71,293	4,145	5,180	4,451	378	1,863	44,312	22,961	24,431
2009	85	69,575	4,386	5,327	3,770	461	1,671	41,588	19,239	22,331
2010	71	67,839	4,492	5,216	3,510	410	1,487	41,215	17,046	20,256

**Table A2. Number of criminal incidents recorded by NSW Police per 100,000 population by year and offence type**

	<b>Murder<sup>^</sup></b>	<b>Assault</b>	<b>Sexual assault</b>	<b>Other sexual offences</b>	<b>Robbery without a weapon</b>	<b>Robbery with a firearm</b>	<b>Robbery with a weapon not a firearm</b>	<b>Break and enter dwelling</b>	<b>Break and enter non-dwelling</b>	<b>Motor vehicle theft</b>
1990	2.0	511.0	27.6	43.8	51.9	16.8	26.9	1010.2	628.8	935.1
1991	1.9	525.8	39.7	49.9	53.8	21.4	26.1	968.9	624.5	843.5
1992	1.7	533.2	37.3	43.3	51.7	19.0	24.2	947.1	583.2	661.6
1993	1.8	600.8	34.7	44.1	58.7	14.6	25.4	966.5	572.5	668.9
1994	1.8	566.1	30.7	64.0	68.6	11.5	20.1	986.8	612.9	776.7
1995	2.0	633.0	38.3	73.2	73.9	11.9	31.0	995.7	659.4	767.2
1996	1.8	777.5	50.5	91.0	80.1	14.7	37.7	1,192.9	701.7	791.7
1997	1.9	852.6	59.3	104.1	102.1	19.9	65.0	1,262.4	724.4	884.6
1998	1.7	910.7	52.3	86.2	102.7	15.8	79.9	1,340.4	768.9	847.4
1999	2.0	897.1	49.4	77.7	100.3	12.2	64.5	1,200.9	716.7	753.3
2000	1.8	949.3	54.1	84.3	108.4	11.1	67.1	1,258.9	777.4	809.6
2001	1.7	1,031.4	56.4	80.6	118.4	15.3	78.0	1,206.7	794.3	817.8
2002	1.5	1,068.6	56.6	88.2	96.5	12.1	51.4	1,044.6	625.2	631.7
2003	1.5	1,062.2	57.9	81.8	90.5	11.6	43.5	921.7	544.3	520.8
2004	1.1	1,015.4	61.9	80.0	70.4	9.8	37.7	816.2	443.1	491.9
2005	1.2	1,027.4	58.3	81.6	72.2	7.1	38.4	723.6	408.0	428.4
2006	1.5	1,027.8	55.7	77.8	68.6	8.1	35.6	690.0	397.5	413.1
2007	1.2	1,034.2	58.7	74.2	67.3	7.8	32.9	675.5	353.0	385.4
2008	1.2	1,016.3	59.1	73.8	63.5	5.4	26.6	631.7	327.3	348.3
2009	1.2	975.2	61.5	74.7	52.8	6.5	23.4	582.9	269.7	313.0
2010	1.0	950.9	63.0	73.1	49.2	5.7	20.8	577.7	238.9	283.9

<sup>^</sup> For murder, the number shown is the number of recorded victims rather than criminal incidents