

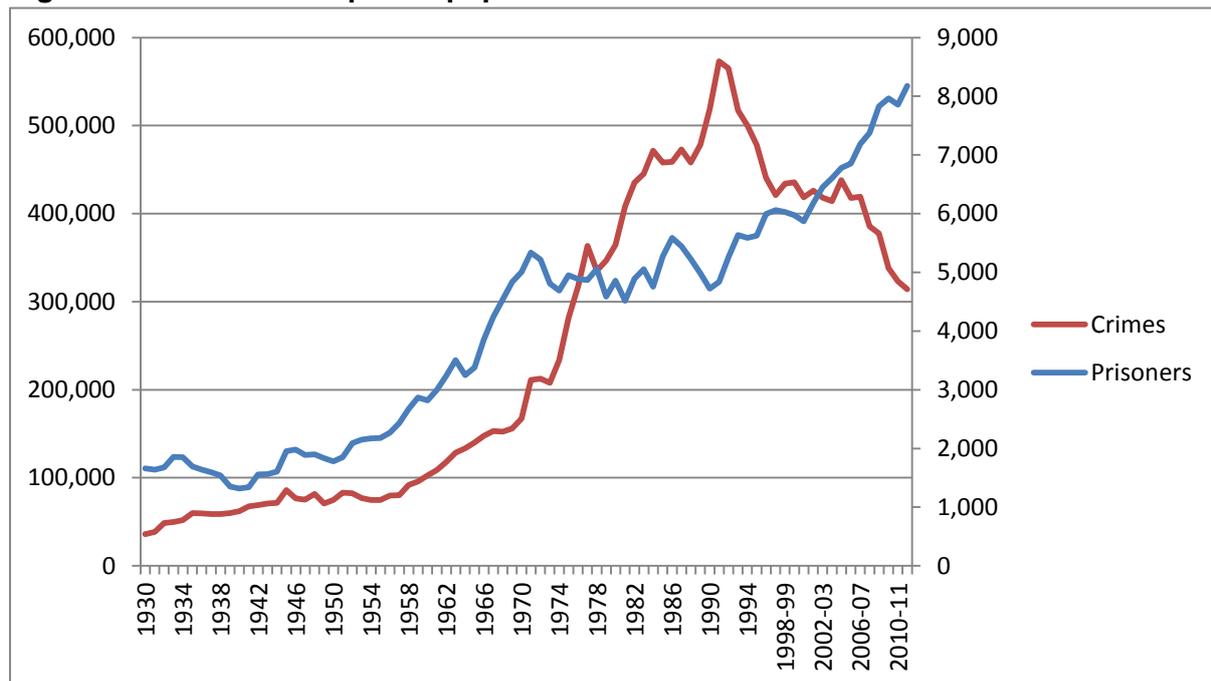
## CRIME AND IMPRISONMENT

### IF CRIME IS FALLING, WHY IS THE PRISON POPULATION STILL RISING?

#### 1. Background

As can be seen from the chart below, the overall level of recorded crime has fallen dramatically in Scotland since 1991. However, as can be seen from figure 1, the prison population has continued to rise:

**Figure 1: Crime and the prison population**



This raises an obvious question: if crime is falling, why is the prison population still rising? This paper attempts to answer this question via modelling the various influences on the prison population, of which crime is only one factor – and not necessarily the most important factor. The analysis suggests that the rise in the prison population has been driven primarily by improvements in clear-up rates, and increases in the severity of sentencing for certain crime types.

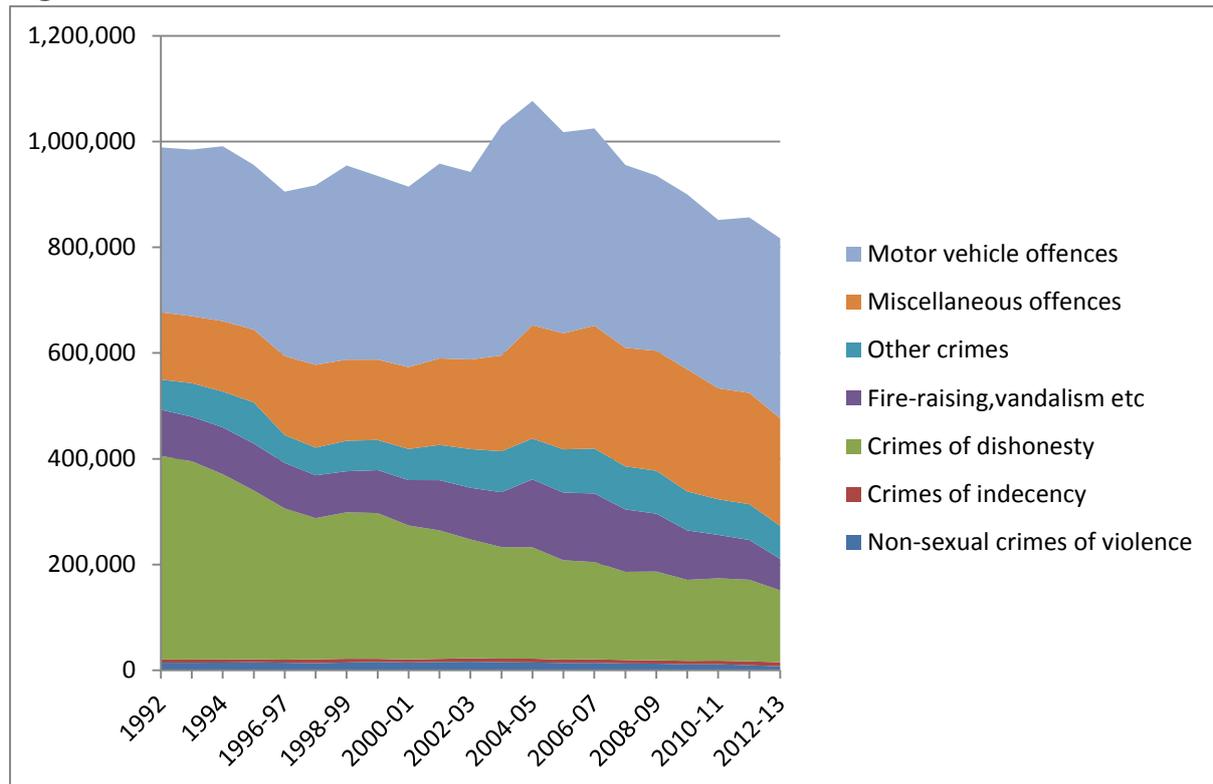
#### 2. Have all crimes and offences been falling?

Looking in more detail at the breakdown of crimes and offences, figure 2 shows that the fall in crime over this period was particularly driven by a drop in crimes of dishonesty. This was, however, offset by increases in “other crimes” (e.g. handling an offensive weapon and drugs offences) and miscellaneous offences, so the total number of crimes *and offences*<sup>1</sup> did not start falling until the mid-2000s.

Nevertheless, if anything the rise in the prison population has been accelerating since the mid-2000s rather than falling, so the basic conundrum still remains.

<sup>1</sup> Generally speaking, “offences” (e.g. speeding, breach of the peace, etc) are less serious than “crimes”.

**Figure 2: Breakdown of crimes and offences**



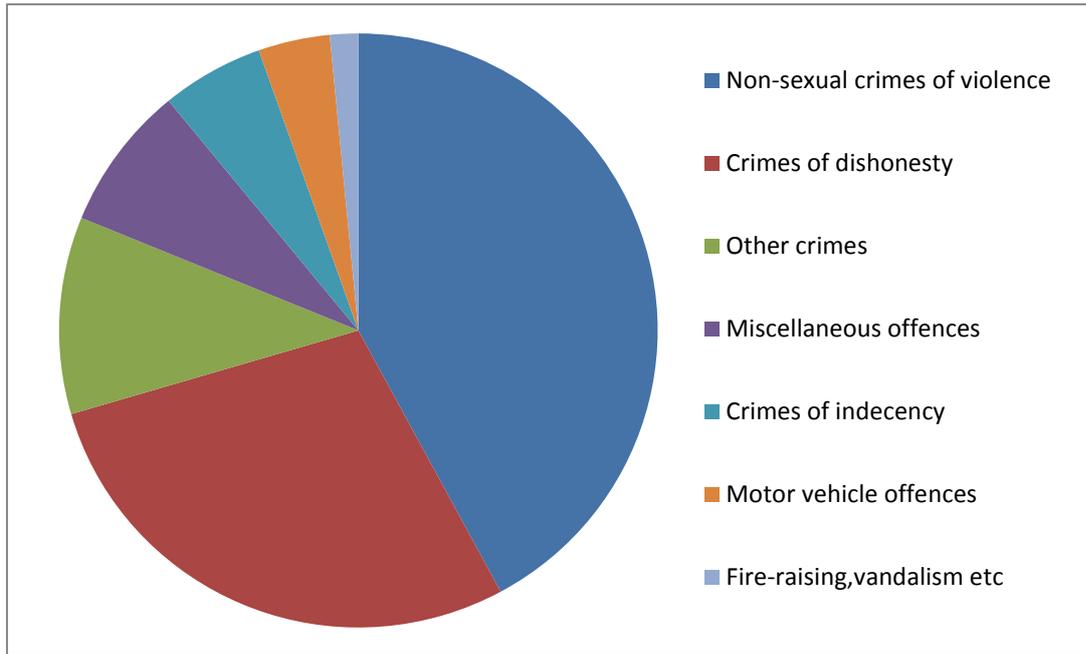
### 3. Which crime types matter most?

From a prison population perspective, changes in low-level crimes and offences such as speeding and minor incidents of vandalism are of relatively little consequence, as few people are incarcerated for such offences and typically sentence lengths are relatively short. Conversely, non-sexual crimes of violence and crimes of indecency represent a very small proportion of overall crime, but a much larger proportion of the total prison population.

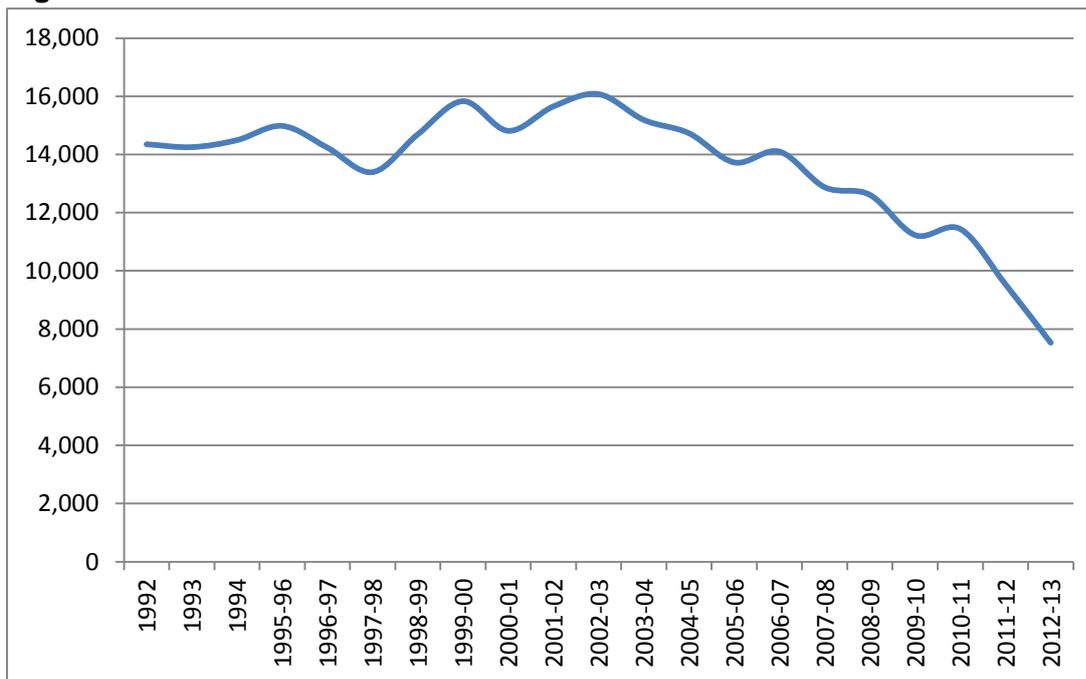
In 1992, the average daily prison population was 5,257. Figure 3 shows that non-sexual crimes of violence formed the largest group, followed by crimes of dishonesty and “other crimes”. So, clearly trends in non-sexual crimes of violence are will be particular importance in this analysis.

As can be seen in figure 4, non-sexual crimes of violence have halved since 2002-03. So, the rising prison population cannot be explained by an increase in more serious crimes and offences – quite the opposite. This would suggest that *all other things being equal* we should have seen a significant drop in the prison population over this period, particularly since the mid 2000s.

**Figure 3: Prison population breakdown in 1992**



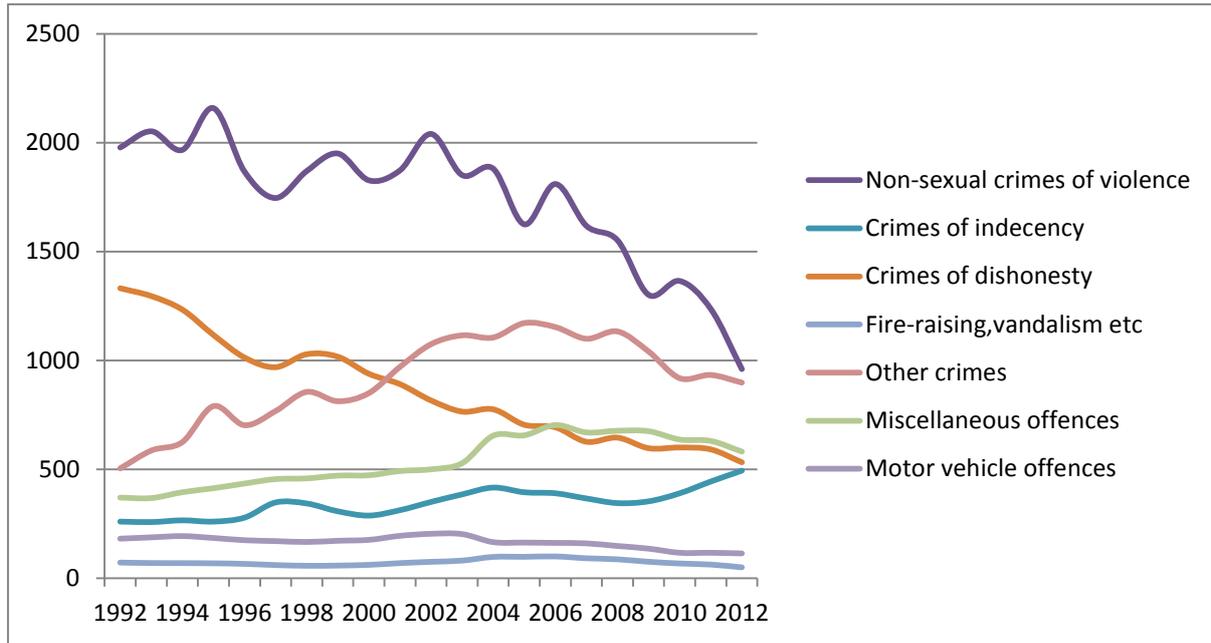
**Figure 4: Trends in non-sexual crimes of violence**



#### **4. Modelling the prison population based solely on crime trends**

In order to examine this issue in more detail, a fairly simple model of the prison population was created. Taking the prison population in 1992 as a starting point, firstly we modelled (on a crime-by-crime basis) what would have happened to the prison population if recorded crimes/offences had fallen as per figure 2, and everything else (e.g. sentencing patterns) remained static.

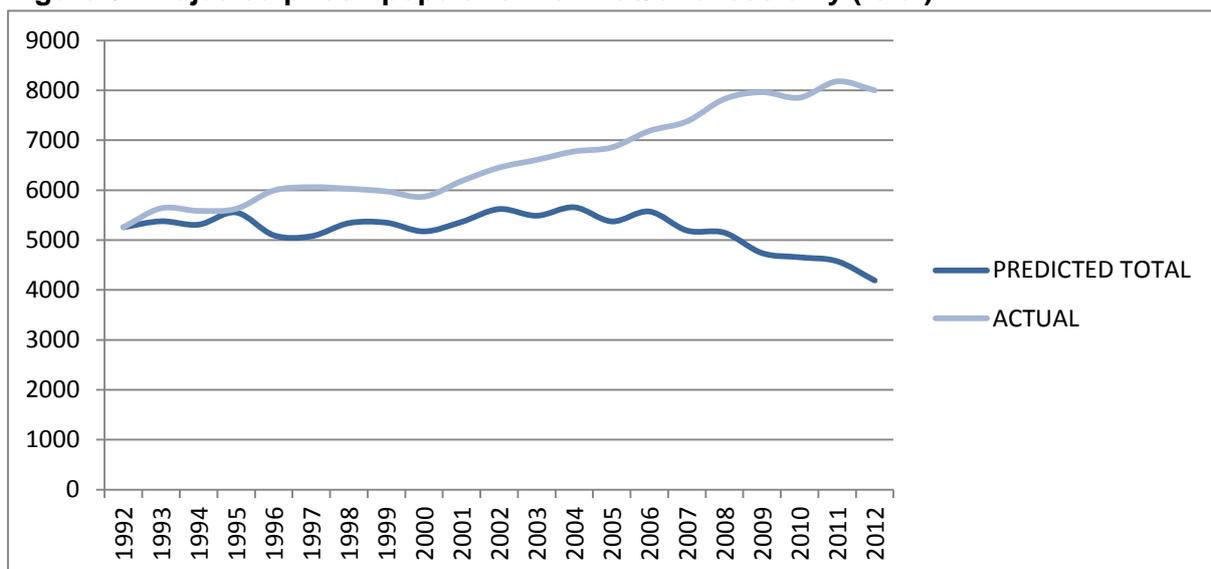
**Figure 5: Projected prison population: crimes/offences only (disaggregated)**



As can be seen from figure 5, if crime was the only influence on the prison population then we should have seen a significant drop in the number of prisoners convicted of non-sexual crimes of violence and crimes of dishonesty. However, to some extent this would have been offset by increases in other crimes (notably drug trafficking), other offences (notably common assault), and crimes of indecency (notably rape and attempted rape).

Overall, though, we would have anticipated a fall in the prison population to around 4000 by 2012. However, the actual number of prisoners in this year was around 8,000 – see figure 6:

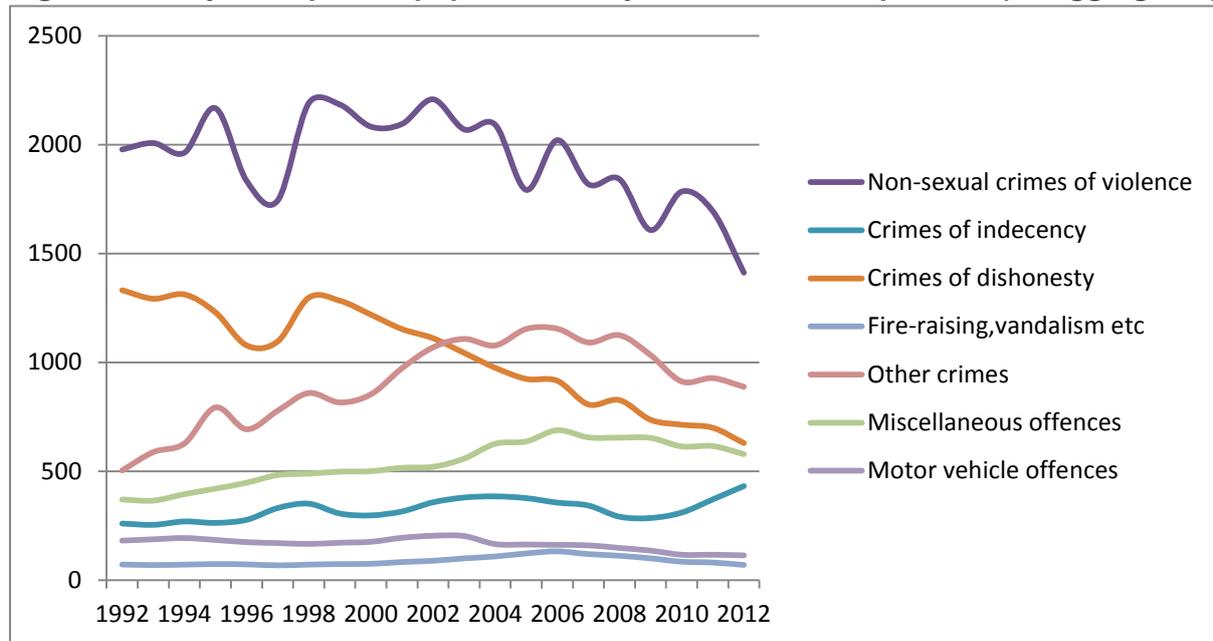
**Figure 6: Projected prison population: crimes/offences only (total)**



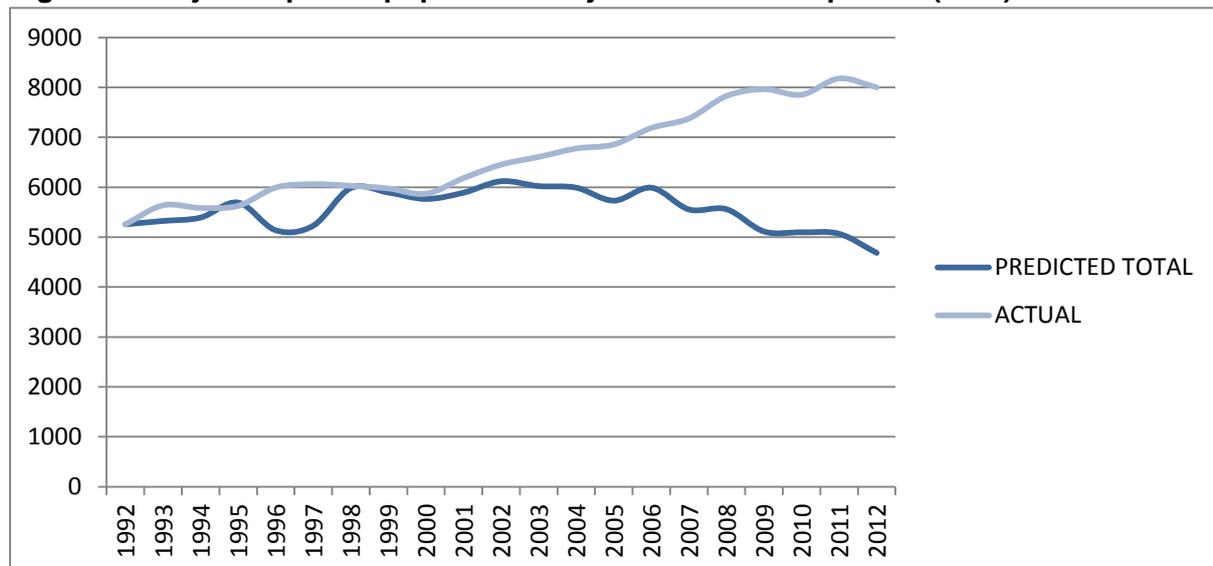
## 5. Adjusting the figures for changes in clear-up rates

However, we know that various aspects of the criminal justice system have not in fact been static. Firstly, there has been a significant improvement in clear-up rates over this period, particularly for non-sexual crimes of violence such as robbery. Clearly this could have an upward influence on the number of people coming to the attention of the courts and potentially facing a custodial sentence. Factoring this in to the model affects the trends as shown in figures 7 and 8:

**Figure 7: Projected prison population: adjusted for clear-up rates (disaggregated)**



**Figure 8: Projected prison population: adjusted for clear-up rates (total)**



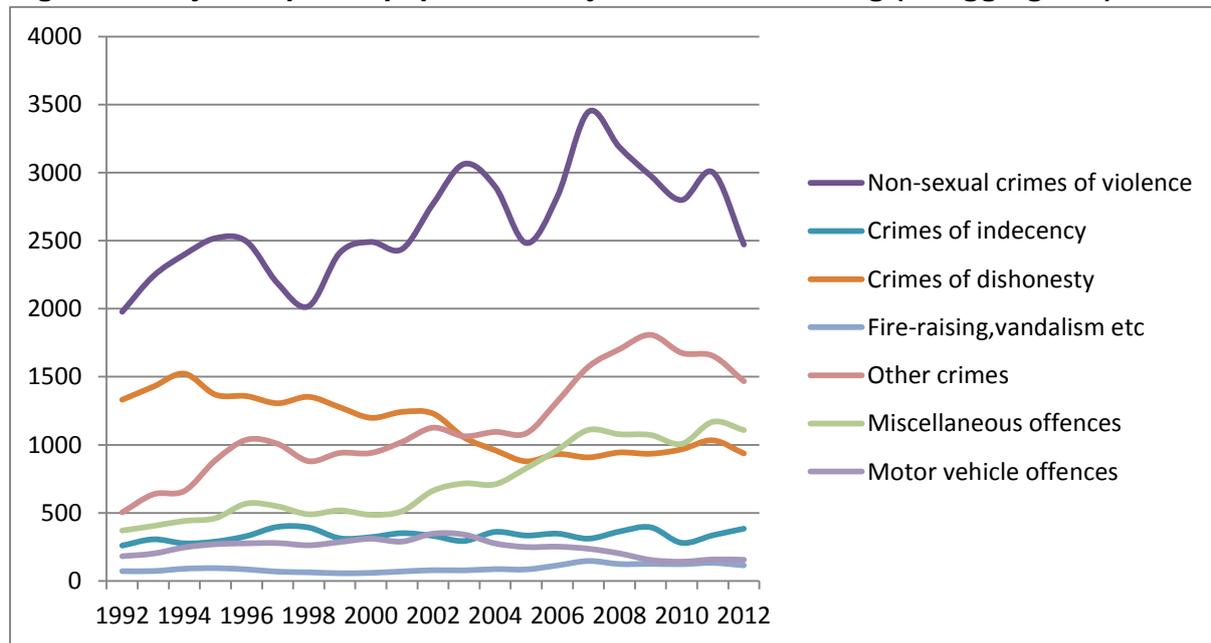
Once this has been factored in, the apparent discrepancy between the actual figures and the modelled population only becomes significant in the mid 2000s, when violent crime started to fall significantly.

## 6. Adjusting the figures for sentencing policy and practice

In addition, there have been some significant shifts in sentencing policy and practice over this period. In particular, a higher proportion of those convicted in court are now given custodial sentences for a particular crime than was the case in the early 1990s<sup>2</sup>. Secondly, custodial sentences have generally become longer, particularly for certain types of crime such as handling an offensive weapon.

As can be seen in figure 9, allowing for shift in sentencing has quite a dramatic impact on the figures – particularly non-sexual crimes of violence, other crimes, and miscellaneous offences:

**Figure 9: Projected prison population: adjusted for sentencing (disaggregated)**

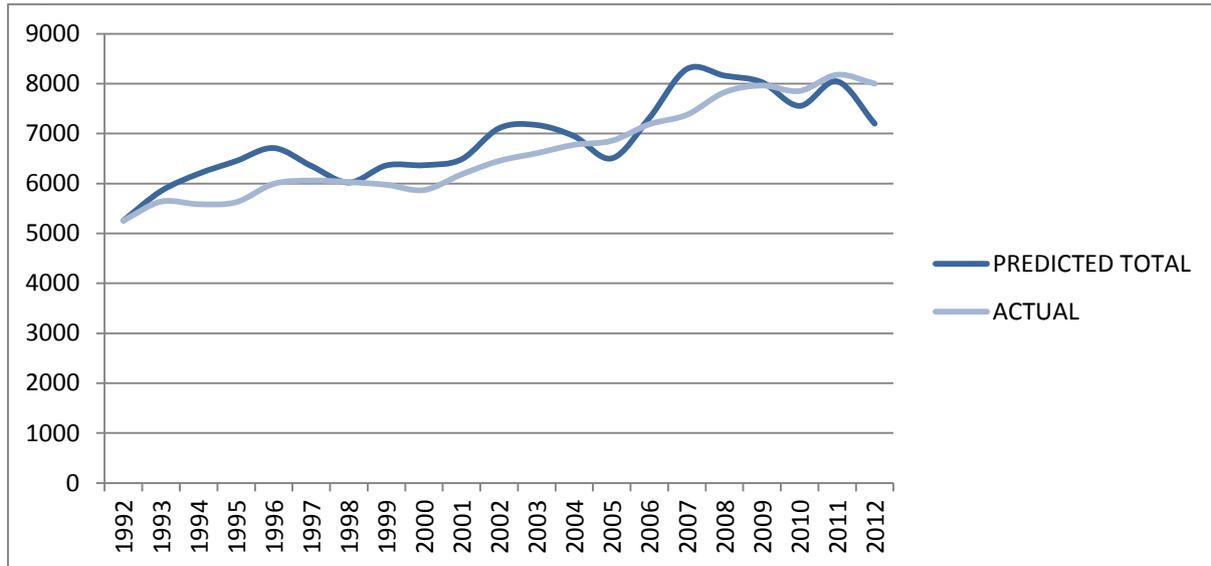


“Other crimes” and miscellaneous offences now become the second and third largest components of the prison population, overtaking crimes of dishonesty.

Also, as can be seen in figure 10 below, the gap between the actual and projected prison population has now almost completely disappeared.

<sup>2</sup> This remains the case even after taking account of the increased use of non-court disposals for less serious crimes and offences (as proxied by changes in the ratio between the number of cleared-up crimes, and the number of court convictions for each crime type)

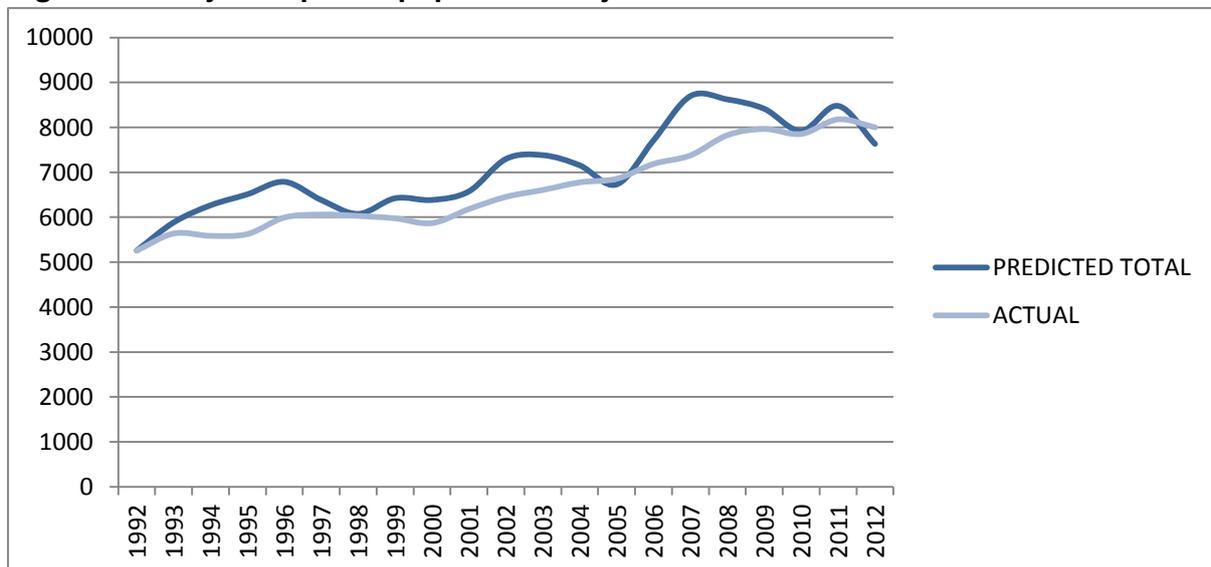
**Figure 10: Projected prison population: adjusted for sentencing (total)**



**7. Adjusting the figures for remand, recall, and lagged effects**

Finally, the increase in use of remand and the increase in the recall population over this period has had a relatively small, but significant impact on the total prison population<sup>3</sup>. This accounts for the final element of the shortfall in the projections – see figure 11.

**Figure 11: Projected prison population: adjusted for remand and recall**



It is also worth noting that when there is a change in crime, clear-up rates, or patterns of sentencing, this can have quite a long-lasting influence on the prison population, particularly where it affects longer sentences. For example, if the

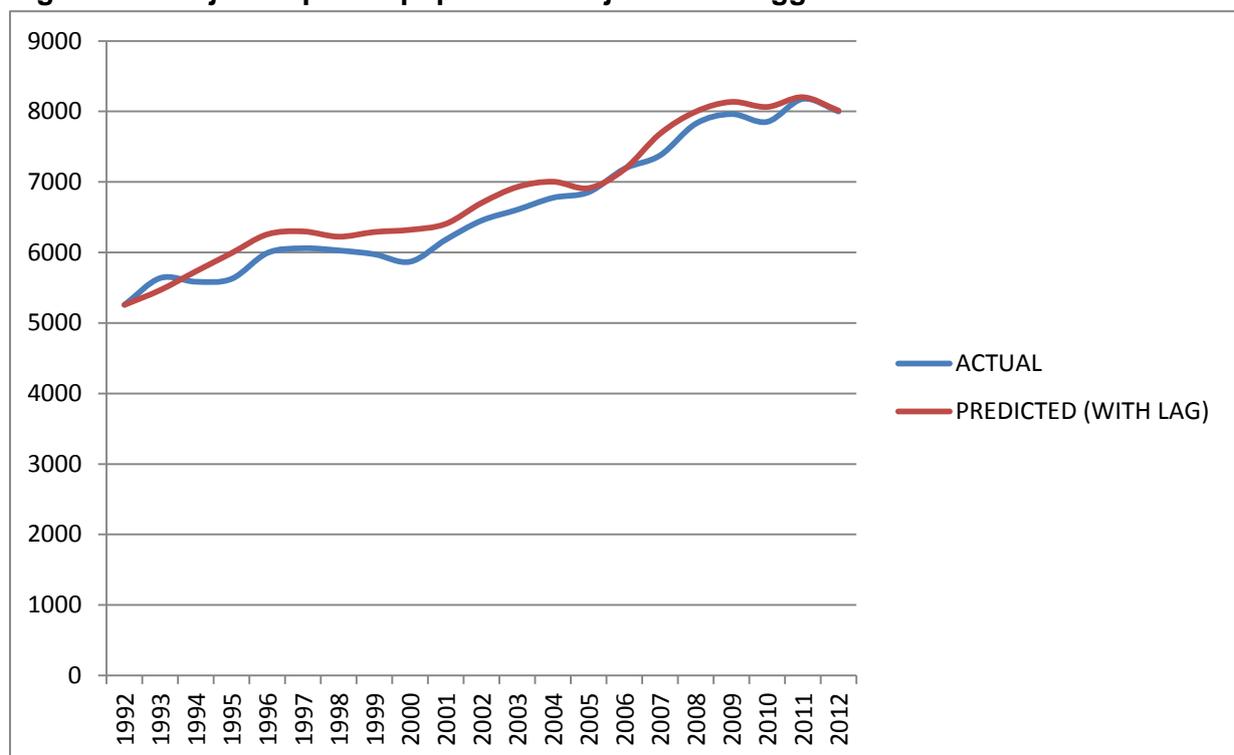
<sup>3</sup> Although there is now quite a large number of such prisoners in absolute terms, the net impact on the prison population is somewhat less significant because a) time already served on remand is taken into account when sentencing and b) prisoners are generally recalled for reoffending rather than purely technical breach, which is already taken into account in the crime-based element of the projections.

average term for a life sentence suddenly increased from 10 to 20 years, it would take 20 years for the full effect of the change to be felt.

One potentially important issue here is that over most of the modelled period, the predicted total has been higher than the actual total, which suggests that changes in policy and practice in previous years might have had a continuing upward pressure in subsequent years.

Figure 12 below attempts to allow for these lagged effects, and suggests that we may now have reached an “equilibrium” population – though of course it is difficult to accurately foresee what effect future changes in policy and practice might have on the prison population.

**Figure 12: Projected prison population: adjusted for lagged effects**



## 8. Influence of individual factors

Figure 13 below attempts to isolate the impact of changes in the clear-up rate for certain crimes. For most crimes and offences, there has been little change in the clear-up rate. However, there have been significant increases in the clear up rate for crimes such as attempted murder and serious assault, robbery, housebreaking, and theft of a motor vehicle. As these types of offences frequently result in custodial sentences, this will have put upward pressure on the prison population (all other things being equal).

**Figure 13: Projected prison population: clear-up rate only**

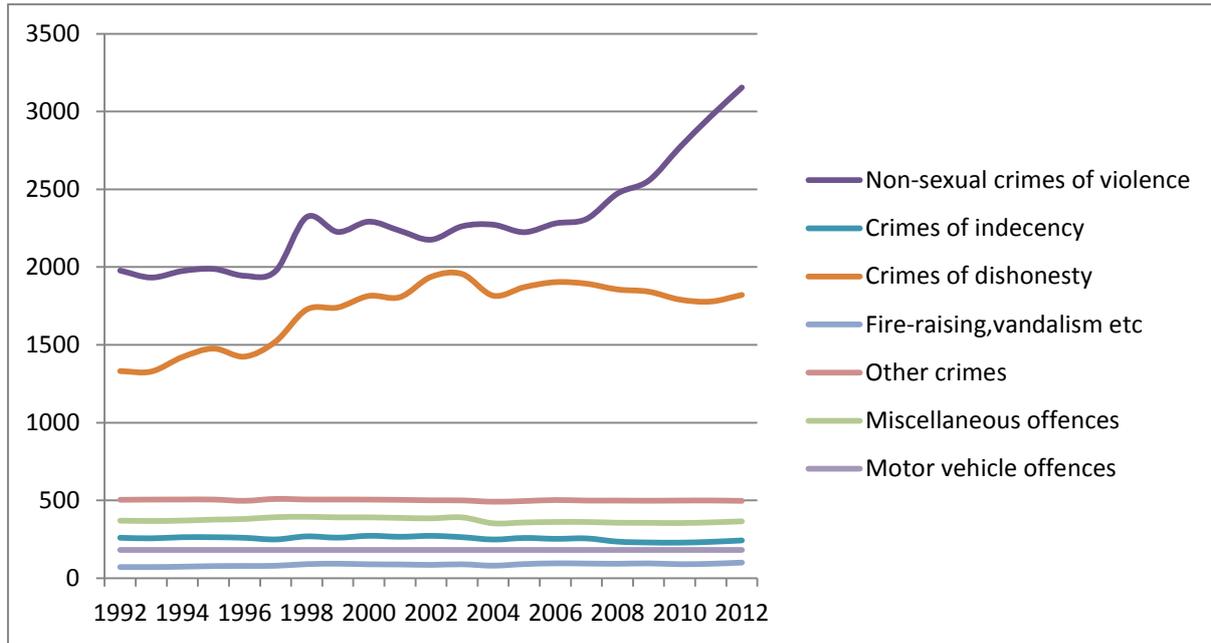
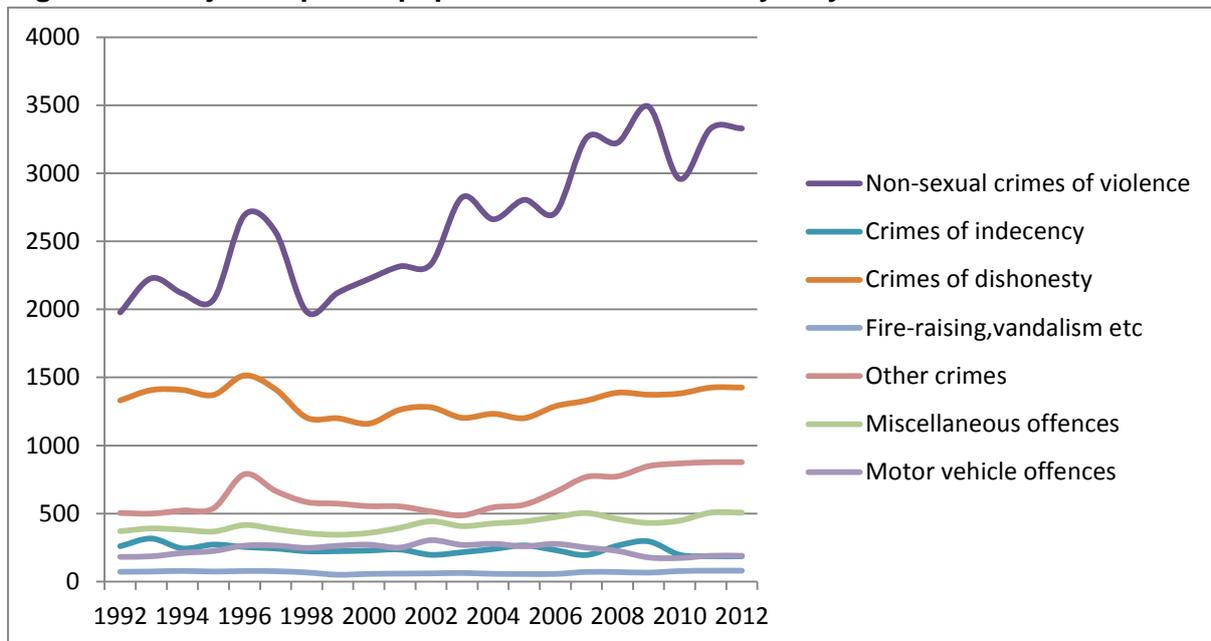


Figure 14 below attempts to isolate the impact of changes in the likelihood of people receiving a custodial sentence for a given crime. This chart needs to be treated with some caution as changes in practice and procedures can influence apparent trends<sup>4</sup>, but overall it is clear that there has been a significant increase in the use of custodial sentences for most crime types, particularly crimes such as handling an offensive weapon, drugs, and assault.

**Figure 14: Projected prison population: use of custody only**

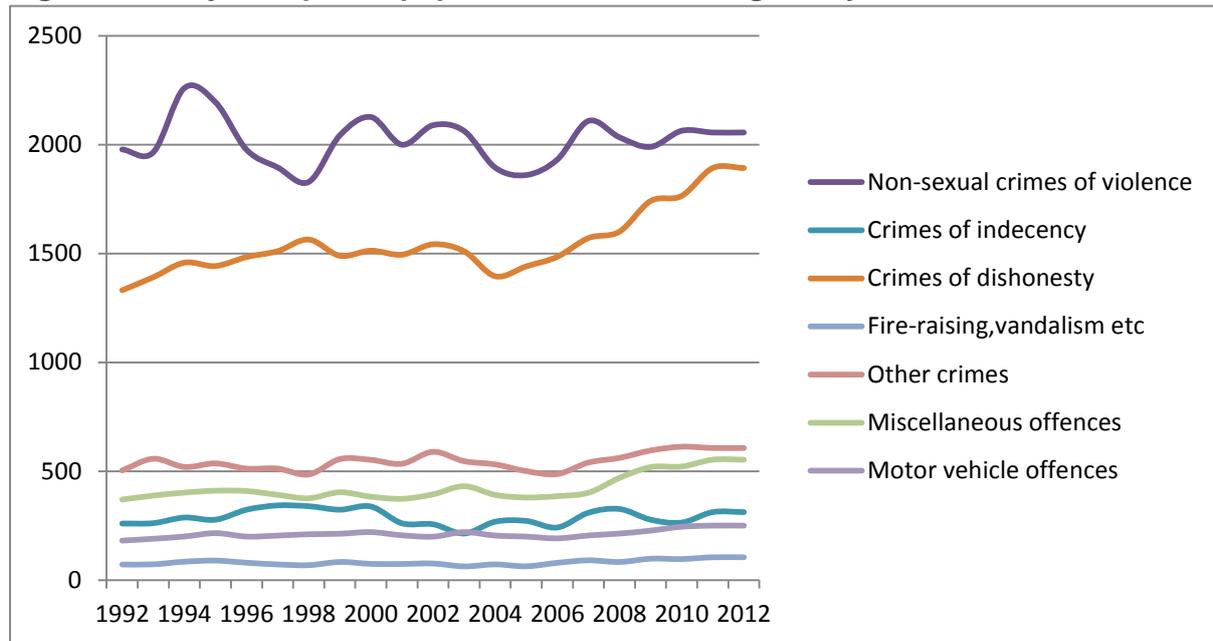


<sup>4</sup> As far as possible the model allows for increases in the use of non-court disposals, but there have also been some changes to recording practices over time. This means, for example, that an offence that was originally classified as serious assault by the police might ultimately have resulted in a conviction for common assault. As recording practices have become more consistent, this has become less of an issue over time.

Figure 15 below attempts to isolate the effect of changes in custodial sentence lengths. In general, these increases tend to be fairly gradual and long-term, but nevertheless they can have a significant impact on the prison population in the longer-term.

For example, average sentence lengths for housebreaking have increased by over 50% over this period, and sentence lengths for handling an offensive weapon have almost trebled.

**Figure 15: Projected prison population: sentence length only**

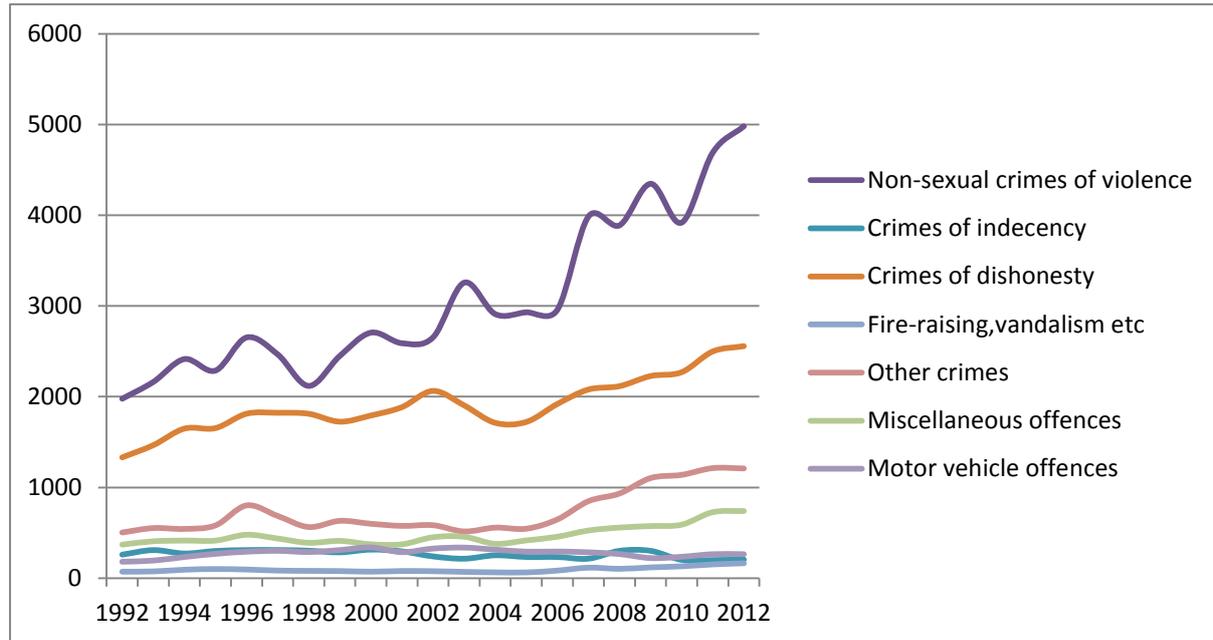


### 9. What would have happened if crime hadn't fallen?

Figure 16 below illustrates what would have happened if crime had remained static throughout the entire period, but the observed changes in clear-up rates, sentencing etc. had still occurred.

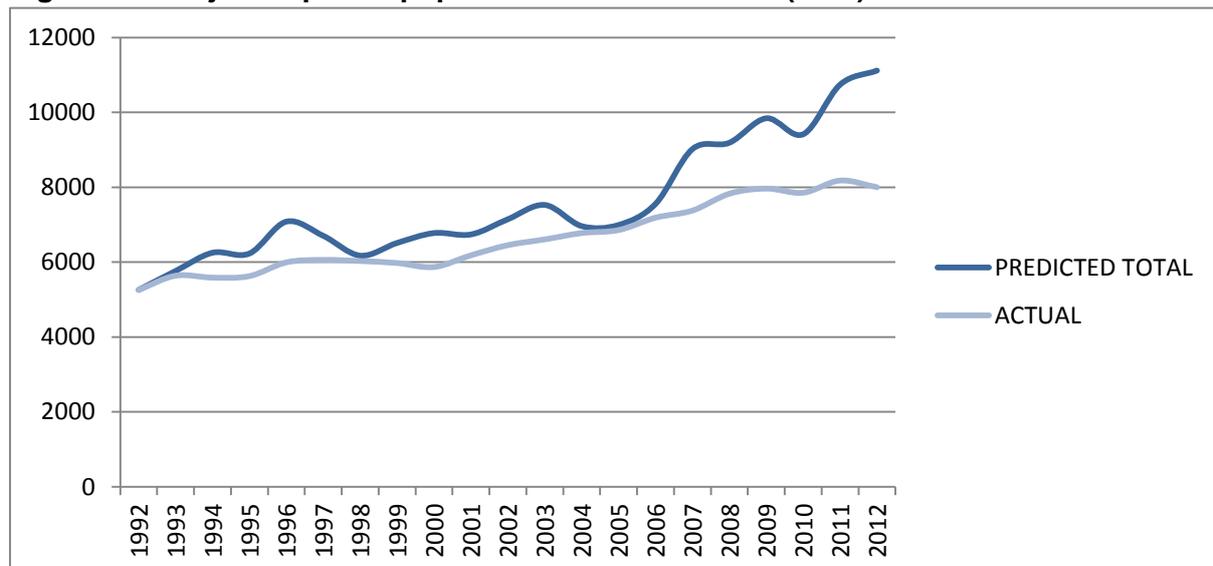
As can be seen, the prison population convicted of non-sexual crimes of violence would have risen quite dramatically, as would the number of people convicted for crimes of dishonesty. There would also have been significant increases (certainly in proportionate terms) for relatively low-level crimes and offences such as common assault, breach of the peace, and handling an offensive weapon.

**Figure 16: Projected prison population: no fall in crime (disaggregated)**



The overall impact on the prison population is illustrated in figure 17:

**Figure 17: Projected prison population: no fall in crime (total)**



This analysis suggests that if crime had not fallen, the total prison population would have *doubled* over this period, with a particularly rapid increase since 2005. Seen in this light, it is hardly surprising that the prison population has continued to rise. In essence, this analysis suggests that the prison population has grown in recent years because of changes in criminal justice policies, legislation, practice and procedures – and not because of changes in offending behaviour.

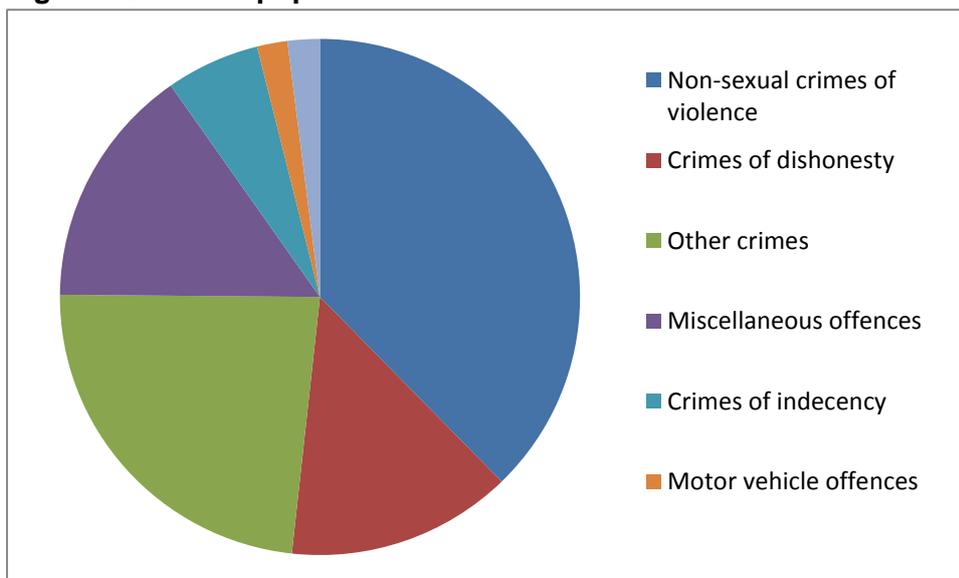
**Peter Conlong**  
**Justice Analytical Services**  
**September 2013**

**Footnote: could the rise in the prison population have *caused* the fall in crime?**

Self-evidently, if an offender is in prison they will not be able to offend – the so-called incapacitation effect. However, the increase in the prison population over this period was around 3000. Given that there were around 41,000 individual offenders in 2011-12, it seems implausible to argue that incapacitating a relatively small additional proportion of the offending population could have led to the significant falls in crime that have been observed, even after taking into account the fact that ex-prisoners tend to be more prolific than other offenders.

Also, comparing the two pie charts (figure 3 and figure 18 below) it can be seen that where recorded crime has been falling (e.g. non-sexual crimes of violence and crimes of dishonesty), the prison population has also been falling. Conversely, where crime has been rising (e.g. crimes of indecency, miscellaneous offences, and other crimes), the prison population has also been rising. This suggests that crime influences the prison population, rather than vice-versa.

**Figure 18: Prison population breakdown in 2012-13**



That said, theory and evidence does tend to suggest that increases in the perceived likelihood and severity of punishment should have some influence on offending behaviour, through deterrence effects (though the evidence tends to suggest that increases in the likelihood of punishment is more important than the severity of punishment). This tends to suggest that increases in clear-up rates and the certainty/severity of punishment might have had an influence on certain crime types, rather than prison per se.