

UPDATED AND REVISED PRISON POPULATION PROJECTIONS 2005 – 2011

England and Wales

10/05

Nisha de Silva, Paul Cowell, Terence Chow

July 2005

KEY POINTS

This bulletin presents updated and revised projections of the prison population in England and Wales spanning June 2005 – June 2011. For this update, scenarios, sentencing trends and all policy assumptions including those for the Criminal Justice Act 2003 remain the same as those used in the projections published in January 2005 (HOSB 01/05, "Prison Population Projections 2005-2011, England and Wales").

These projections are based on:

- updated data, including prison reception, discharge and population data up to May 2005;
- revised and corrected data capture programs and projected distributions following a comprehensive review of the short-term projection model.

The prison populations indicated by the high and low scenarios are:

Projected prison population (end of June figures)

YEAR	High	Low
2005	76,600	76,110
2006	79,490	76,060
2007	84,260	76,670
2008	87,870	77,310
2009	89,400	77,080
2010	91,500	77,380
2011	90,780	76,520

The Research, Development and Statistics Directorate exists to improve policy making, decision taking and practice in support of the Home Office purpose and aims, to provide the public and Parliament with information necessary for informed debate and to publish information for future use.

Statistical Bulletins are produced by the Research, Development and Statistics Directorate. For further copies contact:

www.homeoffice.gov.uk/rds

INTRODUCTION

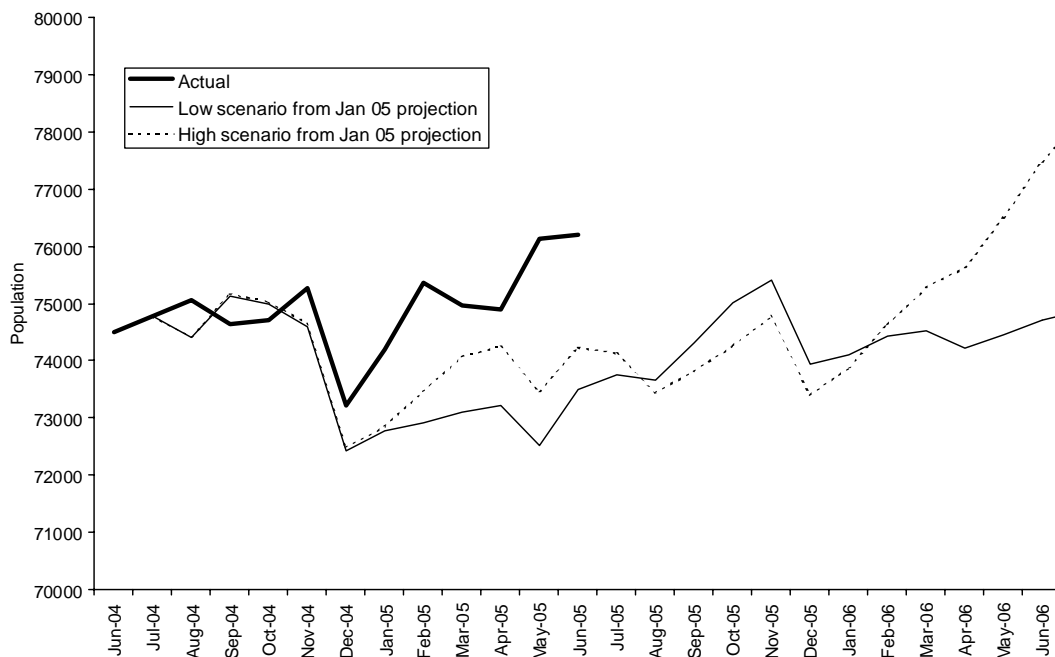
1. Prison population projections are regularly monitored to track significant divergences of the actual prison population from that projected. When a significant departure is observed over a sustained period of time a new projection is published to reflect current trends and changes to processes. A significant departure of the actual prison population from the projected prison populations published in January 2005 (HOSB 01/05, "Prison Population Projections 2005-2011, England and Wales") was observed in recent months. The actual prison population at end June 2005 stood 1,962 above the High scenario and 2,692 above the Low scenario of the projection. This update addresses some of the issues that contributed to this divergence. A full update will take place when sufficient monitoring data becomes available.

FACTORS CONTRIBUTING TO THE DIVERGENCE

2. The projections published in January 2005 were based on a starting point of June 2004, a time when stability was seen in the prison population for a sustained period of time. Thus the actual prison reception, discharge and population data included in the January 2005 published projection did not reflect the change in trends of receptions and discharges that has been observed in recent months.

3. Since mid-February 2005, a significant divergence between the actual prison population and the projections published in January 2005 was observed. At the end of March 2005, the projected values were between 890 (or 1.2%) and 1,865 (or 2.5%) below the actual total prison population. By the end of June 2005, the projected values were between 1,962 (or 2.6%) and 2,692 (or 3.5%) below the actual total prison population. Chart 1 below shows the actual prison population in relation to January 2005 published projections.

Chart 1: Actual prison population and January 2005 published projections (short term, June 2004- June 2006)



4. A comprehensive review of the model used for the short-term population projections has resulted in some revisions to the data captured and the distributions used. Technical enhancements have been made to the short term projections model and its data capture programs to include data from updated databases and ensure that all relevant data are included in the model distributions. These enhancements have also meant that the computation of time served by prisoners within the short-term projection model has been refined to take account of most recent release patterns. A full list and detail of enhancements made is in Annex 1.

RECENT TRENDS IN THE PRISON POPULATION

5. At the time of the previous projection (June 2004), the total prison population had been stable, with monthly total population figures changing by less than 0.6% of their average value in the first half of 2004. Stable custody rates, numbers sentenced and average custodial sentence lengths, particularly for adult males at the Crown Court were contributing factors.

6. The total population at the end of June 2005 was 76,190, 2% higher than the corresponding time in 2004 [1]. In that period, the total male population increased by 2% and the total female population increased by 1% (although the absolute difference for the female population, 62, is small and may not be significant). The remand population increased by 3%, which was a greater increase than the 2% increase seen in the sentenced population. The population of young people in prison (aged under 21) was stable only increasing by 12 (or 0.1%) [1].

7. In contrast to the general stability seen in the early part of 2004, custody rates for all courts for the final quarter of 2004 show an increase of 1.2 percentage points compared with a year earlier [1]. The average custodial sentence length also shows an increase of 6.1% to 17.1 months. Counterbalancing these increases, a steady decline in the total number of offenders sentenced was observed in 2004 [2].

8. Since April 2005, there has been a marked continuous increase in the remand population of untried prisoners. It is not certain how long this population might continue to increase; therefore, the effect is not modelled in the current projections.

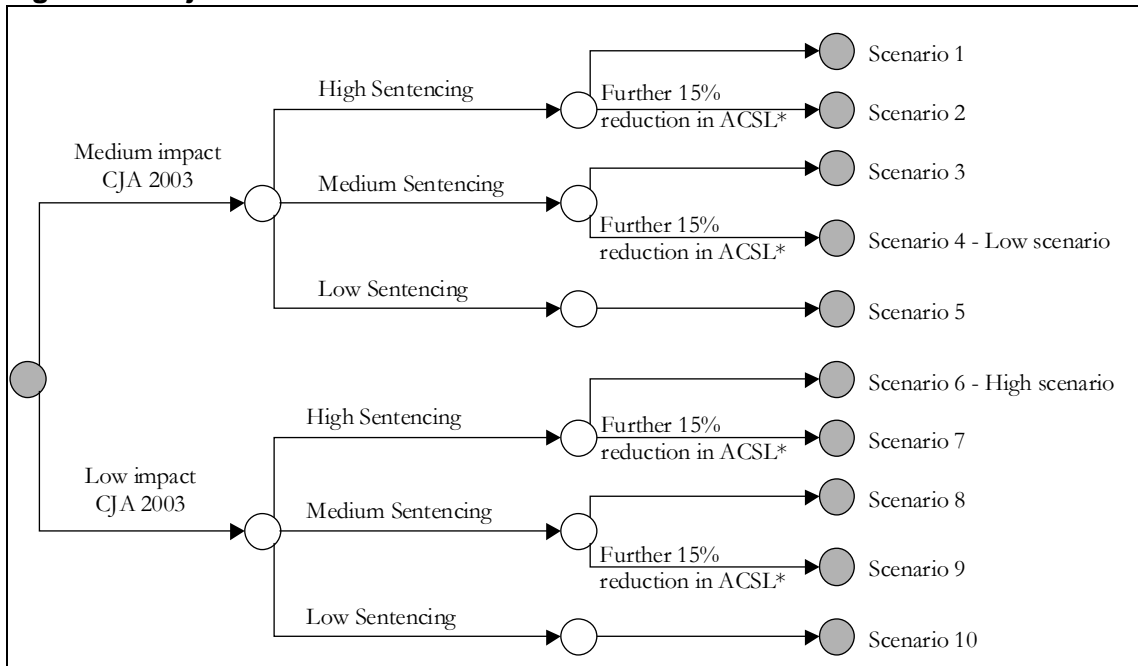
SCENARIOS AND ASSUMPTIONS

9. This update has identical scenarios and assumptions on sentencing trends, Criminal Justice Act 2003 impacts and other legislative impacts to those used in the January 2005 published projections. Thus, ten scenarios modelled take account of combinations of the following:

- three different views of future sentencing trends, i.e., changes in custody rates and average custodial sentence lengths;
- two different views of the CJA 2003, i.e., medium impact and low impact; and
- achieving or not achieving a further 15% reduction in average custodial sentence lengths on sentences of 1 year or more through the activities of the Sentencing Guidelines Council (SGC) and measures other than those included in the CJA 2003.

10. The scenario tree presented in Figure 1 below illustrates the ten scenarios modelled. Further detail on the scenarios is available in the “Prison Population Projections 2005-2011, England and Wales” (HOSB 01/05).

Figure 1: Projections Scenario Tree



* A reduction of 15% in Average Custodial Sentence Length (ACSL) brought about by the influence of the Sentencing Guidelines Council, in addition to the underlying sentencing trend (high, medium or low).

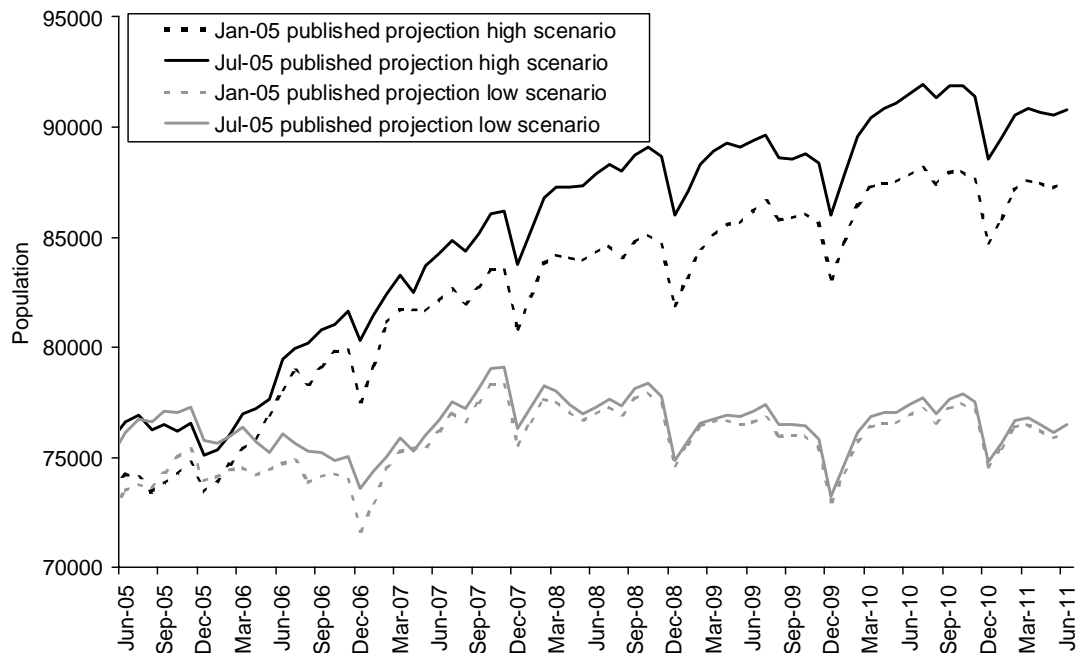
11. The range of the ten scenarios is encompassed within a ‘High’ projection and a ‘Low’ projection. The High projection reflects a scenario that represents the low impact of the CJA 2003 coupled with a high sentencing trend. The Low projection reflects a scenario that represents the medium impact behaviour of the CJA 2003 coupled with the medium sentencing trend and a further 15% reduction in average sentence lengths. The choice of the high and low scenario is based on the highest and lowest projected in the long term forming the upper and lower bounds of these projections.

12. A full update of the projections would address all underpinning sentencing and policy assumptions of the projections and the scenarios to be projected. A full update will take place when sufficient monitoring data becomes available for the new sentences as a result of the implementation of the Criminal Justice Act of 2003 (CJA 03).

THE PROJECTIONS

13. Annex 2 of this bulletin presents the projected prison population figures for all ten scenarios modelled (Table 1). Tables 2 (i) & (ii) in Annex 2 present further breakdowns of the projected population by gender and the sub-populations of remand, sentenced and non-criminal categories for the High and Low scenarios of the projection. The difference between these updated projections and those published in January 2005 is illustrated in Chart 2 below.

Chart 2: High and Low scenarios of the January 05 and July 05 published projections



14. Compared to the January 2005 published projection:

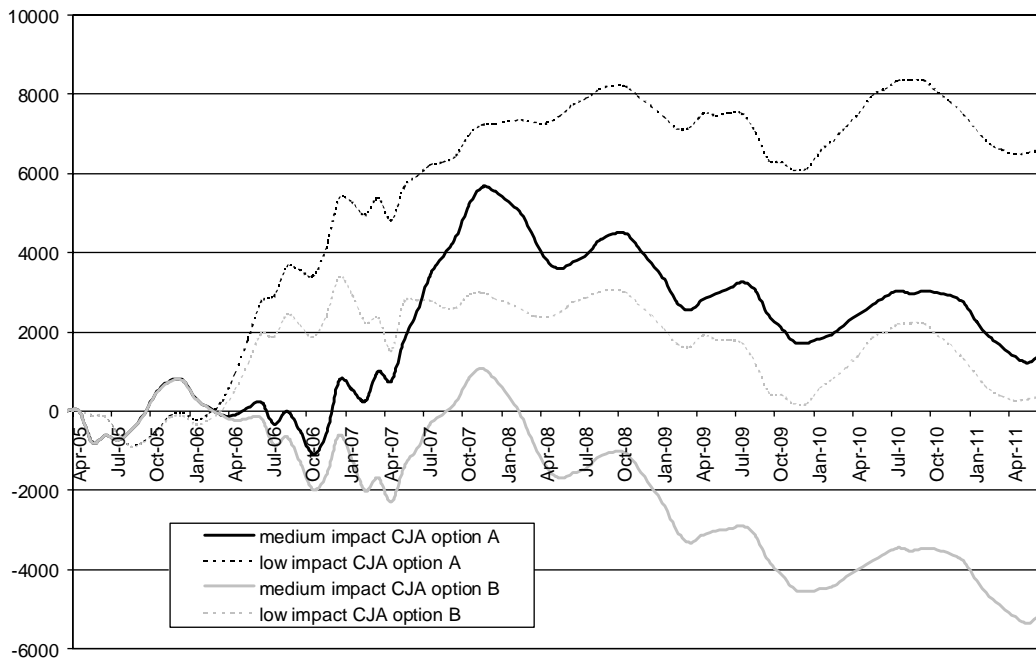
- the High scenario of the new projection is approximately 1,400 higher by June 2006 in the short term and approximately 3,300 higher by June 2011 in the long term;
- the Low scenario of the projection is approximately 1,300 higher by June 2006 and approximately 400 higher by June 2011.

IMPACT OF LEGISLATIVE MEASURES

15. The legislative measures included in these projections are identical to those included in the projections published in January 2005. The impacts of the CJA 2003 (medium impact and low impact) including that for Narrowing the Justice Gap¹ that would be relevant to these projections are illustrated in Chart 3 below.

¹ Narrowing the Justice Gap (NJG) is also referred to as “bringing more offences to justice”.

Chart 3: Impacts of the CJA 2003 including NJG on the prison population



INFLUENCES ON PROJECTION BEHAVIOUR

16. The projections are heavily influenced by their underlying assumptions. On occasions the assumptions made for the CJA 2003 will affect general seasonal effects seen in prison populations. This brings an element of uncertainty to the populations projected. In particular, the prison population in general drops in December only to recover to its previous level by March the following year. The projected populations presented here show the expected fall in December 2005. However, the population stays at the lower level for the first half of 2006. The reason for this is that the measures of the Criminal Justice Act 2003 commenced in April 2005 start to have an impact on the prison population after December 2005. The Christmas period with its extreme seasonal variation is difficult to model. It is possible that the effects of the Criminal Justice Act measures may be spread over a longer period of time and the “usual” recovery in prison population may be observed early in 2006. Thus, the projections should be regarded as potentially more uncertain in the period January to April 2006. After 2006, other measures in the CJA 2003 (such as sentences for public protection) are expected to increase the prison population.

17. The early months of the projections are when the first effects of the Criminal Justice Act 2003 will be evident. The modelling of these effects relies on opinions canvassed in the summer of 2004. It is only when sufficient monitoring data become available for the new sentencing framework introduced by this Act that these assumptions could be thoroughly assessed. Many of the measures of the CJA 2003 came into effect in April 2005. These apply to those committing offences on or after 4th April 2005. Many of the changes introduced in the CJA 2003 are long-term in nature, e.g., affecting those on long sentences. Therefore, it will be a significant length of time before measurable effects can be seen. For example, full impacts of measures that have long term effects such as indeterminate sentences for public protection are likely to take 5 years to build up to their full impact.

18. These projections are governed by behavioural influences that result from sentencing trends and legislative impacts. Looking at the time span from June 2005 – June 2011, the following general periodic influences can be observed:

- impacts of the CJA 2003 (including Narrowing the Justice Gap) dominates the behaviour of all projected scenarios in the short term;
- for those scenarios that assume a 15% reduction in average sentence lengths for sentences of 1 year or more, this assumption dominates the behaviour of the projected scenarios in the medium to long term;
- for those scenarios that do not assume a 15% reduction in average sentence lengths for sentences of 1 year or more, the sentencing trend dominates the behaviour of projected scenarios in the long term.

Charts 1 – 4 in Annex 2 present further scenarios that illustrate the above.

20. The difficulty with projecting the prison population is that past trends are not a reliable guide for the future. Although the assumptions attempt to cover likely trends in sentencing and the impact of legislation, the actual behaviour of sentencers and other key players in the Criminal Justice System may turn out to be different in practice or affected by future events including media coverage and public debate. The projections, therefore, can easily fluctuate between $\pm 2\%$ and $\pm 3\%$ of estimated.

ACKNOWLEDGEMENTS

Acknowledgement is made of the following groups for their input to these projections:

- All RDS NOMS colleagues who input to the projections process
- Office for Criminal Justice Reform (CJS Modelling)
- NOMS units: Sentencing Policy and Penalties Unit; DSPD Project Unit; Planning and Finance Unit; Re-balancing Sentencing Unit, Estates Planning and Development
- Prison Service: Planning Group
- Sentencing Guidelines Council Secretariat

REFERENCES

- [1] Population in custody monthly tables May 2005 England and Wales: June 2005, Home Office Internet only publication.
- [2] Sentencing statistics quarterly brief October to December 2004 (magistrates' courts) and January to March 2005 (Crown Court) England and Wales: June 2005, Home Office Internet only publication.
- [3] Prison Population Projections 2005-2011, England and Wales, Home Office Statistical Bulletin 01/05: January 2005.

CONTACTS

This bulletin has been prepared by RDS NOMS of the Home Office Research, Development and Statistics Directorate. All queries should be directed to: rdsnomsstatistics@homeoffice.gsi.gov.uk

NOMS projections web site is at: <http://www.homeoffice.gov.uk/rds/nomsproj.html>
The RDS Internet site is at: <http://www.homeoffice.gov.uk/rds/index.htm>

ISBN: 1 84473 663 6

RESEARCH DEVELOPMENT AND STATISTICS DIRECTORATE **MISSION STATEMENT**

RDS is part of the Home Office. The Home Office's purpose is to build and safe, just and tolerant society in which the rights and responsibilities of individuals, families and communities are properly balanced and the protection and security of the public are maintained.

RDS is also part of National Statistics. One of the aims of National Statistics is to inform Parliament and the citizen about the state of the nation and provide a window on the work and performance of government, allowing the impact of government policies and actions to be assessed.

ANNEX 1 — ENHANCEMENTS TO THE MODELLING

Discharges in the short-term model

1. Revisions to the computer code used to extract data from the prisons database have led to improved counting of prisoners who spent most of their sentences as sentenced prisoners (rather than on remand). This had a larger effect on the population of those sentenced to 1 to 4 years than on other sentence-length bands.
2. The distributions of time served are calculated from historic data (May 2004 to April 2005), and used for the whole of the two-year short-term projection. The time served for certain groups of prisoners had significantly changed by the start of the projection (May 2005) as compared to the average time served of the historical data. This was due to the following:
 - an increase in time served for adult males sentenced to between 1 to 3 years;
 - a decrease in time served for young males sentenced to less than 6 months;
 - a decrease in time served for young females and a decrease in time served for adult females sentenced to between 1 to 4 years.

The modelling was corrected for this effect.

3. The modelling of those who are expected to be released from current populations on HDC has been improved.
4. Changes to the computer codes have improved calculations based on the expected release dates of prisoners currently in custody. This change affects the earlier part of the projection but the effect is small.
5. A new method has been used for calculating the month-to-month variation in the population because of changes in discharge days. The new method leads to an increase in the estimate of the prison population.

Receptions in the short-term model

6. Retrospective reception figures are used to estimate future receptions. Improvements in the computer code for extracting past receptions and more detailed analysis of the trends have improved this part of the model.

Impact factors for the CJA 2003

7. The impact factors for the CJA 2003 (from the CJS Model) have been treated differently. They have been recalculated so that they apply to the sentenced population only, as this was a more accurate application of the CJA 2003 assumptions underpinning the projections. The net effect is that the impacts are greater (i.e., more extreme). This leads to a greater disparity between the low and medium CJA impact scenarios.

ANNEX 2 — PROJECTION OUTPUTS

Table 1: Table of figures for projections

Projected prison population at end June each year										
Medium impact CJA 2003					Low impact CJA 2003					
High sentencing		Medium sentencing		Low sentencing	High sentencing		Medium sentencing		Low sentencing	
Option A	Option B	Option A	Option B	Option A	Option A	Option B	Option A	Option B	Option A	
Scenario	1	2	3	4	5	6	7	8	9	10
2005	76,120	76,120	76,110	76,110	76,090	76,600	76,600	76,580	76,580	76,570
2006	76,710	75,930	76,470	76,060	76,230	79,490	78,430	79,000	78,180	78,750
2007	80,800	77,630	80,140	76,670	79,170	84,260	81,050	83,560	80,410	82,520
2008	83,820	78,710	82,650	77,310	80,980	87,870	82,740	86,620	81,630	84,840
2009	84,850	78,930	83,160	77,080	80,830	89,400	83,470	87,600	81,860	85,080
2010	86,080	79,700	83,870	77,380	80,900	91,500	85,110	89,110	82,970	85,880
2011	85,440	78,930	83,120	76,520	79,670	90,780	84,260	88,270	82,020	84,520

* 2004 figure corresponds to actual population as at end June 2004.

Scenario 4 is the low scenario, scenario 6 is the high scenario.

Average projected prison population (financial year)										
Medium impact CJA 2003					Low impact CJA 2003					
High sentencing		Medium sentencing		Low sentencing	High sentencing		Medium sentencing		Low sentencing	
Option A	Option B	Option A	Option B	Option A	Option A	Option B	Option A	Option B	Option A	
Scenario	1	2	3	4	5	6	7	8	9	10
2005/2006	76,300	76,260	76,230	76,220	76,160	76,090	76,020	76,000	75,940	75,930
2006/2007	76,550	75,050	76,240	75,170	75,920	80,460	78,650	79,890	78,320	79,560
2007/2008	82,430	78,450	81,620	77,400	80,450	85,010	81,020	84,190	80,250	82,970
2008/2009	83,930	78,610	82,600	77,070	80,730	87,970	82,630	86,560	81,370	84,560
2009/2010	84,220	78,170	82,400	76,200	79,900	88,800	82,730	86,840	80,990	84,150
2010/2011	85,670	79,270	83,440	76,930	80,320	90,940	84,530	88,520	82,360	85,130

Scenario 4 is the low scenario, scenario 6 is the high scenario.

Table 2 (i) & (ii): Breakdown of projected population for High and Low scenarios

Note: The components within tables may not add to the total as where appropriate they have been rounded independently.

TABLE (i)	HIGH SCENARIO									
	Remand			Sentenced			Non-criminal	Total		
YEAR	Male	Female	Total	Male	Female	Total	Total	Male	Female	Total
2005	12,080	990	13,070	58,850	3,560	62,410	1,120	72,000	4,600	76,600
2006	12,080	990	13,070	61,680	3,630	65,300	1,120	74,830	4,660	79,490
2007	13,070	1,070	14,140	65,080	3,830	68,910	1,200	79,310	4,950	84,260
2008	13,480	1,100	14,580	68,070	3,990	72,070	1,230	82,730	5,150	87,870
2009	13,520	1,110	14,630	69,490	4,050	73,540	1,230	84,190	5,210	89,400
2010	13,680	1,120	14,810	71,320	4,140	75,460	1,240	86,190	5,320	91,500
2011	13,440	1,100	14,540	70,930	4,100	75,030	1,210	85,530	5,250	90,780

TABLE (ii)	LOW SCENARIO									
	Remand			Sentenced			Non-criminal	Total		
YEAR	Male	Female	Total	Male	Female	Total	Total	Male	Female	Total
2005	12,080	990	13,070	58,380	3,540	61,920	1,120	71,540	4,570	76,110
2006	12,080	990	13,070	58,450	3,430	61,870	1,120	71,600	4,460	76,060
2007	11,970	980	12,950	59,170	3,450	62,620	1,100	72,200	4,470	76,670
2008	11,960	970	12,930	59,820	3,460	63,290	1,100	72,830	4,480	77,310
2009	11,800	960	12,750	59,810	3,440	63,250	1,080	72,640	4,440	77,080
2010	11,760	950	12,720	60,150	3,440	63,600	1,070	72,940	4,440	77,380
2011	11,530	930	12,460	59,610	3,400	63,010	1,050	72,150	4,380	76,520

Chart 1: Projections — Medium impact CJA 2003 scenarios

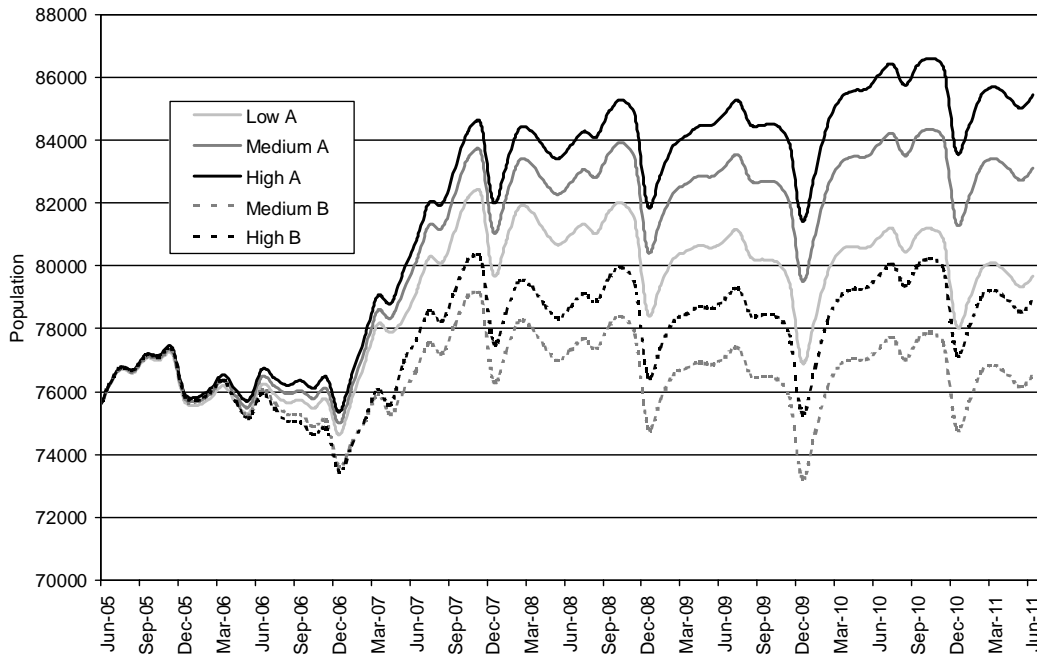


Chart 2: Projections — Low impact CJA 2003 scenarios

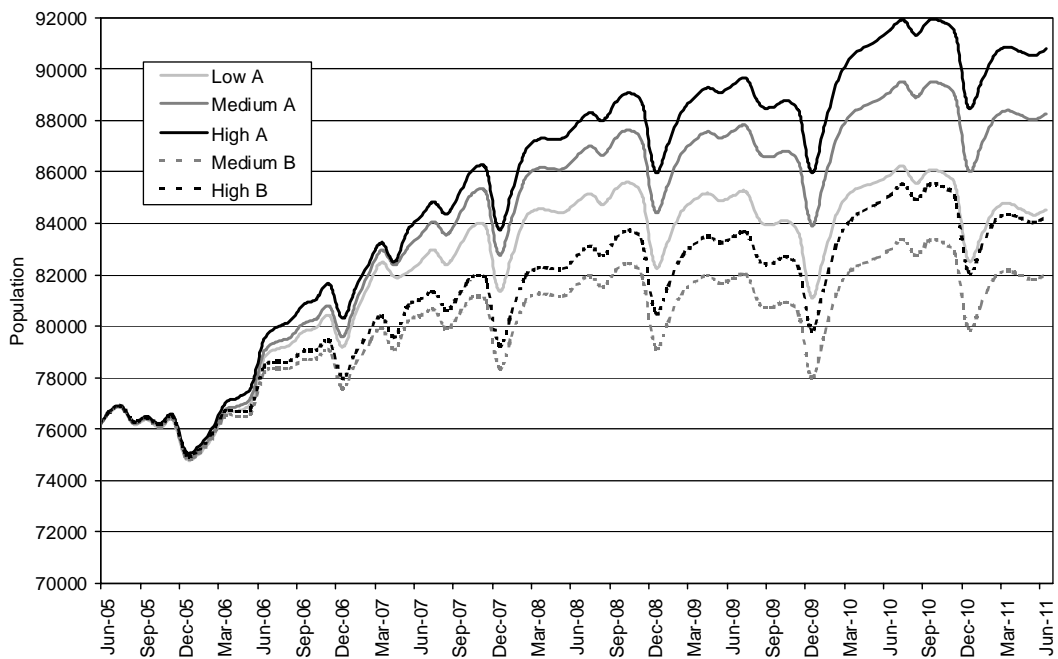


Chart 3: Medium impact CJA 2003 — effects of sentencing trends only and CJA only

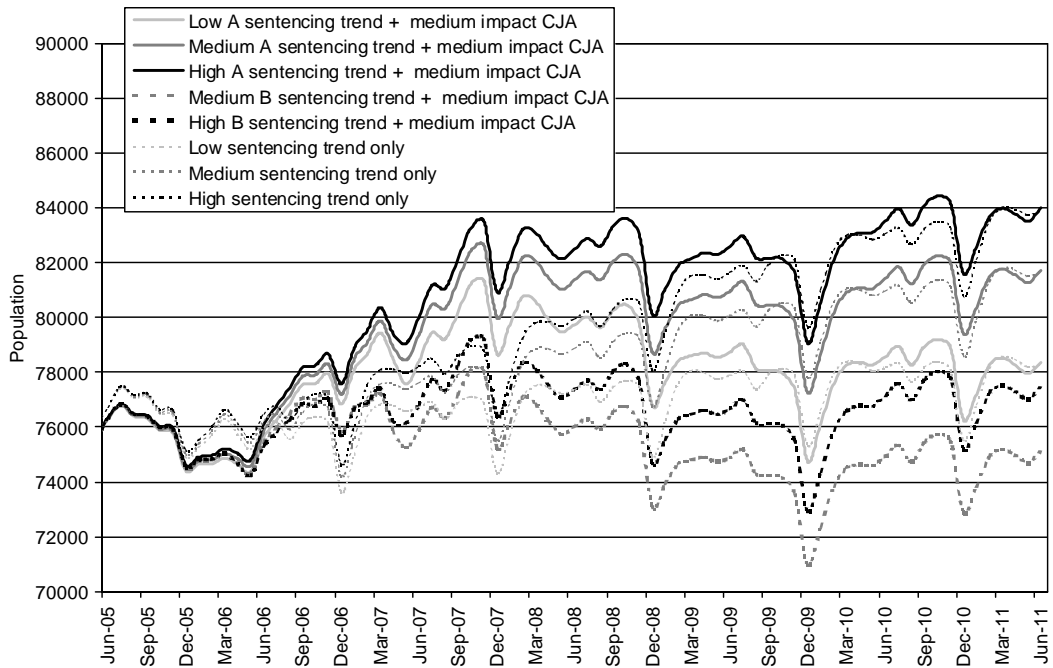


Chart 4: Low impact CJA 2003 - effects of sentencing trends only and CJA only

