

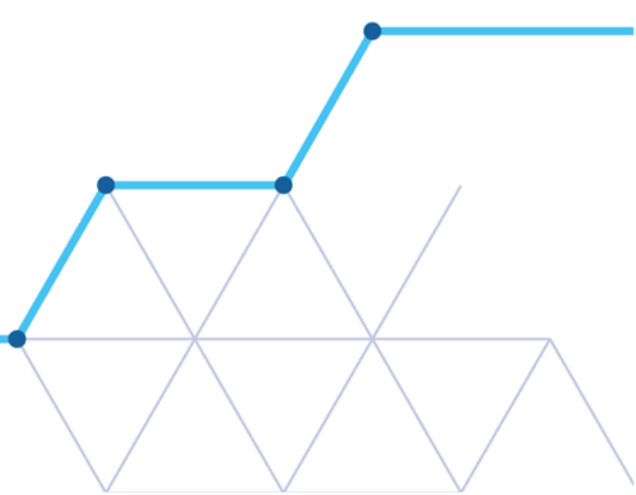


Ministry  
of Justice

# An analysis of trends in first time entrants to the youth justice system

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RAND Europe and Get the Data

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# 1. Summary

Over a ten year period, there were substantial changes in the number of young people entering the youth justice system for the first time. The number of youth first time entrants (FTEs) increased rapidly from 2003/04 and peaked in 2006/07 at 110,784. This rise was followed by substantial year-on-year falls, so that in 2014/15 there were 20,544 FTEs – around 80% fewer FTEs compared to the peak. With these trends in mind, this study aimed to address the following questions:

1. What were the possible societal, policy or practice drivers and factors associated with the changes in the number of FTEs, in particular those associated with the substantial falls in FTEs?
2. Did the 'case mix' of FTEs change over time? If so, how?
3. What were the proven reoffending outcomes of FTEs over the study period?

## 1.1 Approach

To address these research questions, secondary analysis of administrative data held on the Police National Computer (PNC) relating to all FTEs between 2003/04 and 2012/13 was undertaken, along with analysis of information on arrests and sentencing. FTEs are defined as young people living in England and Wales aged between 10 to 17 years old who received their first reprimand, final warning, caution or conviction for a recordable offence. To complement this analysis, a review of published literature and policy documents was undertaken to identify possible factors (at the societal, policy and practice levels) that might have affected the number of FTEs.

## 1.2 Points to consider when interpreting findings

While this study is based on analysis of information on all FTEs recorded in the PNC during the period of interest, these data relate to proven offences (i.e. those crimes that have been recorded by the police) and, therefore, results may not present the full picture of the first and subsequent crimes committed by young people. In addition, there was a lack of relevant robust evaluation studies and information relating to factors associated with changes in the number of FTEs, which limits the ability to attribute these changes to particular policies, practices or initiatives. Furthermore, this study is subject to the limitation that, generally, post-hoc assessments of why trends have changed can be inherently difficult to substantiate. Mindful of these points, a degree of caution is needed when interpreting findings.



## 1.3 Key findings

### Explaining the rise in youth first time entrants

The available evidence indicates that changes in police activity, primarily in response to a government target, were an important contributor to the increase in the number of FTEs between 2003/04 and 2006/07. In 2002 a target was introduced to increase the number of Offences Brought to Justice (OBTJ) and reduce the gap between the numbers of crimes recorded by the police and those for which a perpetrator is identified. There is some evidence that, in order to meet this target, the police focused their attention on young people who had committed non-serious offences, as they can be easier than adults to apprehend. This may therefore have resulted in greater numbers of young people who had committed low-level offences, including FTEs, being brought into the youth justice system – a process known as ‘net widening’.

### Explaining the falls in youth first time entrants: possible societal and social drivers

The changes in the number of FTEs have taken place against a background of wider social and policy changes, for example:

- overall crime has been falling in England and Wales since the mid-1990s and there is some evidence that youth crime may have also fallen;
- there is evidence of reductions in some of the risk factors associated with youth antisocial behaviour and crime (such as substance misuse and school exclusions);
- prevention programmes to support vulnerable families have been introduced (such as Sure Start and Family Intervention programmes); and
- Youth Offending Teams (YOTs) have undertaken prevention work with young people who were perceived to be at risk of offending.

Most of the changes set out above happened before the substantial reductions in the numbers of FTEs started in 2007. While these factors and programmes (e.g. Sure Start) may all have made some contribution to the reductions in the numbers of FTEs, they did not occur or were not implemented on a sufficient scale to account for the overall change.

### Explaining the falls in youth first time entrants: changes in criminal justice processes and decision making

The sharp nature of the changes in the numbers of FTEs, and the fact that the changes occurred over a relatively short period of time, strongly suggests that the main driver was a change in criminal justice processes and/or decision making.

A number of policing and criminal justice policies and practices were implemented during 2008 and 2009, some of which were introduced in response to a new government policy on youth offending. Many of these initiatives were intended to increase the discretion of the police to divert young people who had committed a low-level crime away from the formal youth justice system.

- In April 2008 the OBTJ target was revised to focus on more serious offences. These types of crimes are less likely to be committed by young people than adults. This policy change may have led to a change in police practice, which in turn could have contributed to the substantial falls in FTEs. While the falls in the numbers of FTEs started before the target was changed, it may be that some police forces started to refocus their practice in anticipation of this revision and changes to the government of the day's policy on young FTEs.
- Police-led diversionary practices and informal sanctions, such as Community Resolutions, the use of restorative justice and triage, may have helped to maintain and perhaps accelerate the falls (particularly in specific types of FTEs – notably children and females who are more likely to commit low-level offences).

It is not possible to substantiate the extent to which these possible drivers had an impact on the numbers of FTEs. However, these policy changes broadly correspond with observed changes in the number of young people arrested and in the number of FTEs, and, on balance, it is unlikely that the timing of the refocus in police practice was purely coincidental.

### **Changes to the 'case mix' of youth first time entrants over time**

The characteristics of FTEs changed over time in a way that was consistent with increasing numbers of young people who commit first time low-level offences (e.g. 10 to 14 year-olds, and females) being diverted away from the formal youth justice system. Compared to those entering the system in 2003/04, FTEs in 2012/13 were, on average:

- more likely to be older (aged 15 to 17 years);
- less likely to be female;
- less likely to be 'white'; and
- more likely to have committed a more serious offence.

### **What were the proven reoffending outcomes of first time entrants?**

On average, when looking at the data over the study period, the majority (79%) of FTEs did not commit further proven offences within one year of their FTE offence. Trends in reoffending by FTEs coincided broadly with changes in the number and nature of FTEs.

For example, between 2006 and 2009 there was a decrease in the probability of further offending across most age groups, with the steepest decline being for 10 and 11 year olds.

However, from 2009 onwards there was an increase in the likelihood of reoffending across all age groups. Although this study cannot draw causal connections, an increase in proven reoffending might be expected among a population of FTEs that is, on average, older and more likely to commit more serious offences.

## **1.4 Conclusions**

Changes in policing practices appear to be the most likely (but probably not the only) driver of both the increase and then the decrease in the number of FTEs in England and Wales between 2003/04 and 2012/13. Specifically, the introduction of the OBTJ target appears to have led to a sharp increase in the number of young people brought into the formal youth justice system for the first time. This in turn led to shifts in the characteristics of FTEs, with greater volumes of low-seriousness offences being formally sanctioned.

The start of the reductions in the number of FTEs appears to be partly attributable to a revision to the OBTJ police target (to focus on more serious offences, which tend to be committed by adults), along with national policy and police practice changes introduced to increase the diversion of young people who had committed a low-level crime out of the youth justice system. However, these changes occurred after the decline in the number of FTEs that began during 2007, indicating that they are not the only drivers of the change. While it is possible that the police may have anticipated these changes, the falls in FTEs may have been assisted, to some extent, by a reduction in youth crime, as well as longer term trends which have seen reductions in the risk factors associated with youth offending behaviour.

## 2. Introduction

### 2.1 The youth justice context and trends in youth first time entrants

Over the last decade there has been a decline in the number of young people in the youth justice system. Reductions have been observed in the number of young people sentenced and in custody, and particularly in the number of young people who entered the youth justice system for the first time.

First time entrants (FTEs) to the youth justice system are young people aged 10 to 17 who are living in England and Wales and who receive their first reprimand, warning, caution or conviction for a recordable offence.<sup>1,2</sup> There have been significant changes in the number of FTEs over the last ten years. Published data shows that the number of FTEs increased from 2003/04 and peaked in 2006/07 at 110,784. This rapid increase was followed by year-on-year substantial falls, and in 2014/15 the number of FTEs was the lowest for over a decade at 20,544 – an 81% fall from the peak. (Youth Justice Board, 2016)

Figure 2.1 shows that while the total number of FTEs to the criminal justice system fell sharply since 2007, the change was more marked among 10 to 17 year olds – even when compared to young adults (defined in this study as 18 to 21 year-olds). This suggests that there may have been processes or factors at work that were specific to young people. These changes also occurred during a period in which national and international crime rates have fallen (Tonry, 2014; Farrell *et al*, 2011; 2015; Bateman, 2008; Eisner, 2003)<sup>3</sup>, and in which there is also some evidence that youth crime has also reduced in England and Wales (Bateman, 2015b; Philips *et al*, 2009; Home Office, 2009).

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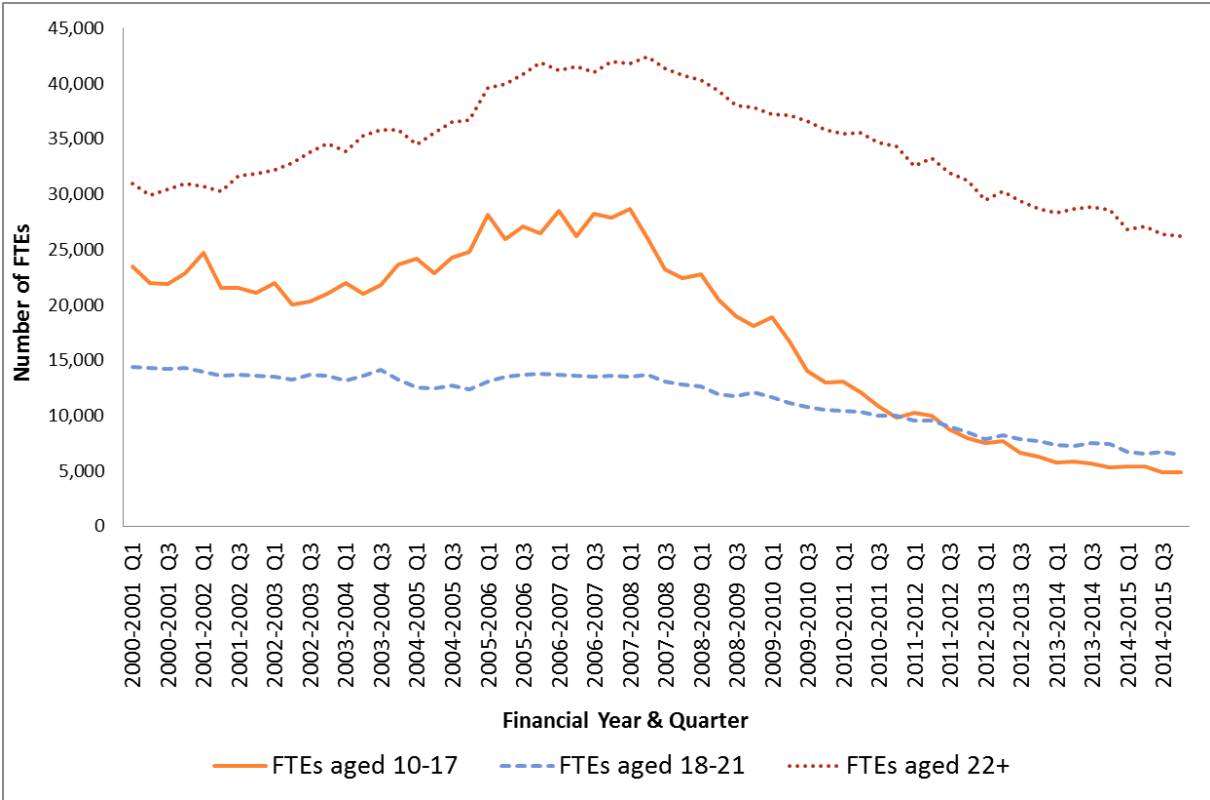
<sup>1</sup> A recordable offence is an offence that is imprisonable (along with several offences that are not imprisonable but that have been designated as recordable) Police and Criminal Evidence Act 1984; section 27(4) and National Police Records (Recordable Offences) Regulations 2000 see: <http://www.legislation.gov.uk/cy/uksi/2000/1139/made?view=plain>

<sup>2</sup> Reprimands and final warnings are verbal cautions given by a police officer. The reprimand is the 'first warning' and the warning is the 'final warning'. Both were covered under the old Final Warning Scheme (Youth Justice Board, 2002), but have since been replaced by the Youth Caution (Youth Justice Board, 2013).

<sup>3</sup> Analysis of international data shows that many advanced countries have experienced falls in their overall levels of crime. Although timings vary across countries, many of the falls started around the mid-1990s. Academics have hypothesised that a number of factors may possibly have contributed to this 'crime drop' (with many being more relevant for some countries than others), such as: lead poisoning; abortion legalisation; drug markets; demographics; policing numbers and strategies; imprisonment; strong economies; the death penalty; gun control; gun concealment; immigration; consumer confidence; the civilizing process; and, improved security (see for example, Farrell, G. (2013)).

Figure 2.1 also sets out the number of FTEs by financial year and quarter and allows a detailed assessment of the timing of the changes in FTE volumes, which is helpful when considering the alignment of FTE trends with the introduction or expansion of possible policy and practice drivers. There were particularly high levels of young people coming into the youth justice system for the first time between the first quarter of 2005/06 and the second quarter in 2007/08, with volumes peaking in quarter one of 2007/08 (at 28,697), (see Figure 2.1).

**Figure 2.1: Number of first time entrants to the criminal justice system by age group, financial year and quarter (2000/01 to 2014/15)**



Source: Ministry of Justice extract of the Police National Computer, October 2015.

## 2.2 Aims of this research

Observing such substantial changes in the number of young people who entered the youth justice system for the first time leads to questions about why the changes occurred and the potential effects on the wider criminal justice system. Therefore, the Ministry of Justice (MOJ) commissioned RAND Europe and Get the Data to investigate the changes in the number of FTEs. The research aimed to explore:

1. The possible societal, policy or practice drivers and factors associated with the changes in the number of FTEs, in particular those associated with the fall in the number of FTEs from the peak in the financial year 2006/07.

2. The nature of changes to the 'case mix' of FTEs over time.
3. Proven reoffending outcomes of FTEs.

## 2.3 Research methods and data sources

To address these research questions the following methods and data sources were utilised.

A review of the published literature was undertaken to identify evidence on possible societal, policy and practice changes that may have influenced trends in the number of FTEs. The review had the following stages.

- The review first sought to identify evaluations and assessments of the changes in FTE numbers in England and Wales (or in other countries).
- As no empirical evaluations were found, the scope of the review was expanded to include theories relating to the international and national 'crime drop' which might be helpful in generating hypotheses about the fall in the number of FTEs.
- A mapping exercise was conducted to identify policy and practice changes, across England and Wales, which could possibly have affected the numbers of FTEs, with a specific focus on policies that might have led to the fall in the numbers of FTEs from the peak in financial year 2006/07.
- The review sought to identify evaluations of the specific programmes, policies and practices that were identified in the mapping.

Further details about the literature review approach can be found in Appendix A.

Secondary data analysis was conducted to facilitate the assessment of FTE trends and changes to case-mix. The data source used (unless otherwise stated) was the Police National Computer (PNC), which is a law enforcement administrative database that stores information on individuals who have been charged or convicted of offences. For this study a data extract was taken from the PNC of all first time entrants to the youth justice system for a ten year period between April 2003 and March 2013 (757,231 individuals and 2,607,652 first and further offences). It is important to note that, as the PNC database is updated on a regular basis, data extracted at different points in time can produce different figures.<sup>4</sup>

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<sup>4</sup> The PNC figures set out in this report are based on data that was extracted from the PNC specifically for this study. Therefore, the annual number of FTEs may differ slightly when compared to figures for the same years that have been published in other reports (see for example the Youth Justice Statistics 2014/15).

The following forms of analysis were conducted:

- descriptive analysis to explore changes in numbers of FTEs over time;
- descriptive analysis to explore changes in demographics, case mix, and outcomes;
- exploratory statistical analysis (multivariate analysis using Latent Class Analysis)<sup>5</sup> to examine the interaction between demographics and offence types; and
- analysis to explore proven reoffending by FTEs.

## 2.4 Strengths and limitations of this study

This study is based on a data extract of the PNC, which includes information on all individuals who became FTEs and their further proven reoffences recorded between 2003/04 and 2012/13. The following limitations to PNC data should be considered when interpreting findings.

- The PNC does not capture complete criminal history, only recordable offences, and therefore the results may not present the full picture of first and subsequent crimes committed by young people.
- The PNC extract available to the research team did not include the exact date of birth<sup>6</sup> of each FTE, which meant that age and date of proven reoffending had to be approximated for some cohort analysis (see section 5.2).

Another limitation to the study stems from a lack of information about the extent to which policies identified in the mapping exercise were actually implemented and the scale of their delivery (such as information about the number of young people or families who were beneficiaries). There was also a lack of relevant robust evaluation studies. This meant it was not possible to causally attribute changes in the number of FTEs to these policy and practice changes. Lastly, any post-hoc assessment of why trends have changed can be inherently difficult to substantiate (for example see Tonry, 2014). Mindful of these points, a degree of caution must be applied when interpreting findings.

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<sup>5</sup> A latent class analysis statistically models, based upon a set of observed variables, the probability that individuals belong to a set of unobserved (latent) classes given the values of those variables. Further details in can be found in Appendix D.

<sup>6</sup> The exact date of birth of young offenders was not provided to the authors of this report due to Data Protection Act and Ministry of Justice policies for sharing personal and sensitive information with other organisations. See the Data Protection Act for further information: <https://www.gov.uk/data-protection/the-data-protection-act>

## 2.5 Report structure

The report proceeds as follows:

- Section 3 discusses potential explanations of the FTE trend and considers the trend alongside wider societal shifts (research question 1).
- Section 4 discusses changes in characteristics in FTEs (research question 2).
- Section 5 presents evidence on the proven reoffending of FTEs (research question 3).
- Section 6 summarises and concludes the report.



### 3. Explaining trends in first time entrants to the youth justice system

#### Key findings

- Most of the available published literature discusses the increase in the number of FTEs prior to the peak in financial year 2006/07 and attributes it to the Offences Brought to Justice (OBTJ) government target.
- The limited available evidence suggests that a revision to the OBTJ target may have contributed to the start of the falls in FTEs. Although the revision to the target occurred *after* FTE numbers began to reduce, the police could have anticipated this change and revised their practice accordingly. Also changes to national policing and criminal justice policy, which aimed to increase police discretion to divert young people who had committed low-level offences away from the formal justice system, may have maintained and accelerated the falls.
- Trends in the number of young people arrested by the police align with FTE trends and provide broad support for the hypothesis that criminal justice processes and decisions accounted for the rapid increase and fall in the number of FTEs.
- When taken together, the limited evidence available points to the conclusion that changes in police activity was the main (but not necessarily the only) driver of both the increase and decrease in FTEs.

#### 3.1 What are the likely drivers of the increases in youth first time entrants between 2003/04 and 2006/07?

What little evidence there is on this topic points to the introduction of the Offences Brought To Justice (OBTJ) target as an important driver of the increases in the number of FTEs recorded between the financial years 2003/04 and 2006/07 (Home Affairs Select Committee, 2007; Home Affairs Select Committee, 2008; Bateman, 2008, 2013, 2015a; Morgan and Newburn, 2012).

The OBTJ target was introduced in 2002 in order to close the ‘justice gap’ – the gap between the numbers of police recorded crimes and the number of crimes for which there was a criminal justice outcome.<sup>7</sup> It was intended to increase the number of offences ‘brought to justice’ via reprimand, final warning, caution, cannabis warning, penalty notice for disorder,

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<sup>7</sup> The gap equates to only 5% of recorded crimes resulting in a conviction and 80% of crimes where ‘the offender goes unpunished’ (Crown Prosecution Service, 2002:7).

charge or summons, from 1.03 million in 2002/03 to 1.25m in 2007/08 (Bateman, 2015a).<sup>8</sup> The introduction of this target resulted in a greater number of low-level offences (e.g. criminal damage, theft), which are typically committed by young people,<sup>9</sup> being dealt with formally by the police. This led to suggestions that, in order to meet the target, the police particularly focused on young people as they tend to commit more easily detectable crimes in public places such as city centres (Home Affairs Select Committee, 2008). This could have resulted in more young people, including FTEs, being brought into the youth justice system – a process often referred to as ‘net widening’ (Bateman, 2015a; Morgan and McMahon, 2009; Morgan, 2009).

While the OBTJ target is a plausible explanation for the increase in FTEs there was, and is, little empirical work on this specific issue. Furthermore, without a detailed understanding of how police forces and other criminal justice agencies implemented and pursued the OBTJ target, it is not possible to establish if it directly caused or contributed to the increase in FTEs (see Shadish *et al*, 2002).<sup>10</sup> That said, given the rapid increase in the number of FTEs, it is challenging to identify other factors that could have led to such a substantial change over such a short period of time.

### **3.2 What were the likely drivers of the reduction in the numbers of youth first time entrants?**

Changes to the OBTJ target may have also contributed to the falls in the numbers of FTEs. In April 2008 the OBTJ target was revised<sup>11</sup> to focus on more serious offences. These types of offences are, on average, less likely to be committed by young people.<sup>12</sup> If the police changed their focus in response to the revised target, to concentrate on bringing more serious offences to justice, this could have resulted in fewer young people, including FTEs, being brought into the youth justice system.

The OBTJ target was revised shortly after the fall in FTEs was first observed during 2007 (see Figure 2.1 in section 2 above), so it could not have directly caused the decrease. It is, however, possible that some police forces may have been aware of the forthcoming target

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<sup>8</sup> This target, which applied to both adult and young offenders, was met a year early (Bateman, 2015b). The original target was 1.2m offences brought to justice by 2005/06; however, this was later revised upwards. Note that an individual being charged does not equate to a conviction.

<sup>9</sup> See for example, Youth Justice Board, 2016.

<sup>10</sup> Evidence to the Home Affairs Select Committee suggests a high degree of variability in how OBTJ was viewed by police (Home Affairs Select Committee, 2007).

<sup>11</sup> The OBTJ target was abolished in May 2010.

<sup>12</sup> See for example, Youth Justice Board, 2016.

revision and changed their practice in anticipation.<sup>13</sup> Also, there is evidence to suggest that some practitioners felt the OBTJ target had resulted in too many young people who had committed low-level crimes entering the youth justice system (see Justice Select Committee, 2008), and it is possible that some police forces started to change their response to address this situation.

Also, in Spring 2008, the government launched the Youth Crime Action Programme (YCAP), which aimed to reduce youth crime through a combination of enforcement, support and prevention for young people and families (HM Government, 2008). To support the delivery of YCAP, national Public Sector Agreement targets<sup>14</sup> were set to reduce the number of FTEs entering the youth justice system and to reduce youth proven offending (HM Government, 2008). As part of YCAP, a police-led diversionary approach called ‘Triage’ was introduced, which aimed to divert young people who committed a first or repeat low-level offence away from the formal youth justice system.<sup>15</sup> In addition national policing and criminal justice polices, which gave the police more discretion to divert people who had committed a low-level crime away from the criminal justice system, were introduced during a similar time period to triage. (See section 3.7 for further details).

On balance, it seems likely, although untested to our knowledge, that changes in police practice contributed to the start of the falls in the numbers of FTEs during 2007. The available literature, which aims to explain the changes in patterns of FTEs, focuses on increased police discretion to deal more swiftly and proportionately with young people who committed low-level offences, and the use of initiatives that aim to divert these young people away from the youth justice system (Morgan, 2009; Bateman, 2013 and 2015).

Before turning to the discussion of specific initiatives, we examine police activity in more detail, in particular the long-run trends in arrests for different types of offences and age groups, and how these relate to FTEs.

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<sup>13</sup> As such the effect of the OBTJ target was asymmetrical (on asymmetric causation see Shadish *et al*, 2002; Uggen and Piliavin; 1998).

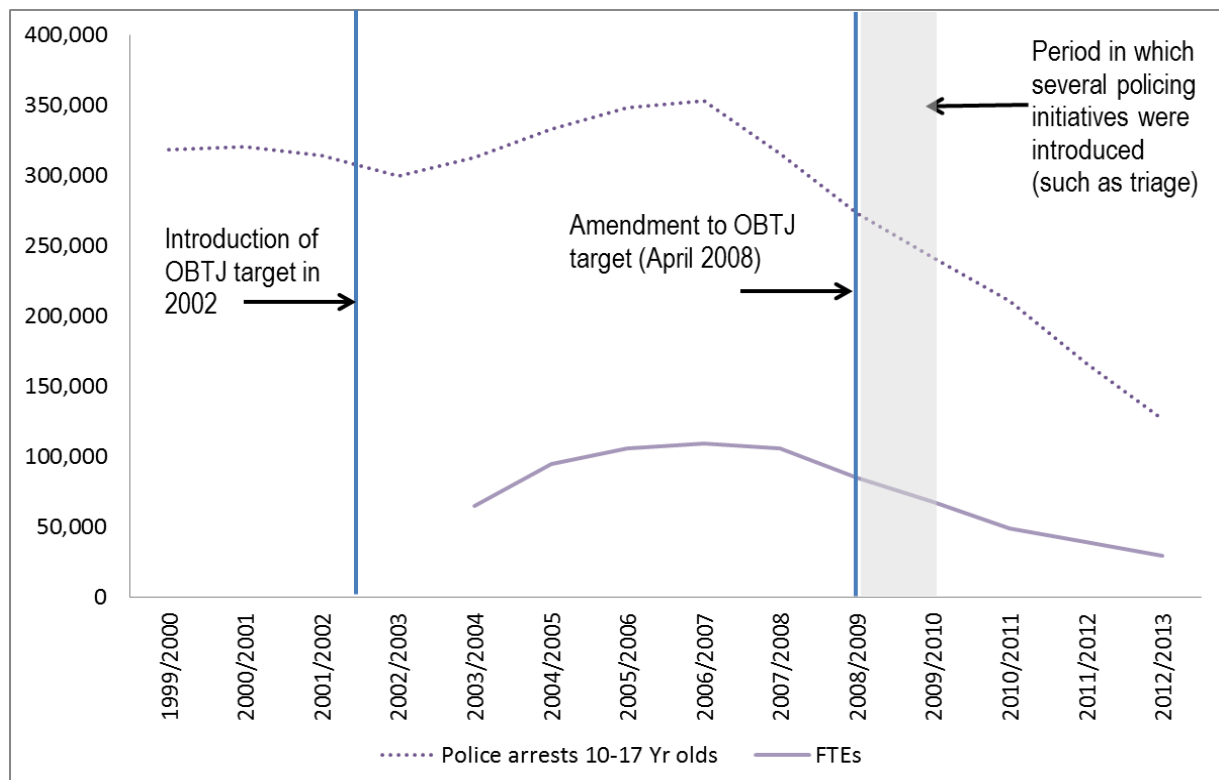
<sup>14</sup> The delivery of YCAP was measured by Public Service Agreement (PSA) targets 14 and 23. One of the PSA 14 performance indicators was to reduce the number of first time entrants aged 10–17 into the criminal justice system. One of the PSA 23 performance indicators was to reduce proven offending and reoffending by young people. PSA targets were abolished in 2010. For further information see Department for Children, Schools and Families (2009).

<sup>15</sup> There is some evidence that bringing children and young people into the criminal justice system, particularly those who have committed low-level offences, may increase subsequent law breaking and also subsequent arrest and criminalisation (McAra and McVie, 2007; 2013; Petrosino *et al*, 2010; Kirk and Sampson).

### 3.3 Understanding police activity as a key driver of first time entrant trends

Police are the first point of contact with the criminal justice system. If police practices were a driver of the number of FTEs, one would expect the pattern of police arrests and FTEs to be aligned. Figure 3.1 shows that the overall number of arrests for 10–17 year-olds follows a similar trajectory to the number of FTEs. Notably, there was an increase in arrests in the period between 2003/04 (when the number of FTEs was increasing) up to 2006/07 (when annual numbers of FTE were approaching their peak).<sup>16</sup> There was also a steady decline in the number of arrests between 2006/07 and 2012/13, at broadly the same time as FTE numbers declined. Indeed, FTEs fell from 32% of all arrests for 10–17 year-olds in 2007/08, to 23% in 2010–12.<sup>17</sup>

**Figure 3.1: Number of first time entrants (2003/04–2012/13) and police arrests (1999/00–2012/13) for 10–17 year-olds by financial year**



Sources: Home Office (2010); GOV.UK (2014).

<sup>16</sup> FTEs increased from being one-fifth (21%) of police arrests for 10–17 year-olds in 2003/04 to one-third of arrests in 2007/08. Authors’ own analysis of police arrest and FTE data.

<sup>17</sup> Authors’ own analysis of police arrests and FTE data. There was a reduction in the number of arrests of 10–17 year-olds from 1999/00 onwards (preceding the time when FTEs were increasing). However, this decline reversed between 2002/03 and 2006/07 – the point at which the number of FTEs peaked. This suggests that the increase in FTEs during this period may have acted to slow the pre-existing downward trend in police arrests of under 18s.

The overarching trend in number of arrests masks some offence-specific trends. Figure 3.2 shows the number of arrests and FTEs by offence type, focusing on three key types of offence: theft, criminal damage and violence,<sup>18</sup> which are typically committed by FTEs. These figures show that trends in arrests of 10–17 year-olds for these specific offences broadly followed trends in the numbers of FTEs.

Notably there were increases in the number of arrests for violence and criminal damage between 2003/04 and 2006/07, mirroring the FTE trend for criminal damage during that period. These trends also appear to have changed from 2006/07 onwards, with arrests for violence (for example) reducing from nearly 90,000 to around 40,000, in 2006/07 and 2011/12 respectively.

Between 2003/04 and 2012/13 there was a downward trend in police arrests of 10–17 year-olds for theft.<sup>19</sup> However, the increase in the number of FTEs who had committed theft offences between 2003/04 and 2006/07 may possibly have slowed the ongoing fall in young people who were arrested for theft offences over this time period.<sup>20</sup>

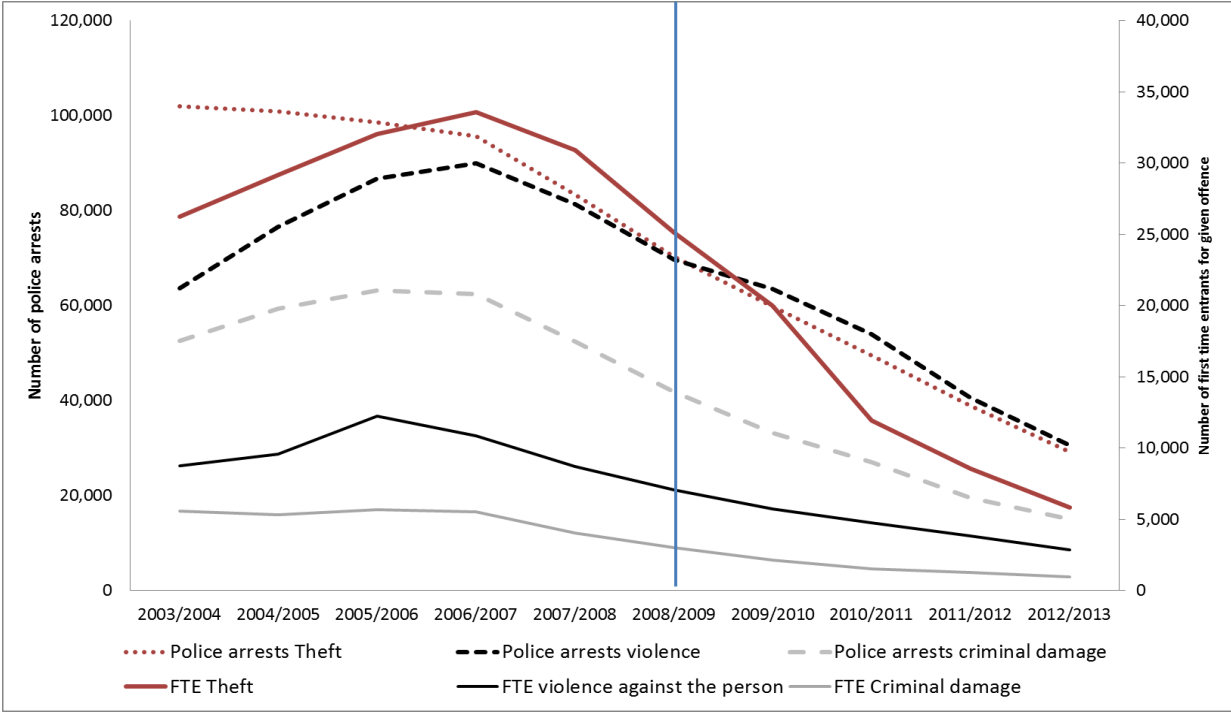
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<sup>18</sup> The arrest data refers to offences of violence against the person. This category includes serious violent offences where the injury inflicted or intended is life threatening, and offences resulting in death, regardless of intent. This group also includes offences involving less serious injury and also offences that involve no physical injury, and some involving serious intent. The latter less serious type of violent offending is more likely to be committed by 10 to 17 year-olds (Home Office, 2015 and Youth Justice Board 2016).

<sup>19</sup> Arrests of 10–17 year-olds for theft have been declining since 1999/00 (see Home Office, 2010; GOV.UK, 2014). This downward trend slowed substantially between 2003/04 and 2006/07, which is the point at which numbers of FTEs, particularly FTEs who had committed theft, were rising. This suggests that the increase in FTEs may have acted to slow the rate of decrease in theft arrests.

<sup>20</sup> More details on changes in volumes of proven offences committed by FTEs are included in Figures B1–B3 in Appendix B.

**Figure 3.2: Number of police arrests of 10–17 year-olds by offence type (left axis) and youth first time entrants by offence type (right axis) 2003/04–2012/13**



Notes: Vertical line indicates the revision of the OBTJ target in April 2008.

Sources: Home Office (2010); GOV.UK (2014), Ministry of Justice extract of the Police National Computer 2003/04–2012/13.

### 3.4 Trends in youth first time entrants across individual police forces

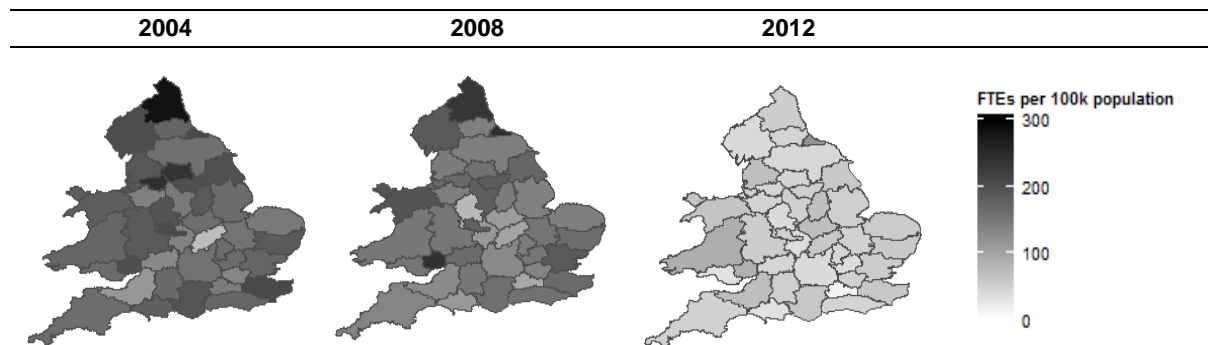
Between 2003 and 2012<sup>21</sup> there were noticeably different rates of FTEs in different police force areas. Overall, the number of FTEs per 100,000 inhabitants reduced and narrowed in range across police force areas between 2004 and 2012. Although one would expect some differences because reported crime volumes also vary geographically, this could possibly indicate a convergence in local policing practice. That is, forces with higher rates of charge and prosecution may have shifted their practice towards diversion and informal responses. For example, in 2004, the police force areas with the highest and lowest number of FTEs per 100,000 inhabitants were, respectively, Northumbria (305) and Northamptonshire (71).<sup>22</sup>

<sup>21</sup> Calendar years are used for this analysis and 2012 is the last complete calendar year in the PNC data extract used for this project.

<sup>22</sup> Due to its low population, the City of London was excluded from the analysis.

In 2012, these rates had dropped to 53 and 59 per 100,000 population respectively<sup>23</sup> (see Figure 3.3).<sup>24</sup>

**Figure 3.3: First time entrants' rate per 100,000 inhabitants by police force area (2004, 2008 and 2012)<sup>25</sup>**



Sources: Ministry of Justice extract of the Police National Computer 2003/04–2012/13. ONS mid-year Police Force Populations 2001 to 2010 (ONS, N.D.). Police force mid-year Population Projections 2011 and 2012 extrapolated by the authors.

Having considered the association between overall police activity and FTEs, the police and other criminal justice initiatives that could be linked to the reduction in FTEs are now discussed in more detail. This is followed by a discussion of early intervention practices that have also been proposed as potential ‘drivers’ for the falls in FTEs.

### 3.5 Penalty Notices for Disorder

Penalty Notices for Disorder (PNDs) were introduced to provide the police with a ‘*quick and effective alternative disposal option for dealing with low-level, antisocial and nuisance offending*’ (Ministry of Justice, 2014, p. 4). PNDs were originally available for adults only, but were extended to 16 and 17 year-olds in 2004.<sup>26</sup> Some researchers suggest that PNDs could have facilitated the fall in the number of FTEs (Morgan, 2009). Receiving a PND does not constitute an entry to the criminal justice system; however, it did count towards the OBTJ target. PNDs could, therefore, have been used to divert some young people, committing non-serious offences, out of the criminal justice system, preventing them from becoming

<sup>23</sup> Comparative research in areas that transitioned from high-to-low or stayed low throughout this period could explore whether (and if so what) practice(s) may have led to these patterns (see Feld, 1992).

<sup>24</sup> Further analysis also shows variation in the trend of disposals between police force areas. In some police force areas the proportion of FTEs receiving court and out-of-court disposals remained stable throughout 2003–13. In others there were marked changes (both increases and decreases) in the proportions from 2008 onwards (further examples are provided in Appendix C, Figure C.3). The changes start before, but continue during initiatives that may have played a role in some areas, such as the roll-out of triage and Community Resolutions in 2009 (described below).

<sup>25</sup> Equidistant years shown to highlight change over time.

<sup>26</sup> From April 2013 PNDs are only available for people aged 18 years and over.

FTEs. An evaluation of the 2005 to 2006 one year pilot of the use of PNDs for 10–15 year-olds (which was not rolled out nationally),<sup>27</sup> found that there was: “*evidence that cases were diverted from prosecutions, reprimands and final warnings to PNDs*” (Amadi, 2008: iii). This suggests that if young people receiving PNDs had been counted as FTEs,<sup>28</sup> the ‘spike’ of FTEs in the financial year of 2006/07 would have been higher.

Perhaps the most important observation is that the trends in the number of PNDs and FTEs both followed the same pattern (a ‘spike’ during 2007 followed by a sharp decline), suggesting that they shared the same or similar drivers. Figure 3.4, below, shows the similar trajectories in the number of FTEs, the use of PNDs and the numbers of young people arrested.

One possibility for the sharp increase in PNDs is that they were issued in response to lower-level offences in order to meet the OBTJ target introduced in 2002.<sup>29</sup> However, after the OBTJ target was revised in 2008, PND use reduced because they are not a suitable response to more serious offences. Researchers have suggested that the decline in the use of PNDs could be due to the police choosing less formal criminal justice approaches (that go unrecorded by the police), perhaps coupled with an overall reduction in youth crime (Bateman, 2013; Carlile Inquiry, 2014).

Taken together (and in the absence of a plausible alternatives) the evidence suggests that police practice was the key driver of the rise and fall in both PNDs and FTEs.

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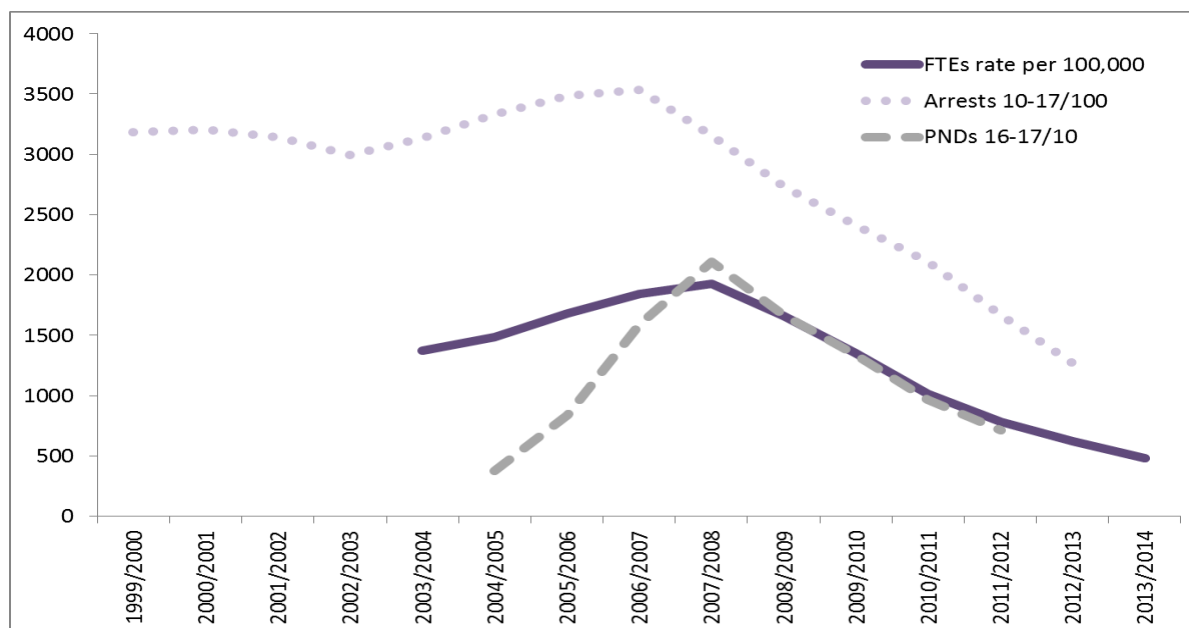
<sup>27</sup> During the 12 months of the pilot, between 2005 and 2006, 4,565 PNDs were issued to 10 to 15 year-olds (Amadi, 2008).

<sup>28</sup> As some commentators argued they should, for example, Morgan (2009).

<sup>29</sup> A PND constituted an offence ‘brought to justice’.



**Figure 3.4: First time entrants aged 10–17 years (per 100,000 population) (2003/04 to 2013/14); police arrests of 10–17 year-olds (1999/2000–2012/13); Penalty Notices for Disorder (PNDs) for 16 to 17 year-olds (2004/05–2011/12)**



Notes: The number of FTEs converted to rates per 100,000 of the 10–17 year-old population. The rate was 1,929 in the 12 months to the end of June 2007 and 484 to the end of June 2013 (see Ministry of Justice, 2013a, 2013b). The absolute numbers of arrests and PNDs have been (respectively) divided by 100 and 10 so that they are on the same scale as FTEs.

Sources: Ministry of Justice extract of the Police National Computer 2003/04–2012/13. Ministry of Justice (2013a, 2013b, 2014).

### 3.6 Community Resolutions

Community Resolutions (CRs), which can involve restorative justice, are used at the discretion of police to deal more proportionately with low-level crime. They are primarily aimed at young people or adults who have committed low-level offences who have expressed genuine remorse (ACPO, 2012, para 1.1.2). They were piloted among four police forces in 2008/09<sup>30</sup> and rolled out nationally in 2009. CRs do not result in the offender having a criminal record, and until recently it was not mandatory for police forces to provide figures on the use of these informal sanctions to the Home Office.<sup>31</sup> As with the other measures and initiatives discussed in this report, while it is plausible that CRs could have contributed to reductions in FTEs and PNDs, without knowing about the scale of their use and without a comparison group to understand ‘what would have happened otherwise’, it is not possible to say for certain whether this was the case. Bateman (2015b: p. 27–8) notes that the rapid

<sup>30</sup> For information about the pilot see West Midlands Police (2009).

<sup>31</sup> A new crime outcomes framework was introduced by the Home Office in April 2013 and as a result data on Community Resolutions were collected from all police forces on a mandatory basis. See: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/445753/hosb0115.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/445753/hosb0115.pdf)  
Overall: 117,168 Community Resolutions were issued in the year ending March 2015. National data are not, however, available by age. (Ministry of Justice, 2015b).

growth in the use of informal disposals, such as CRs, “*coincided with a sharp fall in child arrests*”, and that the largest declines in arrests between 2006/07 and 2012/13 were for theft and handling stolen goods and criminal damage offences, “*considered to be the most appropriate for community resolution*”.

### 3.7 Police Triage Schemes

As part of the Youth Crime Action Plan (HM Government, 2008)<sup>32</sup> ‘triage’ – a phrase borrowed from health services that relates to assessing and prioritising cases according to level of severity – was implemented initially in 69 police custody suites across England and Wales in 2009. Youth Offending Team (YOT) workers were often co-located in police stations as part of triage schemes, in order to help the police to “*identify the needs of young people as they enter the youth justice system*” (ICPR, 2012, p. 3). A key objective of the scheme was to “*divert young people who have committed less serious crimes away from the formal youth justice system*” (*Ibid.*)<sup>33,34</sup> Furthermore, other diversionary approaches for young people who had committed a crime were also being piloted in a small number of police stations during a similar time period. For example, schemes were implemented that aimed to identify and divert young people who had mental health issues away from the formal justice system to appropriate support services.<sup>35</sup>

A lack of data on the extent of the use of diversion through triage schemes precludes a proper assessment of the contribution of these schemes to the FTE trend.<sup>36</sup> The offences for which young people were most commonly entering triage were low-level offences such as theft, criminal damage, some types of violence, and public disorder, with most having no previous convictions (ICPR, 2012). Substantial decreases in the volume of FTEs who committed these types of low-level offences were generally observed from 2006/07 onwards (see section 4.1 and Figure 4.2). That said, triage schemes were implemented in 2009, *after*

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<sup>32</sup> See Section 3.2 for a brief description of Youth Crime Action Plan.

<sup>33</sup> There is also some evidence, which shows that bringing children and young people into the criminal justice system, particularly those who have committed low-level offences, may increase subsequent law breaking and also subsequent arrest and criminalisation (McAra and McVie, 2007; Kirk and Sampson, 2013; Petrosino *et al*, 2010).

<sup>34</sup> Young people who committed a first offence that was very low in severity (a gravity score of 1 or 2) would likely be diverted from formal youth justice sanctions to a restorative justice intervention. Those committing more serious offences (gravity score of three) and/or with prior criminal justice contact would be assessed and could either be diverted or be formally processed. Those committing more serious offences (4+) would be formally processed (and only one case study site offered triage to such cases) (ICPR, 2012).

<sup>35</sup> In 2008, a mental health diversion pilot, funded by the Department for Health, was launched for young people aged 10 to 17 years (operational between 2009 and 2011) in six areas across England and Wales. See Haines *et al* (2012).

<sup>36</sup> The evaluation team assessing the implementation of triage schemes found local monitoring data to be ‘*scant, generally of poor quality, and with considerable missing data*’, making it impossible ‘*to create a control group or to compare matched groups before and after the introduction of Triage*’ (ICPR, 2012, p. 17).

the start of the reduction in the number of FTEs, so can only have affected the numbers of FTEs *after* the initial fall occurred. The timing of the implementation of triage schemes does, however, correspond broadly with an identifiable further shift in the downward trend in the number of FTEs who committed theft and handling stolen goods offences from 2009/10. (See Figure 4.2 and Table B.3 in Appendix B).

### 3.8 Prevention approaches

Prevention initiatives undertaken by national or local government may also have played a role in reducing the number of FTEs, as many of these were implemented well in advance of the fall in FTEs or coincided with the peak in FTEs. The main prevention approaches implemented during the relevant time period were parenting programmes (e.g. Sure Start, Family Intervention Projects) and initiatives targeting ‘at risk’ young people (e.g. Youth Inclusion Programmes, and Youth Inclusion and Support Panels).

Sure Start was a national initiative introduced in 1998 as a way of improving the life chances of children in disadvantaged neighbourhoods through a range of local initiatives (NESS, 2012). Family Intervention Projects (FIPs) were established in 2006/07 to work with some of the most troubled and challenging families to tackle antisocial behaviour (ASB), youth crime, inter-generational disadvantage and worklessness (Lloyd *et al*, 2011; Dixon *et al*, 2010).

High quality systematic reviews show that parent or family-based programmes can reduce problematic behaviour and delinquency (as well as achieving wider benefits – see O’Neill *et al*, 2012; Allen, 2011; Piquero *et al*, 2009), and may act to delay criminal onset (Woolfenden *et al*, 2001). Therefore, family-based initiatives such as Sure Start and FIPs, which were introduced in advance of the reduction of FTEs, could in theory have prevented some young people from committing crimes. However, Sure Start and FIPs were not implemented at the scale required to change numbers of FTEs so dramatically.<sup>37</sup>

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<sup>37</sup> The evidence for Sure Start regarding likely impact on the number of FTEs is limited (e.g. Melhuish *et al*, 2008). Attempts were made by the research team to empirically assess the impacts of some of these programmes, but lack of data about roll-out meant this was not possible.

Youth Inclusion Programmes (YIPs) and Youth Inclusion and Support Panels (YISPs) were introduced in 2000 and 2002/03 (respectively), by the Youth Justice Board, and delivered by YOTs. YIPs aimed to “*reintegrate into mainstream society young people most ‘at risk’ of school or social exclusion, truancy or offending*” (Mackie *et al*, 2008: 6). YISPs were established to identify and support young people aged 8 to 13 at high risk of offending and antisocial behaviour before they enter the youth justice system (Walker *et al*, 2007). There is some indicative evidence for the impact of YIPs and YISPs on the onset of offending. Again, however, the available evidence suggests they were not implemented on a sufficient scale to account for the overall reduction in FTEs.<sup>38</sup>

### **3.9 Risk factors associated with youth antisocial behaviour and crime**

The trend in the number of FTEs can be located in a broader frame of changes in young people’s behaviour. Evidence from several sources shows that in the last decade young people have been less likely to report engaging in ‘risky behaviour’ such as smoking, alcohol and drug use (see for example: HM Government, 2014; HSCIC, 2015).

There have also been some positive long-run education trends, which may possibly have had some impact on youth antisocial behaviour and crime. For example, reductions in the number of permanent and fixed-period school exclusions (DfE, 2015) have been observed.<sup>39</sup> In addition, there are also more young people staying in education past the age of 16 (ONS, 2014).<sup>40</sup>

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<sup>38</sup> Evidence suggests that FIPS, YIPS and YISPS may have been targeted at young people who were already involved with the criminal justice system (e.g. Mackie *et al*, 2008).

<sup>39</sup> The number of permanent and fixed exclusions across all schools reduced since 2004/05 and 2006/07 respectively. Rates have, however, increased slightly since 2012/13 (DfE, 2015). School exclusions can be a risk factor for youth crime and antisocial behaviour (McAra, 2004; Youth Justice Board, 2006). However, available research cannot determine whether school exclusions are causally linked to offending, or whether they are both driven by other changes in young people’s attitudes (Obsuth *et al*, 2014).

<sup>40</sup> UK evidence suggests that increasing the number of years that young people stay in mainstream education can reduce crime. See for example: Machin *et al* (2011); Sabates and Feinstein (2008); Hansen (2003).

Some commentators have also noted changes in the way young people spend their time and interact with their friends. For example, the use of computer games and social media has increased, and this may possibly have had an impact on young people's opportunity and motivation to commit antisocial behaviour and crime. There is, however, no robust evidence to support or refute this hypothesis. (See HM Government, 2014 for a brief overview of the availability and use of computers and smart phones by young people.) Conversely there is some evidence to suggest that the internet may act, for some young people, as a crime facilitator.<sup>41</sup>

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<sup>41</sup> There is the suggestion that young people are committing more of what has been termed 'cyber-crime'; using the internet to participate in acts such as harassment and 'cyber-bullying'. Whilst the impact of bullying, for example, on children's lives can be severe (Ttofi *et al*, 2011), the evidence for the prevalence of cyber-bullying is apparently over-stated (Olweus, 2012). What is not clear is whether the advent of internet use by young people actually increases the number of victims or bullies, or whether this is just another avenue through which bullying can proceed (Olweus, 2012). Given the limited opportunities for young people to commit other types of crime online (fraud for example) it seems unlikely that large increases in cyber-crime by young people would drive the FTE fall (for more on cyber-crime, see Maguire and Dowling, 2013).

## 4. Analysis of the first time entrant ‘case mix’

### Key findings

- Analyses shows that changes in the demographic characteristics and the type of offences committed by FTEs were broadly aligned with trends that would be expected given the changes in policing policy and practice that occurred over the study period.
- There was a reduction in the proportion of FTEs who were female after 2009, and there was also a shift in the age profile of FTEs towards older adolescents (average age increased from 14.6 to 15.1 years in 2003/04 and 2012/13 respectively). Both female and younger young offenders are less likely to commit serious offences.
- Pooling data across the study period, there were four ‘types’ of FTE:
  - younger (aged 10 to 14), low seriousness male offenders;
  - younger, low seriousness, female offenders;
  - older (aged 15 to 17), male, drug offenders; and
  - older, male, more violent offenders.
- In exploratory longitudinal analyses, a fifth ‘more serious’ FTE group was found from 2009 onwards. The substantial decrease in high-volume low-seriousness cases may have been a factor in the identification of this group.

The second question addressed by this study sought to understand more about whether the characteristics of FTEs had changed over time and, if so, why. Two main activities were undertaken to understand the FTE ‘case mix’:

- an analysis of FTE demographics and the type of proven offences committed; and
- an exploratory analysis to assess whether there were subgroups within the FTEs population who shared similar characteristics.

### 4.1 Descriptive analysis of first time entrant ‘case mix’

Analyses shows that changes in the demographic characteristics and the type of proven offences committed by FTEs were broadly aligned with trends that would be expected given the changes in policing policy and practice, which occurred over the study period (see section 3). The key changes are highlighted below.

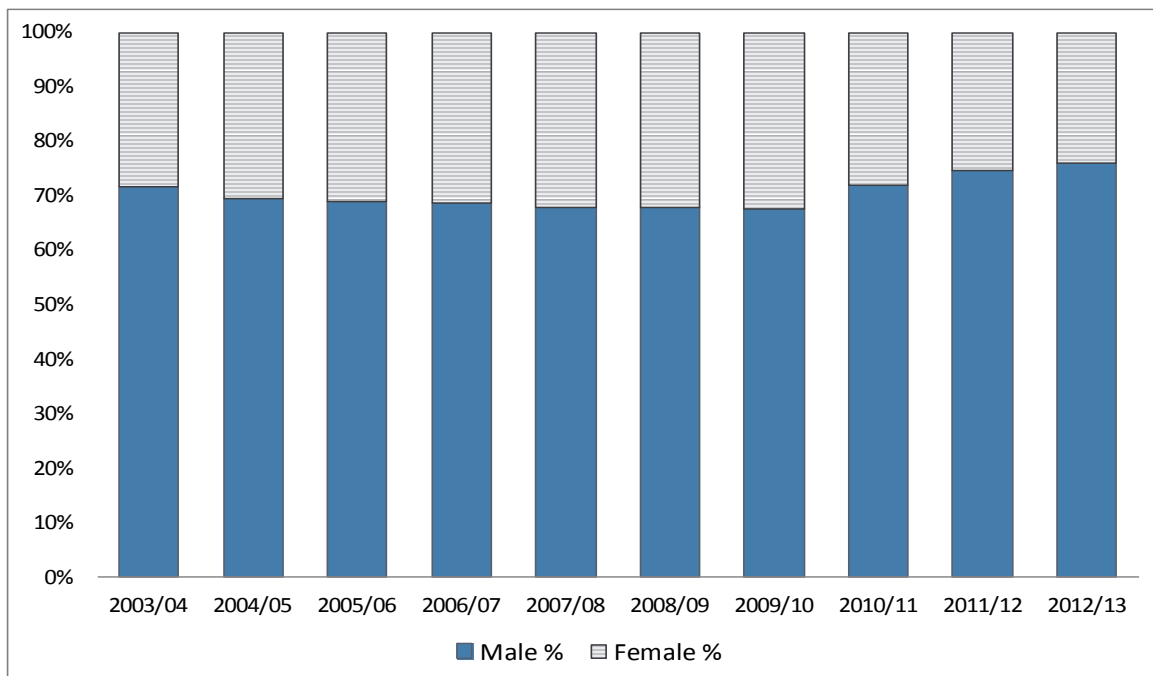
## Gender

Across the study period, the majority of FTEs were males (on average 70%).

Females made up about one-third (32%) of all FTEs in 2007/08; however, this dropped to around one-quarter (24%) in 2012/13 (see Figure 4.1; further results are presented in Appendix B).

Given these changes, assessing shifts in *arrests* for males and females aged 10–17 is pertinent to see if trends align. Table E.2 in Appendix E shows, for example, that the proportion of 10–17 year-old *arrestees* who were female rose from 17% to 20% between 1999/00 and 2006/07, mirroring the increased proportion of female FTEs between 2003/04 and 2007/08 shown in Figure 4.1. These small percentage point increases belie large shifts in the underlying volumes: the number of females arrested increased from 54,400 in 1999/00 to 71,195 in 2006/07 (a 31% increase). Since 2010/11 the proportion of female FTEs has fallen and returned to rates observed in 2001/02. This is expected, given the substantial reductions in the types of proven offences that are more likely to be committed by females (i.e. low-level offences).

**Figure 4.1: Proportion of first time entrants male or female, 2003/04–2012/13**



Base: 754,799 PNC cases 2003/04–2012/13 with gender specified (n=2,432 [ $<1\%$ ] were missing this information).  
Source: Ministry of Justice extract of the Police National Computer 2003/04–2012/13.

## Age

For both males and females the average (mean) age of FTEs increased from 14.6 to 15.1 years in 2003/04 and 2012/13 respectively (further results are presented in Appendix B).

## Ethnic group

There have been several changes in the recorded ethnic<sup>42</sup> composition of FTEs, with the major volume changes occurring between 2006/07 and 2012/13. The main shift was that the proportion of FTEs whose ethnic group was recorded as 'white' fell by five percentage points during this period (from 84% to 79% respectively). In absolute terms this was a drop from 93,092 to 21,902 in 2006/07 and 2012/13 respectively (a 76% reduction). The second major change was that the proportion of FTEs whose ethnic group was recorded as 'black' increased by three percentage points from 7% to 10% between 2006/07 and 2012/13, whilst at the same time the absolute numbers decreased from 7,985 to 2,753 over the same time period (a 66% decrease). Against the overall downward trend in the number of FTEs, the increased proportion of FTEs whose ethnic group was recorded as 'black' warrants further investigation in order to understand the reasons for this change.<sup>43</sup> (For further details see Appendix B, Table B.2.)

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<sup>42</sup> The ethnic group categories stated in this report are those recorded in the PNC and are based on police observed opinion of ethnic group.

<sup>43</sup> It was not possible to look at one potential explanation, offence severity, because these data were not available for all offences. Previous research has attempted to isolate whether observed differences in judicial outcomes for different ethnic groups are a result of 'difference or discrimination' (see Feilzer and Hood, 2004; May *et al*, 2010). However, non-equivalence between individuals and/or cases means this is a challenging task based on observational data.



## Types of proven offences committed by first time entrants

Figure 4.2<sup>44</sup> shows the number of FTEs by the type of first proven offence committed from 2003/04 to 2012/13. The vast majority of offences committed by FTEs were summary offences<sup>45</sup> (i.e. non-serious offences that are usually heard in the youth court, which is a type of magistrates' court).<sup>46</sup> This did not change over the ten year study period.

There were substantial changes in the number of FTEs who committed summary<sup>47</sup> and theft and handling stolen goods offences, which were the two most common offence categories across the period of interest. Indeed, when combined, FTEs who committed these offence types accounted for 66%, 72% and 59% of the total number of FTEs in 2003/04, 2006/07 (the peak in the volume of FTEs) and 2012/13 respectively. From 2003/04 to 2006/07, FTEs who committed summary offences increased by 44%, and those who committed theft and stolen goods offences increased by 28%. Between 2006/07 and 2012/13, however, volumes decreased substantially (by 77% and 83% respectively).

There were also notable shifts in the number of FTEs committing other proven offence types. For example, FTEs committing violence against the person offences followed a similar trajectory to those who committed summary and theft and stolen good offences (i.e. volumes peaking, in 2005/06, then reducing substantially (-77%) by 20012/13). The number of FTEs committing criminal damage, however, remained broadly stable until 2006/07, and then fell sharply by 83% by the end of the study period (from 5,510 in 2006/07 to 944 in 2012/13).<sup>48</sup>

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<sup>44</sup> In Figures 4.2 and 4.3 some of the proven offence types committed by FTEs have been combined to reduce the number of data categories so that it is easier for the reader to interpret findings. A fuller set of proven offence types committed by FTEs is presented in Table B.2 in Appendix B.

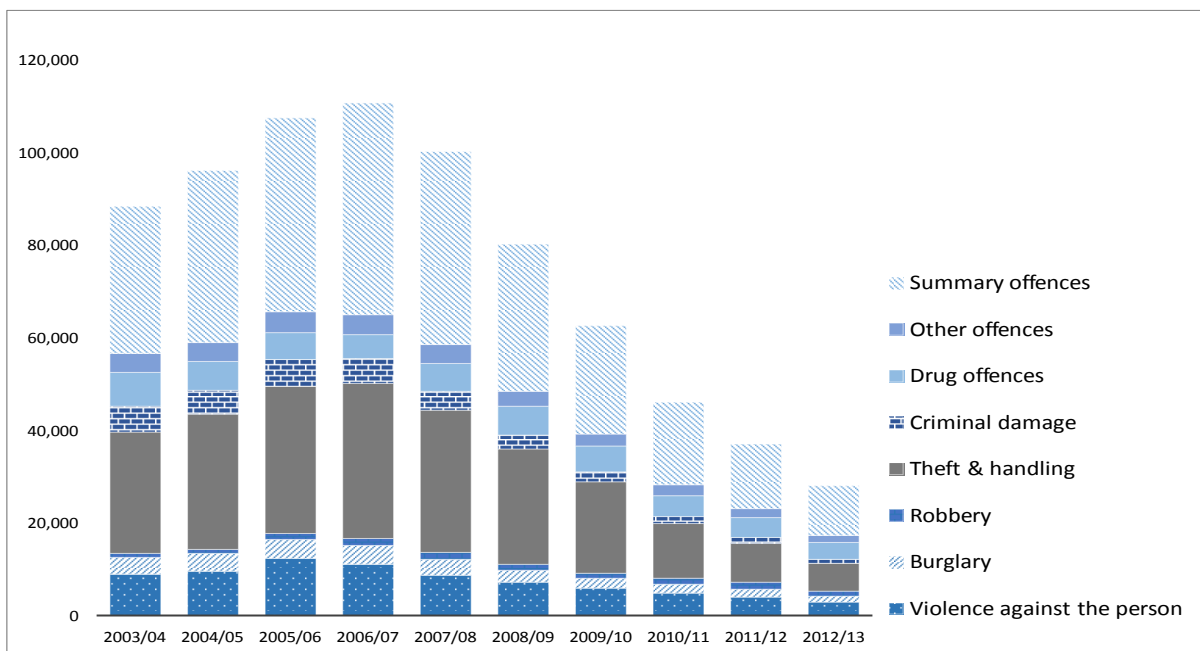
<sup>45</sup> The summary offence category contains 216 different non-serious offence types. Of the 289,576 summary offences recorded by the police as being committed by FTEs, 89% are made up of four broad offence categories (percentages do not add up due to rounding): criminal damage under £5,000 (33%); common assault / assault of a police officer (37%); Public Order Act offences (12%); Theft Act offences (6%). Within these four categories over 100,000 offences are for common assault and about 95,000 are for criminal damage of £5,000 or less.

<sup>46</sup> Offences can be heard in different types of court depending on the seriousness of the offence. Triable only on indictment offences: are the most serious breaches of the criminal law and must be tried at the crown court before a judge and jury (e.g. murder, manslaughter, rape and robbery offences). Triable-either-way offences may be tried either at the crown court or at a magistrates' court (e.g. criminal damage where the value is £5,000 or greater). Summary offences are non-serious and usually heard only by a magistrates' (or youth) court.

<sup>47</sup> Within the summary offence category, there was a 75% fall in both criminal damage and common assault as first offences from a peak of 30,728 to 7,305 in 2006 and 2012 respectively.

<sup>48</sup> See Appendix B, Figures B.1 and B.2 for percentage change analysis of proven offences committed by FTEs. Also see Figure B.3 for indexed trends in FTEs by proven offence type, which shows relative change from 2003/04.

**Figure 4.2: Number of first time entrants by first proven offence type, 2003/04–2012/13**

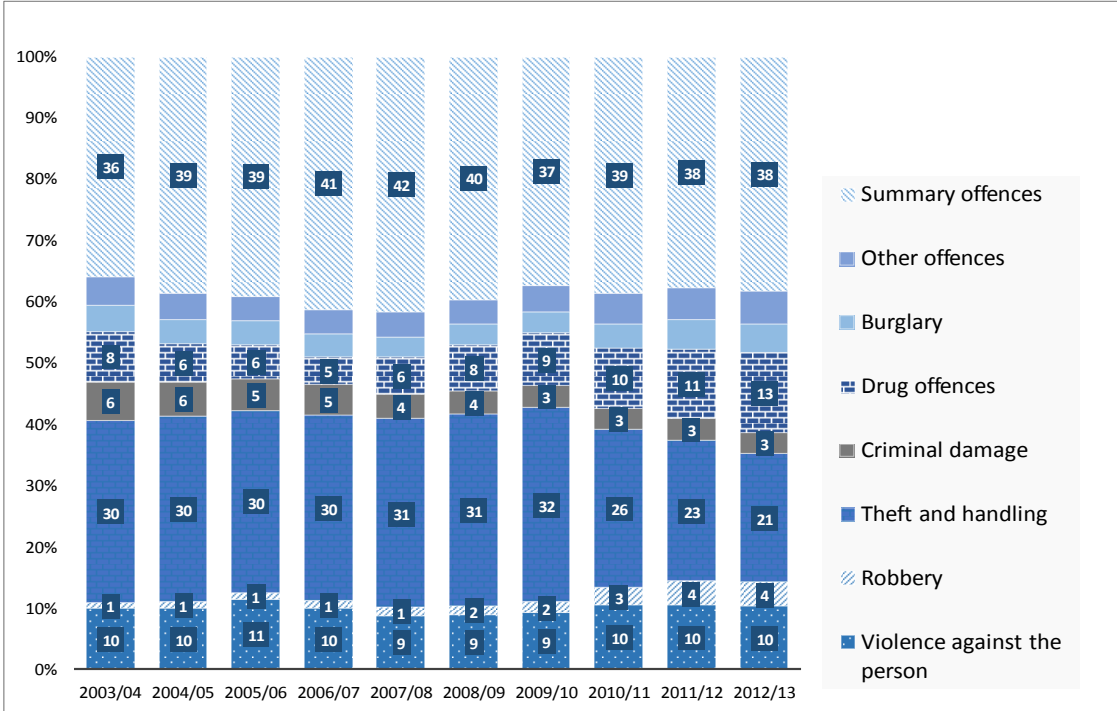


Source: Ministry of Justice extract of the Police National Computer 2003/04–2012/13

Trends in FTEs by the offence type they committed varied across the study period and, therefore, their relative share of the annual volume of FTEs changed between 2003/04 and 2012/13. For example, Figure 4.3 shows that FTEs committing theft and handling stolen goods offences accounted for nearly a third (between 30% and 32%) of FTEs between 2003/04 and 2009/10. By 2012/13, however, the proportion of FTEs committing this offence had dropped to a fifth (21%). The proportion of FTEs committing summary offences increased by six percentage points (from 36% to 42% between 2003/04 and 2007/08); however, by the end of the study the proportion had fallen back to around the levels observed in 2004/05 (38%).

The number of FTEs who committed other types of offences fell at a slower rate (compared, for example, to summary and theft and stolen goods offences), and therefore their relative share of the annual volume of FTEs tended to increase. For example, the proportion FTEs committing drug offences ranged from 8% and 5% between 2003/04 and 2006/07; however, by 2012/13 the proportion had increased to 13%. FTE robbery offences increased from 1% prior to 2008/09 to 4% by 2013/14, whilst the proportion of FTEs committing violence against the person offences remained broadly stable at around 10% across the study period (see figure 4.3).

**Figure 4.3: Proportion of first time entrants by first proven offence type, 2003/04–2012/13**



Source: Ministry of Justice extract of the Police National Computer 2003/04–2012/13.

The changes in the ‘offence mix’ committed by FTEs were driven in part by large declines in the proportion of children and girls among the FTE population. For example, the trajectories of theft and handling offences correspond with changes in the proportion of FTEs who were female, indicating that this offence type may have been a principal factor in girls and young women becoming FTEs.<sup>49,50</sup> Overall, the changes in the volume and nature of FTE offending and demographics are broadly in line with what would be expected given the changes in policing practice between 2003/04 and 2012/13 (see section 3).

<sup>49</sup> Previous research has shown that acquisitive crimes such as theft form a larger proportion of female than male crime, notwithstanding the fact that males outnumber females substantially in every crime category. See Heidensohn and Gelsthorpe (2007) and Sharpe (2012).

<sup>50</sup> Table B.3 in Appendix B provides further figures on FTEs by first proven offence type committed.

## Disposals received by first time entrants

Figure 4.2 shows that many FTEs committed low-level offences and, therefore, they typically received an out-of-court disposal (i.e. a caution, reprimand or final warning),<sup>51</sup> and this did not change between 2003/04 and 2012/13. Analysis of PNC data, across the study period, showed an increase in the proportion of FTEs who were convicted at court, and a decrease in the proportion who received an out-of-court disposal. In 2003/04, 90% of FTEs received an out-of-court disposal and 10% were convicted at court. Yet by 2011/12, 20% were convicted at court, perhaps reflecting the increasing share of some more serious offences.

## 4.2 Further assessment of the first time entrant ‘case mix’

The descriptive analysis of PNC data set out above looks at one or two characteristics over time. Multivariate analysis enables all of these characteristics to be examined simultaneously, to see how they relate to each other and cluster together. An exploratory multivariate analysis (i.e. Latent Class Analysis – LCA) was conducted to identify different ‘types’ of FTEs who are more likely to share given characteristics. Pooling data from across the study period, the analysis showed there were four main classes of FTE. These were:

- younger (aged 10 to 14), low seriousness male offenders;
- younger, low seriousness, female offenders;
- older (aged 15 to 17), male, drug offenders; and
- older, male, more violent offenders.

From 2009 onwards, a fifth group was found that was more likely than previous years to contain FTEs who were more ‘serious’. The substantial decrease in high volume low-seriousness cases may have been a factor in the identification of this more ‘serious’ FTE group. (See Appendix D for further details).

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<sup>51</sup> To note that a caution, reprimand or final warning are the only out-of-court disposals which are recorded on the PNC for young people aged 10 to 17 years who have offended. In April 2013 the Final Warning scheme was replaced by the Youth Caution. For further details see: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/438139/out-court-disposal-guide.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/438139/out-court-disposal-guide.pdf)

## 5. Proven reoffending outcomes of first time entrants and impact on the youth custodial population

### Key findings

- On average, between 2003 and 2011, the majority (79%) of FTEs did not commit a further proven offence within one year of entering the youth justice system.
- Trends in proven reoffending by FTEs coincided broadly with changes in the number and nature of FTEs.
  - Between 2006 and 2009 there was a decrease in the probability of further offending across most age groups (with the steepest decline being for 10 and 11 year-olds). This broadly aligned with an increase in the number of FTEs who had committed low-level offences coming into the youth justice system.
  - However, as the profile of FTEs changed from 2009 onwards towards more serious offences and older offenders, the probability of reoffending within a year increased from 20% to 24% between 2009 and 2011.
- Within a given birth cohort, those who became FTEs earlier in life were more likely to commit a further proven offence as adults.

This section presents several analyses relating to further proven reoffending by FTEs, addressing the third research question for this study.

### 5.1 Proven reoffending by first time entrants

An assessment of proven reoffending by FTEs was conducted as this can be used as one indicator of the later demand that FTEs may place on the criminal justice system and how this changed over time.<sup>52</sup>

Between 2003 and 2011,<sup>53</sup> the majority (79%) of FTEs in a given year did not commit a further proven offence; however, around a fifth (21%) reoffended within a year of their first offence.

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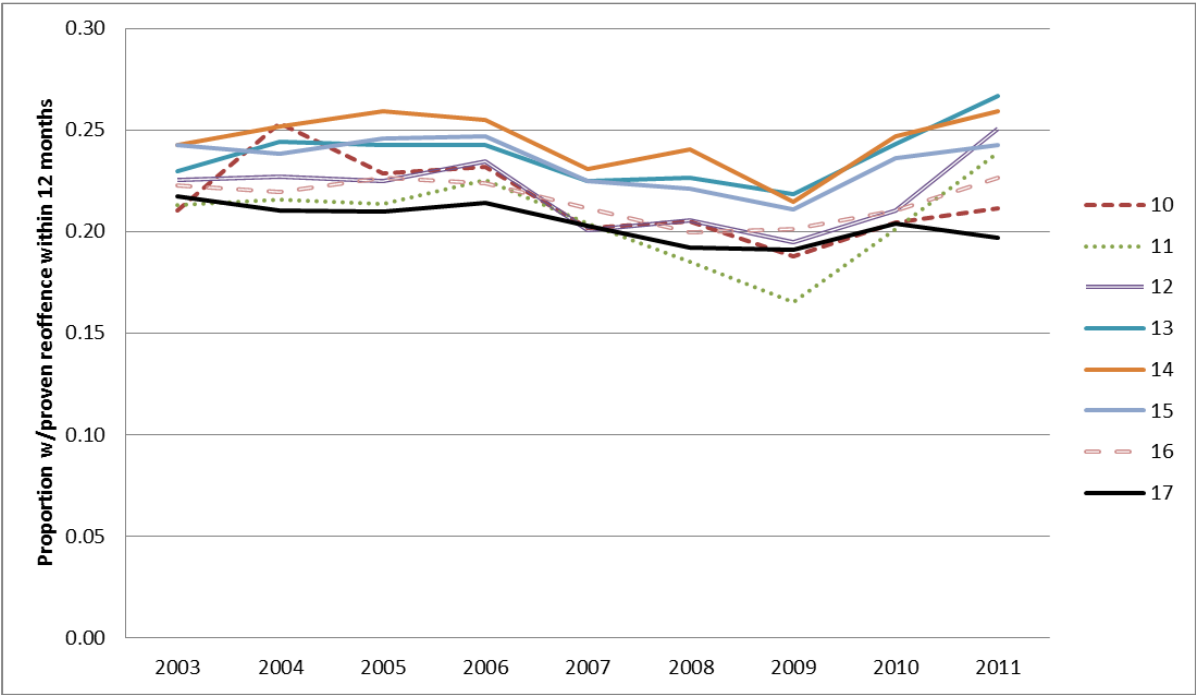
<sup>52</sup> Reoffending was calculated by assessing whether another proven offence was recorded in the 12 months following the FTE index offence. This was only possible for those becoming FTEs between 2003 and 2011, to allow enough time for offences to be recorded. There are, however, limitations of this approach, namely that this does not account for periods on remand or in custody (Sutherland, 2013).

<sup>53</sup> This analysis was undertaken using calendar rather than financial years.

Figure 5.1 shows a breakdown of the likelihood of proven reoffending by age group, 2003 to 2011, illustrating that:

- overall, 13–15 year-olds were consistently the most likely to have a further offence;
- between 2003 and 2005 reoffending probabilities remained largely stable across age groups;
- between 2006 and 2009 there was a decrease in the probability of further offending across most age groups, with the steepest decline being for 10 and 11 year-olds; and
- from 2009 onwards there was a marked increase in the likelihood of proven reoffending, across all age groups.

**Figure 5.1: Proportion of first time entrants reoffending within 12 months of first proven offence, by age: 2003–11**



Notes: One-year proven reoffending since primary (index) offence for each age group entering the system from 2003–11. Source: Ministry of Justice extract of the Police National Computer 2003/04–2012/13.

Trends in proven reoffending coincide with changes in the number and nature of FTEs (as described in section 4). For example, the number of FTEs committing less serious offences increased during 2006 and 2009. This aligned broadly with the period when proven reoffending by FTEs started to fall. A possible explanation is that when the number of FTEs peaked, proven reoffending decreased because there were proportionately more offenders with a low-propensity for reoffending in the system.

As the profile of FTEs changed from 2009 onwards (around the time when Community Resolutions and processes like Triage were introduced, see section 3) towards more serious offences and older offenders, the probability of proven reoffending within a year increased.

## 5.2 Proven offending by first time entrants as adults by birth cohort

In order to investigate whether FTEs committed further proven offences as adults, the FTE population was separated into birth cohorts, dividing those born in each of the years between 1988 and 1994.<sup>54</sup> This approach allows examination of the effect of becoming an FTE for individuals in the same birth cohort, but who enter the system at different times. For example, a comparison can be made between the likelihood of proven reoffending for a 10 year-old FTE in 2003 (born in 1993) with an 11 year-old FTE in 2004 (also born in 1993). By looking at birth cohorts, everyone in that cohort has had roughly similar amount of time to reoffend as an adult.<sup>55</sup>

Figure 5.2 shows the reoffending likelihood for people born in the same year and who became an FTE (i.e. entered the youth justice system at different ages). It shows that, in general, the younger an individual entered the system *within a birth cohort*, the greater the likelihood that they will reoffend as adults, given a fixed ‘time at risk’. That is, the proportion reoffending as adults is generally higher for those who enter the system at young ages within each cohort. This is in line with previous studies showing that the earlier a ‘criminal career’ begins the longer and more intense it is likely to be (see Piquero *et al*, 2003).<sup>56</sup> This trend, however, does not hold for those born in 1992 and 1993, who became FTEs between 2008 and 2010 (aged 14–17), as there was a slight increase in the proportions from these cohorts being reconvicted as adults, but there is no obvious explanation for this (although this does correlate with the period when more serious FTEs were more prominent). It might be that those entering at this point in time have a greater propensity for offending than others in their cohort who became FTEs earlier.

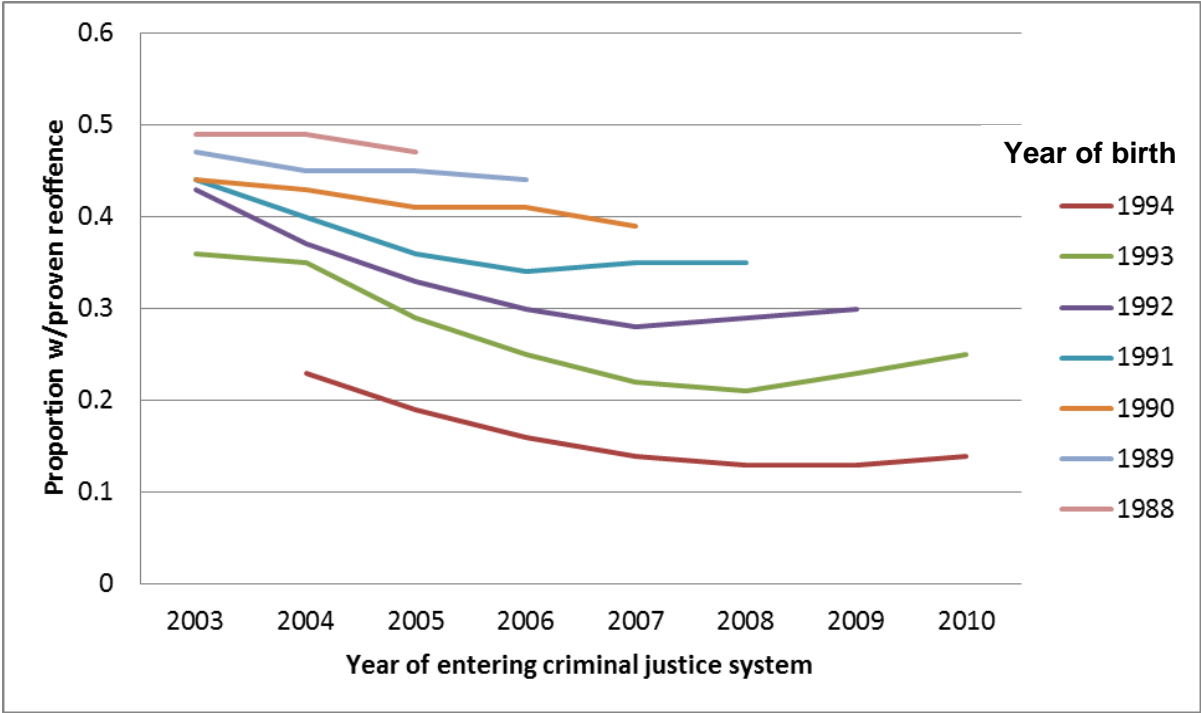
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<sup>54</sup> These years correspond to the years that FTEs recorded in the PNC extract were born. Ages, birth years, dates turning 18 and age of proven reoffending are approximated as PNC data included only month and year of birth (not day), along with age in whole years at the point of offence. This means that when offences occurred cannot be accurately ascribed to a given time period (e.g. if it occurred before or just after someone’s birthday). With more precise dates this could be revisited.

<sup>55</sup> FTEs who were 16 or 17 in 2003/2004 had nearly ten years to offend as adults, whereas those who were 16 or 17 in 2010 had only two years. Therefore, the ‘at risk’ period is the same within cohorts but not between them. The point at which data were collected also affects this analysis. If data were collected in June 2012, then those born in the first half of the year in each cohort will have more time ‘at risk’ than those born in the second half.

<sup>56</sup> There is some evidence that bringing young people into the CJS particularly those who have committed low-level offences may increase subsequent law breaking and also subsequent criminalisation (see, McAra and McVie, 2007; Petrosino *et al*, 2010; Kirk and Sampson, 2013).

**Figure 5.2: First time entrants with further proven offences as adults by first time entrant birth cohort**



Source: Ministry of Justice extract of the Police National Computer 2003/04–2012/13.



## 6. Conclusions

This study aimed to address three research questions related to the change in the number of FTEs to the youth justice system between 2003/04 and 2012/13.

1. What were the possible societal, policy or practice drivers and factors associated with the changes in the number of FTEs, in particular those associated with the fall in FTEs from the peak in financial year 2006/07?
2. Did the 'case mix' of FTEs change over time? If so, how?
3. What were the proven reoffending outcomes of FTEs over the study period?

The findings of the study should be interpreted in light of the limitations set out in section 2.4. Importantly, this study is not able to draw conclusions about causal attribution. However, it has been possible to demonstrate associations and put forward plausible hypotheses linking changes in the numbers, case mix and reoffending of FTEs to changes in how the criminal justice system responded to young, first time offenders.

### **Societal, policy or practice drivers and factors associated with the changes in the number of first time entrants**

Changes in policing practices appear to have made an important contribution to both the increase and decrease in the number of FTEs. The introduction of a target to increase offences brought to justice preceded a sharp increase in the number of young people brought into the formal youth justice system for the first time between 2003/04 and 2006/07. A revision to this target (encouraging the police to focus on more serious offenders) may have contributed to the rapid and substantial falls in the number FTEs after the financial year 2006/07. Although the decrease in the number of FTEs began before the target was revised it is possible that the police changed their practice in anticipation of a revision to the target. The decrease in FTEs may have been sustained, and was perhaps accelerated, by police-led diversionary practices and informal sanctions that were encouraged in a new youth justice policy launched in 2008. Furthermore, these falls may possibly have been assisted by longer term trends such as a reduction in the risk factors associated with youth offending behaviour and possibly even falls in youth crime.

### **The case mix of first time entrants**

Compared to 2003/04, on average, FTEs in 2012/13 were older, less likely to be female or white, and more likely to have committed a more serious offence.

These demographic changes might be expected to result from an expansion of police discretion to issue informal sanctions and divert young people who had committed low-level offences, including FTEs, away from the formal youth justice system. Analysis of the proven offending composition of the FTE population is consistent with the substantial decrease in high-volume low-seriousness cases.

### **Proven reoffending outcomes**

Throughout the period from 2003 to 2011, most FTEs (79%) did not commit a further proven offence. Trends in reoffending by FTEs coincided broadly with changes in the number and nature of FTEs. Between 2006 and 2009 there was a decrease in the probability of further offending across most age groups, with the steepest decline being for 10 and 11 year olds. However, from 2009 onwards there was an increase in the likelihood of proven reoffending across all age groups. Although the study cannot draw causal connections, an increase in reoffending might be expected among a population of older FTEs committing, on average, more serious offences.

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## Appendix A

### Evidence Review

A review of the published literature was undertaken, which aimed to provide evidence on the possible societal, political and practice drivers that may have influenced first time entrant (FTE) trends. The review considered:

- Evaluations and assessments of changes in FTE numbers.
- As no empirical evaluations were found, the scope of the review was expanded to include, theories relating to the international and national 'crime drop' which might be helpful in generating hypotheses about the fall in FTEs.
- A mapping exercise to identify policy and practice changes, across England and Wales, which could possibly have affected the volumes of FTEs, with a specific focus on the fall in FTEs from the peak in 2006/07.
- Evaluations of the specific programmes, policies and practice that were identified, at an earlier stage in this literature review, as possible drivers for the changes in FTEs.

The review was conducted as a set of structured searches around topics identified by the literature relating to changes in FTEs. The objective was also to generate a long list of key changes in England and Wales relating to the following topics.

- Legislation (for example, relating to sentencing, offences, etc.)
- Policy in a range of areas (e.g. changes in the organisations responsible for, or involved in, youth justice, funding for agencies interacting with young people, interventions outside of the criminal justice system which may have had an impact).
- Interventions that might have impacted upon young people at risk of becoming FTEs.

In order to identify policy changes, the following were reviewed.

- Criminal justice legislation enacted between 2000 and 2009 (Acts of Parliament were screened for provisions or changes that were related to, or could have related to, youth justice).<sup>57</sup>
- Strategy documents from the YJB and MOJ, searching for relevant policy changes.<sup>58</sup>
- Relevant guidance and legislation provided by the Youth Justice Board.

Along with searches for 'first time entrants', topics and phrases set out below were searched via a number of databases.

- Parenting interventions
- Time-use trends amongst young people.
- Substance use and general trends in 'risky behaviour' (risk factors associated with youth antisocial behaviour and crime).
- Trends in social mobility.
- Changes in speed of maturation (pubertal timing).
- Later age before young people leave home
- Legislative changes.
- International data on the crime drop (e.g. statistics from other countries).

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<sup>57</sup> This was undertaken by manually reviewing legislation on <http://www.legislation.gov.uk/ukpga>. The scope of the review was limited to 2000 to 2009 due to constraints on project time.

<sup>58</sup> The authors conducted a targeted search of Youth Justice Board (YJB) Annual Reports and Accounts and all Youth Justice Board Annual Statistics from 2008 to 2013 to identify whether a reference was made to the Youth Crime Action Plans and/or reductions in FTEs. For 2006–07, 2007–08 and 2008–09, the YJB Annual Workload Data reports were used.

## Appendix B

### Demographic and offence characteristics of first time entrants

**Table B.1: Demographic and proven first offence characteristics of first time entrants (2003/04–2012/13)**

| <b>Variables</b>                   |                                     | <b>All</b> |
|------------------------------------|-------------------------------------|------------|
| <b>Ethnicity</b><br>n= 757,231     | Unknown                             | 3.3%       |
|                                    | White – North European              | 82.3%      |
|                                    | White – South European              | 1.4%       |
|                                    | Black                               | 7.7%       |
|                                    | Asian                               | 4.5%       |
|                                    | Chinese; Japanese or SE Asian       | 0.3%       |
|                                    | Middle Eastern                      | 0.5%       |
|                                    |                                     |            |
| <b>Index offence</b><br>n= 757,231 | Violence against the person         | 9.8%       |
|                                    | Sexual offences                     | 0.9%       |
|                                    | Burglary                            | 3.8%       |
|                                    | Robbery                             | 1.6%       |
|                                    | Theft and handling stolen goods     | 29.5%      |
|                                    | Fraud and forgery                   | 1.1%       |
|                                    | Criminal damage                     | 4.6%       |
|                                    | Drug offences                       | 7.2%       |
|                                    | Other indictable offences           | 2.2%       |
|                                    | Indictable motoring offences        | 0.1%       |
|                                    | Summary offences excluding motoring | 38.2%      |
|                                    | Summary motoring offences           | 0.9%       |
|                                    |                                     |            |
| <b>Gender</b><br>n= 754,799        | Male                                | 69.6%      |
|                                    | Female                              | 30.4%      |
| <b>Age</b><br>n= 757,231           | 10                                  | 1.6%       |
|                                    | 11                                  | 3.6%       |
|                                    | 12                                  | 7.4%       |
|                                    | 13                                  | 12.3%      |
|                                    | 14                                  | 17.6%      |
|                                    | 15                                  | 20.4%      |
|                                    | 16                                  | 19.1%      |
|                                    | 17                                  | 17.9%      |
| <b>Adjudication</b><br>n= 757,231  | Court                               | 11.0%      |
|                                    | Caution/Final warning/Reprimand     | 89.0%      |

Source: Ministry of Justice extract of the Police National Computer 2003/04–2012/13.

The PNC database is updated on a regular basis and, therefore, data extracted at different time points can produce different figures.

**Table B.2: Number of first time entrants by police officer designated ethnic group (2003/04–2012/13, column percentages)**

| <b>Ethnicity</b>                            | <b>2003/04</b> | <b>2004/05</b> | <b>2005/06</b> | <b>2006/07</b> | <b>2007/08</b> | <b>2008/09</b> | <b>2009/10</b> | <b>2010/11</b> | <b>2011/12</b> | <b>2012/13</b> |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>'Asian'</b>                              | 3,522          | 3,734          | 4,317          | 4,633          | 4,363          | 4,238          | 3,280          | 2,423          | 2,068          | 1,489          |
| <b>Column %</b>                             | 4.0            | 3.9            | 4.0            | 4.2            | 4.4            | 5.3            | 5.2            | 5.3            | 5.6            | 5.3            |
| <b>'Black'</b>                              | 5,944          | 6,486          | 7,278          | 7,985          | 7,496          | 6,567          | 5,528          | 4,524          | 3,768          | 2,753          |
| <b>Column %</b>                             | 6.7            | 6.7            | 6.8            | 7.2            | 7.5            | 8.2            | 8.8            | 9.8            | 10.2           | 9.9            |
| <b>'Chinese; Japanese; SE Asian; other'</b> | 221            | 238            | 279            | 293            | 322            | 291            | 299            | 212            | 167            | 114            |
| <b>Column %</b>                             | 0.3            | 0.3            | 0.3            | 0.3            | 0.3            | 0.4            | 0.5            | 0.5            | 0.5            | 0.4            |
| <b>'Middle Eastern'</b>                     | 346            | 333            | 362            | 409            | 401            | 419            | 384            | 337            | 270            | 220            |
| <b>Column %</b>                             | 0.4            | 0.4            | 0.3            | 0.4            | 0.4            | 0.5            | 0.6            | 0.7            | 0.7            | 0.8            |
| <b>Unknown</b>                              | 3,250          | 3,101          | 3,622          | 4,401          | 3,325          | 1,902          | 1,652          | 1,390          | 1,487          | 1,384          |
| <b>Column %</b>                             | 3.7            | 3.2            | 3.4            | 4.0            | 3.3            | 2.4            | 2.6            | 3.0            | 4.0            | 5.0            |
| <b>'White'</b>                              | 75,165         | 82,307         | 91,828         | 93,092         | 84,485         | 66,946         | 51,433         | 37,077         | 29,169         | 21,902         |
| <b>Column %</b>                             | 85.0           | 85.6           | 85.3           | 84.0           | 84.2           | 83.3           | 82.2           | 80.7           | 79.0           | 78.6           |
| <b>Total</b>                                | 88,448         | 96,199         | 107,686        | 110,813        | 100,392        | 80,363         | 62,576         | 45,963         | 36,929         | 27,862         |
|   | 100            | 100            | 100            | 100            | 100            | 100            | 100            | 100            | 100            | 100            |

Source: Ministry of Justice extract of the Police National Computer 2003/04–2012/13.

The PNC database is updated on a regular basis and, therefore, data extracted at different time points can produce different figures.

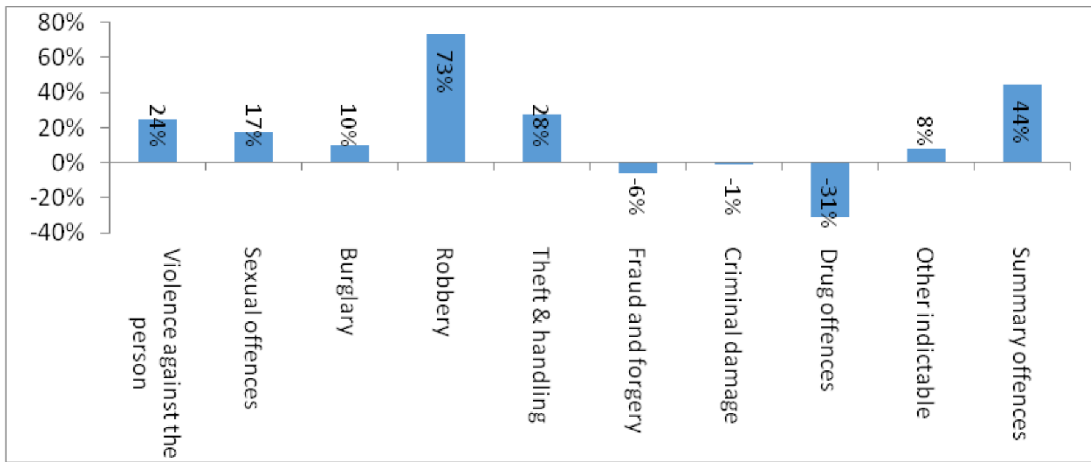
**Table B.3: Number of FTEs by proven first offence type (2003/03–2012/13)**

| <b>Offence type</b>                 | <b>2003/04</b> | <b>2004/05</b> | <b>2005/06</b> | <b>2006/07</b> | <b>2007/08</b> | <b>2008/09</b> | <b>2009/10</b> | <b>2010/11</b> | <b>2011/12</b> | <b>2012/13</b> |
|-------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Burglary                            | 3,807          | 3,749          | 4,212          | 4,187          | 3,395          | 2,645          | 2,157          | 1,811          | 1,775          | 1,292          |
| Criminal damage                     | 5,573          | 5,297          | 5,683          | 5,510          | 4,022          | 3,037          | 2,146          | 1,528          | 1,290          | 944            |
| Drug offences                       | 7,344          | 6,121          | 5,940          | 5,059          | 6,026          | 6,151          | 5,423          | 4,573          | 4,191          | 3,654          |
| Fraud and forgery                   | 1,192          | 1,161          | 1,127          | 1,118          | 1,083          | 852            | 585            | 425            | 329            | 247            |
| Indictable motoring offences        | 181            | 146            | 162            | 131            | 113            | 86             | 61             | 54             | 32             | 28             |
| Other indictable offences           | 2,105          | 2,076          | 2,245          | 2,338          | 2,079          | 1,613          | 1,448          | 1,192          | 912            | 647            |
| Robbery                             | 824            | 960            | 1,110          | 1,426          | 1,406          | 1,205          | 1,090          | 1,287          | 1,432          | 1,096          |
| Sexual offences                     | 647            | 699            | 813            | 757            | 759            | 672            | 641            | 629            | 630            | 576            |
| Summary motoring offences           | 958            | 962            | 947            | 1,003          | 886            | 739            | 523            | 419            | 346            | 274            |
| Summary offences excluding motoring | 30,838         | 36,296         | 41,173         | 44,834         | 41,027         | 31,202         | 22,834         | 17,331         | 13,631         | 10,410         |
| Theft and handling stolen goods     | 26,232         | 29,176         | 32,051         | 33,571         | 30,909         | 25,123         | 19,960         | 11,937         | 8,531          | 5,856          |
| Violence against the person         | 8,747          | 9,556          | 12,223         | 10,879         | 8,687          | 7,038          | 5,708          | 4,777          | 3,830          | 2,838          |
| <b>Total</b>                        | <b>88,448</b>  | <b>96,199</b>  | <b>107,686</b> | <b>110,813</b> | <b>100,392</b> | <b>80,363</b>  | <b>62,576</b>  | <b>45,963</b>  | <b>36,929</b>  | <b>27,862</b>  |

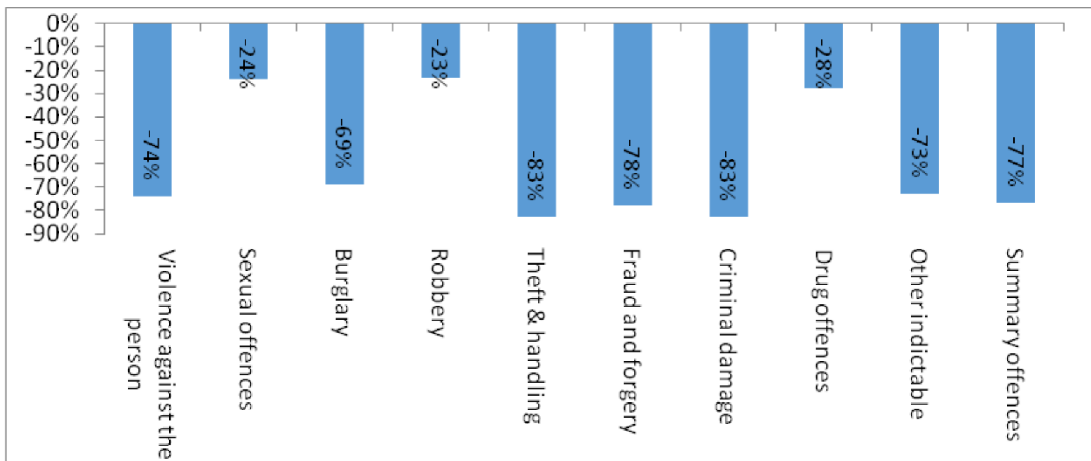
Source: Ministry of Justice extract of the Police National Computer 2003/04–2012/13.

The PNC database is updated on a regular basis and, therefore, data extracted at different time points can produce different figures.

**Figure B.1: First time entrants by proven first offence type, percentage change comparing 2003/04 to 2006/07**



**Figure B.2: First time entrants by proven first offence class type, percentage change comparing 2006/07 to 2012/13**



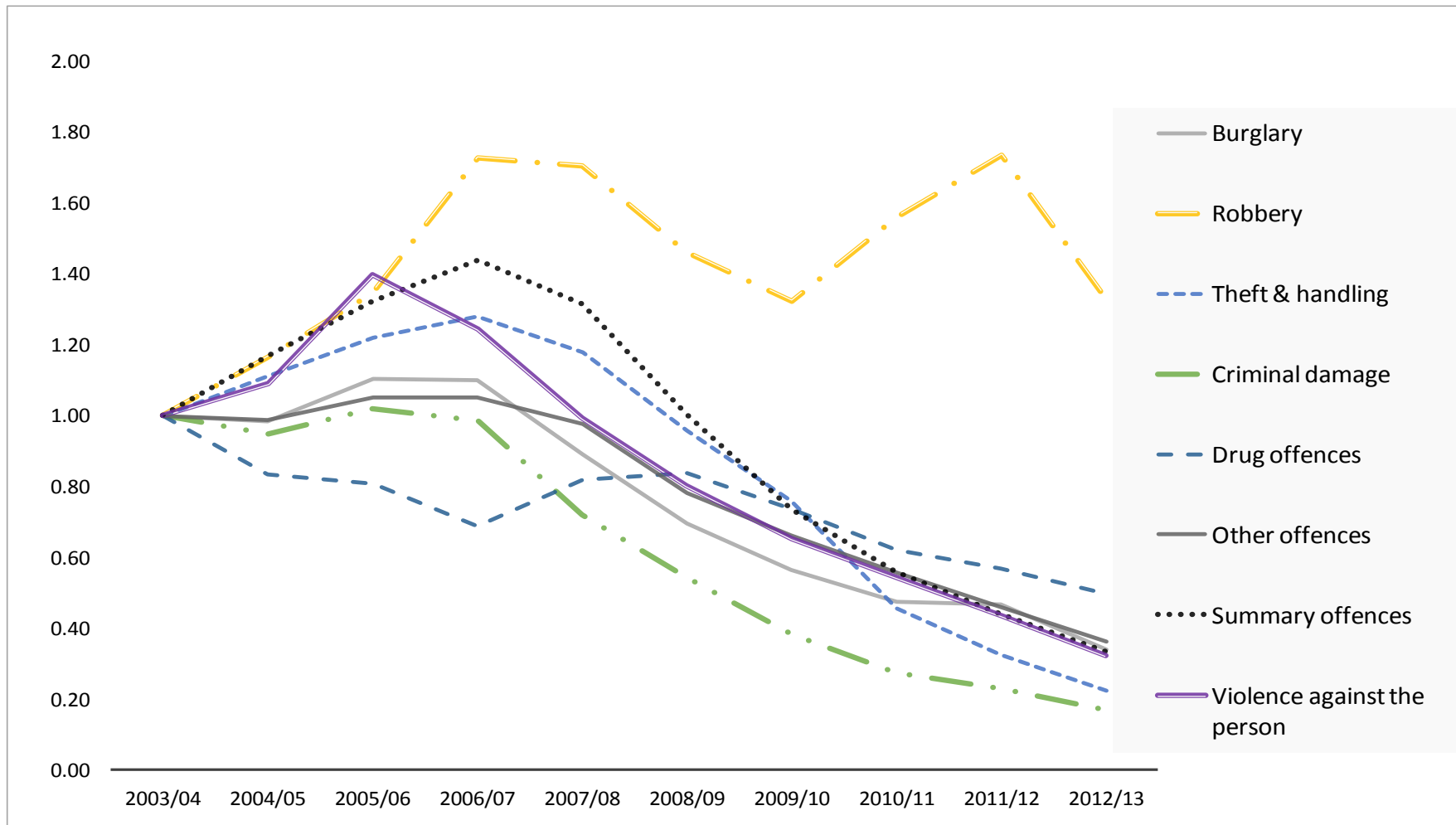
Source: Ministry of Justice extract of the Police National Computer 2003/04–2012/13.

The PNC database is updated on a regular basis and, therefore, data extracted at different time points can produce different figures.



**Figure B.3: Trends in first time entrants by first proven offence type, indexed to 2003/04**

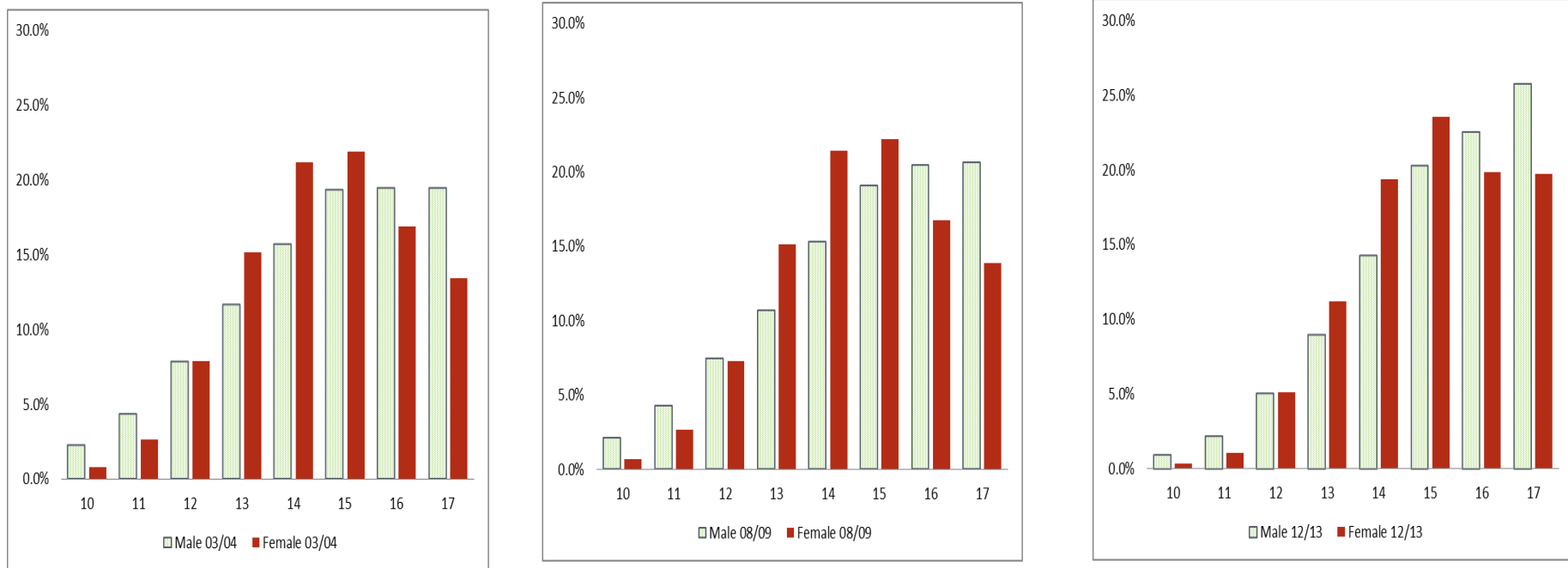
50



Source: Ministry of Justice extract of the Police National Computer 2003/04–2012/13.

The PNC database is updated on a regular basis and, therefore, data extracted at different time points can produce different figures.

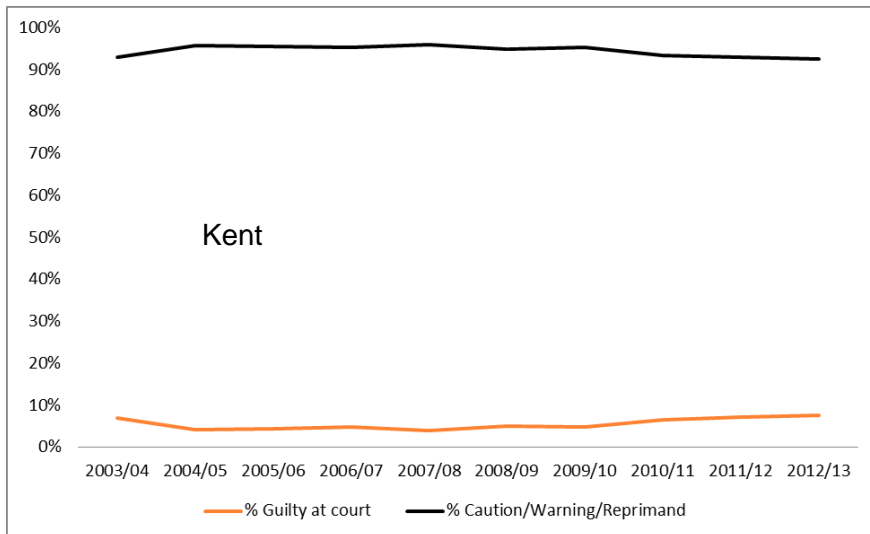
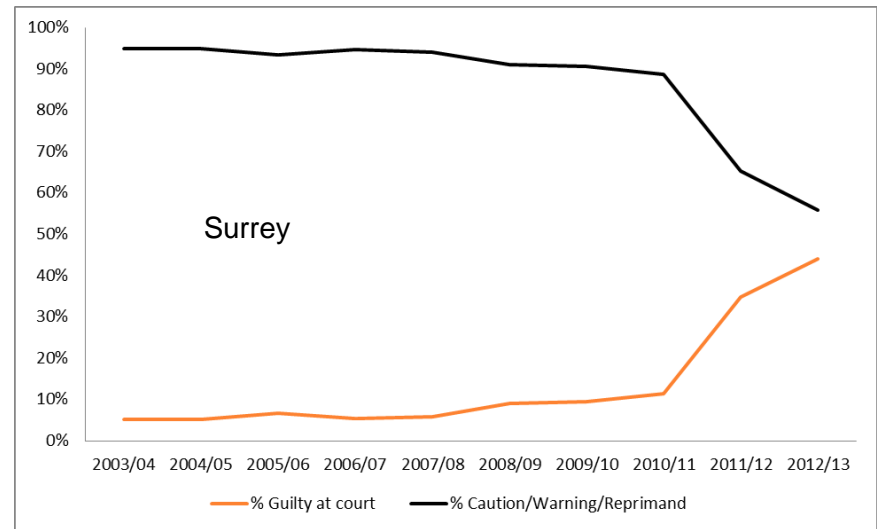
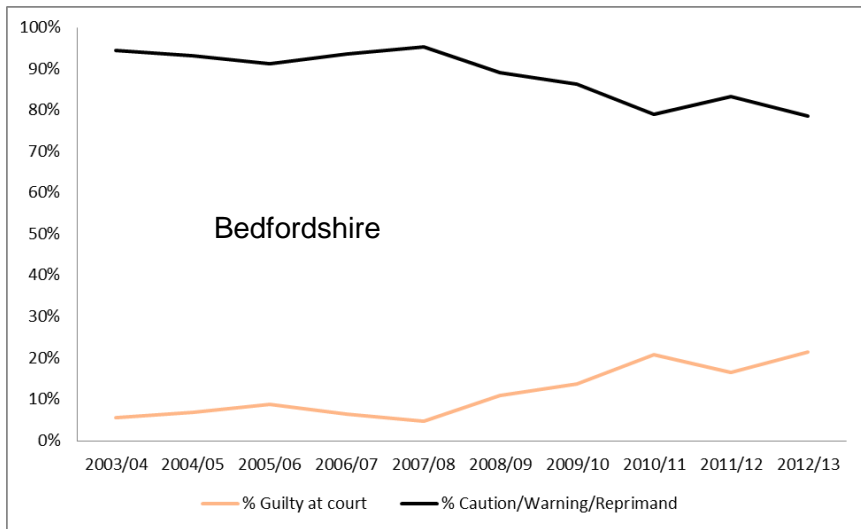
**Figure B.4: Proportion of first time entrants by age and gender in 2003/04, 2008/09 and 2012/13**



Source: Ministry of Justice extract of the Police National Computer 2003/04–2012/13. The PNC database is updated on a regular basis and, therefore, data extracted at different time points can produce different figures.

Base: First time entrants with age and gender data in 2003/04 (88,350), 2008/09 (80,049) and 2012/13 (27,624). Overall 2,432/757,231 cases (.003%) did not have gender data.

**Figure B.5: Proportion of first time entrants by adjudication type in three police forces (2003/04–2012/13)**



Police forces: These areas were explicitly chosen to illustrate the variation over time between police forces.

Base: All FTEs in Bedfordshire, Kent and Surrey.

Source: Ministry of Justice extract of the Police National Computer 2003/04–2012/13. The PNC database is updated on a regular basis and, therefore, data extracted at different time points can produce different figures.

## Appendix C

### Was it just one ‘trend’ in first time entrants? A structural breaks analysis

#### Summary

The trend in first time entrants (FTEs) is presented as a peak centred around 2007. But there is value in understanding whether there were other distinct ‘periods’ in the FTE data, corresponding to when trends in the numbers of FTEs were changing (e.g. periods of growth, stability, and decline). The value in this approach is being able to assess whether there is one trend or many trends (rather than approximating changes in trends from a graph). Showing that there were several changes or trends over time helps to illustrate points worth investigating further, or may provide evidence to support or refute arguments relating to particular interventions (e.g. is there a change in trend associated with shifts in policing practice?).

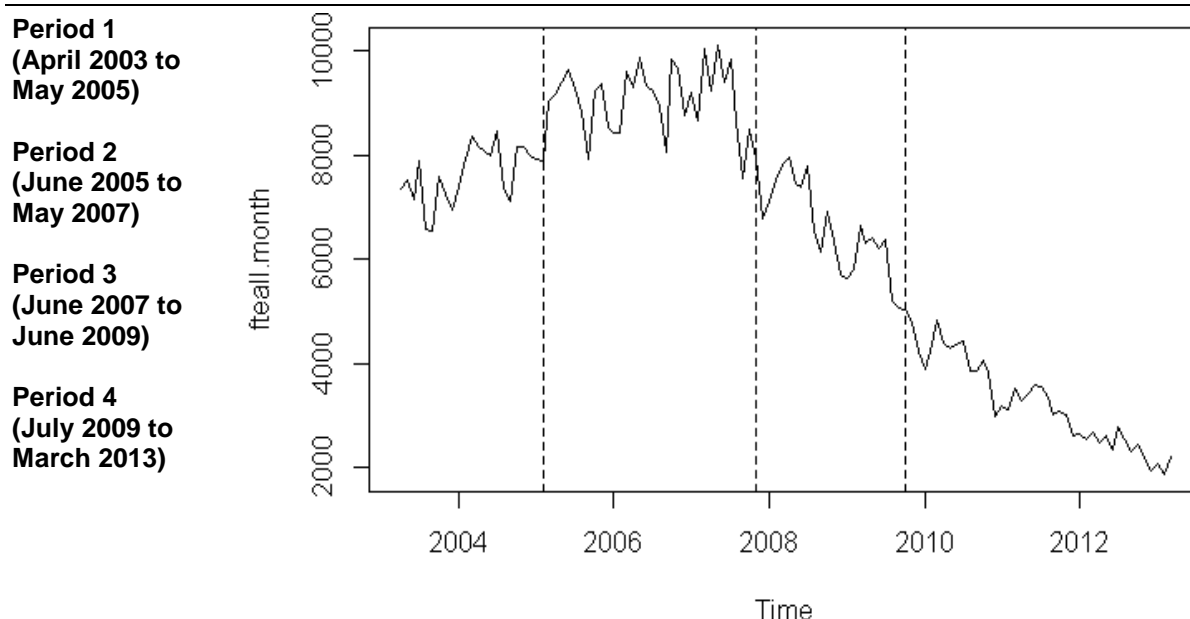
An iterative approach to dividing the FTE trend into smaller time periods was undertaken via a statistical technique called ‘structural breaks analysis’ (SBA) (Bai, 1994; Bai and Perron, 1998). The starting point for the SBA was to divide the data according to the key trends (i.e. increase between 2003–07 followed by a rapid reduction between 2007 and 2013). These time periods were then assessed via the SBA analysis, which statistically identifies step-changes or shifts in data.

This analysis suggests that the data are best divided into *four different time periods* between 2003 and 2013 in which the trend in FTEs differed (Figure C.1).<sup>59</sup> One of these ‘break points’ corresponds to mid-2009, the point when police triage was rolled out more widely and when arrests of females under 18 reduced further, and could be taken as further evidence supporting the idea that policing drove the FTE trend.

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<sup>59</sup> The analysis suggests that these periods approximate the shifts in the trend quite well. The aim of the analysis was to ensure that the time periods chosen were sufficiently different in terms of the trends in FTEs. More break points could have been identified – different approaches to the structural breaks may have resulted in more cohorts. However, four appears to be the most parsimonious way of summarising the time trend.

**Figure C.1: Break points in the first time entrant time-series identified through structural breaks analysis**



**Source: Ministry of Justice extract of the Police National Computer 2003/04–2012/13. The PNC database is updated on a regular basis and, therefore, data extracted at different time points can produce different figures. Base: All FTEs between April 2003 and March 2013**

### Statistical approach

Structural breaks are shifts in data that mean a consistent linear relationship cannot be assumed (Bai, 1994; Bai and Perron, 1998). The analysis assesses evidence against the null hypotheses that a linear relationship is constant throughout the time-series. This analysis enables us to demonstrate that sufficiently large breaks occur within the data, meaning that the different periods described are reasonable approximations of the underlying shifts in the trend. The aim of the analysis was not to confirm exactly the periods chosen, as more factors than those in the structural breaks analysis were used to inform these, but rather to confirm general patterns in data through more than just descriptive statistics. As such, the breaks identified are not ‘deterministic’ but estimated with confidence intervals of +/- two months.

The regression equation for structural breaks is reproduced below.

$$y_i = x_i' \beta_j + u_i, \quad (i = i_{j-1} + 1, \dots, i_j, j = 1, \dots, m + 1)$$

A regression coefficient is estimated for an unknown segment  $j$ , which is given by number of desired break points  $m$ , plus 1.  $x'$  is the vector of covariates, which in this case the aggregated count of FTEs by month. Within the segment, the coefficient beta is constant. The Bayesian Information Criterion (BIC) was used to select between different versions of

the structural breaks model such that the position of the breaks was optimised. The BIC was found to work very well when breaks are present in the time-series (Bai and Perron, 2003). The specific break points and the 95% confidence interval are described in Table C.1 below.

**Table C.1: Break point analysis results and confidence intervals**

| <b>Optimised break point<sup>60</sup></b> | <b>Lower confidence interval</b> | <b>Upper confidence interval</b> |
|---|----------------------------------|----------------------------------|
| February 2005                             | November 2004                    | April 2005                       |
| November 2007                             | August 2007                      | December 2007                    |
| October 2009                              | August 2009                      | November 2009                    |

Residual Sum of Squares = 63,646,130; BIC = 1,961

Further analysis was performed to understand whether a greater number of break points in the data explained the variation better than three. This is a sensitivity analysis of whether the description of four cohorts was potentially plausible. The optimum number of break points was four, and the results are described in the next two tables (first the fit statistics and second the optimised break points identified, Tables C.2 and C.3 respectively).

**Table C.2: Fit statistics for SBA models with 0 to 5 break points**

| <b>Number of breaks</b> | <b>Test statistic</b>          |            |
|-------------------------|--------------------------------|------------|
|                         | <b>Residual sum of squares</b> | <b>BIC</b> |
| 0                       | 740,198,700                    | 2,226      |
| 1                       | 137,266,900                    | 2,034      |
| 2                       | 86,546,390                     | 1,988      |
| 3                       | 63,646,130                     | 1,961      |
| 4                       | 41,521,360                     | 1,919      |
| 5                       | 43,841,480                     | 1,935      |

Source: Ministry of Justice extract of the Police National Computer 2003/04–2012/13. The PNC database is updated on a regular basis and, therefore, data extracted at different time points can produce different figures. Base: Monthly number of FTEs between April 2004 and March 2013.

<sup>60</sup> The optimised break points are the three points that minimised the BIC indicator.

**Table C.3: Dates for the optimised break points for models with 1 to 5 break points**

| <b>Break points</b> | <b>Dates</b> |        |        |        |        |
|---------------------|--------------|--------|--------|--------|--------|
| 1                   | Jul-09       |        |        |        |        |
| 2                   | Jul-08       | Jul-10 |        |        |        |
| 3                   | Feb-05       | Nov-07 | Oct-09 |        |        |
| 4                   | Feb-05       | Nov-07 | Jul-09 | Aug-11 |        |
| 5                   | Sep-04       | Mar-06 | Nov-07 | Jul-09 | Aug-11 |

Note: Final break points highlighted in table.

Source: Ministry of Justice extract of the Police National Computer 2003/04–2012/13. The PNC database is updated on a regular basis and, therefore, data extracted at different time points can produce different figures.

Base: Monthly number of FTEs between April 2003 and March 2013.

The research team decided to use four cohorts rather than five. This is because that even though the optimal model added a break point in 2011, the descriptive analysis did not highlight a change in either the number or composition of FTEs in that year.

## Appendix D

### Latent Class Analysis

In this appendix the method of latent class analysis is described, and the detailed results presented. A latent class analysis statistically models, based upon a set of observed categorical variables, the probability that individuals belong to a set of unobserved (latent) classes given those variables. Latent class analysis was deemed suitable because, unlike data reduction techniques such as factor analysis, it clusters *observations* (here, individuals) not *variables*. A limitation of LCA is that often the number of underlying categories is decided *a priori* – meaning that the analyst needs to ‘know’ (or assume to know) how many latent classes (groups) there are. This assumption is often unrealistic and a poor use of the available data, so rather than predetermining how many latent classes (or groups) were expected, the approach taken was data driven.<sup>61</sup> This solution iteratively assesses the ‘optimum’ number of classes within a dataset – e.g. starting with two classes then assessing whether a three or four class solution (up to  $n$  classes) is a better fit to the data.

The LCA model can be represented as follows.<sup>62</sup> The probability of pattern  $\mathbf{y}$  (e.g. a ‘white’, male, 17 year-old drug-offender who receives a court outcome) is the weighted sum of response probabilities for a given class,  $c$ . Given the probabilities of observed values  $r_j$  of each manifest variable  $j$ , it takes the form:

$$Pr(\mathbf{Y} = \mathbf{y}) = \sum_{c=1}^C \gamma_c \prod_{j=1}^J \prod_{r_j=1}^{R_j} \rho_{jrc}^{I(y_j=r_j)},$$

where  $\gamma_c$  is the probability of class membership,  $\rho_{jrc}$  is the conditional probability of variable  $j$  taking value  $r$  (i.e. ‘white’ rather than ‘Asian’ or else, male rather than female, and so forth) in class  $c$ , and  $I(y_j = r_j)$  is a function that becomes 1 if the response to variable  $j$  is  $r_j$  (where  $y_j$  is the  $j$ th item in the response pattern). The parameters are estimated iteratively with an expectation-maximisation (EM) algorithm maximising the log-likelihood of the above expression with respect to  $\gamma_c$  and  $\rho_{jrc}^{I(y_j=r_j)}$ :

$$\log L = \sum_{i=1}^N \ln \sum_{c=1}^C \gamma_c \prod_{j=1}^J \prod_{r_j=1}^{R_j} \rho_{jrc}^{I(y_j=r_j)}.$$

<sup>61</sup> For a discussion see Samuelsen and Dayton (2010).

<sup>62</sup> This is further elaborated in Linzer and Lewis (2011), Lanza and Rhoades (2013), Collins and Lanza (2010).



To construct the latent classes the following observed variables were used: age, gender, adjudication, offence category, and ethnicity. One key assumption of LCA is the local independence of observed variables within a class. Without it, a researcher might be tempted to fit too many latent classes. While chi-square tests can be used to test for independence of variables, this strategy is inadequate for the PNC data. Chi-square tests are sensitive to sample size and the test statistic will have large values for a dataset with 752,231 observations. One common strategy in determining model fit for data with conditionally dependent variables is to remove variables. As offence category and adjudication are conceivably dependent, both variables were excluded (separately) to assess whether model fit was improved. Model fit was therefore tested for three different models (all variables, without offence category, without adjudication code) using up to six classes. The selection of classes was guided by the Akaike Information Criterion (AIC) and an adjusted  $R^2$  proposed by Song and Fox (2005). The  $R^2$  goodness of fit statistic takes the following form:

$$R^2 = \frac{\chi^2(1)/df(1) - \chi^2(n)/df(n)}{\chi^2(1)/df(1)},$$

where  $n$  is the number of classes,  $\chi^2$  is the chi-square test statistic and  $df(n)$  is the degrees of freedom of the model with  $n$  segments. Typically, the aim is to minimise the AIC and/or BIC values, or maximise  $R^2$  values, i.e. add additional classes up to the point where the addition of a marginal class does not improve the model fit significantly. Table D.1 gives an overview of the fit statistics. The AIC and  $R^2$  both suggest that a 4-class model is sufficient.<sup>63</sup> (Whilst there is some gain in  $R^2$  for five classes, this was marginal.) For models with fewer than six classes, the fit statistics showed no discernible differences according to whether the offence and adjudication variables were included or not. Detailed results for the classes are presented in Table D.2.

**Table D.1: Fit statistics for 1 to 6 class model for all first time entrants**

| Number of classes | BIC     | AIC     | Adjusted $R^2$ |
|-------------------|---------|---------|----------------|
| 1                 | 7955560 | 7955260 | 0              |
| 2                 | 7820521 | 7819909 | 0.750          |
| 3                 | 7755899 | 7754977 | 0.880          |
| 4                 | 7717180 | 7715946 | 0.930          |
| 5                 | 7710343 | 7708798 | 0.942          |
| 6                 | 7696896 | 7695039 | 0.964          |

Source: Ministry of Justice extract of the Police National Computer 2003/04–2012/13. The PNC database is updated on a regular basis and, therefore, data extracted at different time points can produce different figures. Base: All FTEs recorded from April 2003 to March 2013.

<sup>63</sup> Analysis was performed using the poLCA package for the R statistical environment (Linzer and Lewis, 2011).

**Table D.2: Characteristics of four latent first time entrants groups. Cells represent proportion of first time entrants**

| Variables                    |                                     | Overall<br>Proportion | Class 1 | Class 2 | Class 3 | Class 4 |
|------------------------------|-------------------------------------|-----------------------|---------|---------|---------|---------|
| Ethnicity                    | Unknown                             | 0.033                 | 0.030   | 0.040   | 0.033   | 0.028   |
|                              | White – North European              | 0.823                 | 0.857   | 0.853   | 0.799   | 0.646   |
|                              | White – South European              | 0.014                 | 0.012   | 0.014   | 0.016   | 0.021   |
|                              | Black                               | 0.077                 | 0.058   | 0.063   | 0.079   | 0.190   |
|                              | Asian                               | 0.045                 | 0.039   | 0.025   | 0.062   | 0.092   |
|                              | Chinese; Japanese or S E Asian      | 0.003                 | 0.001   | 0.003   | 0.004   | 0.010   |
|                              | Middle Eastern                      | 0.005                 | 0.003   | 0.002   | 0.007   | 0.012   |
| Index<br>Offence             | Violence against the person         | 0.098                 | 0.104   | 0.072   | 0.082   | 0.179   |
|                              | Sexual offences                     | 0.009                 | 0.012   | 0.000   | 0.003   | 0.032   |
|                              | Burglary                            | 0.038                 | 0.064   | 0.013   | 0.007   | 0.067   |
|                              | Robbery                             | 0.016                 | 0.005   | 0.001   | 0.000   | 0.133   |
|                              | Theft and handling stolen goods     | 0.295                 | 0.261   | 0.519   | 0.155   | 0.093   |
|                              | Fraud and forgery                   | 0.011                 | 0.002   | 0.010   | 0.030   | 0.011   |
|                              | Criminal damage                     | 0.046                 | 0.088   | 0.025   | 0.000   | 0.028   |
|                              | Drug offences                       | 0.072                 | 0.002   | 0.004   | 0.324   | 0.044   |
|                              | Other indictable offences           | 0.022                 | 0.010   | 0.010   | 0.038   | 0.073   |
|                              | Indictable motoring offences        | 0.001                 | 0.000   | 0.000   | 0.001   | 0.011   |
|                              | Summary offences excluding motoring | 0.382                 | 0.452   | 0.347   | 0.358   | 0.242   |
|                              | Summary motoring offences           | 0.009                 | 0.000   | 0.000   | 0.002   | 0.089   |
| Gender                       | Male <sup>a</sup>                   | 0.696                 | 0.999   | 0.057   | 0.887   | 0.843   |
|                              | Female                              | 0.304                 | 0.001   | 0.943   | 0.113   | 0.157   |
| Age                          | 10                                  | 0.016                 | 0.033   | 0.008   | 0.000   | 0.001   |
|                              | 11                                  | 0.036                 | 0.066   | 0.028   | 0.001   | 0.005   |
|                              | 12                                  | 0.074                 | 0.115   | 0.083   | 0.007   | 0.019   |
|                              | 13                                  | 0.123                 | 0.157   | 0.164   | 0.030   | 0.055   |
|                              | 14                                  | 0.176                 | 0.193   | 0.232   | 0.091   | 0.118   |
|                              | 15                                  | 0.204                 | 0.200   | 0.228   | 0.190   | 0.186   |
|                              | 16                                  | 0.191                 | 0.145   | 0.153   | 0.305   | 0.258   |
|                              | 17                                  | 0.179                 | 0.090   | 0.104   | 0.376   | 0.358   |
| Adjudication                 | Court                               | 0.110                 | 0.021   | 0.024   | 0.005   | 0.929   |
|                              | Final warning/Reprimand             | 0.890                 | 0.979   | 0.976   | 0.995   | 0.071   |
| N                            |                                     | 754,799               |         |         |         |         |
| Class membership probability |                                     |                       | 0.416   | 0.280   | 0.203   | 0.100   |

Source: Ministry of Justice extract of the Police National Computer 2003/04–2012/13. The PNC database is updated on a regular basis and, therefore, data extracted at different time points can produce different figures. For example: <sup>a</sup> Overall 70% of FTEs were male. Within class 1, nearly 99.9% were male. In class 2, only 5.7% were male.

### Latent class analysis results for all first time entrants 2003/04–2012/13

What this approach showed was that during 2003/04 to 2012/13 there were four distinct classes of FTE, which are described in the boxes in Figure D.1. Each box also indicates the

size of each class of FTEs in the data (for example, 42% of FTEs fell into 'Class 1'.)

Note that individuals in the same class are only *more likely* to share a given characteristic.<sup>64</sup>

Figure D.1 shows that, across the study period, there were four classes of FTE:

- younger (aged 10 to 14), low seriousness male offenders;
- younger, low seriousness, female offenders;
- older (aged 15 to 17), male, drug offenders; and
- older, male, more violent offenders.

**Figure D.1: Description of first time entrant groups for 2003/04–2012/13 (from latent class analysis)**

|  |   |
|--|---|
| <p><b>Class 1 – 'white', male, young, theft/low level offences</b></p> <p><u>Typically:</u></p> <ul style="list-style-type: none"> <li>- 'White North European'</li> <li>- Male</li> <li>- Aged between 12-15 years' old (typically 13-14)</li> <li>- Committed a less serious offence such as theft or non-motoring summary offences and also to have committed other types of crimes such as burglary and criminal damage</li> <li>- Likely to have received an out-of-court disposal</li> </ul> | <p><b>Class 2 – 'white', female, younger, theft and handling</b></p> <p><u>Typically:</u></p> <ul style="list-style-type: none"> <li>- 'White North European'</li> <li>- Female</li> <li>- Aged between 13-15 years' old</li> <li>- Committed theft or other less serious offences</li> <li>- Very likely to have received an out-of-court disposal</li> </ul>  |
| Class 1 represented 42% of FTEs  | Class 2 represented 28% of FTEs   |
| <p><b>Class 3 – 'white', male, older, drug offences</b></p> <p><u>Typically:</u></p> <ul style="list-style-type: none"> <li>- 'White North European'</li> <li>- Male</li> <li>- Aged between 15-17 years (most likely 16 or 17)</li> <li>- Commit drug or less-serious summary offences</li> <li>- Likely to receive an out-of-court disposal</li> </ul>   | <p><b>Class 4 – 'white' or 'black', male, older, more serious offenders (violence/sexual)</b></p> <p><u>Typically:</u></p> <ul style="list-style-type: none"> <li>- 'White North European' (probability of someone recorded by police as 'black' being a member is twice that for other types but still low i.e. 19% for Class 4 vs. 8% for Class 3)</li> <li>- Male</li> <li>- Very likely to be either 16 or 17 years' old</li> <li>- More likely to commit violent, sexual or robbery offences. Most common offence type within this class is summary offences excluding motoring</li> <li>- By far the most likely, of all groups, to receive a court rather than an out-of-court disposal</li> </ul> |
| Class 3 represented 20% of FTEs  | Class 4 represented 7% of FTEs  |

<sup>64</sup> The LCA classes are described by looking at their conditional probabilities. Conditional probabilities are 'the probability that an observation (individual) in a latent class will score a particular way on an observed measure' (McCutcheon, 1987). That is, assuming that the latent classes are 'real' and observable groups, the question asked is 'what is the probability that someone in latent class X would have a given characteristic?' One point to reiterate is that the results presented here are always probabilistic in nature by definition – conclusions can only be that 'on average' something might be the case.

## Latent Class Analysis on the structural break point time periods

Having split the trend data into four time periods following the structural breaks analysis (see Appendix C), data for the FTEs in each time period were analysed using Latent Class Analysis to investigate changes in the characteristics (age, gender, ethnicity, offence category and disposal) over time.

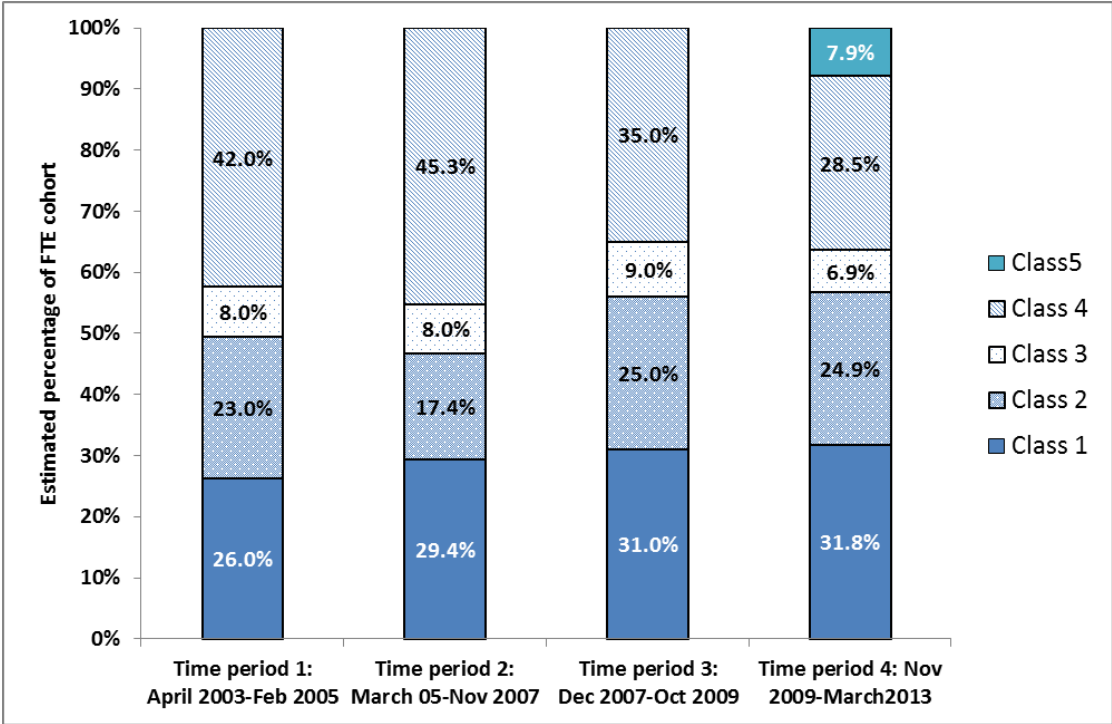
Results suggest that latent groups *within* each time period remained broadly similar between 2003 and 2009. The proportion of 'less serious' offenders increased in the first two time periods and decreased thereafter suggesting that this 'type' of FTE were diverted or no longer entering the system, and this decline is responsible for at least some of the decline in numbers of FTEs. From 2009 a new 'class' of FTEs emerged that was *more likely* than other classes to contain individuals who were older, black, violent and female (although the majority in this group were still males) and/or who had committed a violent offence.<sup>65</sup> The classes arising from this exploratory longitudinal LCA were as follows (see figure D.2):

1. younger (aged 12 to 14), low seriousness male offenders;
2. younger, low seriousness, female offenders;
3. older (aged 15 to 17), male, drug offenders;
4. older, male, more violent offenders; and
5. from 2009 FTEs were *more likely* to be: older, 'black', violent, female offenders and receive court outcomes.

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<sup>65</sup> This fifth class was more likely than any other class to contain violent (probability .18), female offenders (.14) on the upper end of the age spectrum (age 15 to 17; .94) who received court outcomes (.93). The most likely ethnic group for members of Class 5 in cohort four was 'Black' (.439). Despite the emergence of this new group and the increased likelihood of members being female, the majority were still likely to be male (.86) and the base probability of membership of this group was low (7.9%). This means that of 100 FTEs, eight would be members of this group, of which 14%, one, would be female and the remaining seven male. Of those eight young people, three of eight (.44) would be black.

**Figure D.2: Latent class composition of first time entrant in time periods determined by structural break analysis**



## Appendix E

### Tables relating to first time entrants ages and arrest

**Table E.1: Year where first time entrants progress from youth justice to adult criminal justice system by first time entrant age in a given year**

| Year                          | 2003   | 2004   | 2005   | 2006   | 2007   | 2008   | 2009   | 2010   | 2011  | 2012  | 2013 |
|-------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|------|
| Age                           |        |        | 10     | 11     | 12     | 13     | 14     | 15     | 16    | 17    |      |
| #FTEs                         | --     | --     | 2,047  | 2,008  | 8,631  | 10,356 | 11,714 | 10,014 | 8,423 | 7,203 | 18   |
| Age                           |        | 10     | 11     | 12     | 13     | 14     | 15     | 16     | 17    |       |      |
| #FTEs                         | --     | 1,684  | 4,242  | 4,433  | 13,605 | 14,717 | 13,925 | 10,420 | 9,347 | 18    | 19   |
| Age                           | 10     | 11     | 12     | 13     | 14     | 15     | 16     | 17     |       |       |      |
| #FTEs                         | 1,259  | 3,672  | 8,548  | 14,213 | 19,040 | 17,010 | 13,254 | 10,640 | 18    | 19    | 20   |
| Age                           | 11     | 12     | 13     | 14     | 15     | 16     | 17     |        |       |       |      |
| #FTEs                         | 2,553  | 7,362  | 14,148 | 20,172 | 22,135 | 16,100 | 13,194 | 18     | 19    | 20    | 21   |
| Age                           | 12     | 13     | 14     | 15     | 16     | 17     |        |        |       |       |      |
| #FTEs                         | 5,130  | 12,405 | 19,633 | 22,890 | 19,508 | 15,478 | 18     | 19     | 20    | 21    | 22   |
| Age                           | 13     | 14     | 15     | 16     | 17     |        |        |        |       |       |      |
| #FTEs                         | 8,170  | 16,932 | 21,504 | 19,834 | 16,745 | 18     | 19     | 20     | 21    | 22    | 23   |
| Age                           | 14     | 15     | 16     | 17     |        |        |        |        |       |       |      |
| #FTEs                         | 11,037 | 19,190 | 19,324 | 16,931 | 18     | 19     | 20     | 21     | 22    | 23    | 24   |
| Age                           | 15     | 16     | 17     |        |        |        |        |        |       |       |      |
| #FTEs                         | 12,906 | 17,894 | 16,609 | 18     | 19     | 20     | 21     | 22     | 23    | 24    | 25   |
| Age                           | 16     | 17     |        |        |        |        |        |        |       |       |      |
| #FTEs                         | 12,103 | 15,882 | 18     | 19     | 20     | 21     | 22     | 23     | 24    | 25    | 26   |
| Age                           | 17     |        |        |        |        |        |        |        |       |       |      |
| #FTEs                         | 11,653 | 18     | 19     | 20     | 21     | 22     | 23     | 24     | 25    | 26    | 27   |
| When YP would be in adult CJS |        |        |        |        |        |        |        |        |       |       |      |

Note: For example, a 17 year old FTE in 2003 would turn 18 in 2004. A 17 year old FTE in 2012 would turn 18 in 2013. YOT cases can be handled by probation from 17 years and nine months.

Source: Ministry of Justice extract of the Police National Computer 2003/04–2012/13. The PNC database is updated on a regular basis and, therefore, data extracted at different time points can produce different figures.

**Table E.2: Males and females aged 10–17 years arrested in England and Wales, 1999/00–2013/13**

| <b>Year</b>    | <b>Males</b> | <b>Females</b> | <b>Total</b> | <b>% Female</b> |
|----------------|--------------|----------------|--------------|-----------------|
| <b>1999/00</b> | 264,000      | 54,400         | 318,400      | 17%             |
| <b>2000/01</b> | 264,900      | 55,700         | 320,600      | 17%             |
| <b>2001/02</b> | 257,900      | 56,300         | 314,200      | 18%             |
| <b>2002/03</b> | 245,800      | 53,800         | 299,500      | 18%             |
| <b>2003/04</b> | 255,100      | 58,100         | 313,200      | 19%             |
| <b>2004/05</b> | 265,900      | 66,900         | 332,800      | 20%             |
| <b>2005/06</b> | 277,900      | 70,600         | 348,500      | 20%             |
| <b>2006/07</b> | 282,175      | 71,195         | 353,370      | 20%             |
| <b>2007/08</b> | 250,601      | 64,800         | 315,401      | 21%             |
| <b>2008/09</b> | 218,141      | 55,128         | 273,269      | 20%             |
| <b>2009/10</b> | 193,558      | 47,901         | 241,459      | 20%             |
| <b>2010/11</b> | 172,212      | 38,665         | 210,877      | 18%             |
| <b>2011/12</b> | 137,889      | 28,707         | 166,596      | 17%             |
| <b>2012/13</b> | 106,119      | 20,690         | 126,809      | 16%             |

Sources: Home Office (2010); GOV.UK (2014). <https://www.gov.uk/government/publications/police-powers-and-procedures-england-and-wales-2012-to-2013/police-powers-and-procedures-england-and-wales-2012-to-2013#arrests>