Offending, employment and benefits – emerging findings from the data linkage project

Published 24 November 2011

Executive Summary

The Offending, employment and benefits ad-hoc statistics release contains emerging findings from a project to share administrative data between the Ministry of Justice (MoJ), the Department for Work and Pensions (DWP) and Her Majesty's Revenue and Customs (HMRC). The aim of the data-share is to improve the evidence base on the links between offending, employment and benefits to support policy development.

This ad-hoc release includes key sections on:

- basic descriptive statistics from the data-share;

- employment and benefit status at time of sentence;

- benefit, employment, and prison status after release from prison;

- benefit and employment status for offenders who claimed Jobseeker's Allowance soon after release from prison;

- offenders receiving Community Care Grants; and

- methodology used for matching and brief explanation of the data-share.

The papers included cover the initial findings from analysing the linked data to support policy development in specific areas and are intended to demonstrate the potential of the improved evidence base. We are still in the initial stages of realising the potential of the linked data and will be publishing more findings in the future, particularly on the links between re-offending, employment and benefits.

The key findings from this publication are outlined below.

Employment status of offenders over the period 2000 to 2010

The employment data included in the data-share is derived from P45 forms sent to HMRC by employers. P45 employment spells do not usually record employment paid at levels below tax thresholds, or self-employment or cash-in-hand informal economy work but should provide a useful proxy of employment.

86 per cent of offenders who had received at least one caution or conviction between 2000 to 2010 had at least one P45 employment spell and 28 per cent had at least one employment programme spell between the years 2000 to 2010.

33 per cent of all offenders sentenced or cautioned in England and Wales in the year ending November 2010 were in P45 employment at some point in the month before sentence.

Two years after being released from prison in 2008, 15 per cent of offenders were in P45 employment. During the two year period overall, 29 per cent of offenders started P45 employment at some point.

Benefits claims

26 per cent of the 4.9 million open claims for out-of-work benefits as at 1 December 2010 in England and Wales were made by offenders who had received at least one caution or conviction between 2000 to 2010. 5 per cent of the total claims were made by offenders who had been released from prison during the same period.

33 per cent of the 1.2 million total Jobseeker's Allowance (JSA) claims open on 1 December 2010 in England and Wales were made by offenders.

51 per cent of offenders sentenced or cautioned in England and Wales in the year ending November 2010 claimed one of the main out-of-work benefits at some point in the month before sentence. This includes 24 per cent of offenders who claimed Jobseeker's Allowance at some point in the month before sentence.

Two years after being released from prison in 2008, 47 per cent of offenders were on out-of-work benefits. During the two year period overall, 75 per cent of offenders made a new claim to an out-of-work benefit at some point. On average, offenders leaving prison in 2008 spent 48 per cent of the next two years on out-of-work benefits.

11 per cent of offenders released from prison in 2008 are back in prison after two years from being released. During the two year period overall nearly half (46 per cent) of offenders started another prison sentence at some point.

Those offenders who were discharged from custody in 2008 and claimed Jobseeker's Allowance within thirteen weeks remained on the original JSA claim for a similar time to the average JSA claimant in the general population. After one year, 11 per cent of offenders still had their original claim open compared to 10 per cent for all Jobseeker's Allowance claimants.

Offenders discharged from custody who claimed JSA within thirteen weeks of release spent 57 per cent of the next three years on out-of-work benefits, compared with 42 per cent for the average JSA claimant.

Over a three year follow up, for offenders discharged from custody and claiming JSA within thirteen weeks of leaving prison, 57 per cent of their time was spent on benefit, 14 per cent in P45 employment and 11 per cent back in prison.

Coverage of the linked data

This data-share includes information on 3.6 million offenders who have
received at least one caution or conviction in England and Wales between 2000
and 2010 and have a benefit and/or a P45 employment record during this time.

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Overview

The Offending, employment and benefits publication is a joint publication between the Ministry of Justice (MoJ) and the Department for Work and Pensions (DWP). It is the first joint analyses resulting from the data-sharing project to bring together data on offending, employment, and benefits.

The papers included cover the initial findings from analysing the linked data to support policy development in specific areas and are intended to demonstrate the potential of the improved evidence base. We are still in the initial stages of realising the potential of the linked data and will be publishing more findings in the future, particularly on the links between re-offending, employment and benefits.

Breaking the cycle: rehabilitation of offenders and reducing welfare dependency

Analysis from the linked data is already playing an important role in helping DWP and MoJ to produce better evaluations, monitoring information on interventions and in targeting resources and developing implementation plans (such as on the Work Programme extension to Prison Leavers claiming JSA).

Data sharing

As with any data sharing, full consideration was given to the relevant legal and ethical issues before a decision was taken for the data-sharing project to proceed. Full legal and ethical approval for the project was obtained in December 2010.

Data linking

The basic concept of linking[1] here is that information about an individual who has multiple records in one or more administrative source is brought together under one personal identifier. The data were linked on several combinations of five demographic variables: forename, surname, date of birth, gender, and postcode. Combinations which resulted in a significant reduction in accuracy were removed from the linking criteria. This approach resulted in a method which is suited to the quality and contents of the data sources. The data matching was very successful, with 86 per cent of the 4.2 million MoJ records included in the data-share successfully matched to DWP/HMRC data.

It is important to recognise that sharing data between Departments exposes that data to greater risks to it's confidentially and integrity. The relevant Departments have ensured that the quantity of information shared and stored is proportional to the need for high quality analyses on offenders.

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[1] Data linking may also be described as data integration, data matching, or record linkage.

Data sources and quality

The linked data has been produced using administrative data and Management Information Systems (MIS) whose main purposes are not statistical. Therefore, quality assurance procedures were applied to protect the integrity of the linked data including removal of duplicated entries, checks for completeness, and the cleansing of inconsistent data based on business intelligence.

The criminal justice system data has been sourced from several systems including the:

- MoJ extract of the Police National Computer (PNC) which is the administrative IT system used by all police forces in England and Wales;

- Inmate Information System (IIS) which is the prison service administrative database;

- Several probation service IT systems from the probation areas in England and Wales.

The main offender data included in the matched data is from the MoJ extract of the Police National Computer (PNC). The PNC largely covers 'recordable' offences – these are all indictable and triable-either-way offences plus many of the serious summary offences. However, unlike the court data used to produce Sentencing Statistics[2] which covers all offences, the PNC does not generally cover the less serious summary offences such as TV license evasion and less serious motoring offences, which are more likely to receive a sentence of a fine (which account for a significant proportion of the cases dealt with in the magistrates' courts). Overall, the PNC records 55 per cent of all disposals (including cautions and convictions) dealt with by the courts. Coverage across all sentence types is generally very high with the exception of fines, where the PNC includes less than a fifth (19 per cent) of all fines given out by the courts. As a result, care must be taken when interpreting these findings, particularly for the analysis on offenders receiving a fine.

The data on benefits and P45 employment has been sourced from the Work and Pensions Longitudinal Study (WPLS), which links benefits and programme information held by DWP on its customers, with employment records from HMRC.

The only employment data included in the linked data is from HMRC's P45 data. P45 employment spells often have estimated start or end dates. In addition, P45 employment spells do not usually record employment paid at levels below tax thresholds, or self-employment or cash-in-hand informal economy work. Therefore care must be taken in interpreting findings relating to employment outcomes.

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[2] Criminal Justice Statistics Quarterly; Ministry of Justice (August 2011). The publication can be accessed from www.justice.gov.uk/publications/statistics-and-data/criminal-justice/criminal-justice-statistics.htm.
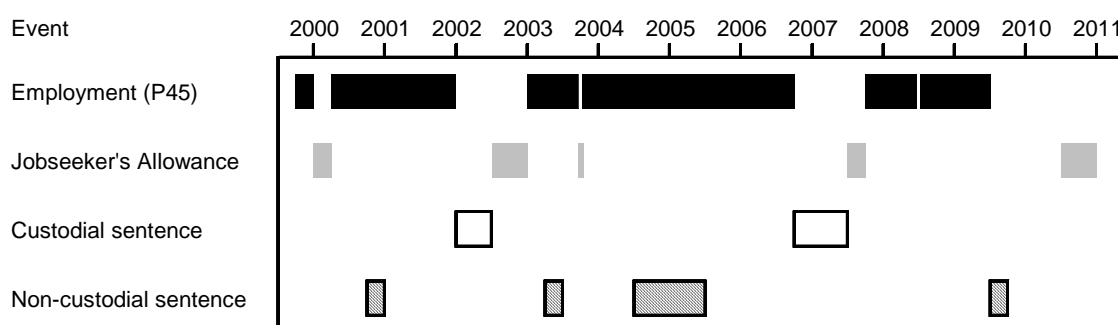
Scope of the linked data

Using the linked data it has been possible, for the first time, to use administrative data to look at the actual benefit and P45 employment status of offenders. There is some evidence on the employment or benefit status of offenders however that is mainly from self-reported or survey data and is focussed on specific disposal types (custodial sentences for example)[3].

The linked data includes approximately 40 million rows of data about the offending, P45 employment and benefit status for the 3.6 million offenders who had been cautioned or convicted in England and Wales between 2000 to 2010 where a match between MoJ and DWP/HMRC data was found.

Figure 1 below illustrates, for one person in the matched dataset, the type of spell-based information that is held for all offenders in the matched dataset and how this enables us to look at the interactions between offending, employment and benefits. The timeline runs along the top which shows that we have offending, benefit and P45 employment information for offenders over an eleven year period. The different types of spells (the horizontal bars which show the start and end dates of each spell) are shown in rows.

Figure 1: An example of offending, employment and benefit spell based information held in the matched dataset over an eleven year period

Outline of publication

The publication includes five main sections:

- basic descriptive statistics from the data-share;

- offenders benefit and employment status around the time of sentence;

- benefit, P45 employment and prison status for all prisoners released in 2008;

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[3] The data has been published in the accompanying SPCR tables to the Compendium of re-offending and statistics; Ministry of Justice; November 2010. The tables can be accessed at: www.justice.gov.uk/publications/statistics-and-data/reoffending/compendium-of-reoffending-statistics-and-analysis.htm.

- benefit and employment status for offenders who claimed Jobseeker's Allowance soon after release from prison;

- offenders receiving Community Care Grants;

- data matching methodology and explanation of the data-share.

There is also a **Glossary** section which provides brief definitions for the terms used in this report.

Information about the symbols and conventions used in the bulletin are given in the **Explanatory notes** section.

1.   Basic descriptive statistics from the data-share

Summary

This paper provides basic information about the content of the data-share.
Key statistics from the data-share are:

- There were 4.2 million offenders included in the data-sharing project,
  covering Criminal Justice System spells over the period 2000 to 2010.
  3.6 million of these records (86 per cent) were successfully matched to
  DWP/HMRC data.

- There are 3.6 million matched offenders on the data-share and
  between them they have had 18.8 million P45 employment spells, 13.8
  million DWP benefit spells and 2.2 million DWP employment
  programme spells over the period 2000 to 2010.

- 26 per cent of all out-of-work benefits being claimed on 1 December
  2010 in England and Wales were claimed by offenders in the data-
  share. 5 per cent were claimed by ex-prisoners. 33 per cent of JSA
  claims were by offenders.

Introduction

This paper gives information on the content of the DWP/MoJ/HMRC data-
share. It details how many benefit (including types of benefits), P45
employment and employment programme spells have been recorded for each
offender for the period covered on the data-share and as at 1 December 2010
for benefit spells. It gives an indication of the scale and content of the data-
share and outlines some of the basic statistics.

Methodology

The data source for most of the tables in this chapter is the DWP/MoJ/HMRC
data-share. Information contained here is either from the part of the data-
share containing DWP/HMRC records or the part containing MoJ records.
Data-share figures reported here are not linked to any other sources held by
either MoJ or DWP.

Figures relating to the overall number of DWP benefit and programme spells
come from datasets held by DWP and are not a part of the shared DWP/MoJ
dataset.

Caveat on the benefits data: An individual can be recorded as having a spell
on a benefit and usually that will mean that the individual is in receipt of a
benefit payment. However, there are exceptions to this, particularly for
individuals claiming Incapacity Benefit or Disability Living Allowance. An
individual can be recorded as being on a particular benefit but they are not in

receipt of payment as they do not meet the full conditions at that particular time. The shared dataset does not contain information relating to the rate of benefit in payment.

Results

The data-share contains records for the 3.6 million offenders where a match was found between MoJ and DWP/HMRC data. The numbers of records of each type are:

- 18.8 million P45 employment spells;

- 2.2 million DWP employment programme spells; and

- 13.8 million DWP benefit spells.

The proportions of offenders with each type of record are:

- 86 per cent have at least one P45 spell;

- 76 per cent have at least one DWP benefit spell; and

- 28 per cent have at least one DWP programme spell.

P45 Employment

In total, 3.1 million offenders (86 per cent of the total matched) have had 18.8 million P45 employment spells over the period 2000 to 2010. Half a million offenders have no recorded P45 employment spells over this period.

Table 1.1 shows the frequency distribution of the number of P45 employment spells for those offenders who have had at least one P45 employment spell between 2000 and 2010. It shows, for instance, that 469,000 offenders have only one P45 spell on the database – two per cent of the total number of spells but 15 per cent of all offenders with at least one P45 spell.

The table does not take into account the length of the spell, so the 0.5 million offenders who only had one spell will range from offenders having a sustained P45 spell (for example, covering the whole period) to offenders only having a one day P45 spell. Similarly, those offenders with multiple P45 spells will not necessarily have had a longer time in P45 employment than those offenders with only one spell.

Table 1.1: Frequency distribution of the number of P45 spells for offenders who have had at least one P45 employment spell between 2000 and 2010

Numbers have been rounded to the nearest thousand.

Number of P45 employment spells	Number of offenders	Percentage of offenders	Number of spells	Percentage of spells
1	469,000	15%	469,000	2%
2	408,000	13%	816,000	4%
3	357,000	12%	1,072,000	6%
4	307,000	10%	1,226,000	7%
5 to 9	955,000	31%	6,350,000	34%
10 to 14	375,000	12%	4,351,000	23%
15 or more	227,000	7%	4,524,000	24%
	3,097,000	**100%**	**18,807,000**	**100%**

Employment programmes

The dataset includes details of participation on a range of employment programmes and interventions which are described in summary in the glossary. The programmes and interventions vary significantly in intensity and durations.

Table 1.2 shows the frequency distribution of the number of employment programme spells for those offenders in the linked data who have had at least one employment programme spell between 2000 and 2010. In total, one million offenders (28 per cent of the total matched) have had 2.2 million employment programme spells. 46 per cent of the offenders with at least one spell had only one employment programme spell.

Table 1.2: Frequency distribution of the number of employment programme spells for offenders in the linked data who have had at least one employment programme spell between 2000 and 2010

Numbers have been rounded to the nearest thousand.

Number of employment programme spells	Number of offenders	Percentage of offenders	Number of spells	Percentage of spells
1	459,000	46%	459,000	20%
2	226,000	23%	453,000	20%
3	127,000	13%	381,000	17%
4	74,000	7%	295,000	13%
5 to 9	94,000	10%	570,000	25%
10 to 14	7,000	1%	75,000	3%
15 or more	1,000	0%	9,000	0%
	987,000	**100%**	**2,241,000**	**100%**

Benefits

Table 1.3 shows the frequency distribution of the number of benefit claims claimed by those offenders who claimed at least one benefit over the period 2000 to 2010. 76 per cent of all offenders in the data-share have at least one benefit spell, where there were 13.8 million benefit spells in total.

Half a million offenders have just one benefit spell in the dataset. 129,000 offenders have 15 or more benefit spells on the dataset – 5 per cent of all offenders with at least one spell.

The table does not take into account the length of the spell, so the 0.5 million offenders who only had one spell will range from offenders having a sustained benefit claim (for example, covering the whole period) to offenders only having a one day benefit claim. Similarly, offenders with multiple benefit claims are not necessarily on benefits for a longer period of time than those offenders with only one sustained benefit claim.

Table 1.3: Frequency distribution of the number of benefit claims by offenders who had made at least one benefit claim between 2000 and 2010

Numbers have been rounded to the nearest thousand.

Number of benefit spells	Number of offenders	Percentage of offenders	Number of spells	Percentage of spells
1	506,000	19%	506,000	4%
2	427,000	16%	855,000	6%
3	379,000	14%	1,137,000	8%
4	293,000	11%	1,170,000	8%
5 to 9	735,000	27%	4,799,000	35%
10 to 14	246,000	9%	2,855,000	21%
15 or more	129,000	5%	2,467,000	18%
	2,714,000	**100%**	**13,788,000**	**100%**

Offender benefit claimants as a proportion of the overall DWP caseload

Tables 1.1 to 1.3 reported overall numbers of spells of benefits, programmes and P45 employment spells for the offenders in the linked share. This section reports the number of offender benefit claimants at a point in time as a proportion of overall benefit claimants in England and Wales.

This section uses figures from two DWP administrative datasets:

1) the National Benefit Database (NBD) for figures about benefit claimants and,

2) the Master Index for figures about programme participants.

Table 1.4 shows the number of individual benefit spells that were 'open' on 1 December 2010 for the NBD and compares those figures with comparable figures from the data-share for all offenders and for 'prisoners' (an offender with at least one prison spell between 2000 and 2010). If an individual is on more than one benefit then they will be recorded here against each open claim.

Table 1.4: Number of individual benefit spells 'open' at 1 December 2010 from National Benefit Database and the data-share

Numbers have been rounded to the nearest thousand. "-" denotes nil values.

Type of benefit	Number of claimants	Number of claims by offenders	Percentage of claims by offenders	Number of claims by offenders with at least one prison spell	Percentage of claims by offenders with at least one prison spell
Jobseekers Allowance (JSA)	1,210,000	399,000	33%	83,000	7%
Income Support (IS)	1,615,000	394,000	24%	59,000	4%
Incapacity Benefit (IB)	1,565,000	329,000	21%	63,000	4%
Disability Living Allowance (DLA)	2,989,000	280,000	9%	43,000	1%
Employment and Support Allowance (ESA)	538,000	148,000	28%	40,000	8%
Retirement Pension (RP)	11,597,000	97,000	1%	7,000	-
Carers Allowance (CA)	915,000	67,000	7%	7,000	1%
Pensions Credit (PC)	2,472,000	67,000	3%	7,000	-
Severe Disablement Allowance (SDA)	211,000	13,000	6%	1,000	-
Passported Incapacity Benefit (PIB)	70,000	12,000	18%	1,000	1%
Attendance Allowance (AA)	1,632,000	9,000	1%	1,000	-
Bereavement Benefit (BB)	60,000	3,000	4%	-	-
Widows Benefit (WB)	46,000	1,000	2%	-	-
All	**24,920,000**	**1,820,000**	**7%**	**312,000**	**1%**
Out of work benefits (JSA/ESA/IB/IS)	**4,929,000**	**1,270,000**	**26%**	**246,000**	**5%**

This table shows that the NBD recorded 24.9 million benefits spells as being 'open' on 1 December 2010 – that is they started on or before the 1 of December and they ended on or after 1 December. The data-share recorded 1.8 million benefits as being open on 1 December 2010. Of these, 312,000 were for people recorded as prisoners. Seven per cent of the total NBD benefit spells recorded in England and Wales were made by offenders including over one per cent made by prisoners.

There is substantial variation in the proportion of overall benefit claims across the different benefit types claimed by offenders which reflects the predominantly working-age demographic of individuals on the dataset (people who have been convicted or cautioned for an offence between 2000 to 2010).

33 per cent of overall open Jobseeker's Allowance (JSA) claims as at 1 December 2010 were by offenders, 28 per cent of Employment and Support Allowance (ESA) claims, 24 per cent of Income Support (IS) claims and 21 per cent of Incapacity Benefit (IB) claims.

Offenders accounted for just one per cent of the 11.6 million Retirement Pension spells and one per cent of Attendance Allowance spells.

Prisoners make up under a fifth of all offender benefit claims but again there is variation – as a proportion of all offenders on benefits, prisoners make up a larger relative proportion of working age benefits like JSA and ESA and a lower relative proportion of benefits claimed by older people such as Retirement Pension, Attendance Allowance or Bereavement Benefit.

Looking at the key out-of-work benefits only[4] out of a total of 4.9 million benefits claimed on 1 December 2010 some 1.3 million (26 per cent) were claimed by offenders of which 0.25 million (5 per cent) were claimed by offenders who had had at least one spell in prison between 2000 to 2010.

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[4] Out-of-work benefits include everyone on JSA, IB, PIB, SDA and IS except those individuals whose primary benefit is CA. For simplicity here out-of-work benefits have simply been defined as JSA, IB, PIB, SDA and IS – so this will inaccurately include individuals on IS and CA, but this discrepancy will make only a very small difference.

2.   Offenders' benefit and P45 employment status around the time of sentence

Summary

This paper examines the benefit and P45 employment status around the time of sentence for all offenders included in the linked data who were sentenced by the courts or received a caution in the year ending November 2010. The analysis also includes benefit and P45 employment status by sentence and offence type.

The key findings are that:

- 54 per cent of offenders claim some sort of benefit at some point in the month before sentence;

- 51 per cent of offenders claim one of the main out-of-work benefits at some point in the month before sentence;

- 24 per cent of offenders claim Jobseeker's Allowance at some point in the month before sentence, and;

- 33 per cent of offenders were in P45 employment at some point in the month before sentence.

Introduction

Using the matched MoJ/DWP/HMRC data it has been possible, for the first time, to use administrative data to look at the actual benefit and P45 employment status of offenders (across all offence and sentence types) at a specific point in time.

This analysis focuses on the benefit and P45 employment status in the month before sentence for all offenders who were sentenced by the courts or received a caution in the year ending 30 November 2010.

Offenders sentenced to immediate custody are treated slightly differently in this analysis to take into account the fact that some of these offenders will have been remanded in custody during the court case.

The analysis is based on benefit and P45 employment status at the time of sentence. For a number of reasons, it is possible for offenders to be convicted (found guilty) and for there to be a delay between the conviction and sentence date. In these instances, it is possible that benefits are stopped or P45 employment spells are ended as soon as the offender is convicted. Therefore this analysis may underestimate the proportion of offenders who are claiming benefits or in P45 employment, and care should be taken when interpreting the findings.

The analysis by sentence and offence type should be treated with caution. Magistrates' or the Judiciary take into account the benefit and employment status when making their sentencing decision so care should be taken with interpreting the findings by sentence type.

Methodology

To assess the benefit/P45 employment status around the time of sentence we have taken all offenders in the matched dataset who were sentenced by the courts or received a caution in the year ending 30 November 2010 and looked at their benefit and P45 employment status a month before their sentence.

Offenders sentenced to immediate custody are treated slightly differently in this analysis where the coverage is all offenders in the linked data who were released from prison (for serving an immediate custody sentence) in the year ending November 2010. This partially takes into account the fact that some of these offenders will have been remanded in custody during the court case and therefore on the sentence date, they would be unable to claim benefits or be in P45 employment as they were already in prison. As a result, benefit and P45 employment status at the start date of the prison spell has been used which will include time spent in prison on remand where it is recorded in the linked data (although remand period is not included in the linked data for all prisoners).

The twelve months to 30 November 2010 has been used to provide the most recent data available at the time of matching. The results for the calendar year 2009 have also been checked where similar results were found.

All sentenced occasions for an individual have been counted in the analysis, therefore if an offender had two community sentences in the year ending 30 November 2010, these are both included in the analysis.

The analysis only covers primary offences and the most severe disposal[5] given for the primary offence.

Benefit and P45 employment status within a month before sentence date has been looked at, rather than the status exactly on the sentence date, to understand the general differences between different sentences and to account for the fact that for certain sentences benefit claims and P45 employment spells will stop on or around the sentence date.

Any benefit/P45 employment spells which start or are already open at any point from the month before sentence, to the sentence date are included in this analysis. This means that benefit/P45 spells which are open exactly a

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[5] Disposal type is another way of expressing the sentences/decisions made by the courts.

month before sentence and close before the sentence date will be included in this analysis, as will benefit/P45 spells which start the day before sentence date. However, this does not mean that the offender had to be claiming benefits/in P45 employment for the entire month before sentence date.

The benefit status includes all benefits claimed, the main out-of-work benefits[6] and then a separate breakdown of the individual out-of-work benefits: Jobseeker's Allowance, Incapacity Benefits[7], Employment and Support Allowance and Income Support. An individual can claim more than one out-of-work benefit at the same time so figures by the type of benefit claimed should not be added together.

The only employment data included in the linked data is from HMRC's P45 data which DWP holds. P45 start and end dates are the only variables on employment in the matched data. There are several limitations with the P45 employment data which are discussed in the Overview and the Methodology papers in this publication.

The denominators used for this analysis are the numbers of offenders in the matched data who were sentenced by the courts or received a caution in the year ending 30 November 2010 where DWP/HMRC spells information is available.

The coverage of the data on offenders in the matched data does not cover the majority of sentences that are given for less serious summary offences such as TV license evasion and less serious motoring offences, which where dealt with at court are more likely to receive a sentence of a fine. Care needs to be taken when interpreting these findings, particularly for the analysis on offenders receiving a fine. These results do not apply, and should not be applied, to all fines – the analysis only covers fines for the more serious offences that are recorded on the Police National Computer.

Results

It is estimated that 54 per cent of offenders are claiming benefits at some point in the month before sentence, with 51 per cent of offenders claiming one of the main out-of-work benefits.

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[6] Where referenced, Out-of-Work benefits include Jobseeker's Allowance (JSA), Incapacity Benefit (IB), Passported Incapacity Benefit (PIB), Severe Disablement Allowance (SDA), Employment and Support Allowance (ESA), and Income Support (IS). (Our figures for out of work benefits will include offenders claiming Income Support whose 'primary' benefit is CA, which are not generally classified in the out of work benefits category).

[7] Where referenced, Incapacity Benefits include Incapacity Benefit, Passported Incapacity Benefit and Severe Disablement Allowance

Jobseeker's Allowance is the out-of-work benefit most likely to be claimed by offenders: 24 per cent of offenders claim Jobseeker's Allowance at some point in the month before sentence.

A third of offenders are in P45 employment at some point in the month before sentence.

Table 2.1 provides the key benefit and P45 employment information for offenders around the time of sentence.

Table 2.1: Benefit and P45 employment status of offenders in the month before sentence for offenders in the matched data who were sentenced in the year ending 30 November 2010 and recorded on the Police National Computer (PNC)

	Proportion of offenders claiming benefits or in P45 employment at some point in the month before sentence
Claiming benefits (any benefits)	**54%**
Claiming out of work benefits	**51%**
Jobseeker's Allowance	24%
Incapacity benefits[1]	13%
Employment and Support Allowance	9%
Income Support	14%
Other benefits	**3%**
No benefits claimed	**46%**
In P45 Employment	**33%**

[1] Incapacity benefits include Incapacity Benefit, Passported Incapacity Benefit, and Severe Disablement Allowance.

- If an offender has multiple benefit or P45 employment spells within a month of disposal date then it is only counted once in this analysis.

- The sum of Jobseeker's Allowance, Incapacity benefits, Employment and support allowance and Income Support does not equal the proportion of offenders claiming out of work benefits. This is because people can claim more than one benefit at the same time. These percentages should not be added together.

- An offender can claim benefits and be in P45 employment at the same time (or in the same month) therefore the proportions will not sum to 100 as benefit claiming and P45 employment status are not mutually exclusive.

There are differences in the benefit and P45 employment status of offenders according to the sentence received or offence committed which are described below. However, it is important to note that often magistrates' or the Judiciary take into account the benefit and employment status when making their

sentencing decision so care should be taken with interpreting the findings by sentence type.

<u>Benefit and P45 employment status by sentence type</u>

Offenders receiving a caution (around a quarter of all offenders in the linked data) were least likely to be claiming benefits in the month before sentence but most likely to be in some form of P45 employment compared to offenders receiving other sentences. 43 per cent of offenders receiving a caution were claiming benefits at some point in the month before their sentence date, with just under half (46 per cent) in some form of P45 employment.

At the other extreme, offenders receiving a discharge (10 per cent of all offenders in the linked data) were more likely to be claiming benefits in the month before sentence compared to offenders receiving other sentences, 68 per cent of offenders receiving a discharge were claiming benefits at some point in the month before their sentence date.

Offenders who were sentenced to prison were least likely to be in some form of P45 employment where only 13 per cent of offenders sentenced to immediate custody were in P45 employment at some point in the month before they started their prison sentence (compared to a third of all offenders). The linked data does not record the remand period for all offenders in this period so the findings for offenders sentenced to immediate custody may be an underestimate.

Care should be taken when interpreting the findings for offenders sentenced to a fine since the analysis only covers fines for the more serious offences that are recorded on the Police National Computer (under a fifth of all fines given out by the courts).

Table 2.2 provides the key benefit and P45 employment status for offenders in the month before sentence by sentence type.

Table 2.2: Benefit and P45 employment status for offenders in the month before sentence by sentence type for offenders in the matched data who were sentenced in the year ending 30 November 2010 and recorded on the PNC

Proportion of offenders

	Proportion of sentences received	Benefit status							In P45 employment
		Any type of benefits	Any out of work benefits	Jobseeker's Allowance	Incapacity benefits	Employment and Support Allowance	Income Support	Other benefits	
All disposals	*100%*	*54%*	*51%*	24%	13%	9%	14%	**3%**	*33%*
Caution	*26%*	*43%*	*40%*	19%	9%	5%	13%	4%	*46%*
Fine [1]	*22%*	*51%*	*47%*	24%	12%	8%	12%	3%	*39%*
Community Sentence	*19%*	*60%*	*57%*	29%	13%	10%	15%	4%	*29%*
Suspended Sentence Order	*6%*	*60%*	*57%*	28%	14%	12%	14%	3%	*30%*
Immediate Custody	*12%*	*53%*	*51%*	24%	14%	11%	10%	3%	*13%*
Discharges (Absolute / Conditional)	*10%*	*68%*	*64%*	27%	19%	12%	21%	4%	*27%*
Other	*5%*	*63%*	*60%*	26%	16%	14%	15%	3%	*24%*

- Refer to Notes on Table 2.1

1. Care should be taken with the analysis on fines. The PNC data largely covers 'recordable' offences where the coverage of fines in the matched data only includes fines that are given for the more serious summary offences. The PNC includes less than a fifth of all fines given by the courts so these findings must not be interpreted as representative of all fines.

Benefit and P45 employment status by offence type

In general, offenders who are sentenced for committing summary motoring offences are less likely to be claiming benefits but more likely to be in some form of P45 employment than other offenders (35 per cent of offenders sentenced for a summary motoring offence were claiming benefits at some point in the month before sentence date, with over half (53 per cent) in some form of P45 employment).

At the other extreme, over two thirds (68 per cent) of offenders committing theft and handling stolen goods offences were claiming benefits at some point in the month before their sentence date. Just over a fifth (22 per cent) of these offenders were in some form of P45 employment.

As with the analysis by sentence type, the offence type findings are affected by the fact that at the time of sentence, a proportion of offenders will be remanded in custody before sentencing, particularly for certain offence types. The start date of the prison spell has been used in this analysis. However, the linked data does not record the remand period for all offenders in this period so the findings for offenders sentenced to immediate custody may be an underestimate.

Care should therefore be taken when interpreting the results by offence type, especially for robbery cases.

Table 2.3 provides the key benefit and P45 employment status for offenders in the month before sentence by offence type.

Table 2.3: Benefit and P45 employment status for offenders in the month before sentence, by offence type

| | | | Proportion of offenders |
Offence type	Proportion of overall offences in linked data	Claiming any type of benefits	In P45 employment
All offences	**100%**	**54%**	**33%**
Violence against the person	8%	52%	31%
Sexual offences	1%	48%	39%
Burglary	3%	56%	15%
Robbery	1%	36%	13%
Theft and handling stolen goods	18%	68%	22%
Fraud and forgery	3%	50%	42%
Criminal damage	1%	57%	31%
Drug offences	12%	53%	30%
Other indictable offences	6%	55%	28%
Indictable motoring offences	1%	40%	39%
Summary non-motoring offences	36%	53%	37%
Summary motoring offences	10%	35%	53%

3. Benefit, P45 employment and prison status for all prisoners released in 2008

Summary

This paper reports on the subsequent benefit, P45 employment and prison status in the two years following release from prison for prisoners released in 2008. It looks at whether individuals are on a benefit or in P45 employment at a given point in time and also provides a cumulative measure of benefit, P45 employment and prison status over the two year period.

It finds that:

- 47 per cent of offenders are on out-of-work benefits two years after being released from prison;

- 75 per cent of offenders started a new claim to an out-of-work benefit at some point in the two years following release;

- on average, prisoners leaving prison in 2008 spent 48 per cent of the next two years on out-of-work benefits;

- 15 per cent of offenders are in P45 employment two years after being released from prison;

- 29 per cent of offenders started a P45 employment spell at some point in the two years following release;

- 11 per cent of offenders are back in prison two years after being released from prison; and

- nearly half (46 per cent) of offenders started another prison sentence at some point in the two years following release.

Introduction

This analysis looks at the subsequent benefit, P45 employment and prison status for offenders on the data-share who were released from prison in 2008. It answers questions relating to the benefit or P45 employment status of individuals in the weeks and months following release from prison, the amount of time spent in a given status and questions relating to the proportion of people released from prison going into work or benefits or returning to prison.

This analysis differs from the analysis included in paper 4. This analysis looks at the benefit, P45 employment and prison status for all offenders released from prison in 2008 whereas paper 4 is focussed on the benefit and P45 employment status of a sub-set of offenders released from prison in 2008 who claimed Jobseeker's Allowance soon after being released from prison. This

analysis tracks offenders over a two year period whereas paper 4 tracks offenders for three years following release and making a JSA claim. The findings between the two separate analyses are consistent.

Methodology

There are two parts to this analysis.

Part 1 – Benefit, P45 employment, prison status two years following release from prison

The first part of the analysis looks at all offenders released from prison in 2008 and tracks them for two years following their first release, showing whether benefits are being claimed or whether they are in P45 employment in each week, and focuses on their status at the two year point following release from prison. If an individual is released from prison more than once in the same year it tracks from the first release.

The denominator for this analysis is the 78,000 individuals on the data-share recorded as being released from prison in 2008.

Part 2 – Whether prison releases have had any benefit, P45 employment or prison spells in the two years after release from prison

The second part of the analysis provides a cumulative measure of benefit, P45 employment and prison status over the two year period for offenders released from prison in 2008. This does not mean that the offender was claiming benefits, in P45 employment or back in prison at the two year point following release from prison – just that they had one (or more) of those statuses at some point in the two years following release.

If an individual is released from prison more than once in 2008 this analysis includes them as separate prison releases. As it is a cumulative measure, only one spell of a particular status is included in this analysis – so if an offender had two separate P45 spells following release from prison, only one is included in this analysis.

This analysis looks at all prison releases rather than the first release so the denominator is all 92,000 prison releases in 2008.

Where referenced, out-of-work benefits include Jobseeker's Allowance, Incapacity Benefits, Employment and Support Allowance and Income Support.

Caveat on the benefits data: An individual can be recorded as having a spell on a benefit and usually that will mean that the individual is in receipt of a benefit payment. However, an individual can be recorded as being on a particular benefit but they are not in receipt of payment as they do not meet the full conditions at that particular time (this could be because payment is

suspended while a person is in prison). The shared dataset does not contain information relating to the rate of benefit in payment.

Caveat on the P45 employment data: There are data quality and coverage issues with the P45 employment spells data. P45 employment spells often have estimated start or end dates. In addition, P45 employment spells do not usually record employment paid at levels below tax thresholds, do not record self-employment or cash-in-hand informal economy work.

Results

Part 1 –Benefit, P45 employment, prison status two years following release from prison

Benefit status

On average, offenders leaving prison in 2008 spent nearly half (48 per cent) of the next two years on out-of-work benefits.

47 per cent of offenders leaving prison in 2008 were claming out-of-work benefits two years following release. Almost all of the offenders on benefits are on one of the main out-of-work benefits.

P45 employment status

5 per cent of offenders released from prison are in some form of P45 employment a few weeks after release from prison. The proportion in P45 employment increases to 15 per cent of offenders in P45 employment two years following release from prison.

Prison status

There is a gradual increase in the proportion of offenders who return to prison up to around one year following release from prison in 2008. 12 per cent of offenders are back in prison a year after release. After that point, the proportion of offenders in prison appears to decrease slightly, where 11 per cent of offenders are back in prison two years following release from prison[8].
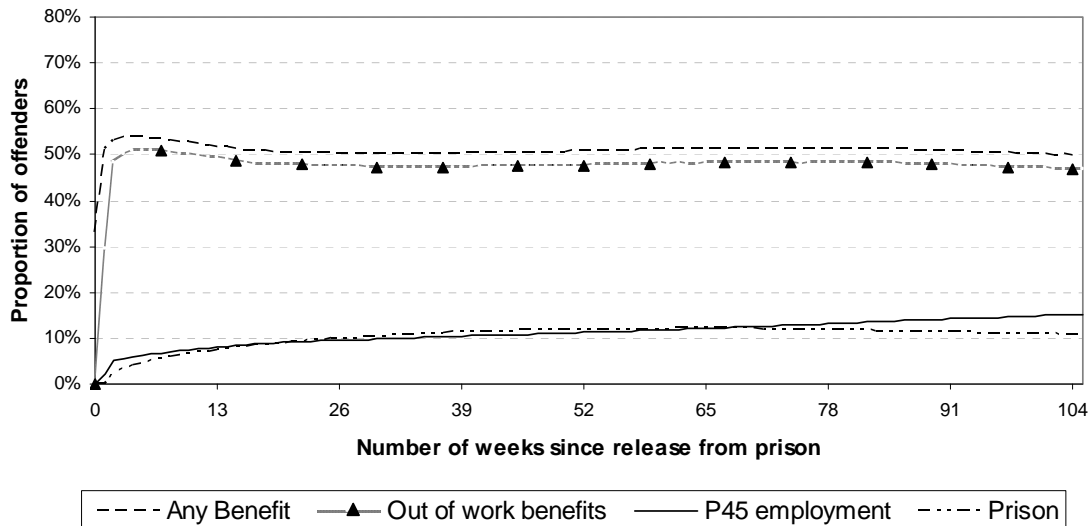
Figure 3.1 shows the proportion of offenders on benefits (any benefits and out-of-work benefits[9]) or in P45 employment or in prison in each week

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[8] An element of the decrease seen in the proportion of offenders in prison between one and two years following release from prison could be an artefact of the linked data where prison spells for 2010 have been estimated.

[9] Out-of-work benefits in this analysis include Jobseeker's Allowance, Incapacity Benefit, Employment and Support Allowance and Income Support. Out-of-work benefits are a subset of the any benefit figure.

following their first release from prison in 2008, up to two years following
release.

**Figure 3.1: Benefit, P45 employment and prison status each week in the
two years following release from prison for offenders released from
prison in 2008**

Part 2 – Whether offenders have had any Benefit, P45 employment, Prison
spells in the two years after release from prison

Figure 3.2 shows whether offenders released from prison in 2008 have made
at least one claim to an out-of-work benefit, have had a spell of P45
employment or have had another spell in prison at some point in the two year
period following release from prison. It is a cumulative measure. (This does
not mean that these spells were still open at the two year point following
release from prison.)

Figure 3.2: Cumulative proportion of prisoners who claimed out-of-work benefits, started a P45 employment spell or who have been re-imprisoned at some point in the two year period following release from prison in 2008, by length of time since release

A total of 75 per cent of offenders released from prison in 2008 made at least one claim to an out-of-work benefit within two years of release.

29 per cent of offenders released from prison in 2008 started at least one P45 employment spell and 46 per cent were re-imprisoned at some point in the two years following release.

4. Benefit and P45 employment status for offenders who claimed Jobseeker's Allowance soon after release from prison

Summary

This paper compares benefit claiming patterns of offenders discharged from custody who claimed Jobseeker's Allowance (JSA) soon after release from custody in 2008 with claiming patterns of the general population of JSA claimants.

It concludes:

- Ordinary 'single spell' off flow rates (the rate at which claimants cease their original claim) for offenders discharged from custody are broadly similar to those of JSA claimants as a whole. After a year, 11 per cent of offenders still have their original JSA claim open, compared to 10 per cent of all JSA claimants.

- Taking into account multiple spells on benefit and transition to different benefits, an offender discharged from custody who claims JSA soon after release spends approximately 57 per cent of the next three years on benefits compared to 42 per cent for all JSA claimants.

- Offenders discharged from custody are more than twice as likely as all JSA claimants to migrate onto Incapacity Benefit (IB) or Employment and Support Allowance (ESA) following an initial claim to JSA on release from custody.

- Offenders who claimed JSA soon after release from custody spent 57 per cent of the time on benefits, 14 per cent of the time in P45 employment and 11 per cent of the time in custody over the next three years. There will be many reasons accounting for the remainder of the individuals' time over the period including education and non-P45 employment (cash in hand jobs).

- It is estimated that JSA claiming offenders discharged from custody cost the DWP 38 per cent more (approximately £1,500) over a three year period than the average JSA claimant.

Introduction

This paper analyses a cohort of individuals discharged from prison in 2008 who subsequently claimed JSA. It tracks the individuals for three years reporting on various benefit, employment and prison statuses each week in the three year period. Estimates of the time spent in these various states are presented as well as the status of offenders at any given point in time.

From March 2012 offenders who claim JSA within 13 weeks of leaving prison will be referred directly to Work Programme employment support provision. The comparison used in this paper is with 'average' JSA claimants in the general population – prison leavers have not been compared with another group who would get mandatory Work Programme provision. This is important to note as the 'average' JSA claimant will have significantly better outcomes than the 'average' JSA Work Programme entrant where the main entry points are for the claimant to have sustained a continual 9 or 12 month JSA claim.

This paper differs to the analysis included in paper 3. This analysis looks at the benefit, P45 employment and prison statuses for offenders released from prison in 2008 who made a Jobseeker's Allowance claim within 13 weeks of release from prison, and tracks these offenders over a three year period. Paper 3 is focussed on the benefit and P45 employment status of <u>all</u> offenders released from prison in 2008 and tracks offenders for two years following release. The findings between the two separate analyses are consistent.

Methodology

The cohort consists of prison leavers in 2008 who claimed JSA within 3 months of release[10]. The analysis considers the following issues, each with a comparison against all new general population JSA claims in 2008 (the general population includes claims made by offenders and are referred to as 'the average JSA claimant'):

- How long the initial JSA claim lasted;

- Transition from initial JSA claim onto alternative out-of-work benefits;

- The time spent on out-of-work benefits, in P45 employment or back in prison;

- Cost estimates of benefit provision.

Where referenced, out-of-work benefits include Jobseeker's Allowance, Incapacity Benefits, Employment and Support Allowance and Income Support.

A three year tracking period from the start of the initial JSA claim after release from custody in 2008 has been used in this analysis to examine longer-term benefit and employment outcomes of offenders. As the linked data is only

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[10] The three month period was selected because from March 2012 offenders discharged from prison and claiming JSA within three months will be eligible for mandatory Work Programme participation. It is therefore interesting and relevant to see how this group's time on benefit compares with the average JSA claimant.

complete until the end of 2010 a full three years' worth of data is only available for a limited number of individuals. Therefore the analysis reported here includes information on an increasingly small proportion of the cohort for observations after week 104. This detail will make a difference to the precision of values reported but not on the general conclusions.

The comparisons between offenders discharged from custody and all new JSA claims in 2008 is not perfect because the groups have not been adjusted for differences in demographics and there is a small misalignment of time periods, but the comparison is statistically valid for showing different performance of these distinct groups.
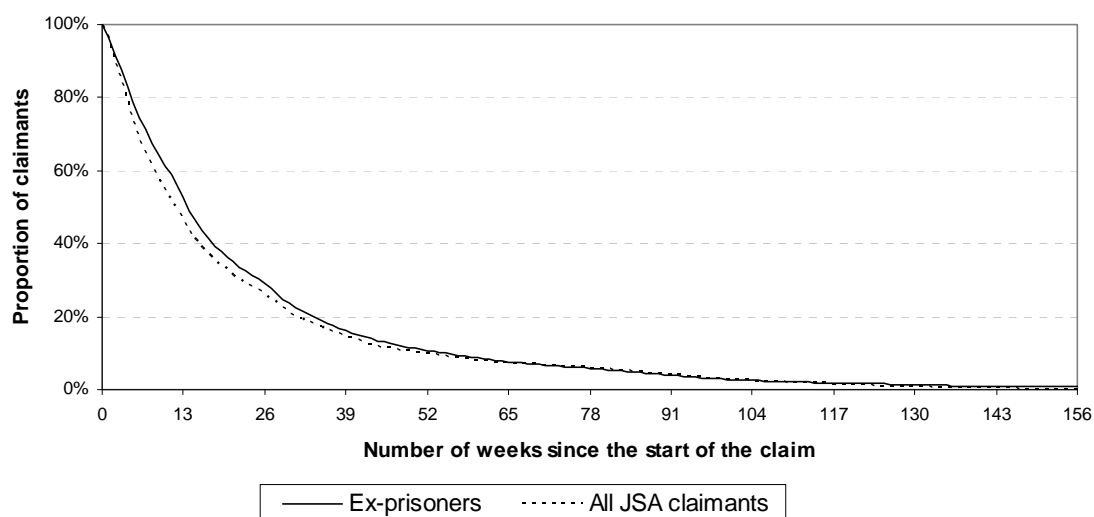
Results

For each issue, there is a comparison between offenders released from custody and the average JSA claimant. There were 30,000 offenders from the linked data identified as claiming JSA within 13 weeks of release from prison in 2008 – referred to in this paper as the ex-prisoner population. There were 2.15 million new JSA claimants in 2008 (including claims made by offenders) – referred to as the 'average JSA claimant'.

Initial JSA claims

Figure 4.1 shows the duration of the initial JSA claims over a three year period for the ex-prisoner population and the average JSA claimant.

Figure 4.1: Duration of initial JSA claim for released prisoners and the average JSA claimant over three years from the initial JSA claim
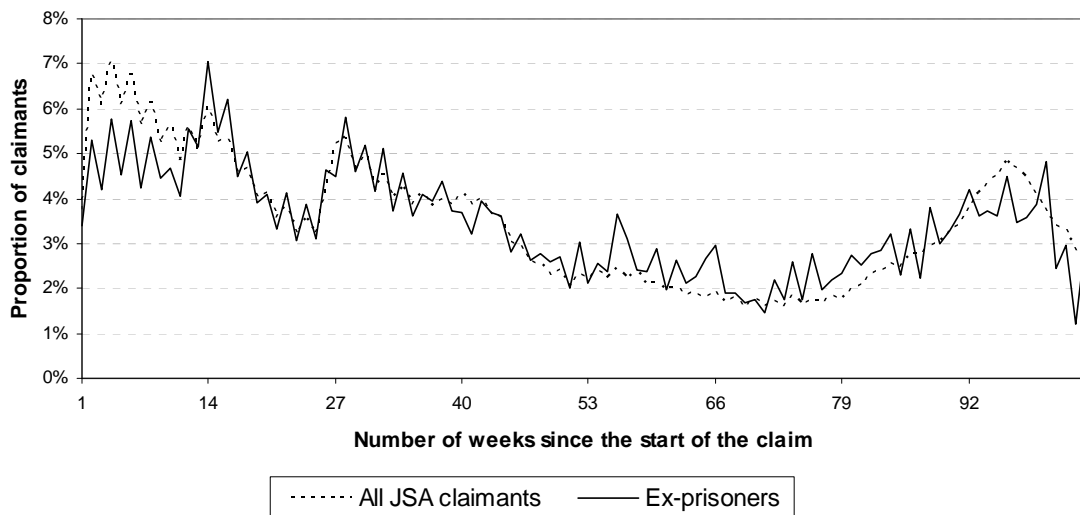

The graph shows that 100 per cent of these individuals are on JSA on week zero since it is looking at initial claim. By week 52, 11 per cent of initial JSA claims made by the ex-prisoner population are still open compared to 10 per

31

cent for the average JSA claimant; that is, there has not been a break in the
claim for a year.

Another way of looking at the difference between offenders discharged from
custody claiming JSA soon after release and the average JSA claimant is to
look at the rate at which people leave the benefit in each week. Figure 4.2
shows this, the off flow rate, for the ex-prisoner population and for all JSA
claimants. The y-axis is the weekly off flow rate so it says, for instance, that 4
to 5 per cent of offenders discharged from custody on JSA leave in each week
of the first 10 weeks following claim start. The denominator for this graph is
the stock of claimants on benefit in the previous week. The 'prisoner' line
fluctuates more than the 'all JSA' line because of the smaller sample and the
sample attrition with increasing lengths of claim.

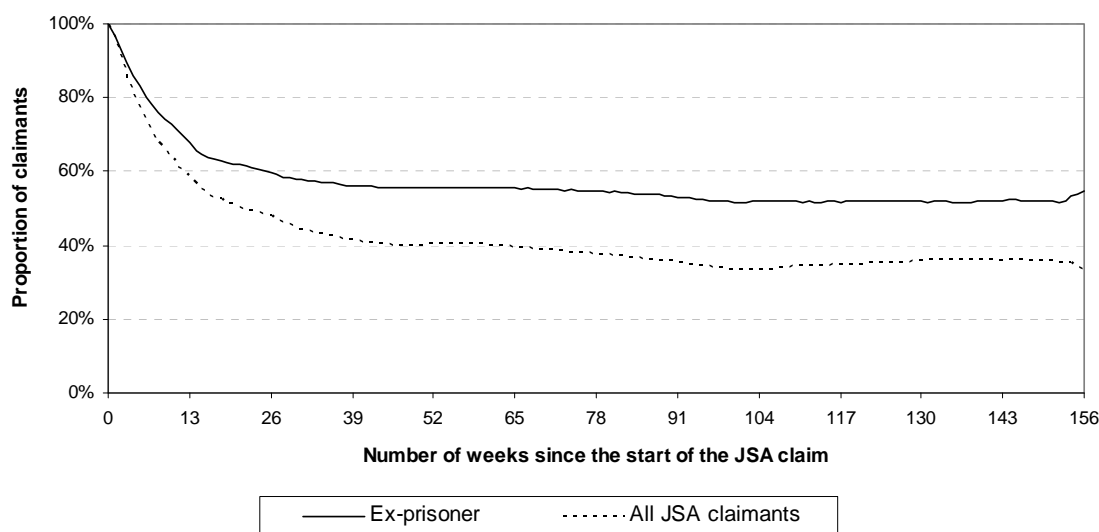**Figure 4.2: Weekly off flow rate for first two years of JSA claim**

This off flow rate chart makes it easier to see which parts in the ex-prisoners'
JSA claim pattern 'explains' the gap seen in the survival rate graph (Figure
4.1). Prisoners are noticeably less likely to leave JSA in the first three months
of claim. Thereafter the weekly off flow rates are remarkably similar to all JSA
claimants until after a year when they are actually slightly higher. It is worth
noting though that after a year samples are increasingly small so these
differences are unlikely to be significant.

Overall benefit status

Figure 4.3 tracks the overall out-of-work benefit status for the ex-prisoner
population and the average JSA claimant over a three year period. The chart
shows that a year after the initial JSA claim, 56 per cent of the ex-prisoner
population are claiming an out-of-work benefit compared to 40 per cent of the
average JSA claimant, almost a third lower than the ex-prisoner finding.

The benefit status at the one year point is very similar to the benefit status over the three year period after the initial JSA claim. Offenders released from custody who claimed JSA within three months of release from prison spend, on average, 57 per cent of the next three years on at least one of the main out-of-work benefits. This compares to the average JSA claimant who spend, on average, 42 per cent of the same period on benefits. The average time on benefits is calculated from the proportion on benefits at the end of each week following the initial JSA claim.

Figure 4.3: Overall out-of-work benefit status for the ex-prisoner population and average JSA claimants over a three year period from the initial JSA claim

Transition from initial JSA claim onto alternative out-of-work benefits

The ex-prisoner population appear much more likely than the average JSA claimant to move onto Incapacity Benefit (IB) or Employment and Support Allowance (ESA) in the three year follow up period (from start of initial JSA claim).

6 per cent of the average JSA claimant population are on IB or ESA a year after the initial JSA claim, compared to 12 per cent of the ex-prisoner population. This difference continues until the end of the three year tracking period where the ex-prisoner population are over two times more likely to be on IB or ESA three years after making the initial JSA clam as the average JSA claimant.

42 per cent of the ex-prisoner population were claiming JSA a year after their initial JSA claim (whether this is their initial or subsequent JSA spell), compared to 32 per cent of the average JSA claimant.

Figures 4.4 and 4.5 show the change over time from the initial JSA claim start to other benefits for both the ex-prisoner population and average JSA

claimant. Income Support (IS) claims can overlap with IB claims so the totals in the charts are not mutually exclusive. However, it is not possible for an individual to be on more than one of IB, ESA or JSA at the same time. The JSA line in the chart includes the initial JSA claim or subsequent JSA claims made.

Figure 4.4: Benefit transition over a three year period for offenders discharged from custody in 2008 who claimed JSA soon after release
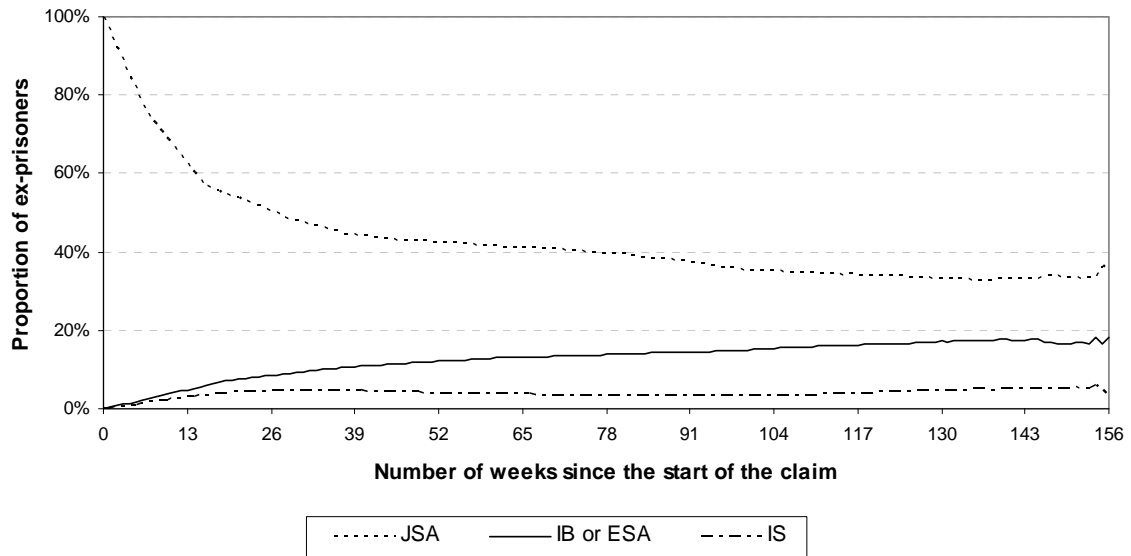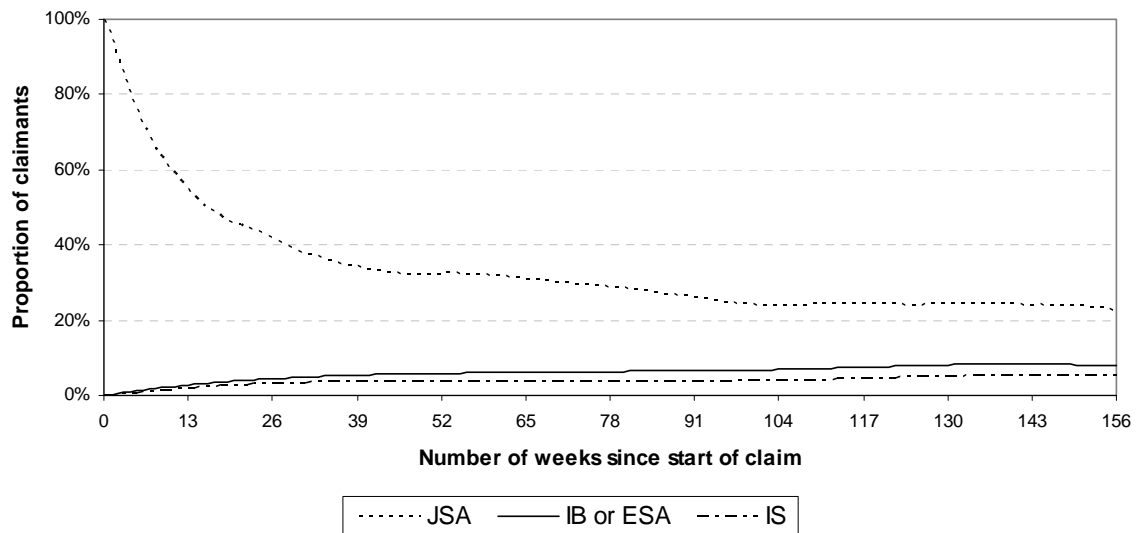

Figure 4.5: Benefit transition for all JSA claimants over a three year period from the point of their initial JSA claim
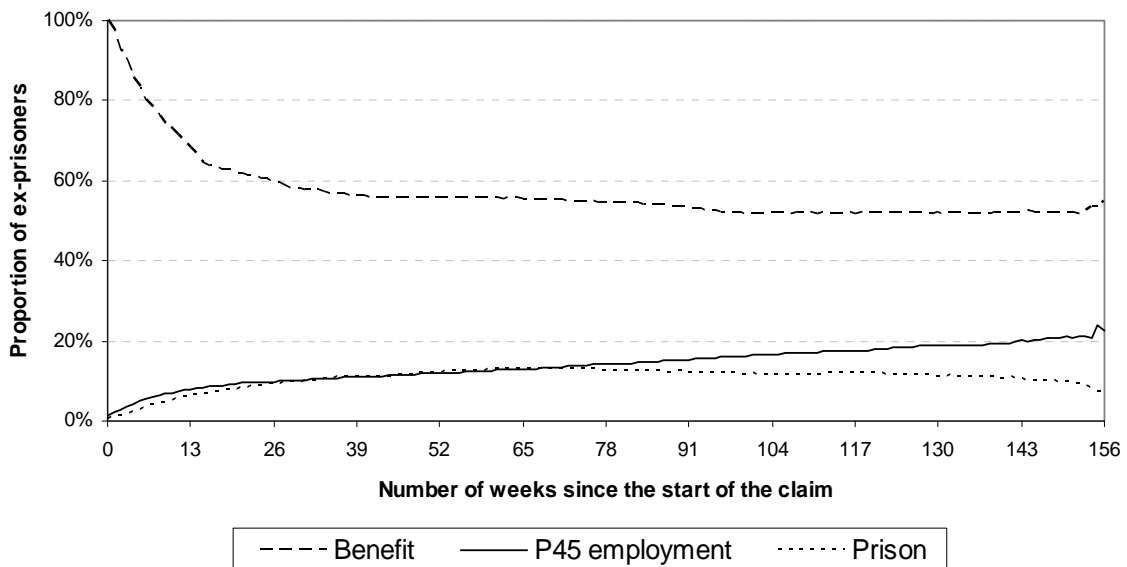
<u>The time spent on out-of-work benefits, in P45 employment or back in prison</u>

The data-share also includes information about movements of this cohort both into work and back into prison. Direct comparisons with average JSA claimants are not possible for this section – as linked employment and prison data is not available for all JSA claimants on the same basis.

Figure 4.6 shows time spent on benefits, back in prison or in P45 employment over a three year period from the start of the initial JSA claim for offenders who were released from prison in 2008 and made a JSA claim within three months of release. The proportion of the ex-prisoner population on benefits decreases over time whereas the proportion in P45 employment increases over time.

Over the three year period as a whole, on average, 57 per cent of the time was spent on benefits, 11 per cent of the time was spent in prison and 14 per cent of the time was spent in P45 employment. It is possible for an individual to be on benefits and in P45 employment at the same time so these figures should not be added together. There will be many reasons accounting for the remainder of the individuals' time over the period including education and non-P45 employment (e.g. self-employment).

Figure 4.6: Benefit, P45 employment or Prison status of offenders in the three year period following initial JSA claim

<u>Cost estimates of benefit provision</u>

It is possible to put an approximate value on the cost of benefits for the ex-prisoner population and the average JSA claimant over the three year period from the initial JSA claim. Table 4.1 shows the calculation applying average benefit rates in 2008 to the proportions of the three year period spent on benefits by the ex-prisoner population and the average JSA claimant.

Table 4.1: Estimated three year average cost comparison of benefits following initial JSA claim for offenders discharged from custody and all JSA claimants

	Percentage of time on benefit	x	Cost of Benefit	x	Number of weeks since start of claim	=	Cost
Average JSA claimant							
JSA	34%		£56.06		156		£2,900
IS	4%		£81.08		156		£500
IB	2%		£53.82		156		£200
ESA	4%		£54.38		156		£300
						Total	**£3,900**
Prison Leaver							
JSA	43%		£56.06		156		£3,800
IS	4%		£81.08		156		£500
IB	4%		£53.82		156		£300
ESA	9%		£54.38		156		£800
						Total	**£5,400**

These figures relate only to the cost of out-of-work benefits and exclude any direct or indirect costs (cost of programme provision or the costs to other departments for example).

Over the three year period, it is estimated that, per individual, the ex-prisoner population receive an extra £1,500 (or 38 per cent more) in benefits than the average JSA claimant.

This analysis uses average benefit rates in payment in 2008. It does not use any information about the actual rate of benefit in payment to an individual and it does not take into account benefit rate changes since 2008. However, the analysis does provide a broad comparison of the cost of benefits for these individuals over a three year period.

5.   Offenders receiving Community Care Grants

Summary

This paper provides estimates of the proportion of Community Care Grant (CCG) applications that were made by offenders with a caution or conviction between 2000 and 2010. It finds:

- 44 per cent of CCG applications made in England and Wales in 2009/10 were by offenders who had at least one caution or conviction between 2000 and 2010; including

- 15 per cent by individuals that are recorded in the data-share as being prisoners.

Introduction

The Social Fund is administered by Jobcentre Plus and provides interest free loans, grants and payments through both a regulated and a cash limited discretionary scheme. It provides additional funds to people on top of benefits in a range of circumstances.

The analysis reported here looks at the CCG element of the Social Fund. CCGs are primarily intended to help vulnerable people claiming income-related benefits to settle or remain in the community or to support families under exceptional pressure.

Methodology

This analysis linked individuals from the data-share with records from the Social Fund Scans[11]. Linking was done by use of the ORCID variable – an identifier used by analysts to link DWP's internal datasets anonymously.

The CCG data used in this analysis included all applications made between April 2009 and March 2010. As the full data-share includes information on the offending, employment and benefit status of 3.6 million linked individuals over the period 2000 to 2010, some individuals identified here as offenders will not have offended for many years and some may have received relatively minor offences resulting in cautions.

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[11] The Social Fund Scans are Management Information. It is not quality assured to the same extent as Official/National statistics and there are some issues with the data, for example, it does not include applications which were processed clerically and have not yet been entered on to the Social Fund Computer System. Therefore Social Fund figures reported here may not match those reported elsewhere.

In order to understand how CCGs are being used, and with what client groups, the simple questions we looked to answer were:

- How many CCG applications were made by individuals that are on the data-share (and therefore are 'offenders')?

- How many CCG applications were made by ex-prisoners?

Results

Of the 503,000 CCG applications made in 2009/10 in England and Wales, some 219,000 (44 per cent) were made by people who are on the data-share.

78,000 (15 per cent of) applications made in England and Wales in 2009/10 were by people recorded on the data-share as having been in prison at some point between 2000 and 2010. In a minority of cases this will be an individual that went to prison only after the CCG application was made.

Three per cent of applications made in England and Wales in 2009/10 were by offenders recorded as being released from prison in 2010. Six per cent of applications were by offenders released in 2009 and four per cent by offenders released in 2008. An individual can be released in more than one year – so someone released in both 2008 and 2009 will appear in both these figures.

All figures are reported to the nearest 1,000 or whole percentage point.

6.   Data matching methodology and explanation of the data-share

Summary

The Offending, employment and benefits data-sharing project between MoJ, DWP and HMRC was created to improve the evidence base on the links between offending, employment and benefits shaping how we drive forward action on reducing re-offending and welfare dependency.

Full legal and ethical approval for the project was obtained in December 2010. The agreed data was shared and successfully matched (86 per cent match rate) in early 2011, resulting in a dataset of approximately 3.6 million unique offenders with 40 million rows of sentencing, employment or benefit spells.

In the absence of a unique identifier to link MoJ records with DWP/HMRC records, matching rules were developed and tested based around five key variables (forename, surname, date of birth, gender and postcode).

The linked MoJ/DWP/HMRC data has already proven very valuable for policy development and improving the evidence base on the links between offending, employment and benefits. There is a lot of potential for the matched data to be used to improve policy/evidence base in the future and to move to a regular data-share (providing legal and ethical approval is obtained).

This article discusses:

- the aims and purposes of the data-share;

- legal and ethical approval for the data-share;

- data matching methodology and quality assurance; and

- next steps.

The aims and purposes of the data-share

The existing evidence base on the links between employment, benefits and offending is limited. There is some evidence on the employment or benefit status of offenders however that is mainly from self-reported or survey data and is focussed on specific disposal types (custodial sentences for example)[12].

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[12] The data has been published in the accompanying SPCR tables to the Compendium of re-offending and statistics; Ministry of Justice; November 2010. The tables can be accessed at: www.justice.gov.uk/publications/statistics-and-data/reoffending/compendium-of-reoffending-statistics-and-analysis.htm.

Therefore the aim of the data-share was to get a better understanding of re-offending and long term outcomes for offenders by linking MoJ data from the Police National Computer (PNC) extract and prisons and probation data to data from DWP and HMRC on benefits and employment.

Data has been shared, for analytical purposes, in order to improve the evidence base and better understand the links between employment, benefits and offending, shaping how we drive forward action on reducing re-offending and welfare dependency.

Legal and ethical approval for the data-share

As with any data sharing, full consideration was given to the relevant legal and ethical issues before a decision was taken for this data sharing project to proceed. Projects which involve any sharing of personal and sensitive personal data within the meaning of the Data Protection Act 1998 need to be lawful, fair, justified and proportionate in order to comply with that Act and Article 8 of the European Convention on Human Rights. We are satisfied that this data sharing project and the terms on which it has been conducted meets these stringent standards. After considerable time and effort, an agreement was reached and full approval for a one-off data-share was given in December 2010. As part of the approval process, the data sharing project was approved by the DWP Ethics Committee.

Extreme care is taken by MoJ and DWP to protect the personal data and ensure individuals are not identified through the data sharing process. To this end a Memorandum of Understanding and Privacy Impact Assessment were agreed for the project. The Memorandum sets out in detail the terms on which the project is to proceed, including the safeguards to be put in place by MoJ, and DWP regarding the use and storage of data for the purposes of the project. In particular, DWP Operational Control team took responsibility for the data transfers which were done by personal delivery, access to the transferred data is restricted to named individuals and the shared data is anonymised at the earliest opportunity. The shared data can only be used for analytical purposes as set out in the Memorandum.

Data matching methodology and quality assurance

Overview

Data matching is a technique used to link together different data sources. In the absence of a unique identifier in each administrative data source (National Insurance Number for example), we needed to link MoJ data to DWP/HMRC data using data matching techniques - this is possible by developing matching rules using common variables between the different data sources. For this data-share, the variables that were used in the matching process were forename (full name or initial), surname, postcode, date of birth and gender. Matching rules were agreed between MoJ and DWP and included combinations of at least 4 of the 5 variables as well as using fuzzy matching

techniques on names.**13** A linking identifier is retained so that personal details could be removed at the earliest opportunity.

It was agreed that it was more proportionate for DWP to do the data matching given that they hold data on many more people than MoJ.

A description of the input datasets

Personal details of 4.2 million offenders from MoJ's extract of the Police National Computer (PNC) were sent securely to DWP for matching. This includes offenders on the PNC extract who have offended from 2000 to December 2010 (excluding those who were aged 16 or under in 2010).

Personal details included names (including forename and surname), date of birth, full postcode history, gender, and a unique reference number allocated by MoJ. Alias information was also included for names and date of birth in order to get the best quality match.

The MoJ data from the PNC was linked by DWP to DWP's Master Index database using the agreed matching algorithm (outlined below). Any MoJ records where a match with DWP was not found were then linked (using the same matching algorithm) to the HMRCs P45 employment data which is already held by DWP. There was not a separate data-share with HMRC.

A description of the matching methods used

A 37 step matching algorithm was originally agreed between MoJ and DWP using a scoring system and combinations of at least 3 of the 5 variables (forename, surname, date of birth, postcode, gender). In addition, initial of forename was used as was Soundex[14] on forename and surname in order to get the best possible match.

The matching process worked by taking all MoJ records and looked for a match between the MoJ data and DWP data based on the first match criteria, splitting into those where a match was found and those where a match was not found. Unmatched MoJ records then went through the same process but using the second match criteria, then the third, and so on. Once all matching rules were completed against the DWP data, the process was repeated for

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[13] Fuzzy matching is used to improve match rates when there is no unique common identifier and matching on exact variables (names) is not successful (due to data quality issues in the different data sources and so on). Given the exact matching is very strict (either a word matches or it does not), fuzzy matching attempts to improve match rates by reducing words to their core and then matching all forms of the word – for example, Elizabeth, Beth, Liz, Lizzie and so on.

[14] Soundex is used in fuzzy data matching and is a phonetic algorithm for indexing names by sound, as pronounced in English so that names can be matched despite minor differences in spelling.

the 'not found' records but matching against HMRC P45 data (using the same matching algorithm).

The matching process was subject to a quality assurance process to lower the instance of error. More specifically there can be two measures of error in data matching:

- Type I - an identified but incorrect match (false positive);
- Type II - an unidentified but correct match (false negative).

An ideal match process will minimise the risks for both these types of error. In reality, it is usually the case that reducing the chances of missed matches increases the chances of false positives, and vice versa. It is generally felt that the type I error is more serious, and so steps must be taken to minimise false positives even if this loses some additional true matches.

 The approach taken was to match the data using all 37 criteria originally specified, and then to select samples of cases where a match was found from each stage, and manually examine the personal details to see if human judgement agreed or disagreed that the same person had been found. After examination of the test results and discussion between MOJ and DWP analysts, 17 of the 37 match criteria were abandoned on the grounds that they gave rise to too many false positives (generally, a rule was excluded from the final matching algorithm if there was more than 5 per cent of records that were identified as false positives). This left 20 match criteria to be used in the final version of the matched data.

Results

The match rate achieved was 86 per cent. 3.6 million out of the 4.2 million offenders included in the data-share were matched to DWP/HMRC data.

Table 6.1 provides more details of the matching process, including the 20 matching rules used in the final matching algorithm and at which stage the matches were found.

Around 40 per cent of all successful matches were exact matches on all five variables used in the matching algorithm (so they had the same forename, surname, postcode, date of birth and gender). Over 75 per cent of successful

matches were exact matches on all five variables, or an exact match on four variables (all excluding postcode[15]) which gives us confidence in the quality of the match.

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[15] We would expect there to be significant numbers of cases where recorded postcode would differ between MoJ data and DWP/HMRC data. DWP data on benefits should reflect the most up to date information on address at the time of benefit claiming, whereas the information on the PNC may be quite old if the offender has not offended recently and has moved home.

Table 6.1: Summary of data matching results: MoJ/DWP/HMRC data-share project

Matching rule	Match Criteria (combinations of surname/date of birth/postcode/ forename /gender)	Stage 1: matches found with DWP data	Percentage of all DWP matches	Stage 2: matches found with P45 HMRC data	Percentage of all HMRC matches	Overall match (combining DWP and HMRC stages)	Percentage of all matches
1	Exact match on all five variables	1,068,829	38%	363,810	42%	1,432,639	39%
2	Five with soundex forename (instead of exact forename)	28,807	1%	12,954	1%	41,761	1%
3	Five with initial of forename (instead of exact forename)	226,543	8%	11,530	1%	238,073	7%
4	Five with soundex surname (instead of exact surname)	21,058	1%	21,802	3%	42,860	1%
5	Five with soundex forename and soundex surname (instead of exact forename and surname)	1,163	0%	1,065	0%	2,228	0%
6	Five with soundex surname and initial of forename	2,649	0%	763	0%	3,412	0%
7	Exact match on four variables (excluding gender)	6,407	0%	3,119	0%	9,526	0%
8	Four variables (excluding gender) with soundex forename	329	0%	242	0%	571	0%
9	Four variables (excluding gender) with soundex surname	193	0%	206	0%	399	0%
10	Exact match on four variables (excluding forename)	9,521	0%	20,179	2%	29,700	1%
11	Exact match on four variables (excluding postcode)	1,026,707	37%	366,585	42%	1,393,292	38%
12	Exact match on four variables (excluding surname)	22,047	1%	13,832	2%	35,879	1%
13	Four variables (excluding postcode) with soundex forename	35,808	1%	16,875	2%	52,683	1%
14	Four variables (excluding gender) with soundex surname and initial of forename	1,186	0%	227	0%	1,413	0%
15	Four variables (excluding forename) with soundex surname	333	0%	672	0%	1,005	0%
16	Four variables (excluding postcode) with initial of forename	326,199	12%	24,250	3%	350,449	10%
17	Four variables (excluding surname) with soundex forename	1,246	0%	766	0%	2,012	0%
18	Four variables (excluding surname) with initial of forename	4,652	0%	943	0%	5,595	0%
19	Exact match on three variables (excluding gender and postcode)	300	0%	218	0%	518	0%
20	Exact match on three variables (excluding gender and surname)	7,095	0%	4,630	1%	11,725	0%
	Total number of matches found	2,791,072		864,668		3,655,740	
	Unmatched records	1,435,924		571,256		571,256	
	Total number of records included in data matching					4,226,996	
	Match rate					86%	

The representativeness of the matched data has been assessed by looking at the distributions of five key variables between the matched data, un-matched data, and the total. Distributions were produced for: Ethnicity, Age, Gender, Offence class and disposal category. Conclusions from the simple bias testing show that the only real differences are ethnicity (where there was a slight under representation for ethnic minority groups[16]) and disposal category (where there is a higher proportion of cautions in the un-matched data[17]).

A description of the final linked file

The 'shared data' includes approximately 40 million records and contains the following information covering the period 2000 to 2010 for all offenders where a match between MoJ and DWP/HMRC data was found:.

Criminal Justice System information (MoJ data):

- basic offence details (date of offence and offence type);

- basic details of sentence received; spell of prison and probation where known;

Benefit, employment and programme information (DWP/HMRC data):

- benefit spells (start and end dates, benefit type);

- P45 employment spells (start and end dates);

- programme spells (start and end dates, programme type)

- geographic level data; and

- necessary variables to use data including extract dates, details of match strength, anonymous identifiers and so on.

The matched dataset was anonymised at the earliest opportunity – so it contains no names or addresses of individuals but anonymised identifiers instead. The matched data is being used for research and analytical purposes only.

Statistical quality assurance procedures were applied to protect the integrity of the matched data including removal of duplicated entries, checks for completeness, and the cleansing of inconsistent data based on business intelligence.

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[16] This was expected, since there is a greater potential for different spelling/recording of some forenames/surnames and these fields are central to the matching rules.

[17] This may reflect offenders receiving a caution being younger on average, and therefore more likely to still be in education/further education and not claiming benefits.

Coverage of the matched data

The data matching was successful where 86 per cent of the MoJ offender records (from the Police National Computer (PNC) extract) were matched to DWP/HMRC data. Therefore, for the unmatched offenders (14 per cent of offenders in the PNC), we do not have any DWP/HMRC data[18]. This is unlikely to affect the results of analysis however, as work has been undertaken to look at the representativeness of the matched and unmatched data which suggests there is only very limited bias in the matched data (as explained earlier).

The only employment data included in the linked data is from HMRCs P45 data which DWP holds. P45 start and end dates are the only variables on employment in the matched data. There are several limitations on the P45 data which need to be taken into account.

- the matched data only has information on P45 employment. It does not cover self-employed or cash in hand jobs

- the matched data does not include any information on offenders' income, number of hours worked, or type of employment

- there are data quality issues with the P45 data. The matched data has been cleaned to resolve several data quality issues but there will still be issues with data quality.

Conclusion

The one-off MoJ/DWP/HMRC data-sharing project has proven to be very successful, and already has helped significantly improve the evidence base on the links between benefits, employment and offending.

We will continue to analyse the matched data and look to move to a more regular data-share in future providing the relevant legal and ethical approval is obtained.

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[18] This includes both offenders who genuinely have no benefit or P45 employment records (as for example they are still in some form of education and have not claimed or are self employed and have not claimed benefits), and offenders that we have been unable to successfully match who did have a valid benefit or P45 employment record.

Appendix   Glossary of terms

Article 8 of the European Convention on Human Rights	Article 8 of the European Convention on Human Rights sets out the legal obligations to balance the rights of the individual to private and family life, with the rights of the wider community.
Attendance Allowance (AA)	Provides a contribution towards the disability-related extra costs of severely disabled people who claim help with those costs after the age of 65.
Bereavement benefit (BB)	A weekly benefit payable to widows/widowers without dependant children and payable between age 45 and pensionable age.
Carer's Allowance (CA)	Benefit which can be paid to people who spend at least 35 hours a week looking after someone who is disabled.
Community Care Grant (CCG)	Community Care Grant is an element of the Social Fund. CCGs are primarily intended to help vulnerable people claiming income-related benefits to settle or remain in the community or to support families under exceptional pressure.
Community orders	The Criminal Justice Act 2003 introduced the new community order for offences committed on or after 4 April 2005. These replaced the existing community sentences for offenders aged 18 years and over. The new community order included probation supervision, and one or more of the community requirements. For offences committed prior to 4 April 2005. There were five community orders: Community punishment order (CPO): the offender was required to undertake unpaid community work. Community rehabilitation order (CRO): a community sentence imposing supervision, which had additional requirements such as residence. Community punishment and rehabilitation order (CPRO): a community sentence consisting of probation supervision alongside community punishment, additional conditions like those of a CRO. Curfew order: the offender is subject to curfew or between two and 12 hours per day for up to six months, with a presumption that it will be electronically monitored Drug Treatment and testing order (DTTO): a community

	sentence targeted at offenders with drug misuse problems.
Community requirements	The court can impose one or more requirements on the new community orders. Typically, the more serious the offence and the more extensive the offenders needs, the more requirements are added to the new community order. The requirements include: Unpaid work: a requirement to complete between 40 and 300 hours' unpaid work. Activities: for example, to attend basic skills classes. Programmes: there are several designed to reduce the prospects of re-offending. Prohibited activities: a requirement not to do something that is likely to lead to further offending. Curfew, which is electronically monitored Exclusion, this is not used frequently as there is no reliable electronic monitoring yet available. Residence: which is a requirement to reside only where approved by the probation officer. Mental health treatment (requires offenders consent). Drug rehabilitation (requires offenders consent) Alcohol treatment (requires offenders consent) Supervision meetings with probation officer to address needs/offending behaviour Attendance centre: three hours of activity, between a minimum of 12 hours and a maximum of 36 in total.
Conditional discharge	This is where the offender remains liable to punishment for the offence if they are convicted of a further offence within a period specified by the court (but not more than three years).
Data Protection Act	An act that sets out the legal obligations to protect personal information about individuals, which covers obtaining, holding, use or disclosure of personal information: www.legislation.gov.uk/ukpga/1998/29/contents
Disability Living	Provides a non-contributory, non means-tested and tax-

Allowance (DLA)	free contribution towards the disability-related extra costs of severely disabled people who claim help with those costs before the age of 65. DLA can be awarded for a fixed or an indefinite period.
Employment and Support Allowance (ESA)	Replaced Incapacity Benefit and Income Support paid on the grounds of incapacity for new claims from 27th October 2008.
Ethics Committee	The DWP Data Access Ethics Committee ensures that the use of the Work and Pensions Longitudinal Study (WPLS) are appropriate and there are no unintended impacts to the individuals covered by the WPLS.
Fine	Fines are the most common criminal sentence. They're usually given for less serious crimes that don't merit a community or prison sentence. They limit the amount of money offenders have to spend. How much someone is fined depends on how serious a crime is, and the offenders ability to pay.
Immediate Custody	The offender is given a sentence to be served in prison (adults aged over 21) or Young Offenders Institute (adults aged 18-20 and 15-17 year olds). If the offender was given a sentence of 12 months or over, or was aged under 22 on release, the offender is supervised by the Probation Service on release.
Incapacity benefit (IB)	Replaced Sickness Benefit and Invalidity Benefit from 13th April 1995. It is paid to people who are assessed as being incapable of work and who meet certain contribution conditions. Incapacity Benefit was replaced by Employment and Support Allowance (ESA) for new claims from October 2008.
Income support (IS)	Income Support is intended to help people on low incomes who do not have to be available for employment. It can normally be claimed by people who are: aged 16 or over; not working or working under 16 hours per week (and/or with a partner working under 24 hours); not required to be available for full-time employment; and in receipt of insufficient income to meet prescribed needs. The main types of people who receive it are lone parents, the long and short-term sick, people with disabilities and other special groups.

Indictable offences	Indictable offences are the more serious offences and are classed as triable-either-way (these can be tried either at the Crown Court or at a magistrates' court and include criminal damage where the value is £5,000 or greater, theft and burglary) or indictable (the most serious offences that must be tried at the Crown Court. These 'indictable-only' offences include murder, manslaughter, rape and robbery).
Inmate Information System (IIS)	The data from individual prison establishments feeds through to a central computer database, called the Inmate Information System (IIS), from which data extracts are used to produce the various analyses of prison population, receptions, discharges and time served in custody.
Jobseeker's Allowance (JSA)	Can be claimed by people who are available for and actively seeking employment, including those in remunerative work for less than 16 hours a week on average, and by people on a government training scheme.
Master Index	The Master Index links benefit and programme information held by DWP on its customers.
Memorandum of understanding	The Memorandum of Understanding here is an agreement between Department for Work and Pensions, Her Majesty's Revenue and Customs, and the Ministry of Justice for a one off data-sharing project.
National Benefit Database (NBD)	The National Benefit Database is an administrative database held by DWP that contains detailed information on benefits.
Offence Group	Offences are broadly split into twelve separate groups. This includes a split of ten indictable offence groups (violence against the person, sexual offences, burglary, robbery, theft and handling and stolen goods, fraud and forgery, criminal damage, drug offences, other indictable offences (excluding motoring), indictable motoring and the two summary offence groups (summary non-motoring and summary motoring offence types).
Out-of-work benefits	Out-of-work benefits includes people on Jobseeker's Allowance (JSA), Employment and Support Allowance (ESA), Incapacity Benefits and Income Support (IS) but it does not count people whose primary benefit is Carer's Allowance
P45 employment	The employment data used in this publication from the Work and Pensions Longitudinal Study (see data sources) and is derived from P45 and P45 forms sent to

	HMRC by employers. Individuals earning below the income tax threshold may appear as having no P45 employment because it is only compulsory to submit forms to employees earning enough to be subject to income tax.
Passported Incapacity Benefit (PIB)	When Severe Disablement Benefit was stopped in 2001 some individuals were moved from that benefit onto PIB. It is now being replaced by Employment and Support Allowance.
Pension Credit (PC)	Income related benefit for pensioners. Age eligibility is gradually increasing in line with the female state pension age.
Police National Computer (PNC)	The Police National Computer (PNC) is the polices administrative IT system used by all police forces in England and Wales and managed by the National Policing Improvement Agency (NPIA). As with any large scale recording system the PNC is subject to possible errors with data entry and processing. The Ministry of Justice maintains a database based on weekly extracts of selected data from the PNC in order to compile statistics and conduct research on re-offending and criminal histories. The PNC largely covers recordable offences – these are all indictable and triable-either-way offences plus many of the more serious summary offences. All figures derived from the Ministry of Justices PNC database, and in particular those for the most recent months, are likely to be revised as more information is recorded by the police.
Privacy Impact assessment	The Privacy Impact Assessment here outlines the steps taken to minimise and control the risk of disclosure of personal data from the data sharing project.
Probation commencement, termination and caseload	Detailed information on the supervision of offenders (at the individual offender level) has been submitted by probation trusts on a monthly basis (since 2005). These monthly 'probation listings' include information on offenders starting and terminating probation supervision and those supervised on the probation caseload at the end of each month.
Programmes	A range of DWP programmes and interventions designed to help individuals find work - including the New Deals, Employment Zones, Work Based Learning for Adults, Basic Skills Assessments and others
Recordable	Recordable offences are those that the police are required to record on the Police National Computer (see

offence	Data sources). They include all offences for which a custodial sentence can be given plus a range of other offences defined as recordable in legislation. They exclude a range of less serious summary offences, for example television licence evasion, driving without insurance, speeding and vehicle tax offences.
Retirement Pension (RP)	Retirement pension. For almost all of the period covered by the datashare the State Pension ages were 60 for women and 65 for men. On 6th April 2010 the State Pension age for women began to increase to reach 65 by 2018
Severe Disablement Allowance (SDA)	Replaced Non-Contributory Invalidity Pension and Housewives Non-Contributory Invalidity Pension from 29 November 1984. Until April 2001, people who were incapable of work and did not satisfy the contribution conditions for Incapacity Benefit (IB) could get SDA.
Summary offences	Summary offences are triable only by a magistrates' court. This group of offences include motoring offences, common assault and criminal damage up to £5,000.
Surveying Prisoner Crime Reduction (SPCR)	Surveying Prisoner Crime Reduction (SPCR) is a large, general purpose longitudinal cohort survey of 3,849 prisoners. These prisoners were sentenced in 2005/6 to between one month and four years, and served their sentence in prisons in England and Wales. Sampled prisoners were administered (by interview) a detailed questionnaire on reception to prison (Wave 1), prior to release from prison (Wave 2), and post-release (Waves 3 and 4). The survey is made up of two samples, Sample 1 (1,435 offenders), which is largely representative of prison receptions of those sentenced to between one month and four years in England and Wales in 2005/06, and Sample 2 (2,414 offenders), which constitutes only longer-term (sentenced to between 18 months and four years) prisoners.
Suspended Sentence Order (SSO)	The Criminal Justice Act 2003 introduced a new suspended sentence order. This is a custodial sentence which is suspended and in addition the court imposes one or more community requirements, which are the same as those available under a community order. The order consists of an 'operational period' (the time for which the custodial sentence is suspended) and a 'supervision period' (the time during which any requirements take effect). Both may be between six months and two years and the 'supervision period' cannot be longer than the 'operational period', although it may be shorter. Failure to comply with the requirements of the order or commission of another offence will normally result in the custodial

	sentence being given effect.
Widows Benefit (WB)	Benefit that may be paid in the event of the death of a married or civil partner if that partner satisfied National Insurance contribution requirements.
Work and Pensions Longitudinal Study (WPLS)	The Work and Pensions Longitudinal Study links benefit and programme information held by DWP on its customers (the "Master Index"), with employment records from Her Majesty's Revenue & Customs (HMRC).

Explanatory notes

This publication has been produced by the Ministry of Justice and Department for Work and Pensions. The statistics are produced free from any political interference.

Contact points for further information

The publication and spreadsheet files of the tables contained in this document are available for download at

www.justice.gov.uk/publications/statistics-and-data/ad-hoc/index.htm.

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