



Does Employment on Release
from Prison Decrease the Probability
of Future Imprisonment?

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Does Employment on Release from Prison Decrease the Probability of Re-imprisonment?

1. Background

PS Plus was a project funded by the European Social Fund (ESF) and the National Offender Management Service (NOMS) and has assisted almost 80,000 offenders in over 40 prison establishments and 15 probation areas throughout England between September 2002 and July 2008.

The second phase of the project, PS Plus 2, ran in 39 prison establishments and 3 probation areas between September 2004 and March 2007. The aim of PS Plus 2 was to make offenders – beneficiaries – more employable with the ultimate aim of PS Plus gaining education, training or employment (ETE) outcomes for a beneficiary on release from a prison establishment or whilst on probation.

Every beneficiary on the PS Plus 2 project needed assistance with employment or education issues. Due to ESF constraints, PS Plus only worked with offenders who could legally work in the UK and had between 21 days and 2 years left to serve on starting the project.

PS Plus 2 worked with 33,002 beneficiaries and gained employment for 1,875 beneficiaries and education/training for 2,850 beneficiaries on release. In total – PS Plus gained at least one ETE outcome for 4,446 beneficiaries; in some cases a beneficiary gained both employment and an education/training course.

The dataset is taken from the PS Plus database CATS (Case Assessment and Tracking System). Personal beneficiary details, such as addresses, offences, sentence expiry dates etc. are downloaded from the Prison Service database LIDS (Local Inmate Data System).

2. The Study

The PS Plus 2 project brokered employment for 1,875 beneficiaries. 172 of these beneficiaries were selected for use in this study and each was paired with one of the beneficiaries from the remaining 28,556 beneficiaries who gained no employment, training or education outcome on release, providing a dataset of 344 beneficiaries.

The beneficiaries were paired based on a number of factors, including age, offence and sentence length. It was intended that each pair of beneficiaries would be as similar as possible in respect of each of the factors, and would have as many factors as possible in common, with the only or main difference between them being that one of them had employment on release and the other did not have employment on release. The factors considered in the pairings are discussed in section 4.

The PS Plus 2 project came to an end on 31st March 2007, and in order to allow time for any possible re-offending to take place, only beneficiaries who had been released by this date were considered for the study. Therefore at least one year has passed between each beneficiary leaving prison and the study taking place (April 2008) – or in other words, at least one year for the beneficiary to be re-imprisoned.

Using the Prison Service database IIS (Inmate Information System), the 344 beneficiaries were tracked to find any further custodial sentences after leaving the PS Plus project. This has led to three strands of research:

- i. A binomial study – Is there a difference in proportions between the two groups – those beneficiaries who gained employment through PS Plus, and those who did not have employment from PS Plus – regardless of the time since release?
- ii. Survival Analysis – Knowing the release date of the ‘PS Plus sentence’, and the re-imprisonment date of any further offence, a survival function can be calculated, showing the length of time between imprisonment. A comparison can be made between two survival functions to identify any differences between re-imprisonment for beneficiaries with and without employment.
- iii. Cox Regression Model – The various factors that may affect re-imprisonment can be modelled using the Cox regression model.

Limitations and Assumptions

This study uses the Prison Service database IIS to track a beneficiary's prison history. Data only appears on IIS if an offender serves a custodial sentence. A beneficiary may have committed an offence and not been apprehended, or may be on bail awaiting sentencing. Similarly, a beneficiary may have committed an offence and received a non-custodial sentence (e.g. a fine or community order). This study is concerned with re-imprisonment only, and should the beneficiary break the terms of a non-prison sentence and subsequently receive a custodial sentence, only then would this information be used in the study.

There are also issues surrounding the gaining of an employment outcome. PS Plus brokers employment outcomes for beneficiaries while they are still in custody, in preparation for their release, but since no follow ups are made by PS Plus once a beneficiary has left prison, there is no assurance that the beneficiary attended the job or how long a beneficiary stayed in their employment. It must therefore be presumed that all beneficiaries with an employment outcome do have a job upon release regardless of whether or not they actually attend the job.

Similarly, a beneficiary may have employment to return to, or may independently secure a job upon release. For the purposes of this study, these beneficiaries would be classed as not having employment, because the job was not brokered by PS Plus.

Therefore, throughout this report, where beneficiaries are referred to as being with or without employment, this refers specifically to the gaining of a PS Plus employment outcome. Additionally, none of the beneficiaries in this study had an education or training outcome brokered by PS Plus.

It is also assumed that all beneficiaries are still living in the UK and therefore could be re-imprisoned if a further offence is committed.

3. Factors used to select the paired beneficiaries

172 pairs of beneficiaries were selected, of which 17 pairs were female and 155 were male. A chi-squared test has been performed on every variable; the results show that there is no significant statistical difference for any variable between the beneficiaries with employment and beneficiaries without employment. This is both expected and desired since this shows that there are no significant differences between the groups other than 172 (50%) beneficiaries have employment and 172 (50%) beneficiaries do not have employment.

3.1 Establishment

This study used the same number of beneficiaries with and without employment from each establishment. This was important because it ensured that there were equal numbers of beneficiaries per gender and per category of prisons in each group. In addition, the success rate of PS Plus staff in gaining employment outcomes differs according to establishment, making it important to have equal numbers of beneficiaries with and without employment from each establishment.

Establishment	Not Employed	Employed
Ashwell	7	7
Askham Grange (F)	6	6
Buckley Hall	4	4
Buckley Hall (F)	1	1
Channings Wood	5	5
Cheshire ¹	2	2
Dartmoor	3	3
Drake Hall (F)	9	9
Erlestoke	1	1
Featherstone	4	4
Forest Bank	5	5
Garth	1	1
Haverigg	5	5
Hindley	27	27
Kirkham	10	10
Lancaster Castle	4	4
Lancaster Farms	3	3

Establishment	Not Employed	Employed
Leicester	2	2
Leyhill	2	2
Lincoln	1	1
Manchester ¹	1	1
Preston	5	5
Ranby	2	2
Risley	1	1
Stafford	5	5
Stocken	4	4
Stoke Heath	5	5
Styal (F)	1	1
Sudbury	6	6
Thorn Cross	29	29
Wayland	2	2
Whatton	4	4
Wymott	5	5

Table 1: Beneficiaries with and without employment per establishment

1. These are probation areas, but the actual prison release date has been used in the study.

3.2 Intended Release Area

Table 2 below indicates the number of beneficiaries with and without employment for each intended release area. As with all the variables, it was intended that there was an equal (or as close as possible to equal) number of employed and non- employed beneficiaries in each grouping.

Intended Release Area	Not Employed	Employed
Avon	2	1
Bedfordshire	1	0
Berkshire	0	1
Cheshire	11	10
Cleveland	0	1
Clwyd	1	1
Cornwall	1	0
Cumbria	4	2
Derbyshire	2	3
Devon	5	7
Essex	0	1
Gloucestershire	3	3
Gwent	0	1
Gwynedd	1	0
Herefordshire	0	1
Hertfordshire	0	1
Lancashire	38	38
Leicestershire	4	2
Lincolnshire	4	2
London	1	1

Intended Release Area	Not Employed	Employed
Manchester	17	15
Merseyside	19	16
Norfolk	1	1
North Yorkshire	2	1
Northamptonshire	2	0
Not Known	11	16
Nottinghamshire	4	6
Oxfordshire	1	0
Shropshire	0	2
Somerset	2	0
South Yorkshire	2	2
Staffordshire	5	6
Suffolk	0	1
Tyne And Wear	1	1
Warwickshire	1	0
West Glamorgan	1	0
West Midlands	18	23
West Yorkshire	5	3
Worcestershire	2	3

Table 2: Beneficiaries with and without employment per release area

There are many beneficiaries with intended release areas in the North West and West Midlands – this positively correlates to where the PS Plus establishments are located. For further analysis (Cox Proportional Hazard Model), the release areas were regrouped into larger regions.

3.3 The Factors

The additional factors used to choose the paired beneficiaries for the study are listed below:

<u>Factor</u>	<u>Not Employed</u>	<u>Employed</u>	<u>% Not Employed</u>	<u>% Employed</u>
Age (years) on starting the project				
< 20	35	32	52.2	47.8
20 - 29	91	92	49.7	50.3
30 - 39	36	31	53.7	46.3
40 - 49	6	13	31.6	68.4
50 - 59	4	4	50.0	50.0
Offence				
Abscond/Bail	8	8	50.0	50.0
Burglary	23	17	57.5	42.5
Criminal Damage	0	1	0.0	100.0
Drugs	46	45	50.5	49.5
Fraud	2	4	33.3	66.7
Motor	6	9	40.0	60.0
Other	15	11	57.7	42.3
Robbery	15	16	48.4	51.6
Sex	8	7	53.3	46.7
Theft	9	5	64.3	35.7
Vehicle Theft	1	2	33.3	66.7
Violent	39	47	45.3	54.7
Sentence Length (months)				
< 6	50	50	50.0	50.0
7 - 18	34	36	48.6	51.4
19 - 30	38	31	55.1	44.9
31 - 42	19	18	51.4	48.6
43 - 54	23	22	51.1	48.9
55 - 78	5	10	33.3	66.7
> 79	3	5	37.5	62.5
Ethnic Origin				
Asian	10	12	45.5	54.5
Black	5	5	50.0	50.0
Mixed Race	2	3	40.0	60.0
Not Known	0	2	0.0	100.0
White British	154	148	51.0	49.0
White Other	1	2	33.3	66.7
Schedule 1 Offender				
No	162	157	50.8	49.2
Yes	10	15	40.0	60.0
Sex Offender				
No	164	163	50.2	49.8
Yes	8	9	47.1	52.9

Factor	Not Employed	Employed	% Not Employed	% Employed
Finisher Status²				
Early Leaver	4	3	57.1	42.9
Completer	149	149	50.0	50.0
End of Project	19	20	48.7	51.3
Previous Offences				
0	102	116	46.8	53.2
1	22	22	50.0	50.0
2	14	18	43.8	56.3
3	6	5	54.5	45.5
4	12	4	75.0	25.0
5+	16	7	69.6	30.4

Table 3: The factors

Most of the beneficiaries selected were aged between 20 and 29 on starting the project, with the fewest aged between 50 and 59. The largest group in this study have a sentence length less than 6 months. In general, the longer the sentence length, the fewer beneficiaries. This is typical of the prison service cohort.

The most common offences committed by beneficiaries in this study are violence and drugs offences³. The majority of beneficiaries' ethnic origin is 'White-British', which is representative of the PS Plus dataset (as PS Plus does not work with foreign nationals who are not eligible to work in the UK). Due to the small number of ethnic minority beneficiaries, ethnic origins will be regrouped as 'White-British' and 'not White-British' for further analysis.

The majority of beneficiaries in this study are completers. Again this is a feature of the PS Plus cohort. Beneficiaries who have had PS Plus intervention until release (completers) are more likely to gain employment than beneficiaries who leave the project early. The number of previous offences (which resulted in a prison term) made before committing the offence that led to imprisonment and joining the PS Plus 2 project are shown as the previous offences. The majority of PS Plus beneficiaries had no previous offences.

The dataset used in this study contains no disabled beneficiaries, although this was not intentional, and was simply a result of the pairing-up process. Only a very small percentage (less than 2.5%) of the PS Plus cohort are classed as disabled.

2. A beneficiary can either be a completer (when their sentence or probation order expires), an early leaver (due to a number of reasons including transferring to a prison establishment or probation area which does not deliver PS Plus) or finish at the end of the project (when the beneficiary's sentence has not yet expired, but the project has finished).

3. Again, this is typical of the PS Plus cohort, although sources such as <http://www.crimestatistics.org.uk/> and <http://www.justice.gov.uk> suggest that the PS Plus cohort differs from the prison population in the following ways: PS Plus has more drug offenders – approximately 25% compared with approximately 16% of the prison population. PS Plus has fewer robbery and sex offenders – approximately 9% and 5% respectively, compared with 13% and 11% of the prison population. The main cause of this is due to the prisons where the PS Plus program is delivered; PS Plus is not delivered in any category A prisons and in only one category B prison.

3.4 Beneficiaries' needs and risk

Table 4 shows the breakdown of beneficiaries per needs area. Again, it can be seen that for each level of need the numbers of beneficiaries with and without employment are approximately the same.

Level Of Need	Housing		Employment		Health		Education		Finance	
	Not Employed	Employed	Not Employed	Employed	Not Employed	Employed	Not Employed	Employed	Not Employed	Employed
No Need	145	145	0	0	168	158	18	24	144	145
Low	9	9	12	15	4	11	68	70	1	1
Medium	3	2	115	99	0	2	83	74	27	26
High	15	16	45	58	0	1	3	4	0	0

Level Of Need	Relationship		Drug		Alcohol		Behaviour		Life	
	Not Employed	Employed	Not Employed	Employed	Not Employed	Employed	Not Employed	Employed	Not Employed	Employed
No Need	144	145	115	109	162	150	118	125	167	169
Low	1	1	41	47	6	15	9	5	0	0
Medium	27	26	16	13	0	2	43	42	1	0
High	0	0	0	3	4	5	2	0	4	3

Table 4: Beneficiaries with and without employment per level of need

Table 5 shows that the number of beneficiaries per level of risk in each area is approximately the same. The majority of beneficiaries have low risk. Again, this is typical of the PS Plus cohort.

Level of Risk	Self		Children		Public		Adults		Staff		Prisoners	
	Not Employed	Employed	Not Employed	Employed	Not Employed	Employed	Not Employed	Employed	Not Employed	Employed	Not Employed	Employed
Low	167	161	165	166	139	127	162	154	171	170	172	172
Medium	5	8	5	4	30	42	10	17	1	2	1	0
High	0	3	2	2	3	3	0	1	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	2

Table 5: Beneficiaries with and without employment per risk level

4. Analysis

4.1 Re-imprisonment

A basic analysis can be performed on the data concerning whether or not a beneficiary has been re-imprisoned since their release from custody and completion of the PS Plus project. We can note that more of the beneficiaries without employment were re-imprisoned than those with employment. A chi-squared test was performed on the data, which confirmed that there is a significant statistical difference between the beneficiaries who had employment and the beneficiaries who did not have employment on release:

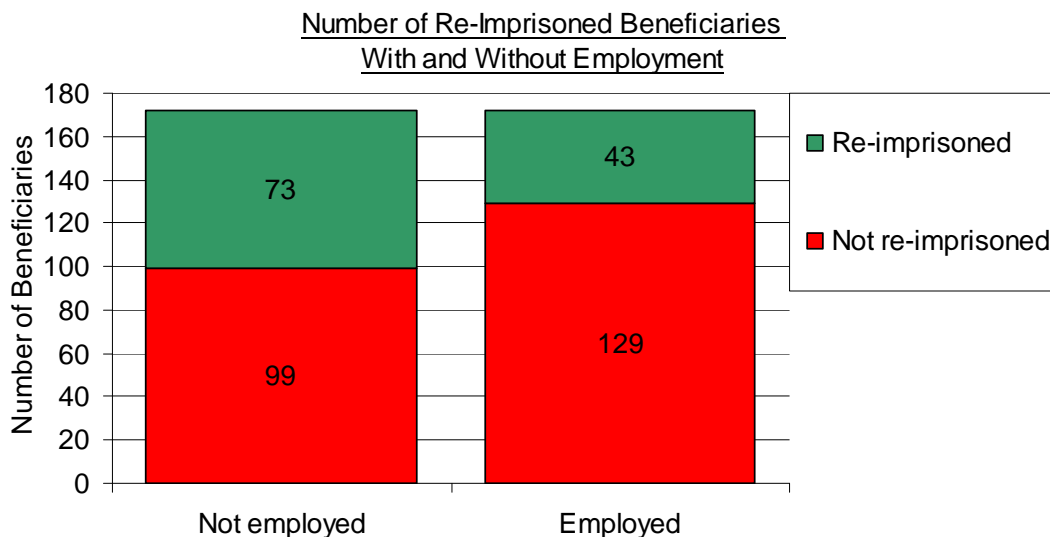


Figure 1: Number of re-imprisoned beneficiaries with and without employment

Figure 1 shows that 42% (73) of beneficiaries without employment brokered by PS Plus have been re-imprisoned, while only 25% (43) of beneficiaries with employment have been re-imprisoned.

There is significant statistical evidence to suggest that having employment brokered by PS Plus reduces the probability of a beneficiary being re-imprisoned.

4.2 Average time before re-imprisonment

Of the beneficiaries who were re-imprisoned at the time of data collection, the average time between release and re-imprisonment for the 73 beneficiaries without employment was 33 weeks. However, the average time between release and re-imprisonment for the 43 beneficiaries with employment was 48 weeks.

It can be seen that the beneficiaries in the study with employment who were re-imprisoned, stayed out of custody longer than beneficiaries without employment.

4.3 Kaplan-Meier Survival Curves

Survival analysis relies on the study featuring two definite points in time; a start point and an end point, with the analysis concerned with the period between the start and end time – in the case of this study, the time between a beneficiary leaving a prison establishment and being re-imprisoned.

The Kaplan-Meier method allows factors to be compared. In this study, the main factor is whether the beneficiaries have employment or not.

Rather than ignoring any beneficiaries that to date have not been re-imprisoned, these are also included in the analysis. This is done through a process known as “censoring”. Those beneficiaries who have been re-imprisoned are “uncensored” and beneficiaries who have not been re-imprisoned are “censored”. An “uncensored” beneficiary’s endpoint is the date they were re-imprisoned, while a “censored” beneficiary’s endpoint is the date of the data collection (20th April 08).

A survival curve is plotted, for the beneficiaries with and without employment, which shows an estimate of the probability of a beneficiary being re-imprisoned, at any given time during the study:

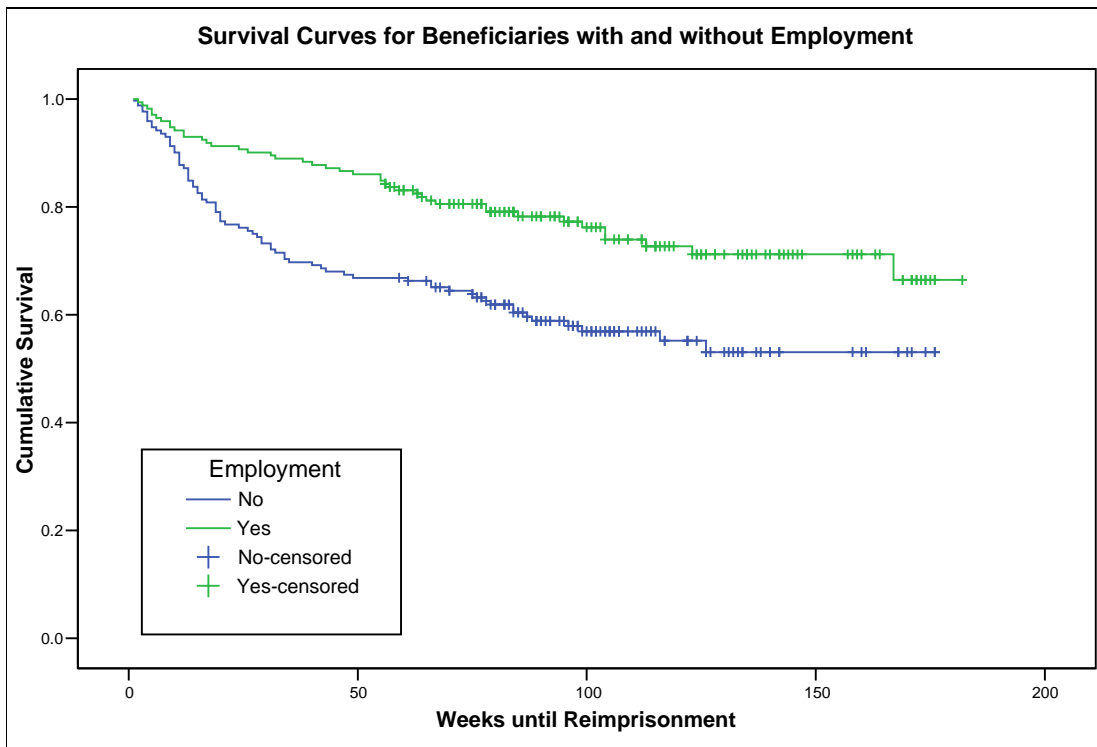


Figure 2: Survival curves for beneficiaries with and without employment

The two survival curves in figure 2 are markedly different. The blue (bottom) curve, representing beneficiaries without employment, falls more steeply than the green (top) curve, which depicts the beneficiaries with employment. This shows graphically that beneficiaries without employment are re-imprisoned sooner than beneficiaries with employment.

Figure 2 estimates that after 52 weeks, 86% of the beneficiaries with employment have not been re-imprisoned compared with 67% of the beneficiaries without employment. After 104 weeks, 75% of the beneficiaries with employment have not been re-imprisoned compared with 57% of the beneficiaries without employment.

It is also noted that the first censored beneficiary is counted after (more than) 52 weeks. In section 2, it was explained that the research into whether or not the beneficiary has been re-imprisoned started more than twelve months after every beneficiary had been released. It can be said for the censored beneficiaries that they have not been re-imprisoned for at least a year after release.

Three statistical tests have been carried out to determine if there is a difference between the survival curves:

Test	Statistic	Degrees of Freedom	Significance
Log Rank	12.95	1	.0003
Breslow	14.53	1	.0001
Tarone-Ware	14.13	1	.0002

Table 5: Test statistics for employment factor

All of the tests show a very small significance level, meaning that there is strong statistical evidence to suggest that the two survival curves are different.

It is therefore clear that the beneficiaries in this study without employment were re-imprisoned sooner than beneficiaries with employment.

4.4 Cox Regression

The survival curves described above are useful for comparing two (or more) treatments – in this case, the re-imprisonment of offenders with and without employment.

Cox proportional hazard regression allows the analysis of the effect of several factors on survival. Cox regression takes into account censored values (described in section 4.3) and can be used when using categorical data.

A Cox regression model has been calculated – giving the following results:

Factor	Exp (B)	95% Confidence Interval		P value – Significance
		Lower	Upper	
Behaviour Need				
No Need vs. Need	1.46	1.00	2.14	0.05
Gender				
Female vs. Male	6.12	0.84	44.82	0.07
Age Group				
Under 20 vs. 40+	3.09	1.07	8.91	0.04
20 – 29 vs. 40+	1.31	0.47	3.64	0.61
30 – 39 vs. 40+	0.53	0.17	1.64	0.27
Number of Offences				
No offences vs. 1-2 offences	2.36	1.48	3.76	< 0.01
No offences vs. 3+ offences	6.39	3.85	10.62	< 0.01
Employment				
Unemployed vs. Employed	1.68	1.14	2.48	< 0.01

Table 6: Cox Proportional Hazard Model – statistics for variables in the equation

The main information being used in this study from the Cox regression model is:

- Exp (B) – if the p -value is below 0.05, this value can be used to show how much more likely one level of a factor is than the other level(s). For multi-levelled factors, a comparison with the first or last level can be used.
- 95% confidence intervals, lower and upper limits for Exp (B).
- P -value – we require the p -value to be below 0.05 to show significant statistical evidence of a difference between the levels of the factor.

The factors in **bold** in the above table show significant statistical evidence of a difference between the levels of the factor:

- Beneficiaries with need for assistance with behaviour issues are approximately 1.5 times more likely at any given time to be re-imprisoned than beneficiaries who have no need for assistance with behaviour issues.
- Beneficiaries under the age of 20 are over 3 times more likely to be re-imprisoned than beneficiaries over 40.
- Beneficiaries with 1-2 previous offences are 2.4 times more likely at any given time to be re-imprisoned than beneficiaries with no previous offences.

- Beneficiaries with 3 or more previous offences are 6.4 times more likely at any given time to be re-imprisoned than beneficiaries with no previous offences.
- **Unemployed beneficiaries are 1.7 times more likely at any given time to be re-imprisoned than employed beneficiaries.**

The model also shows that male beneficiaries are approximately 6 times more likely at any given time to be re-imprisoned than female beneficiaries, although there is no statistical evidence for this.

It is noted that only 10% of the sample are female, which is a characteristic of the PS Plus cohort⁴. Due to the relatively small number of female beneficiaries in the study, this study can not say statistically whether female beneficiaries are more or less likely to be re-imprisoned than male beneficiaries.

A previous reconviction study⁵ using a larger dataset suggests that after one year, male offenders *are* more likely to re-offend than female offenders, although this focuses on gender as a factor rather than employment.

No other factors as detailed in section 3 showed any statistically significant evidence of having an effect on the re-imprisonment of beneficiaries with and without employment, and are therefore not included in the Cox Proportional Hazard Model.

4. Prison population & accommodation briefing for 30th March 2007, estate planning and development unit – Males in prisons = 75,571 compared to 4,348 females – approximately 5% of the prison cohort were female. 10.25% of PS Plus 2 beneficiaries were female and 10.52% of the beneficiaries gaining employment were female. The current percentage of female prisoners is still approximately 5% (April 2008)

5. Actual and predicted one-year re-offending rates, with frequency and severity rates per 100 offenders – by gender; <http://www.justice.gov.uk/docs/reoffending-adults-2000-05-appendix-a.xls>

5. Cost Analysis

A cost analysis has been estimated using two different comparisons;

- i) Using an estimated cost per offence committed by beneficiaries with and without employment.
- ii) Using the sentence lengths given to the beneficiaries with and without employment and estimating the cost of keeping the beneficiaries in prison during their sentence.

The sentence lengths and offences committed by the beneficiaries are obtained from IIS. With this information, a cost comparison can be made between the two groups.

5.1 Cost Benefit – per offence

It is difficult to assign an exact economic and social cost for an offence committed. Many factors need to be taken into account including the anticipation of crimes (e.g. security), the consequences of crimes (e.g. stolen/damaged property and physical impacts), responding to crimes and the cost of tackling criminals. These factors are discussed in more detail in *Home Office Research Study 217, The economic and social costs of crime* (Sam Brand and Richard Price 2003)⁶.

The offences committed by beneficiaries in this study after PS Plus intervention, multiplied by the cost per offence⁷ proposed in the *Home Office Research Study 217* gives the cost per beneficiary with and without employment (*only* taking into account the offence(s) committed after PS Plus intervention).

	Beneficiaries with employment	Beneficiaries without employment	TOTAL
Offences committed	70	134	204
Approximate cost	£518,000	£2,230,000	£2,748,000
Number of beneficiaries committing at least one offence	43	73	116

Table 7: Cost per offence for beneficiaries with and without employment

Table 7 shows that the 43 beneficiaries with employment who committed a further offence post PS Plus intervention have, in fact, committed 70 offences between them (on average 1.6 offences per beneficiary), accruing a cost of over £518,000 (on average approximately £12,000 per beneficiary).

6. *Home Office Research Study 217, The economic and social costs of crime*. Sam Brand and Richard Price (2003) details exactly how the average cost per crime has been calculated with its limitations.

7. Other sources used for drugs, abscond/bail and motoring offences - *The economic and social costs of crime against individuals and households 2003/04* Richard Dubourg, Joe Hamed, Jamie Thorns. Home Office (UK), 2005. *Measuring the harm from illegal drugs using the Drug Harm Index*, Home Office Online Report 24/05 Ziggy MacDonald, Louise Tinsley, James Collingwood, Pip Jamieson, Stephen Pudney. *Electronic monitoring of released prisoners: an evaluation of the Home Detention Curfew scheme*, Home Office Research Study 222, Kath Dodgson, Philippa Goodwin, Philip Howard, Siân Llewellyn-Thomas, Ed Mortimer, Neil Russell and Mark Weiner (2001).

The 73 beneficiaries without employment who committed a further offence post PS Plus intervention have committed a total of 134 offences (on average 1.8 offences per beneficiary), accruing a cost of nearly £2,230,000 (on average approximately £31,000 per beneficiary).

Beneficiaries with employment have committed fewer offences (70 offences, on average 1.6 offences per beneficiary) than beneficiaries without employment (134 offences, on average 1.8 offences per beneficiary).

Just by looking at the cost of crime, the beneficiaries with employment have accrued a cost substantially smaller than the beneficiaries without employment. The difference between the cost of crime committed after the PS Plus project intervention by the 172 beneficiaries with employment and 172 beneficiaries without employment is over **£1.7 million**.

5.2 Cost Benefit – per establishment

The average cost per person per day in prison has been calculated. The sentence length is noted from the IIS database for all the beneficiaries who have been re-imprisoned.

The sentence length⁸ (in days) multiplied by the cost per person per day gives the total cost of keeping the beneficiary imprisoned. The amounts totalled for beneficiaries with and without employment are below:

	Beneficiaries With Employment	Beneficiaries Without Employment	TOTAL
Approximate days in prison	3949	11,688	15,637
Approximate cost	£319,000	£943,000	£1,262,000
Number of beneficiaries committing at least one offence	43	73	116

Table 8: Cost to Prison Service for beneficiaries with and without employment

Table 8 shows that of the 43 beneficiaries with employment who committed a further offence post PS Plus intervention have spent – or will spend – 3949 days in prison (on average 92 days per beneficiary), accruing a cost of nearly £319,000 (on average approximately £7,400 per beneficiary).

The 73 beneficiaries without employment who committed a further offence post PS Plus intervention have spent – or will spend – 11,688 days in prison (on average 106 days per beneficiary), accruing a cost of nearly £943,000 (on average approximately £13,000 per beneficiary).

8. Sentence lengths which have not yet been fully served are adjusted from the given sentence length on IIS, as per sentence guidelines (http://www.sentencing-guidelines.gov.uk/docs/new_sentences_guideline.pdf). All spent sentences have been calculated as the time between the reception date and the actual release date as recorded on IIS.

Beneficiaries with employment have spent – or will spend – fewer days in prison (3949 days; on average 90 days per beneficiary) than beneficiaries without employment (11,688 days; on average 106 days per beneficiary).

By looking at the average cost per re-offending beneficiary, for the Prison Service, the beneficiaries with employment have accrued a cost substantially smaller than the beneficiaries without employment. The difference between the cost of crime committed after the PS Plus project intervention by the 172 beneficiaries with employment and 172 beneficiaries without employment is over **£600,000**.

5.3 Limitations and further cost analysis research

The cost analysis estimates are not conclusive, nor do they give a definite costing or amount gained or saved – but instead gives an idea of the positive monetary effect employment has on re-imprisonment.

There are limitations with the methods detailed above. The costs of the offences committed are only estimates. It is also very difficult to put a monetary value for the emotional costs of crime – although an approximation has been made (see notes 6 and 7). Some of the crimes do not have estimates for the cost (e.g. motoring offences); for these crimes, the overall average cost per offence has been calculated and used as the estimate.

Using the average cost per day per prisoner to the Prison Service as a measure, does not take into account any cost prior to imprisonment. However, it can show the cost – or the potential amount of money saved by the prison service by placing offenders into employment. Such a calculation can be seen as an possible investment, by spending money into finding employment for offenders on release more money is dually saved as the offenders do not return to prison as often or for as long as their unemployed counterparts.

One aspect not considered in this cost analysis is the positive input and effect that the beneficiaries add to society and the community through their employment, nor the financial impact associated with employment (taxes paid and job seekers allowances/benefits no longer claimed).

Further research can be undertaken by apportioning cost of the project per beneficiary. Knowing the cost of the project per group minus the cost if the beneficiary re-offends (above) can give an indication of cost-benefit for the monies spent on the PS Plus 2 project. Similarly further research can include the limitations mentioned above to give a more detailed cost benefit analysis – whereas this has just illustrated the potential difference in costs accrued by beneficiaries with and without employment following the PS Plus 2 project.

6. Summary

6.1 Chi-Squared

42% of beneficiaries without employment brokered by PS Plus have been re-imprisoned, while only 25% of beneficiaries with employment brokered by PS Plus have been re-imprisoned.

Beneficiaries without employment brokered by PS Plus are approximately 70% more likely to be re-imprisoned than beneficiaries with employment brokered by PS Plus.

6.2 Kaplan-Meier Survival Analysis

Statistical tests show that there is evidence to suggest that the two survival curves (for beneficiaries with and without employment) have significant differences between them.

Beneficiaries without employment brokered by PS Plus are re-imprisoned sooner than beneficiaries who have had employment brokered by PS Plus.

6.3 Cox Regression

Beneficiaries with **need for assistance with behaviour issues** are **1.5 times more likely** at any given time **to be re-imprisoned** than beneficiaries who have no need for assistance with behaviour issues.

Beneficiaries **under the age of 20** are over **3 times more likely** at any given time **to be re-imprisoned** than beneficiaries **over 40**.

Beneficiaries with **1-2 previous offences** are **2.4 times more likely** at any given time **to be re-imprisoned** than beneficiaries with **no previous offences**.

Beneficiaries with over **3 previous offences** are **6.4 times more likely** at any given time **to be re-imprisoned** than beneficiaries with **no previous offences**.

Unemployed beneficiaries are **1.7 times more likely** at any given time **to be re-imprisoned** than employed beneficiaries.

6.4 Cost Analysis

Beneficiaries with employment committed only **70 offences** in total (on average **1.6 offences per beneficiary**), accruing a **cost of over £518,000** (on average approximately **£12,000 per beneficiary**). This is compared to the beneficiaries without employment who committed **134 offences** (on average **1.8 offences per beneficiary**), accruing a cost of nearly **£2,230,000** (on average approximately **£31,000 per beneficiary**).

Beneficiaries with employment were only sentenced to **3949 days** in prison (on average **92 days per beneficiary**), accruing a **cost of nearly £319,000** to the Prison Service (on average approximately **£7,400 per beneficiary**). This is compared to the beneficiaries without employment who were sentenced to **11,688 days** (on average **106 days per beneficiary**), accruing a cost of nearly **£943,000** to the Prison Service (on average approximately **£13,000 per beneficiary**).

Beneficiaries **with employment** have **committed fewer crimes** and spent – or will spend – **fewer days in prison** (post PS Plus intervention) than the beneficiaries without employment.

Beneficiaries with employment have cost society considerably less than the beneficiaries without employment. The difference in cost for the 172 beneficiaries with employment to the 172 beneficiaries without employment in terms of the **cost of offences committed** is **over £1.7 million** while in terms of the **cost to the Prison Service** is **over £600,000**.

7. Conclusions and Recommendations

Statistical analysis shows that beneficiaries who have had employment brokered by PS Plus are less likely to be re-imprisoned than beneficiaries who have not had employment brokered by PS Plus. This report shows a positive link between employment and not being re-imprisoned.

It is also noticed that the more offences a beneficiary has committed in the past (and been imprisoned for) the more likely a beneficiary is of being re-imprisoned. These beneficiaries, known as “revolving door” offenders (Wendy Fitzgibbon and Dr Roger Green, University of Hertfordshire: *‘Mentally Disordered Offenders: Challenges in Using the OASYS Risk Assessment Tool’* (2006)) are imprisoned frequently, and normally for relatively short periods of time which disrupts and potentially results in the loss of family ties, accommodation and employment. It can be seen in this study that simply finding employment for such beneficiaries may not be enough to ‘break the cycle’ of offending.

Beneficiaries under the age of 20 are more likely to re-offend than beneficiaries aged over 40. Again, it would seem that for younger beneficiaries, employment is not enough to reduce re-imprisonment.

One aspect that this report has not looked at is education. All beneficiaries in the study who are in the “no employment” category also have no education outcome brokered by PS Plus. Further research comparing beneficiaries with employment or education on release and beneficiaries with neither employment nor education may show that having a job or training/educational course also significantly reduces re-imprisonment. PS Plus beneficiaries aged under 20 account for less than 7% of the cohort, but account for over 8% of the education/training courses brokered by PS Plus. Beneficiaries aged over 40 account for over 16% of the cohort, and yet only account for 13% of the education/training courses brokered by PS Plus.

Beneficiaries with behaviour issues are more likely to be re-imprisoned than beneficiaries without behaviour issues. This was found to be just under the 5% significance level. Further analysis may be required to see how much influence this factor has on re-imprisonment for beneficiaries with and without employment.

Male offenders tend to have a higher rate of re-offending and re-imprisonment (Adrian Shepard and Elizabeth Whiting: *‘Re-offending of Adults: results from the 2003 Cohort’* (2006)). This study found no evidence at the 5% statistical level that the sex of a beneficiary with or without employment has an effect on re-imprisonment. However, due to the size of this study, there were only 17 pairs of female beneficiaries, and a larger sample would be needed to make any firmer conclusions.

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