PRO BONO ECONOMICS

In partnership with:

Prisoners' Education Trust

Assessing the economic benefits from improved employment outcomes for Prisoners' Education Trust beneficiaries

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Executive summary

Pro Bono Economics was commissioned by the Prisoners' Education Trust (PET) to carry out an economic analysis of the costs and employment-related benefits of its "Access to Learning" programme – an intervention which primarily funds prisoners with six or more months remaining on their sentence to enable them to enrol in distance learning courses.

Background

The Prisoners' Education Trust (PET) aims to improve the wellbeing and prospects of prisoners by providing prisoners with resources during their custody that enables those prisoners to achieve better outcomes on their release. In September 2015 the Ministry of Justice's Justice Data Lab (JDL) published an analysis of the outcomes after release as recorded on the Police National Computer for a cohort of prisoners who had applied for funding between 2002 and March 2013. This showed a rate of proven reoffending for those supported by PET of 18% compared to a rate of reoffending of 25% for a matched comparison group of prisoners with the same characteristics who had not been helped by PET.

A previous Pro Bono Economics report in May 2016 assessed the potential benefit to society of PET's intervention based on the impact on re-offending rates. This showed that only 1 percentage point of the observed 7 percentage point reduction in reoffending would need to be caused by PET's support for that support to have realised net benefits. The reported noted that the PET programme probably also delivered other benefits especially around employment but was unable to quantify them. Since then, via the JDL's access to employment and benefits data from the Department for Work and Pensions/HMRC, the Ministry of Justice published in July 2018 an analysis of the same cohort from the 2015 study regarding the effect of participation in its programmes on the employment outcomes for prisoners after release. Specifically, the data indicate that participants in PET have employment rates within twelve months of their release that are 6-9% points higher than were members of a matched control group.[1]

Scope of this study

Our study draws on this new evidence from the Justice Data Lab to estimate the economic benefits to society of getting an extra released prisoner into employment. We do this specifically for some typical characteristics of prisoners that participate in PET's programmes to estimate the impact of the Access to Learning programme assuming the same size of impact for prisoners on the programme in 2018.

Key findings

Our results (all expressed in 2018 GBP) indicate that:

- We estimate each extra released former prisoner that finds employment earns an average of around £5,000 over the first twelve months following release.[2] This reflects the fact that released prisoners spend roughly four months of the first twelve out of work and therefore are employed for on average eight months of their first twelve months after release.
- This generates savings to the Treasury in the form of reduced Job Seeker's Allowance / Universal Credit payments of up to £2,400 per year, and improved mental and physical health resulting in savings for the NHS of roughly £700 per year.
- The total benefit of PET's Access to Learning programme in 2018 arising from getting an estimated 191 additional released prisoners into work is between £1.3 million and £1.6 million. These figures do not include the benefits that arise from reducing re-offending or any other means, so are likely to understate the true benefits of PET's programmes.
- Combined with the total costs in 2018, that implies that the net benefits of PET's Access to Learning programme via its impact on employment in the first year of release was between £200,000 and £500,000.
- On this basis for every £1 spent on the programme it generates between £1.17 and £1.43 in benefits for society in terms of additional employment alone.

[1] Note, however, that this effect does not take into account any "self-selection" among applicants for PET's programmes. It could be that even applying for a PET programme implies some increased motivation and / or employability greater than the general prison population even if the applicant is not successful.

[2] As these amounts are based on employer P14 forms, they do not include any self-employment or cash-in-hand income, and therefore potentially understate the societal value.

- These benefits could be significantly larger if we included the benefits of reduced reoffending or PET were able to develop evidence demonstrating that the impacts of the Access to Learning programme persisted for more than the 12 months explored in this report.

Implications

Our study demonstrates the potentially significant returns to society from supporting prisoners to find employment upon release. It should be noted that our estimated benefits are likely to be conservative on the basis that they include only those benefits associated with increased employment of a released prisoner, and do not include other potential benefits such as reduced re-offending (which was examined in the earlier PBE report in 2016). They support the case for further investment in programmes that aim to improve the employability of released prisoners.

However, it is essential that the impact of any further investment continues to be evaluated carefully. There are limitations to the JDL's analyses due to the way that programme participants need to apply and therefore "self-select" into the intervention. We note that the JDL attempted to account for this effect when estimating PET's effect on re-offending rates in 2016, and it would be worth conducting the same exercise for the effect on employment.

Furthermore, the evidence to support a more robust assessment of the economic impacts could be improved by:

- Updated evidence on the incomes of prisoners following release. Our study relied on figures from a single cohort of prisoners that were released in 2003/2004 and tracked over time. Although we convert these data to 2018 GBP to account for inflation, it is likely that earnings for the jobs obtained by released prisoners do not necessarily follow the same path over time as that of inflation. As such we would recommend that this evidence is updated to reflect more recent developments in the labour market
- Additional research into the benefits to mental and physical well-being of released prisoners specifically – this would provide insight as to whether the benefits we have estimated here (based on the general population) are applicable to released prisoners.
- Research on the effect of employment beyond just the person who is employed would be very informative – there could be positive spillovers (such as improved familial relationships and access to housing) or negative spillovers (such as the extent to which the employment of PET participants substitutes for the employment of other people in the economy) and there is no prior way of seeing the net effect. In the first instance, finding out whether these spillovers are net positive or negative would be useful in determining whether the benefits estimated here are an upper or lower bound of the true benefits to society.

1. Introduction

This report, commissioned by the Prisoner's Education Trust (PET), sets out an economic analysis of the costs and the employment related benefits of the "Access to Learning" programme – an intervention which primarily funds prisoners with six or more months remaining on their sentence to enable them to enrol in distance learning courses.

1.1 Objectives and scope of the analysis

Recent work by the Department for Work and Pensions (DWP) and the JDL has produced an analysis of the effect of PET's programmes on the likelihood of a released prisoner finding employment after release.[3] This analysis found that PET's programmes increased the number of people employed by between 6 and 9 people out of 100 (with a central estimate of 8 people out of 100) compared to a control group of prisoners that did not participate in PET's programmes.

Our study draws on this new evidence to assess the economic benefits of increasing the employment rate of prisoners. There are three key elements to our analysis:

- We estimate the potential benefits from placing an extra released prisoner in employment in terms of increased wages, reduced benefits payments and reduced usage of health services.
- We assess the cost of the programme per extra person that finds employment as a result of the intervention.
- We conduct a simple cost-benefit analysis of PET's programmes based solely on their effect on employment of released prisoners.[4]

It is outside the scope of this report to estimate the benefits (such as reduced re-offending) resulting from other potential effects of PET's programmes or similar programmes to those offered by PET. As such, these effects are not taken into account in the simple cost-benefit analysis of PET's programmes.

All costs and benefits are presented in 2018 prices throughout the report.

1.2 Structure of the report

The remainder of this report proceeds as follows:

- Section 2 contains a detailed description of the programmes offered by PET, as well as a summary of the previous work undertaken by PBE in conjunction with PET;
- In Section 3, we set out the approach we take to assessing the societal value of getting an extra released prisoner into employment as well as our methodology for conducting a simple cost-benefit exercise of PET's programmes;
- Section 4 presents our findings in terms of 1) the value to society of an extra released prisoner obtaining employment; and 2) the cost-benefit analysis of PET's programmes related to their effect on employment of released prisoners; and
- Section 5 sets out our conclusions.

[3] The analysis conducted by DWP and the JDL relies on completed P14 forms, so does not capture self-employment or cash-in-hand jobs.

[4] By comparing the cost of a programme against its societal benefit in terms of the number of extra released prisoners attained employment via participation in that programme multiplied by the estimate of the value of getting an extra released prisoner in employment.

2. Background

The Prisoners' Education Trust is a charitable organisation that aims to improve the education and training of prisoners and released prisoners across the UK. In this way, PET tries to achieve its goal of improving outcomes for prisoners upon their release from prison, particularly in terms of a reduction in their re-offending rates and increases in their employment rates.

Its main programme for achieving these aims is "Access to Learning", which provides funding (amounting to an average of around £300 per course) to prisoners so they can enrol in distance learning courses and, where applicable, acquire official qualifications. In the period covered by the JDL analysis, PET also funded prisoners for art materials to be used in cell.

During the time period under consideration, in order for a prisoner to qualify for an award, they must have had more than six months remaining on their sentence and submitted a successful application (which included a letter from the applicant, an endorsement from a member of staff at the prison, selection of a suitable course, and evidence of the prisoner's ability to complete the course during the remainder of their custodial sentence).

During 2018, just over 2,380 awards were made to prisoners via the Access to Learning programme, at a total cost of just over £1.12 million, funded via a combination of donations (roughly £730,000) and a government grant (roughly £416,000).[5]

PET have previously commissioned a report from the JDL regarding the effect of their programme on re-offending rates. This enabled Pro Bono Economics to assess the potential value to society of the impact of PET's programmes on re-offending.[6] Although the data did not permit a complete cost-benefit analysis, this study found that PET's programmes were likely to have a net benefit to society. In particular, a comparison of the cost per grant and the average benefit from preventing a single re-offence implied that PET's programmes would be net beneficial to society if they resulted in a reduction in the re-offending rate of one percentage point or more.[7]

Recent new data created by joint work between the JDL and DWP have allowed an assessment of the impact of participation in PET's programmes on employment after release. Using data from employer P45 forms, the JDL can investigate the effect of an intervention on a released prisoner's employment at various stages after release (at any point within twelve months subsequent to their release; at one month after release; and at exactly twelve months after release) as well as the time a released prisoner spends in employment over those first twelve months. The JDL also looks at benefits claimed over the same time period.

Compared to a matched control group of people who did not apply to a PET programme, participation in a PET programme resulted in a 6% - 9% increase in a released prisoner having any employment during a twelve month period subsequent to release, and this effect is statistically significant.

[5] PET Trustees' Report and Financial Statements for the year ended 31st December 2018, available at http://apps.charitycommission.gov.uk/Accounts/Ends18/0001084718_AC_20181231_E_C.PDF

[6] "An impact assessment of funding educational resources for prisoners", Pro Bono Economics, May 2016.

[7] The JDL data indicated that, compared against a matched control group of non-applicants, participation in PET's programmes was associated with a reduction in re-offending rates of between six and eight percentage points. However, when using a control group that instead was the set of refused applicants for PET's programmes, that effect appeared to become statistically insignificant, although this result could have been due to the relatively small sample sizes involved and / or the inability to match between treatment and comparison groups in that specific comparison rather than the effect of any selection bias.

3. Analytical approach

This section provides an overview of the approach taken to our analysis. Section 3.1 summarises the analytical framework, Section 3.2 summarises our approach to estimating the benefits from getting a prisoner into employment, Section 3.3 examines the costs per individual supported into employment, Section 3.4 summarises our approach to comparing the costs and benefits. Section 3.5 reviews the key assumptions underlying our analysis.

3.1 Analytical framework

In this section, we discuss the methodology we use to assess the economic impact of the Access to Learning programme.

We would expect that someone with a higher level of education is more likely to obtain employment and earn a higher wage. To assess the impact of PET's intervention we compare this outcome against what we might have expected in the absence of the programme – known as a counterfactual. We do this using a three step approach:

- **Step 1: Assess the benefits from a prisoner entering employment upon release:** we estimate this in three parts:
    - **Income earned by released prisoners:** the gain in income due to employment**;**
    - **Savings to the Treasury:** cost savings due to the reduced demand for government subsidies such as Job Seekers Allowance due to employment; and
    - **Taxpayer savings from reduced usage of mental and physical health services:** cost savings in healthcare services due to improved health associated with employment.
- **Step 2: Assess the costs of the programme and the number of additional individual supported into employment:** we use overall cost information for 2018 provided by PET as well as the results from the JDL analysis to estimate the number of individuals supported into employment in that year.
- **Step 3: Comparison of costs and benefits:** we compare the findings from Steps 1 and 2 to assess the total net benefits of the programme as well as the net benefit per participant.

We consider each of these steps in turn in Sections 3.2 to 3.4.

3.2 Step 1: Assessing the benefits from a prisoner entering employment upon release

In this section we review our approach to assessing the benefits from supporting a released prisoner into employment following release from prison. The benefits are assessed in three different parts:

- Income earned by released prisoners.
- Savings to the Treasury.
- Taxpayer savings from reduced usage of mental and physical health services.

We review each of these benefits in turn.

Income earned by released prisoners

We use data from a joint Ministry of Justice and Department of Work and Pensions report assessing the subsequent income of prisoners released in 2004 to estimate the earned income for released prisoners.[8] This data is weighted to reflect the average length of custodial sentences for PET beneficiaries.

The report shows that a released prisoner's earnings are higher the longer it has been since their release from prison – the released prisoner's income in the fifth year after their release is roughly twice their income in the year immediately subsequent to their release. This is likely to be due to the fact that a released prisoner would take some time to find regular employment, such that in the first year of their release, the average income figure might refer only to income earned for a few months (rather than for the full year). Indeed, the JDL data indicate that a released prisoner spends 125 days out of work within the first twelve months of their release, implying that their first year income is spread over only eight months.

[8] Obtained from supplementary tables to "Experimental statistics from the 2013 MoJ /DWP /HMRC data share: Linking data on prisoners with benefit, employment and income data".

Given this, it is likely that the scale of benefits from supporting a prisoner into employment could vary significantly dependent on how quickly they find employment. As a result of this uncertainty, we take a conservative approach and use the income reported for the first year of the prisoner's release. Nonetheless, we conduct a sensitivity in Section 4.2 that takes into account how released prisoners' incomes might change over time. Our assumed income level for PET participants that find employment are summarised in Figure 1, below.

Figure 1. Assumed income for PET participants that find employment

Conservative estimate of income	£5,400

Savings to the Treasury

If a released prisoner obtains employment, then the Treasury will make savings in terms of reductions in Job Seekers Allowance (JSA) or Universal Credit (UC) that it pays out.[9]

The size of this saving depends on the age of the recipient no longer in need - those older than 25 receive a higher level of JSA/UC than do those below 25 – and the level of earned income from other sources. We use a weighted average to reflect the age breakdown of PET beneficiaries and provide separate estimates of benefits based on the alternative income assumptions from Figure 1, above. Full details of the calculations are available in Annex A. Figure 2 summarises the range of assumed annual savings to the Treasury when an individual enters employment upon release from prison.

Figure 2. Assumed weighted average savings from reduced Job Seekers Allowance and Universal Credit payments

	Job Seekers Allowance saving	***Universal Credit saving***
Using conservative estimate of income	£2,350	£850

In order to avoid double counting, we have excluded tax and National Income contributions from any benefits to the Treasury, as these are already included in the income figures estimated previously.

Taxpayer savings from reduced usage of mental and physical health services

There is a wide range of evidence to suggest that employment has a positive impact on a person's mental and physical health. This includes effects such as decreased likelihood of depression and anxiety, and a reduced reliance on the NHS.

We draw on evidence from literature to estimate cost savings from reduced usage of mental health services and estimates from DWP methodological paper to estimate the cost savings from physical health.[10] [11] Our assumed savings are summarised in Table 1 - full details are available in Annex A.

Table 1 Assumed savings from reduced usage of mental and physical health services

	Benefit per prisoner supported into employment
From reduced mental health service usage	£200
From reduced physical health service usage	£500

It is important to note that the data used by these studies refer solely to the general population as a whole. As such, our estimates assume that the benefits of employment in terms of mental health are the same for released prisoners as

[9] Although not fully rolled out throughout the United Kingdom, the government is moving to an income support system known as Universal Credit. Due to the relevance in the future, figures based on the data available are included in the table below for completeness. Universal Credit is also a useful measure to incorporate into the cost-benefit analysis as it takes into account other difficult-to-compute benefits such as income support.

[10] Paul, K & Moser, K (2009), "Unemployment impairs mental health: Meta-analyses", *Journal of Vocational Behavior*, 74(3)

[11] The King's Fund (2008), "Paying The Price: The cost of mental health care in England to 2026"

they are for the general population. Moreover, as we are unable to say anything about the specific types of jobs that programme participants find, these effects could be understated. In particular, it is possible that finding more long-term/permanent employment has a larger impact on health. Hence, if PET (or other) programme participants are able to find more long-term jobs than are non-participants, the savings from improved health are likely to be higher than this estimate (which is based on just "typical" employment).

3.3 Step 2: Assessing the costs of the Access to Learning programme

We use data from PET's 2018 annual report on the cost of providing PET's services and on the number of people participating in the Access to Learning programme along with the JDL analysis to estimate the cost per participant.

The number of PET awards granted in 2018 was 2,388. The cost of providing the Access to Learning programmes in 2018 was £1,124,237, which means that the cost per participant is roughly £470[12]

Table 2 Estimated cost of PET's Access to Learning programme per participant

Access to Learning programme	***Cost/benefit***
Access to Learning total costs (2018 GBP)	£1,124,237
Number of participants in 2018	2,388
Cost per participant	£471

3.4 Step 3: Comparing the costs and benefits for PET

In order to compare the costs and benefits of the Access to Learning programme we sum the benefits from increased income, reduced costs to the Treasury and reduced health service usage for four different scenarios based on using two different types of unemployment support to get the total benefit per additional employed person. This is summarised in table 3, below:

Table 3 Total benefit scenarios (per additional prisoner supported into employment)

	Job Seekers Allowance	***Universal Credit***
Benefits from improved income	£5,400	£5,400
Benefits to the Treasury	£2,350	£850
Benefits from reduced health service usage	£700	£700
Total benefits	**£8,400**	**£6,900**

Next, we obtain an estimate of the number of additional released prisoners who had participated in PET's programmes that obtained employment. Using the central estimate of improved employment resulting from participation in PET programmes (and assuming that the improvement in employment rate over the 2002-2013 period found by JDL also applies in 2018), the additional number of people that would secure employment in a 12-month period after release due to participation in PET is calculated to be 191 (using the central estimate obtained by the JDL). [13] [14]

Multiplying this figure by the total benefit per additional employed person in the table above provides an estimate of the total benefit of PET's programmes of between £1.3 million and £1.6 million.

The benefits are compared to the costs for PET in two different ways. The Net Benefit shows the total additional benefit to society once the costs of the programme have been taken into account and is calculated using the following formula:

$$Net\ Benefit = Total\ benefit - Total\ cost$$

[12] http://apps.charitycommission.gov.uk/Accounts/Ends18/0001084718_AC_20181231_E_C.PDF
[13] https://www.prisonerseducation.org.uk/wp-content/uploads/2019/04/Justice-Data-Lab-PET-employment-and-benefits-outcomes.pdf
[14] As 2,388*8%=191.

The Cost Benefit Ratio shows the value of benefits for every £1 spent on the programme. It is calculated using the following formula:

$$Cost\ Benefit\ Ratio = \frac{Total\ benefit}{Total\ cost}$$

Using these formulae, along with the estimate of the additional released prisoners PET's programmes helped find employment gives a net benefit of PET's programmes of between £200,000 and £500,000 and a cost benefit ratio of between 1.17 and 1.43.

3.5 Key assumptions

There are a number of key assumptions that underly this analysis:

- The JDL analysis demonstrates a difference in outcome between PET beneficiaries and other, similar prisoners that did not benefit from PET at twelve months but we do not know how long this impact will persist. For our core scenarios we have only taken into account benefits over the first year after release from prison - this likely understates the total benefits from PET's programmes. We present a sensitivity in which we assume a released prisoner obtains work at the same monthly wage as they do in their first year and remain employed for the entirety of the next four years, to obtain an estimate of the benefit of getting an extra released prisoner into employment that arises over the five years subsequent to their release (assuming that all of that benefit is due to their participation in a relevant programme and does not diminish the more years have progressed since the prisoner's release).
- The JDL analysis compares PET beneficiaries to a matched control group on the basis of observable characteristics. However, there is a risk that the two groups could differ based on unobservable characteristics such as motivation – this is a particular concern given that beneficiaries self-select into the PET programme. This would mean that our analysis of PET's impact is biased upwards. We demonstrate how the net benefits of the PET programme would be reduced in Section 4.2 by taking the lower bound of the JDL estimate of the proportion of PET participants that obtained employment but would not have done so had they not participated in the programme.
- The data on the incomes of released prisoners is obtained from the Department for Work and Pensions. Those data are based on the median P14 income for a sample of those prisoners that were released in 2004 / 2005 and have a P14 record. This data excludes self-employed income and we are effectively assuming that that the types of jobs and the real wages paid are unchanged since the data were recorded. We explore the sensitivity of our analysis to alternative income assumptions in section 4.2.
- We do not have data on exactly which benefits the PET beneficiaries would have been in receipt of. Whilst we have made estimates for two scenarios based on receipts of Job Seekers Allowance and Universal Credit, this could exclude the impact of Housing Allowances and Income Support which could further affect the estimated amounts saved by placing a released prisoner into employment.

Given these assumptions, we see our estimate of the economic benefits from PET due to improved employment outcomes as an indicative estimate of the scale of potential benefits rather than a precise figure. Importantly we believe it is likely to be conservative as it excludes benefits from improved wellbeing, mental health conditions beyond anxiety and depression and spill-overs that might arise within a released prisoner's family or local community when that released prisoner finds employment.[15]

[15] It is possible that these spillovers could be positive (e.g. familial well-being improves) or negative (e.g. increased congestion on roads due to the released prisoner needing to drive to work).

4. Key results of analysis

This section outlines the key results of our analysis based on the benefits and costs outlined in Section 3. Section 4.1 provides an overview of our headline results using our core scenarios whilst Section 4.2 explores the sensitivity of these results to some alternative assumptions.

4.1 Headline results

We have found that the total net benefit of PETS's Access to Learning programme from supporting released prisoners into employment ranges from between £200,000 and £500,000, This is the equivalent of between £1.10-£1.50 in benefits for every £1 spent on the programme.[16]

The main benefit comes from the income earned by the released prisoner – it contributes between 64% and 78% of the total benefits, dependent on the assumptions for income and benefit payments used. Other benefits arise from savings in terms of improvements to mental and physical health and in terms of Treasury payments. The former is just under £700 per year, while the latter depend on whether or not the payment being made is Job Seeker's Allowance or Universal Credit.

Importantly, the JDL data indicate that a released prisoner spends roughly four months of their first year subsequent to release unemployed. This means that Job Seeker's Allowance savings are made for only eight months of the first year. Moreover, under Universal Credit, for the eight months that a released prisoner is in work, some savings are made via clawing back UC payments as a result of the released prisoner's monthly income being above a certain threshold.

If the relevant payment is Job Seeker's Allowance, then a saving of £2,350 per year is made, whereas if the relevant payment is Universal Credit, then the savings are £850 in the first year of a prisoner's release.

Table 4 ***Economic* impact of PET's Access to Learning programme based on employment effects**

	Job Seekers Allowance	***Universal Credit***
Total benefits per additional individual supported into employment	£8,400	£6,900
Total estimated benefits of the programme in 2018	£1.6 million	£1.3 million
Total costs of the programme in 2018	£1.1 million	
Net benefit in 2018	**£500,000**	**£200,000**
Cost Benefit Ratio	**£1.43**	**£1.17**

Using the JDL analysis we estimate that the Access to Learning programme in 2018 will have supported an additional 191 individuals to find employment that would not otherwise have done. This means that the total net economic benefit for the programme in 2018 is likely to have been between £200,000 and £500,000.

4.2 Sensitivity analysis

In this section we assess the sensitivity of our key results to plausible variations in some of the key assumptions outlined in Section 3.5. As we show, the overall finding that the estimated programme benefits are likely to outweigh the costs remains robust.

Sensitivity 1: Using minimum wage for income calculations

As the main component of the benefits to getting an extra released prisoner into employment stems from the income they earn, we conduct a sensitivity that uses the current minimum wage along with some assumptions regarding hours worked per week to obtain an alternative estimate of the benefits of an extra released prisoner being in employment. This could more completely capture any cash-in hand work or self-employment income obtained by released prisoners, which are not included in the P14 income figures referred to previously.

[16] These benefits are roughly similar across different custody lengths, as indicated by the different columns in the table in Annex B.

Specifically, we combine the different age-related minimum wages with the age profile of released prisoners to obtain a weighted average of the minimum wage for which a released prisoner would be eligible. We then assume that a full-time job would consist of working 7.5 hours for five days a week, while a part-time job would be half that amount. We also assume that someone would work 35 weeks per year (i.e. take four months to find work) and that the non-income benefits of a released prisoner being in employment are the same as estimated previously. These are shown in the table below and indicate that under this sensitivity, even if someone is working part-time (i.e. only nineteen hours per week), the estimate of the benefits and the cost-benefit ratio are roughly the same or higher when using the minimum wage to estimate their income.

Table 5 Alternative total benefits using minimum wage (2018 £)

	Full Time	***Part time***
Weighted average minimum wage	7.77	7.77
Hours worked per week	37.5	18.75
Total annual wage (on 35 weeks worked per year	10,098	6,845,0496
Total non-income benefits (using JSA)	3,029	3,029
Total benefits per year under sensitivity	**13,128**	**8,079**
Total benefits per year under central case (JSA)	**8,401**	**8,401**
Cost-benefit ratio under sensitivity	**2.23**	**1.37**
Cost-benefit ratio under central case (JSA)	**1.43**	**1.43**

The total benefits arising from this calculation (in which the only difference is in terms of the income amounts) is higher than those obtained by using the P14 income figures assuming that the released prisoners find full-time work, but roughly similar assuming that they work part time.. This could be due to released prisoners only being able to find part-time work upon release, such that assuming that they work full-time overestimates the benefits to getting a released prisoner into employment.

Alternatively, it could reflect the fact that the minimum wage has increased faster than inflation since 2003/2004, and since our approach using the P14 incomes uses the path of inflation (rather than the path of average earnings) to convert nominal earnings into constant 2018 earnings that could be understating the current benefits of placing a released prisoner in work.

Nonetheless, this sensitivity analysis provides us with some confidence that the benefits to placing an extra released prisoner in employment are at least as high as those obtained in our main estimate.

Sensitivity 2: Using lower bound of impact of participation in PET

The estimate of the effect of PET on a released prisoner obtaining employment could be biased upwards by the fact that the JDL has not been able to take into account possible self-selection into the PET programmes. If prisoners who would otherwise be more likely to get a job regardless of their participation in PET are also more likely to participate in PET in the first place, failure to account for this would upwardly bias the impact of PET's effect on the employment of released prisoners. In turn, this would upwardly bias the estimated net benefit of PET's programmes.

In order to demonstrate the potential size of this effect, we have also calculated the net benefit of PET's programmes using the lower bound of the JDL estimate of PET's effect on the employment of released prisoners. Namely, instead of assuming that 8% of PET participants find employment that otherwise would not have done so absent their participation in PET, we assume that this figure is 6%. The results of this sensitivity are presented in the Table below – the second column shows the results under the central estimate of 8% and the third column shows the results under the sensitivity of 6%.

Table 6 Alternative net benefits using lower effect of programme on employment (2018 £)

	Central case	*Lower bound*
Estimate of effect of PET on employment	8%	6%
Total estimated benefits of the programme in 2018 (using JSA)	£1.6 million	£1.2 million
Total costs of the programme in 2018	£1.1 million	
Net benefit in 2018	**£500,000**	**£100,000**
Cost Benefit Ratio	**£1.43**	**£1.07**

The results indicate that the lower estimate of the impact of PET on released prisoner employment reduces the estimated net benefit of PET's programmes to roughly £100,000 with a benefit-to-cost ratio of £1.07 per £1 spent. However, it is important to emphasise that these benefits only include some of those that emanate from increased employment of released prisoners and do not include other benefits such as those that arise from reduced re-offending.

Sensitivity 3: Accounting for potential persistence of benefits

The analyses above provide an estimate of the benefit of getting an additional released prisoner employed in the first year subsequent to their release. However, it is possible that the benefits of a released prisoner finding work in their first year after release could persist beyond this period. As such, assessing the benefits during just the first year of release would understate the true benefits of getting a released prisoner in employment.

Therefore, we conduct a sensitivity in which we use the data on a released prisoner's income over the first five years after their release to obtain an estimate of the total benefit over five years of a released prisoner finding employment. This estimate assumes that all of the figures in the data are directly attributable to the released prisoner being more likely to find employment as a result of participation in a prison programme – i.e. it does not account for the possibility that the effect of any prison programme to improve employability is likely to diminish the more years have passed after a prisoner is released.

Nonetheless, the table below presents the steps used in obtaining this estimate. The first row of the table indicates how many years after release the data refer to, while the second row presents the assumed income earnt by a prisoner that many years after their release. This second row is obtained by using the income for the first year as in our main analysis; we then calculate the monthly income it implies using the JDL finding that released prisoners work for only eight months in their first year, and then assume that a released prisoner earns that same monthly income for every month in years 2-5 (i.e. that they work for all twelve months of each subsequent year)

The third row shows how the government's savings from paying less Universal Credit (UC) as someone's income increases changes over time. This takes into account the fact that UC is withdrawn at a rate of 63p per £1 increase in a person's income. For the purposes of this calculation, we assume that a released prisoner is not receiving any support with their housing costs and that they are single with no dependents, which means that the monthly income above which their UC starts to be withdrawn is £503 per month. We also assume that their annual income is spread evenly across the year, such that they earn the same amount in each month.

The fourth row of the table shows the savings from improved health, and the fifth row shows the total benefit present in each year. However, because benefits beyond the first year happen in the future, they need to be discounted – as per the Treasury Green Book, we use a rate of 3.5% per year to discount benefits beyond the first year. The result of this discounting gives the Net Present Value (NPV) for each year as shown in the fifth row of the table.

The last row of the table then sums up these NPVs to give a total benefit over five years of roughly £44,000 for an additional released prisoner finding employment, resulting in a cost-benefit ratio of over £7 per £1 spent on the programme. This demonstrates that if PET could develop evidence that the impact of the Access to Learning programme were to persist beyond the first year after release from prison then it could significantly increase the benefits attributable to the scheme.

Table 7 Alternative total benefits accounting for possible persistence (2018 £)

	Year 1	*Year 2*	*Year 3*	*Year 4*	*Year 5*

Income	£5,372	£8,057	£8,057	£8,057	£8,057
Government savings from lower Universal Credit	£849	£1,274	£1,274	£1,274	£1,274
Savings from improved health	£680	£680	£680	£680	£680
Total benefits each year	£6,900	£10,011	£10,011	£10,011	£10,011
NPV of annual benefits in each year	£6,900	£9,672	£9,345	£9,029	£8,724
Total benefits over five years			**£43,671**		
Cost Benefit Ratio			**£7.42**		

5. Summary and conclusions

Our study has estimated the value to society of getting an extra released prisoner into employment and applied this to PET's Access to Learning programme for 2018.

Our key findings are as follows:

- We estimate that each extra released former prisoner that finds employment earns an average of roughly £5,000 over the first twelve months following release (albeit with it taking a released prisoner roughly four months to find work during that first year).[17]
- This generates savings to the Treasury in the form of reduced Job Seeker's Allowance / Universal Credit payments of up to £2,400 per year, and improved mental and physical health resulting in savings for the NHS of roughly £700 per year.
- The total benefit of PET's programmes arising from getting an estimated 191 additional released prisoners into work is between £1.3 million and £1.6 million. These benefits do not include other benefits (such as reduced re-offending) that would further increase the benefits from participating in the programme
- Combined with the total costs in 2018, that implies that the net benefits of PET's Access to Learning programme via its impact on employment in the first year of release was between £200,000 and £500,000.
- On this basis for every £1 spent on the programme it generates between £1.17 and £1.43 in benefits for society in terms of additional employment alone.
- These benefits are likely to be even higher if we included benefits from reduced reoffending or if it is possible to demonstrate that the increased employability of released prisoners persists over time.

5.1 Implications

Our study demonstrates the potentially significant returns to society from supporting prisoners to find employment upon release. It should be noted that our estimates are likely to conservative on the basis that they include only those benefits associated with increased employment of a released prisoner, and do not include other potential benefits such as reduced re-offending.

They support the case for further investment in programmes that aim to improve the employability of released prisoners to use for the societal benefit of getting an extra released prisoner in employment.

However, it is essential that the impact of any further investment continues to be evaluated carefully. There are limitations to the JDL's analyses due to the potential for programme participants to self-select into the intervention. We note that the JDL attempted to account for this effect when estimating PET's effect on re-offending rates in 2016, and it would be worth conducting the same exercise for the effect on employment.

Furthermore, the evidence to support a more robust assessment of the economic impacts could be improved by:

- Updated evidence on the incomes of prisoners following release. Our study relied on figures from a single cohort of prisoners that were released in 2003/2004 and tracked over time. As such we would recommend that this evidence is updated to reflect more recent developments in the labour market.
- Additional research into the benefits to mental and physical well-being of released prisoners specifically – this would provide insight as to whether the benefits we have estimated here (based on the general population) are applicable to released prisoners.
- Research on the effect of employment beyond just the person who is employed would be very informative – there could be positive spillovers (improved familial relationships) or negative spillovers (such as the extent to which the employment of PET participants substitutes for the employment of other people in the economy) and there is no prior way of seeing the net effect. In the first instance, finding out whether these spillovers are net positive or negative would be useful in determining whether the benefits estimated here are an upper or lower bound of the true benefits to society.

[17] As these amounts are based on employer P14 forms, they do not include any self-employment or cash-in-hand income, and therefore potentially understate the societal value.

6. Annex A – Details of analysis

6.1 Estimating the income of prisoners after release

When considering the income obtained by a released prisoner, it is important to take into account the fact that a released prisoner tends to earn less than the UK average for the wider population. This is because the types of employment obtained by released prisoners tend to differ from those obtained by the wider population.[18] In particular, released prisoners tend to find more part-time work and jobs requiring manual labour than does the UK population as a whole.[19] [20]

Table 9 below shows the median nominal incomes earned by an prisoner released in 2004 in the year immediately following their release from prison.[21] [22] Importantly, these income figures relate only to income reported on P14 forms submitted to HMRC by employers and, hence, do not include any income obtained from self-employment or cash-in-hand jobs. As such, these income figures likely understate the incomes earned by released prisoners and are therefore a conservative estimate.

Table 8 Median P14 income of prisoners released from prison in 2003/04, by length of custody (MoJ /DWP/HMRC, 2013) [23]

	Immediate custody (all)	***Immediate custody (<1 year)***	***Immediate custody (>1 year)***
Nominal 2004 GDP	£4,100	£3,900	£4,300
2018 GBP[24]	£5,273	£5,016	£5,530

The wages earned by released prisoners differs according to the length of the custodial sentence that they received. Importantly, the programmes ran by the Prisoners Education Trust work with those prisoners that have more than six months left to run on their sentence. We understand from PET that as prisoners tend to serve around half of their sentence, this effectively means that PET tends to work with those prisoners that received lengthy custodial sentences. Indeed, as shown in Table 9, almost 70% of participants in PET's programmes are serving sentences of more than four years.

[18] See the Centre for Research in Social Policy (2008) report "*High hopes supporting ex-prisoners.*" Retrieved from https://www4.shu.ac.uk/research/cresr/sites/shu.ac.uk/files/high-hopes-supporting-exprisoners.pdf p: 21

[19] As noted in MOJ. (2012). *The pre-custody employment, training and education status of newly sentenced prisoners.* Retrieved from https://www.gov.uk/government/publications/the-pre-custody-employment-trainingand-education-status-of-newly-sentenced-prisoners, this is at least in part due to those that serve custody sentences having low educational attainment relative to the general population.

[20] Throughout this assessment we consider that a released prisoner finding employment does not displace anyone else from finding work. Given that the types of work obtained by released prisoners differ from those obtained by others, the industries that employ released prisoners tend to have very high vacancy rates, and that the employment rates of released prisoners are very low, it is reasonable to assume that a released prisoner finding employment does not affect the chances of anyone else from finding employment.

[21] Obtained from supplementary tables to "Experimental statistics from the 2013 MoJ /DWP /HMRC data share: Linking data on prisoners with benefit, employment and income data".

[22] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/304414/annex-c-table-chart-underlying-data.xls

[23] These data exclude cash-in-hand, informal, and self-employment, and therefore are likely to understate any income received by released prisoners.

[24] We convert 2004 GBP to 2018 GBP using a GDP deflator. Note that as released prisoners do not typically have similar jobs to the population as a whole it is unlikely to be appropriate to carry out this conversion using the path of earnings (or wages) over time.

Table 9 Median Length of Custodial Sentence for participants of Prisoners' Education Trust programmes in 2015

Length of sentence	*Proportion*
6 months to 4 years	31%
4 years to 10 years	55%
More than 10 years	7%
Life (MLP, ILP, Other Life)	7%

Weighting the incomes earned after release by this length of sentence gives an estimate of the income for PET programme participants.[25]

Table 10 Median P14 income of PET programme participants

	Median Income
Nominal 2004 GDP	£4,177
2018 GBP	£5,372

6.2 Estimating the savings to the Treasury from reduced Job Seekers Allowance and Universal Credit payments

In order to account for the fact that 35% of prisoners are below 25 years of age, we use a weighted average of the age-specific benefits amounts.[26] Moreover, we use the JDL findings that a released prisoner works for only eight out of the initial twelve months subsequent to their release to calculate the savings resulting from Job Seekers' Allowance (JSA) and Universal Credit (UC).[27]

These estimated savings from JSA are shown in Table 11 below – they are simply calculated as the total amounts received for four months by someone obtaining £57.90 per week if they are below 25 years of age, and £73.10 per week if they are 25 or older. [28]

Table 11 Benefits from Treasury savings from JSA (£ annual)

Job Seeker's Allowance	*(2018 GBP)*
Under 25	2,007
Over 25	2,534
Weighted average based on age	**2,350**

[25] Some 31% of PET's participants are serving sentences of between six months and four years. In order to estimate the incomes for these prisoners using the information contained in Table 9, we allocate all of these prisoners to the "under one year" custodial when estimating their income after release.

[26] Specifically, in 2010/2011, the age profile of those released from prison was as follows: 17% between 18-20 years old; 18% between 21-24 years old; 30% between 25-34 years old; 21% between 35-44 years old; 11% between 45-54 years old and 3% over the age of 55.

[27] Although contribution-based JSA expires after 6 months, the income-based version of JSA may continue for many years (conditional on having less than £16,000 savings) according to https://www.gov.uk/jobseekers-allowance/eligibility

[28] Importantly, benefits other than JSA (such as Income Support) might be available for people not in employment or in employment but earning only below a certain threshold. As such, the savings estimated under JSA here are likely to under-state the average true savings to the Treasury of getting an extra released prisoner into employment.

The calculations for Universal Credit are much more complicated due to the fact that Universal Credit contains an "income withdrawal" component. This means that if an individual earns above a certain amount then their UC is withdrawn at a rate of 63p per additional £1 that they earn and this needs to be taken into account if a released prisoner's income is above the threshold at which the withdrawals occur.

We assume that a released prisoner is not receiving any support with their housing costs and that they are single with no dependents, which means that the income above which their UC starts to be withdrawn is £503 per month. We also assume that a released prisoner's income as per Section 3.1 is spread evenly across the eight months of the year in which the JDL data indicate that a released prisoner is employed. This means that we assume the monthly wage for a released prisoner is roughly £671 for each those eight months (and zero for the four months that they are unemployed.

Given that the monthly earnings of a released prisoner in the first year subsequent to their release are roughly £450 per month, such a released prisoner would receive the full amount of Universal Credit for the four months for which they are unemployed. However, for the eight months that they are employed, their monthly income is above this threshold, so their UC payment would be reduced at a rate of £0.63 for each £1 earnt over the threshold. This means that there are some UC savings made in the months that a released prisoner is working in their first year – these are shown in the table below.

The first two rows of this table show the monthly Universal Credit payments made to an unemployed person, depending on their age. The third row shows the monthly wage we assume a released prisoner earns when they are working – the released prisoner earns this for eight months of the year and is unemployed otherwise. The fourth row shows the monthly income threshold above which UC payments start to be withdrawn.

The fifth and sixth rows show the UC payments that are still made to a released prisoner in the relevant age group once the withdrawal rate has been applied. Rows seven and eight contain the total UC payments made to a released prisoner depending on their age (four months of the full UC payment shown in rows one and two, plus eight months of the reduced UC payment shown in rows five and six). Row nine presents the weighted average (based on age) total UC payments made in the first year of a prisoner's release, while the last row of the table shows the government savings from reduced UC payments as a result of a released prisoner finding employment.

Table 12 Savings accruing from reduced UC payments in the first year subsequent to a prisoner's release

	2018 GBP
UC amount per month for people under 25	£252
UC amount per month for people over 25	£318
Monthly Wage	£671
Withdrawal Threshold	£503
UC payments still made when working (under 25)	£146
UC payments still made when working (over 25)	£212
UC payments made for the year (under 25)	£2,172
UC payments made for the year (over 25)	£2,965
UC payments made for first year (weighted average based on age)	£2,687
UC Savings for the first year	**£849**

Given that Universal Credit is being rolled out more widely across the country, it is the benefits calculated using Universal Credit that are more likely to be appropriate for future use.

In order to avoid double counting, we have excluded tax and National Income contributions from any benefits to the Treasury, as these are already included in the income figures estimated previously.

6.3 Estimating taxpayer savings from reduced usage of mental and physical health services

Paul and Moser (2009) perform a meta-analysis of this large body of cross-sectional and longitudinal evidence on the effect of unemployment on mental health.[29] The longitudinal studies that they cover are more likely to account for any potential "reverse causation" between health issues and employment status.[30] The meta-analysis finds that longitudinal studies present unemployment effect sizes of roughly half the ones estimated using cross-sectional data. Hence, we adjust the effect suggested by cross-sectional studies to take this into account (unfortunately, no specific estimate for the effect of employment on depression or anxiety is available from the longitudinal studies). This implies that being in employment reduces a person's likelihood of suffering from depression or anxiety by eight percentage points.

Moreover, according to a study by the King's Fund (2008), the costs of providing services to someone with depression is £2,085 (in 2008 GBP) and the cost for providing services to someone with anxiety is £1,104 (2008 GBP).[31] However, not all of those with depression or anxiety seek help from service providers - only 65% of the population with depression are in contact with service providers, while that figure is 49% for anxiety. These proportions are included in the cost-benefit analysis to fully represent the true cost that the health services could save.

In addition, a 2010 study by Fujiwara on behalf of the Department for Work and Pensions estimated that the savings to the NHS from getting an extra person into employment was £569 (when adjusted to 2018 GBP).[32] [33] However, it is not clear from the study whether this estimate includes benefits arising from improvements in mental health – although the study uses the number of GP consultations in part of its methodology (so should incorporate at least some of the NHS costs of treating people with depression and anxiety), the study also mentions that it has "*not accounted for intangible health benefits*", which could imply that the study does not include (a substantial proportion of) the benefits arising from improvements in mental wellbeing that result from being in employment. To account for this, we use FullFact's 2019 finding that roughly 10% of total NHS spending is on mental health services and subtract that amount from the Fujiwara figure to give an estimate of total physical health savings from getting an extra person into employment of £512 per year.[34]

Nonetheless, it is possible that there remains some overlap between them, with the result that our approach slightly might slightly overstate the health benefits arising from getting an extra released prisoner into employment.

The table below presents the benefits to society from improved mental and physical health as a result of getting an extra released prisoner into employment – in total, these amount to just under £700 per extra person in employment per year.

[29] Paul, K & Moser, K (2009), "Unemployment impairs mental health: Meta-analyses", *Journal of Vocational Behavior*, 74(3)

[30] In this case, we want to estimate the effect of employment on mental health, but it is also possible that mental health can affect one's likelihood of being employed. It is this latter aspect that can be described as "reverse causation".

[31] The King's Fund (2008), "Paying The Price: The cost of mental health care in England to 2026"

[32] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/214384/WP86.pdf

[33] The study does note that there is a possibility some employed people do not visit the doctor due to the opportunity cost of doing so rather than because they are not ill. If this possibility is true, then the savings stated in the report are likely to be overstated.

[34] See https://fullfact.org/health/mental-health-spending-england/

Table 13 Benefits from improvements in mental and physical health (£ annual, all constant 2018 GBP)

Mental health - depression	
Cost of providing health services to a depressed person	£2,411
% of depressed people that use NHS services	65%
Mental health - anxiety	
Cost of providing health services to someone suffering from anxiety	£1,104
% of such people that use NHS services	49%
Effect of unemployment on depression	
Decrease in people reporting mental health issues as a result of being employed	8%
Mental health savings	
From depression	£120
From anxiety	£48
Physical health	
NHS savings from an extra person in employment	£512
Total savings from improvements in health	**£680**

7. Annex B - Breakdown of results by length of custodial sentence

Summary of benefits arising from an extra released prisoner in employment.

Table 14 Summary of benefits arising from an extra released prisoner in employment

	Immediate custody (all)	***Immediate custody (<1 year)***	***Immediate custody (>1 year)***	***PET participants***
Income	£5,273	£5,016	£5,530	£5,372
Health Savings	£680	£680	£680	£680
JSA Savings	£2,350	£2,350	£2,350	£2,350
UC Savings	£787	£625	£949	£849
Total savings (JSA)	£8,302	£8,045	£8,559	£8,401
Total savings (UC)	£6,739	£6,320	£7,158	£6,900