Potential fiscal impacts of introducing a regulated cannabis market in the UK

Summary	This note considers the potential net savings and the potential tax revenue associated with introducing a regulated cannabis market, drawing on the examples of Colorado, Washington State and Uruguay. This is a very complex area, there is a paucity of available data, and this note has been produced internally, without consultation with the experts in HMRC, HO, MOJ and DH. In the time available, we have therefore relied heavily on the best available academic study (by the Institute for Social and Economic Research), and used what we know to critique those assumptions, and set out wider considerations. This suggests that legalising, regulating and taxing cannabis has the potential to: • generate noteable tax revenue, although we expect it to generate less than the c.£0.5-0.8bn pa ISER assumes, as we believe they underestimate the competition from the illicit market; • lead to overall savings to public services. This would be likely to include costs to the health service, which could be outweighed by savings to the criminal justice system. There are a number of risks around these assumptions which would erode these savings if they crystallised; and • could have wider economic costs (via human capital), although we estimate that these are likely to be the lower end of the £0-3bn range ISER cites. Significant further work would be required to understand the impacts more fully.

1. You have commissioned private advice estimating (a) the potential net savings and (b) the potential tax revenues of introducing a regulated cannabis marked in the UK.

2. You have asked that this considers three variants, based on the existing regimes in Colorado, Washington State and Uruguay. Of available international examples, these three states have the most established systems, and they represent different points on the spectrum of regulation, with Colorado the most 'free market' and Uruguay the most restrictive. A summary of these three regimes in included at Annex A. As Uruguay is still in the process of implementing its regime, the American examples are likely to provide the most useful evidence for the UK context.

3. This note is structured in six parts:
    i. The core model;
    ii. Assumptions on demand;
    iii. The taxation regime;
    iv. The net impact on public services – health and criminal justice system;
    v. Enforcement; and
    vi. Conclusion on impacts – fiscal, economic and social.

4. This is a very complex area and this note represents a high-level view of the major considerations in introducing a regulated regime for cannabis.

5. In the absence of good data, without consultation with key departments like HMRC, HO, MOJ and DH, and in the short timeframe available, we have relied heavily on the most comprehensive study available: the Institute for Social and Economic Research's 2013 paper 'Licensing and regulation of the cannabis market in England and Wales'. This hangs off three scenarios for the demand for legalised cannabis ('low', 'medium' and 'high'). Where possible, we have used the information we hold to challenge assumptions or update unit costs, to give a sense of where these figures are over- or underestimates, and where they carry risks. We have also used this note to expose the various choices around how the regulatory regime and tax regime could be designed (which could in turn influence the fiscal impact of such a measure).

6. In Colorado and Washington, it was relatively quick and straightforward to implement this approach, largely because they already had some infrastructure in place due to support the legal availability of cannabis for medicinal purposes. Introducing a new tax regime here would have a lead time of at least 18 months. This work could not begin (for propriety reasons) until legislation is in place, so the lead time to prepare and secure Parliamentary time for legislation would need to be added on top. This is consistent with the experience in Uruguay, where legislation was passed in December 2013. While cannabis production and cultivation is now legal, the government has not yet implemented a coherent regime for selling state-licenced cannabis at pharmacies, and as a result is not yet collecting tax.

I. The core model

The core model

7. The regulatory frameworks in Colorado, Washington and Uruguay contain a common set of features, which we have assumed would form the basis of an England and Wales model:
   - There is an age limit restricting who can buy cannabis, and a limit for how much someone can legally have in their possession (purchased and home-grown);
   - The potency and quality of legal cannabis are regulated and tested;
   - Sellers must be licenced and subject to criminal background checks;
   - Growers must be licenced and background checked; and
   - Tax is payable.
8. The more restrictive regimes build in various additional controls – e.g. licencing the user, tracking the product, curbing where cannabis can legally be smoked, and directing the methods and locations of production.

9. Good regulation would also include provisions to support responsible use, e.g. through information and education, mandatory health warnings, and advertising rules.

10. Choices around the degree and nature of regulation would affect the volumes of cannabis legally supplied and consumed, and by extension the tax-take and potential net savings to public services. The effectiveness of enforcement would also affect costs.

Legal underpinnings

11. We have assumed that primary legislation would be introduced to legalise cannabis and establish the framework for regulating its supply and use, and that this measure would apply in England and Wales only. We have also assumed that there are no legal barriers to taxing legal cannabis, provided the regime complies with EU competition law. This is a complex area and so further legal advice would be necessary. This advice rests on the UK government having the legal ability to legalise cannabis.

12. Legalising the recreational use of cannabis runs contrary to international conventions. When Uruguay legalised cannabis the International Narcotics Control Board and UN Office on

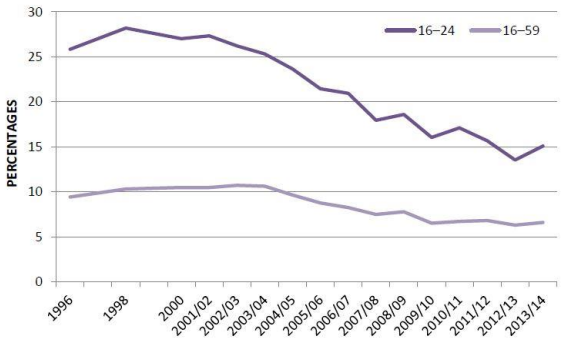
Drugs and Crime have expressed regret at what they judged a contravention of the 1961 Single Convention on Narcotic Drugs[1].

II. Assumptions on demand

13. For the purposes of modelling health costs, what matters is total demand for cannabis and its potency, across the regulated and illicit markets. For the purposes of modelling tax revenue, enforcement costs and criminal justice system impacts, the breakdown of demand across the regulated and illicit markets is also material.

14. The chart below shows the proportion of adults using cannabis in the last year, broken down by age:

Figure 1.2: Proportion of adults using cannabis in the last year, by age group, 1996 to 2013/14, Crime Survey for England and Wales



15. This suggests that 6% of 16-59 year olds in England and Wales – 2.2 million people (from a 16-59 population of 34 million) – used cannabis in the last year.

16. **We assume that under a regulatory regime for cannabis, the minimum age threshold for purchasing cannabis would be set at 18**, in keeping with the approach to alcohol and tobacco in England and Wales. It is 21 in Colorado and Washington (aligned with alcohol), and 18 in Uruguay.

[1] International Narcotics Control Board (2013) Press Release: 'Uruguay is breaking the International Conventions on Drug Control with the Cannabis Legislation approved by its Congress'. Available at: http://incb.org/documents/Publications/PressRelease/PR2013/press_release_111213.pdf

17. These figures cannot be broken down to isolate the number of 16-18 year olds who used cannabis in the last year. We assume that it is 21,000 people, based on a total 16-18 population of 1.4 million and use at the same rate as the overall 16-24 age group (15%). It is unclear what behavioural impacts we might expect from under-18s if cannabis use remains illegal for them, but is legalised for adults. As context, when the minimum age for smoking was raised from 16 to 18, three years later (2010), smoking rates for 16-18s has dropped significantly, from 24% to about 17%, while smoking rates in over-18s remained unchanged[2].

18. Legalisation of cannabis is likely to result in an increase both in the *number of people* using cannabis (new users) and the total *quantity of cannabis* consumed (new users and increasing consumption by existing users) in England and Wales. For example, there is some evidence[3] to suggest that more people would be willing to buy cannabis when there is no threat of sanction, and greater security over the product characteristics (quality/potency). The demand response has not yet been rigorously analysed in Colorado, Washington State and Uruguay as the changes are quite recent.

19. The demand response would also depend on the following factors, which would be influenced by the design of the regulatory regime. **It is worth noting that there is a paucity of good data in this area, and so our modelling starts from the basis that the 'low', 'medium' and 'high' scenarios used by ISER are sufficiently broad to capture the realistic span of demand responses**:
    - **Potency** of the regulated product. This would influence both the volumes individuals would choose to consume, and how much cannabis is procured outside the regulated market (because some users prefer higher-strength product). The ISER methodology assumes a potency limit of 10% THC. In Colorado, for example, the THC limit applies to the overall volume of cannabis purchased, and is not limited in individual products; in Uruguay there is no limit (with the cannabis consumed averaging 6-15% THC).
    - **Price** of the regulated product. The ISER methodology assumes a lower price for cannabis than its current black market rate, with a tax rate that maintains the retail price at 10% below the maximum competitive price. This assumes, for example, that the 'risk premium' charged on illegal goods would not be chargeable, and that economies of scale and competition would lead to a more productive, lower cost supply chain. As discussed

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[2] BBC report based on University College London research: http://www.bbc.co.uk/news/health-11001599

[3] E.g. Cooter (1998), 'Expressive law and economics'; and MacCoun (2010), 'Estimating the non-price effects of legislation of cannabis on cannabis consumption'

in the tax section, there are good arguments to suggest that illicit cannabis may be more price-competitive than the ISER assumption allows.

- **Availability** of regulated cannabis – where the number of new users, and existing users switching away from illicit cannabis, would likely be influenced by how easy it is to get hold of. There are a series of regulatory choices which would impact this e.g. how many retailers are licensed, whether local authorities have discretion to opt-out etc. It would also be affected by any limitations around where cannabis can be consumed. The ISER methodology makes no specific assumption on this.
- **Amount** of regulated cannabis that an individual would be allowed to purchase (volume and frequency). This is ¼ ounce per transaction and 1 ounce in total in Colorado and Washington and 40 grams a month, with no more than 10 grams in a single transaction, in Uruguay. Personal limits are tightly controlled in Uruguay with a centrally-held record of user purchases. In Colorado and Washington State shops restrict per-person sales but individuals police their own aggregate personal limit across outlets. The amount would also be affected by how much (if any) the individual is allowed to grow at home. For example, in Colorado individuals can have up to six plants at home, with up to three flowering at any one time, and in Washington State they are not allowed any. The ISER methodology makes no specific assumption on this.
- **Access** to regulated cannabis, beyond the minimum age threshold. We have assumed that cannabis would not be prescribed by the NHS for medicinal purposes. We have also assumed no additional demand from 'cannabis tourism' – in Colorado, Washington and Uruguay cannabis can only be sold to state residents. This contrasts with the 'tolerance' system in the Netherlands. In practice, it is difficult to discriminate between EU nationals under EU law, so this may lead to increased demand. In terms of policing, in Colorado and Washington there are ID checks in cannabis shops. In Uruguay, the control is much stricter, as cannabis users need to go on to a national register. ISER also assumes a minimum age threshold of 18, but assumes that cannabis tourism is allowed and happens to a small degree.

20. The decisions on the nature of the regulatory regime would need to be guided by evidence on health harms, take into account the impact on demand for illicit cannabis (and by extension tax revenue), and have regard to manageability of enforcement. It would also be helpful to understand more about the data on current average use of cannabis, to understand what this would mean for the degree of 'headroom' that would be offered by various potency, and particularly quantity, limits.

21. A summary of the key demand response assumptions underpinning the IESR scenarios is as follows. A more detailed outline is provided at Annex B.

	Position in 2013-14	Demand response post-legalisation		
		Low	Medium	High
Number of cannabis users (16-59)*	2.2m	+9%	+12%	+24%
Total physical quantity of cannabis substance consumed (i.e. grams of substance regardless of potency)**	216 tonnes	+15%	+20%	+40%

*Source: ONS for population, NTA Focal Point study for proportion of individuals consuming cannabis within the last year (6.6%)

**Source: ISER study – estimated quantity of cannabis consumed in 2010

III. The taxation regime

22. In the time available it has not been possible to develop a model to estimate the potential tax revenue available from legalising and regulating cannabis. This section therefore includes an assessment on the plausibility of the assumptions used in the ISER model, and outlines the considerations that would be involved in designing a tax regime of this sort.

The ISER model

23. The ISER model assumes that a tax on cannabis would be pegged to the volume and potency of the product, and set at a rate that maintains the retail price at 10% below the maximum competitive price. It then models the tax revenue according to the low, medium and high scenarios for demand. (In effect, the tax is the difference between the production costs and the retail price targeted by the government.) The IESR model estimates tax revenues at:

Low	Medium	High
£768m (£564m – £871m)	£594m (£436m – £674m)	£541m (£397m – £614m)

24. This shows that tax-take would be predicted to fall the more demand there is. This is because the demand scenarios are for all cannabis consumption, including the high potency skunk which is assumed to remain illegal. It would be purchased from the illegal market, reducing legal demand and so tax-take. All demand would increase, but legal demand by relatively less.

25. Our main concern with the ISER assumptions is around the likely response of the illicit market, and the government's ability to undercut the illicit market on price. ISER recognises that there would be an illicit market for higher-potency cannabis (as cannabis above 10% THC would still be illegal). However, we believe that it is highly probable that there would be a second illicit market for regulated-strength cannabis too.

26. This is because there is already a well-developed infrastructure for smuggling, growing, supplying and dealing cannabis. These existing networks already have an established customer base. This would therefore be a situation of the regulated market needing to 'win over' custom from current cannabis users, even if we assumed that all new users took it up as a result of its legal and regulated status. Rather than die off, we would therefore expect the illicit market to diversify and compete, for example on the grounds of:
    - **Price** – legalising some cannabis would reduce the risk premium for dealers and create competition (as dealers can currently keep prices high due to the limited supply). We would expect the price of cannabis below 10% THC to fall below the price in the legal market in practice. The model assumes that 70% of the retail price is tax. This would likely be sufficient for criminals to sell contraband cannabis. The tax on a packet of cigarettes is around 85% and the price in the illicit market is about half that in the legal market. The illicit market for cigarettes is 10%, and the illicit market for hand-rolling tobacco is 39%. As such, we disagree with the ISER assumption that there would be no illicit market for cannabis below 10% THC.
    - **Availability** – if it is harder to come by a regulated cannabis shop that an illicit dealer, existing users may not be willing to go out of their way to buy the legal product.
    - **Accessibility** – it is not clear whether under-18s wishing to use cannabis would be more likely to seek to illegally procure the regulated product (with fake IDs or by asking an adult to buy it for them), or to buy unregulated cannabis from an illicit dealer. This would depend on enforcement arrangements.

27. **To the extent that the illicit market for regulation-strength cannabis persists, revenue would be lower than ISER estimates**.

28. In terms of the international evidence:

- Reports indicate that, initially the tax revenue from legal cannabis sales came in at under half of that predicted ($12m compared to a forecast $30m). Sales were, however, 10 times higher in January 2015 than in January 2014. This is attributed to better infrastructure (40 stores rising to over 320 stores today) and means that tax revenue seems broadly in line with expectations[4];
- News sources suggest that the tax-take from cannabis sales is likely to be higher than predicted by 2019 in Washington State ($694m compared to a forecast $636m)[5]; and
- It is too early to tell in Uruguay.

Designing a tax on cannabis

29. There would be a series of questions to be tackled in designing a tax on legal cannabis:

I. **Why?** Establishing the purpose of the duty – e.g. to raise revenue, prevent harm, or regulate a product – is a necessary first step, as this would affect both the structure and rates of the tax.

II. **What?** There are a variety of different products that would need to be specified in tax legislation, and for which you could have differential tax treatment. For example, the 'raw' product comes as buds, leaves and resin. Shops would also be likely to sell pre-assembled units for ingestion e.g. cannabis cigarettes, e-cannabis cigarettes, and edibles.

III. **How/where?** The tax could be levied at the level of the producer or at the level of the retailer. Compliance is typically better and collection easier if levied at producer level (as it is for tobacco and alcohol). We would expect the duty cost to be passed on in the prices charged to consumers.

IV. **Structure?** The duty could be linked to one or more of the potency of the cannabis purchased, the volume purchased, and the retail price. It may also be possible to link it in some way to quality. The tax could be structured to support more responsible use – e.g. lower strength products could be taxed at a lower rate.

V. **Rate?** The rate of tax charged would be influenced by how much revenue the government wished to generate (subject to the taxable capacity of the regulated

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[4] http://www.dailymail.co.uk/news/article-2991018/Pot-bonanza-Colorado-public-schools-January-s-marijuana-tax-revenue-comes-TEN-TIMES-higher-January-2014.html

[5] http://www.foxbusiness.com/markets/2014/11/20/washington-state-receiving-more-marijuana-tax-revenue-than-originally-predicted/

cannabis market), the expected impact on the illicit market, and the extent to which the government wanted to drive down overall demand (taking account of the impacts on the costs to other public services) or at least signal health-harm.

30. The actual revenue generated would be a function of demand for the regulated product with duty costs priced in:
    - The total revenue effect would need to include any consequential impacts to the revenue from other duties, notably tobacco (which would go up as cannabis is typically smoked with tobacco), and alcohol. The evidence is inconclusive, but the majority suggests that an increase in demand for cannabis leads to an increase in demand for alcohol and tobacco – rather than a switching away from alcohol – which could lead to a greater tax-take from these products. The ISER paper also assumes that these substances are used together, providing a range of cross-elasticities of demand to illustrate this assumption. ISER does not quantify this, however, judging that the evidence base is too weak to make credible estimates.
    - VAT would be levied on all of the regulated cannabis products sold. This would provide additional revenues (though the ISER incorporates this in their general tax estimate) and would help reduce the VAT gap (as this VAT gap takes into account the VAT foregone on illicit drugs).

31. Managing design choices – for the regulatory regime as well as the tax itself – to minimise the illicit market is therefore key for protecting revenue, as is effective enforcement activity. The regulatory framework would also impact on the overall receipts – a very tightly regulated market would limit the market size and therefore the receipts available.

32. In terms of distributional impacts, indirect taxes are regressive on an income basis.

IV. The net impact on public services

Health

33. The adverse health impacts of cannabis use are summarised in Annex C. These include, for example:
    - short-term, acute health episodes at the point of consumption – like nausea, increased heart rate and blood pressure, hallucinations, amnesia and anxiety; and
    - long-term impacts – regular, heavy cannabis use is linked to psychotic symptoms and disorders (including schizophrenia) in later life, and insomnia, depression, aggression and anxiety. Inhalation is linked to respiratory illness, persistent sore throats, and cancer from the tar in cannabis smoke.

    It is worth noting, however, that evidence suggests that alcohol and tobacco – both legal – may cause greater harm[6].

34. Cannabis use therefore imposes costs on the health and social care system, as well as wider social costs:
    (i) directly, due to the drug's impact on a number of mental and physical conditions that can require treatment; and
    (ii) indirectly, via a number of channels, such as potential gateway effects into using harder drugs, and a higher risk of road traffic accidents.

35. The NHS is already facing these costs from illicit use. If cannabis were to be legalised, the additional impacts on health spending would be contingent on:
    (i) the additional physical quantity of cannabis, of whatever potency, that were to be consumed. This affects physical health. ISER assumes that this would increase under all scenarios; and
    (ii) the amount of THC consumed by individuals (influenced by the potency regulation). This affects mental health and dependency. ISER assumes that the amount of THC consumed would fall in the low demand scenario (as individuals may use more cannabis, but of a lower strength), and would increase in the medium and high demand scenarios (see Annex B).

    It would not matter whether the cannabis consumed were to be legally or illicitly procured.

36. The health impacts are estimated as follows, and based on the ISER methodology and three demand scenarios. As best we can tell from available evidence, the unit costs used are rooted in plausible NHS figures for existing direct costs and academic research into the causal relationships between cannabis consumption and health harms. The unit cost data

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[6] E.g. see House of Commons Science and Technology Committee Report, 'Drug classification: making a hash of it?', 2005-06, pp EV110-117

could be updated, but this would take both more time and DH assistance to model effectively.

	Estimates of 2013/14 costs	Demand response scenario post-legalisation		
		Low	Medium	High
Cannabis dependency treatment costs	£53m	-£5m	+£3m	+£13m
Mental health costs	£149m	-£15m	+£7m	+£37m
Physical health costs	£116m	+£17m	+£23m	+£46m
Cannabis-related road accident costs	£130m	-£13m	+£6m	+£32m
Consumption of other substances	Not quantified			
Gateway effects	Excluded			
Public health and education costs post-legalisation	Excluded			
Total quantified (net) costs	£448m	-£16m	+£39m	+£128m

37. Probable underestimates include:

- ISER quantifies only the impacts of psychotic illness. This excludes any potential impact on mental health more generally, because the evidence relating cannabis use to depression is inconclusive;
- ISER does not quantify the potential for cannabis use to increase the consumption of other harmful substances. As above, there is some evidence to suggest cannabis use lead to greater demand for alcohol and tobacco, and the elasticities used in the ISER paper suggest that the substances are complements. This could lead to attendant health

treatment costs. However, ISER concludes that the evidence on demand interactions are too weak to allow credible estimates to be made;

- We have excluded an estimate of the cost of the "gateway" effects of cannabis consumption leading to harder drug use. We reviewed ISER's methodology and a range of other evidence, and concluded that the existing studies do not provide sufficiently robust conclusions on either the causal link between cannabis use (in particularly when legalised) and harder drug use, or the resulting costs to the NHS. However, it is possible that there would be some additional "gateway" costs post-legalisation; and
- We have also excluded the ISER assumption on public health and education spend, as a trawl of local authority figures implies that the unit costs are out of date. A sensible range might span from no additional spending (where existing budgets for drug programmes were to be deemed satisfactory, or reprioritised), to £128m, which is what they currently spend on tobacco and 'stop smoking' initiatives/interventions.

38. Probable overestimates include:
    - The costs of driving under the influence of cannabis (strictly, THC), which is associated with an increased risk of causing a road traffic accident. ISER's estimates factor in all costs, including e.g. damage to vehicles and emergency services callout, not just NHS spending on injuries and fatalities.

39. The existence of likely over- and underestimates in ISER's analysis is to be expected, given the difficulties around data availability (particularly for an illicit substance) and establishing true causation on health harm. On balance, we view ISER's figures as a reasonable indication of existing health costs for cannabis consumption, and a sensible range of scenarios in response to legalisation.

40. The design of the regulatory regime would seek to mitigate these health harms and associated costs, in much the same way as unhealthy consumption of alcohol and tobacco is discouraged. For example, consideration would need to be given to the law and guidelines around use:
    - **Dose** – e.g. on the potency of the product, and the frequency and volume of use;
    - **Exclusions** – e.g. whether some people should specifically be steered away from use (such as pregnant women) or banned from use (e.g. zero tolerance for driving under the influence of cannabis);
    - **Method of administration** – e.g. advice on whether some methods of consumption are less harmful;
    - **Advertising** – e.g. whether this is banned like tobacco or self-regulated like alcohol;

- **Packaging** – e.g. whether to use standardised packaging like tobacco, or allow legal products to differentiate and build brand loyalty as a partial protection against the illicit market; and
- **Second-hand effects** – e.g. akin to the tobacco bans on smoking in public places and vehicles.

41. Cannabis can provide pain relief and could be beneficial to a small and specific group of people as an alternative or complement to medical drugs. This includes people recovering from chemotherapy or who have AIDS, multiple sclerosis or other conditions that cause chronic pain. For the purposes of this note we have assumed that cannabis would not be prescribed by the NHS for medicinal purposes. This recognises that although it could bring health benefits, its use also poses health risks. Doctors could be allowed to recommend use in limited circumstances (e.g. for terminally ill patients seeking alternative pain relief), with patients purchasing over-the-counter if they wished. In the event that cannabis were to be available by prescription, tax revenue would be lower than forecast above (the NHS would pay the tax initially but be reimbursed).

Criminal justice system

42. Cannabis is a Class B drug. As such, the maximum penalty for being caught in possession of cannabis is 5 years in prison plus a fine, and for supplying cannabis is 14 years plus a fine. Offences include unlawful possession, unlawful supply, intent to supply, trafficking (import and export), and unlawful production.

43. There are currently cannabis-related criminal justice costs for the police, for courts and the prosecution service, and for prisons and probation. The vast majority of cannabis offences are for possession (consistently around 70%), with the majority (approximately 70%) of these being dealt with 'on the spot' or at a police station with no further action.

44. In 2013, for example, out of a total of approximately 133,000 recorded offences the breakdown included:
    - 64,000 cannabis warnings;
    - 12,000 penalty notices for disorder; and
    - Approximately 20,000 cautions.

45. Production offences typically account for 20% of all cases seen, and supply for the remaining 10%[7]. Where possession offences are taken to court, the majority are seen by magistrates. Custodial sentences for possession are very rarely used (except for frequent possession) and typically short (average length 2 months)[8]. In 2010, for example, out of a total of 2,273 custodial sentences, only 364 (15%) were for possession, with the rest (1,927) for supply or production offences, which carry a much longer average sentence of between 15 and 21 months.

46. We have calculated what it would mean, in terms of savings to the criminal justice system, if the police simply stopped charging people for possession offences (see Annex D for underlying analysis). These figures are based on study of criminal justice statistics and data we have received from MOJ in other contexts. They would benefit from MOJ analytical scrutiny, and suffer from the fact that, since 2010 all public data relates to aggregated drugs offences, with no breakdown for cannabis (which MOJ may have). We have been able to use the latest figures on unit costs, which are typically lower than they were when ISER conducted their analysis – e.g. the Prison Units Costs Programme, forecast to save £300m a year by 2015-16, has reduced the cost of a prison place from £45k to £36k (gross).

Service	Potential savings (£m)	Calculations	Further comments
Police	18 (o/w c.£700k is from fine income)	Police time, based on unit costs of issuing cannabis warnings, arrests and detentions, and preparing for court. Cost of penalty notice for disorder includes fine income. Takes into account proportion of time spent by different ranks.	Numbers include salaries and overheads but **not** the full cost of employing a police officer. Variations in criminal justice statistics year on year means it is not possible to always disaggregate cannabis from other drugs offences. (It is assumed that police time spent on supply offences remains the same.)

[7] CJS statistics (MOJ, various years)

[8] CJS statistics (MOJ, various years)

Courts	24.4	Average cost of a trial at crown / magistrates court times estimate of number of possession offences for cannabis	Costs are based on internal MoJ estimates. It is not possible to disaggregate cannabis offences from other drugs offences in more recent years. These figures exclude income from new charges which convicted offenders must pay towards the cost of the trial.
Prisons	2	Average possession offence (2 months) as a proportion of gross annual cost of a prison place	Majority of prison places are for supply or production offences. This calculation assumes the black market for unregulated cannabis stays the same i.e. no saving on supply / production.
Community Sentences	9.1	Cost of a community sentence (gross) times approx. number of community sentences for possession	Not always possible to disaggregate figures, but assume that most drug-related community sentences are cannabis related. Unit cost based on average cost of a community sentence across probation trusts in England and Wales.
Probation	2.8	Cost of drug treatment order and probation support multiplied by number of sentences for possession	The Offender Rehabilitation Act will require all those sentenced to prison, including for under 12 months, to undertake some form of supervisory probation. NB the savings figure for probation will also include impacts on other public services e.g. health and local authorities.
Total	**£56.3m**	To note: figure subject to fluctuation based on yearly caseloads. Approx. 34,000 individuals (out of a total of c.133,000) were dealt with by courts, but not imprisoned. It is worth noting that courts can impose an unlimited fine	

		for cannabis offences. This figure would need to be subtracted from the total.

47. In practice, it might be the intention of the regulatory regime that police are more active in this area, to have a deterrent effect that supports a shift towards the regulated regime. This could involve stopping cannabis users in the street to test the quantities in their possession, to check the age of users, or to test the source of the cannabis in their possession (possible if the legal regime has traceable products, as they do in Uruguay) or the strength. This would reduce savings on police time. To the extent that illicit activity remains, or the regulated regime is abused, this would also reduce savings on the wider CJS.

48. Legalising cannabis may also require introducing a series of supplementary laws to shore up the regime – e.g. for procuring cannabis on behalf of an under-18 (where fines of up to £5k are payable for procuring alcohol and tobacco) or selling to an under-18; or for driving with a THC concentration above the allowable limit in the blood. These would need to be policed and sanctioned through the CJS too, although would be unlikely to create many new burdens (as these things are forbidden now anyway).

49. In terms of broader crime effects:
    - There is limited evidence (but some exists) to suggest a link between cannabis use and other types of crime (i.e. shop thefts and other acquisitive crimes). It is possible therefore that if demand for cannabis were to rise, there would be a knock-on effect on other types of crime. ISER, in contrast, estimates that such crime would fall, without unpacking this assumption;
    - There is mixed evidence as to whether cannabis acts as a "gateway" to other drugs. ISER assumes an increased risk of consuming harder drugs of 20%, although, as above, we view the evidence as insufficient to take a view on this. To the extent that this risk crystallised, there could be a rise in wider drugs offences, and associated crimes; and
    - As above, the evidence on the link between cannabis and alcohol consumption is mixed but mostly suggests that if one goes up, the other does too. We might expect to see some increase in alcohol-related offences as a result.

    These would all reduce the savings figures above.

50. In terms of supply (production and dealing), we know that approximately £155m is spent on processing more serious supply and production offences in the criminal justice system (as per Annex D). We would expect these costs to fall as users switched to the legal market,

but we do not have sufficient data to make any assumptions on the levels of potential savings. As per the tax section, savings would depend on how successful the regulatory and tax regime was in 'winning over' customers from the illicit market. By extension, it is difficult to estimate the impact on the organised crime gangs that dominate supply. We would assume that there is a net reduction in their business, which may be sufficient to close down certain networks, although we might expect that for many cannabis supply is just one strand of their illicit activity, meaning that they would refocus elsewhere.

51. Overall, these assumptions align quite closely with the low-range figures generated under the ISER methodology (which incorporates savings from possession and supply offences). The mid- and high- ISER estimates assume varying degrees of cost from supply and production offences, in addition to possession (which has formed the basis of our calculation).

Low	Medium	High
£55.6m	£88.9m	£147m

52. The ISER report makes some additional assumptions on further potential CJS-related savings. For example, it factors in the potential income tax receipts that could be collected from people who would currently be imprisoned for cannabis offences, but instead engage with the legal cannabis market, and so remain in employment; as well as the economic benefits of less employment scarring from fewer people having criminal records. These are plausible wider benefits.

V. Enforcement

53. A number of bodies would need to be involved in regulating this regime and in enforcing those regulations. For example:
    - **HMRC** would be responsible for collecting the tax, so would need to license producers and, if allowed, importers, and working with other agencies to tackle the trade in regulation strength untaxed cannabis;
    - **Trading Standards** would be responsible for enforcing age of sale and ensuring retail products conform to legal parameters e.g. maximum potency;
    - **Local authorities** would be responsible for decisions to award retailers a license, and deciding conditions of the license such as hours of trading;

- Restrictions on advertising and marketing could be enforced by regulators such as **Ofcom**, or by Trading Standards;
- **Police** would be responsible for cracking down on the illegal use or supply of cannabis, and any enforcing any cannabis-related laws (like driving under the influence);
- **The Border Force** would be responsible for closing down illegal trafficking of cannabis; and
- **Public Health England** / the Chief Medical Officer would be responsible for providing any guidelines on 'safe' consumption, and would advise on the content of regulation (e.g. advertising rules, maximum strength etc.) This could be the body to run a 'user licensing' regime if this were to form part of the framework. The **National Institute for Health and Care Excellence** could have a role in giving the NHS guidance on whether there may be situations where cannabis consumption for pain relief could be beneficial.

54. We have not estimated the costs of any new burdens for these bodies. IESR has, for example, estimated enforcement costs for market regulation at £45m annually.

55. The design of the regulatory regime would make it more or less straightforward to enforce, with ramifications for the admin costs of running the regime, the impact on public services, and potential tax revenue. These include:
    - **Production**: we assume that producers would be licensed and subject to criminal background checks. The fewer the producers, the easier it would be to police. This may affect policy choices over whether cannabis could be home-grown, or produced in cannabis 'clubs' for personal use; over how many producers could acquire a license; whether there would be any limits on the volume a producer could grow; and/or what premises producers could use (e.g. only greenhouses, not indoors under lights). We assume that tests would be conducted to ensure that the product being supplied meets purity and potency regulations. It would be possible to register and track the product from source. We assume that any unlicensed production would be identified, closed down and growers prosecuted.
    - **Retail**: we assume that retailers would be licensed and subject to criminal background checks. There would be a series of choices on licensing conditions, e.g. opening hours and density of retailers in a given area. There would be a choice about whether online retailers would be allowed. We assume that there would be spot checks to ensure that the products met with regulatory standards and had been purchased legally from licensed producers (which would be easier if the product were to be traceable from source). We assume that there would be checks to ensure that sales were made in compliance with the regulatory framework (e.g. that ID checks were conducted, that sales limits were respected etc.) – which would be more automatic if users were registered to

a central system. We assume that any unlicensed dealing of cannabis would be identified, closed down and dealers / suppliers prosecuted.

- **Supply chains**: the fewer links in the chain, the fewer opportunities for illicit activity. As such, the regime could decide only to allow vertically integrated operations (growing and selling). This is the rule in Colorado, though Washington State, by contrast, forbids producers to also sell.
- **Location**: if cannabis could only be legally smoked in certain places, this would need to be enforced. Uruguay, for example, has extensive restrictions on where cannabis can be smoked.
- **Import**: In Colorado, Washington State and Uruguay, it is legal only to supply cannabis that has been grown in that state. Our understanding, which would need to be clarified by lawyers, is that this is not an option for an England and Wales model – the UK must be open to importing anything produced within the EU, as long as it was legally grown in the home state. The UK is not obliged to import from non-EU states (although there may be a grey area if an EU citizen produces cannabis in a state where it is legal, e.g. Uruguay). As it is not currently legal to grow cannabis in any EU state, we assume that the Border Force's activity would not be affected – all cannabis should be blocked from entry. In the event that e.g. another EU state did legalise cannabis production, the Border Force's activity would be more complex, and so expensive – e.g. checking the credentials of suppliers and the characteristics of the imported products, to ensure they met with England and Wales regulations.
- **Devolution**: It is worth noting that it would be very difficult to police the movement of cannabis between Scotland and England, should cannabis remain illegal in Scotland. It would be easier to introduce checks between England/Wales and Northern Ireland (e.g. at ferry ports, as it would happen automatically at airports), but a loose regime here could create issues with the Republic of Ireland, given the porous border.

VI. Conclusion on impacts

56. The following table summarises the potential tax revenue, as per the ISER model. As noted in Section III, we think that the tax revenue figures underestimate the size of the illicit market (so are overestimates), but this is – at least partially – offset by excluding the likely increase to alcohol and tobacco duties.

	Low	Medium	High
Forecast tax revenue	£768m	£594m	£541m

	(£564m – £871m)	(£436m – £674m)	(£397m – £614m)

57. The following table summarises the potential costs/savings to public services, as per the ISER model. As noted in Section IV, we believe that these are a reasonable approximation of costs, although there are some consequential effects that have not been taken into account in the modelling, which could further drive up costs. Savings figures are denoted in green, and costs figures in red.

	Low	Medium	High
Health costs	-£16m	£39m	£128m
Criminal Justice System costs	-£55.6m	-£88.9m	-£147m
Total impact	-£71.6m	-£49.9m	-£19m

58. Overall, using the ISER figures, this implies a positive net fiscal impact, with some downside risks on all scenarios.

59. The summary table that ISER has produced (see Annex E) suggests higher total savings (up to £1.225m) – in part because it includes some assumptions that we have excluded because we do not believe they are supported by evidence (e.g. as per 'gateway drugs'), and in part because it includes some savings lines where we have not made an estimate (e.g. on the income tax from cannabis users no longer facing prison), although it would be valid to do so in an overall assessment. **This paper should therefore not be seen as a line-for-line critique of the ISER model, and there may be further sources of savings than allowed above**.

Wider social impact

60. The modelling above does not take into account the social benefits derived by individuals from the recreational use of cannabis.

Wider economic impact

61. According to the ISER paper the wider economic impact – in terms of loss of human capital – from cannabis use could be as much as £3bn, however, there are significant uncertainties with this methodology and it could also be as low as zero.

62. The report states that the vast majority of literature shows that there is an insignificant impact of adult cannabis use on earnings – i.e. there is not really a reduction in adult productivity. However, academic studies suggest that there are adverse effects for cannabis consumption among the under-16s, with the report finding a higher probability (22%) of leaving school without qualifications for those using cannabis at an earlier age than those not. Leaving school with no qualifications leads to a £10,000 reduction in wages each year, which the paper aggregates to give the total wider economic impact.

63. ISER recognises that their model is not able to discern how many of those leaving without qualifications were going to leave irrespective of cannabis consumption. They therefore do not feel confident about including any figure for the wider economic cost in their final cost-benefit analysis – in effect implying that it is zero. Our assessment of their analysis is that we would most likely be towards the lower end of the 0-£3bn range. However, given the extremely high level of uncertainty, we would recommend that further analysis be conducted if you were interested in pursuing this, including to understand the impact of a minimum age threshold on the consumption behaviour of under-18s.

Annex A – Comparison of the core model for three international examples

	Washington state	Colorado state	Uruguay
Administering agency	Liquor control board	Dept. of revenue (state)	National govt. (Institute for regulation and control of cannabis).
Licencing regime	Growers and retailers must be licenced. Cannot grow *and* sell.	Growers and retailers must be licenced (can both grow and sell)	Growers and retailers must be licenced, strict rules on who is allowed to do what. Consumers have to also be licensed. Cannot buy if not from Uruguay.

Tax structure	25% excise tax plus local taxes	15% excise tax on cultivator. Sales taxes	VAT and other central taxes built into sales price (which govt dictates).
Regulatory features	Criminal background checks for sellers and growers. Product and potency testing.	Criminal background checks for sellers and growers. Product and potency testing.	Every bag packaged and licensed through the government so it can be tracked.
Local control	Cannot opt out but local authorities use zoning laws to exclude stores.	Counties and municipalities can opt out. Local govts can impose further tax.	National regulations uniformly implemented
Minimum age	21	21	18
Possession laws	Limits on how much you can purchase. (1/4 Ounce at one time and 1 ounce in total) No home growing allowed.	Limits on how much you can purchase. (1/4 Ounce at one time and 1 ounce in total) Limited to growing up to six plants at home with three flowering at any one time.	Limits on how much you can possess and grow. Limited to 10 grams in one purchase and 40 grams per month. Extensive restrictions on where you can smoke it.

Annex B – Summary of the IESR demand scenarios

		Position in	**Demand response post-legalisation**

		2013/14			
Demand			**Low**	**Medium**	**High**
	Number of cannabis users (16-59)*	2.2m	+9%	+12%	+24%
	Total physical quantity of cannabis substance consumed (i.e. grams of substance regardless of potency)**	216 tonnes	+15%	+20%	+40%
	Total THC consumption in the population	-	-10%	+5%	+25%
	Average price per gram†	£7.40			
	Estimate of market size††	£1.6bn			
Market share					
	By quantity - unlicensed share	100%	20%	30%	35%
	By quantity - licensed share	0%	80%	70%	65%
	By THC consumption - unlicensed share	100%	25%	39%	45%
	By THC consumption - licensed share	0%	75%	61%	55%

*Source: ONS for population, NTA Focal Point study for proportion of individuals consuming cannabis within the last year (6.6%)

**Source: ISER study - estimated quantity of cannabis consumed in 2010

† Source: ISER study for assumptions about market share of cannabis types (80% sinsemilla, 20% lower grade), NTA Focal Point study for prices of each type

†† Average price multiplied by quantity.

Annex C – NTA (2011) Summary of the adverse health effects of cannabis use

5.1 Acute adverse effects associated with the use of cannabis

PHYSICAL		PSYCHOLOGICAL/PSYCHIATRIC
MORTALITY	MORBIDITY	
• no cases of fatal overdose have been reported • no confirmed cases of human deaths	Acute intoxication • irritant effects of smoke on the respiratory system (coughing, sore throat and bronchospasm among people with asthma) • facial flushing • abdominal pain, nausea, vomiting • can cause an increase in heart rate (tachycardia) and in some cases increased blood pressure (hypertension) • difficulty in motor co-ordination and performance Synthetic cannabinoids • not documented, limited evidence base	Organic/neurological • perceptual distortion (hallucinations) • amnesia/forgetfulness • confusion of thought processes, impaired judgement Personality/mood • the effects of cannabis upon mental state vary considerably between individuals; determined by dose, route of administration, expectations, concomitant use of other drugs, emotional state, and psychiatric illness: – temporary psychological distress (especially naive users) – low mood (dysphoria) – anxiety – confusion – drowsiness – depression – panic attacks – agitation – symptoms indicative of a persistent and pervasive elevated (euphoric) or irritable mood (hypomanic symptoms) – short-lived and reversible psychotic reaction Synthetic cannabinoids Organic/neurological • suggestion that overdose could include significant alterations in mental state with paranoia and perceptual distortions

*Cannabis (*cannabis sativa*) and synthetic cannabinoids

5.2 Chronic adverse effects associated with the use of cannabis

PHYSICAL		PSYCHOLOGICAL/PSYCHIATRIC	DEPENDENCE/ WITHDRAWAL/ TOLERANCE
MORTALITY	MORBIDITY		
Cancers • no conclusive evidence that cannabis causes cancer • cannabis use may be an important risk factor for the development of respiratory cancers but the relationship is unclear* Chronic respiratory disease* • chronic bronchitis • lung damage • number of reports in the literature of an association between cannabis use and bullous lung disease in relatively young users	Cancers • no conclusive evidence that cannabis causes cancer Immune function • evidence for the effects of cannabis on human immune function is limited Complications in pregnancy • like tobacco, cannabis use in pregnancy may be harmful to foetal development; studies show a consistent association between cannabis use in pregnancy and reduced birth weight – though less so than as a result of tobacco smoking during pregnancy • some reports that children born to women who have used cannabis in pregnancy may face mild developmental problems; however, the evidence is mixed and confounded by the other situational, health and lifestyle factors and polysubstance use in this population e.g. cannabis users are more likely to use tobacco, alcohol and other illicit drugs during pregnancy Reproductive disorders • use can inhibit reproductive functions and disrupt ovulation, sperm production and sperm function Other complications • persistent sore throat	Organic/neurological • no evidence of structural change in brains of heavy long term cannabis users • no severe or grossly debilitating impairment in cognitive function (subtle impairment in higher cognitive functions of memory, learning processes, attention and organization and the integration of complex information – may or may not be reversible after abstinence) Personality/mood • evidence that early initiation and regular, heavy cannabis use is associated with a small but significantly increased risk of psychotic symptoms and disorders in later life • complex association between cannabis use and schizophrenia – some evidence that use may exacerbate psychotic symptoms and is linked with relapse but it is unknown whether this is a universal risk or due to differences in individual vulnerability • insomnia, depression, aggression, anxiety • inconsistent and mixed evidence for whether heavy, chronic cannabis use is associated with a persistent 'amotivational syndrome' characterised by social withdrawal and apathy	Dependence • good evidence for a cannabis dependence syndrome • frequent, heavy users are at the greatest risk of dependence Withdrawal • irritability • anxious mood • physical changes (tremor, perspiration and nausea) • sleep disturbance Tolerance • tolerance to psychoactive and physical effects unlikely to occur unless there is sustained heavy exposure Synthetic cannabinoids Withdrawal • some evidence of a withdrawal syndrome among heavy users Tolerance • suggestion that users may develop tolerance quickly

*Studies of the harms associated with cannabis use are limited by confounding as many users smoke tobacco as well as cannabis, or use tobacco as vehicle for smoking cannabis resin. Although tobacco smoke and cannabis smoke are known to contain a similar range of mutagens and carcinogens, actual exposure to these compounds may differ between tobacco and cannabis users in terms of the frequency and duration of use, and because of factors such as the depth of inhalation

5.3 Factors that mediate and moderate harms associated with the use of cannabis

ROUTE OF ADMINISTRATION/ DOSE	COMBINATION USE (CONCURRENT USE, CONSECUTIVE USE)	AVAILABILITY/ PURITY	SOCIAL CONTEXT/ SETTING	AGE / DEVELOPMENTAL ISSUES*	INDIVIDUAL VULNERABILITY	LEGAL SITUATION
Route of administration • smoking • oral consumption – makes dosage difficult to regulate and unpleasant reactions more difficult to avoid • overall benefits and harms of the use of alternative delivery systems for inhalation, such as through vaporisation, have not been well studied Dose • health effects of increases in the potency of cannabis products are not clear; may depend on the impact on routine use, however there is evidence of binge use among some users increasing the risk of dependence and psychotic symptoms	Concurrent use • smoking with tobacco	Availability • three products commonly available – cannabis resin (hash), traditional imported herbal cannabis (marijuana) and typically higher potency forms of herbal cannabis (e.g. sinsemilla, 'skunk', homegrown) • increase in market share of sinsemilla, 'skunk', and homegrown forms of herbal cannabis suggests that cannabis users are now exposed to higher potency products • widely available in the UK and internationally	Social context • use has declined over the last decade • used across wide range of social and age contexts • perceived therapeutic use (pain relief, anti-nausea) • possible self-medication among psychiatric patients; e.g. people with schizophrenia, or its symptoms, may use cannabis to cope with the negative symptoms associated with schizophrenia, or to suppress the side-effects of antipsychotic medication • widely used by opiate and crack cocaine users • sole illicit drug used by a proportion of the population	Developmental issues • suggestion that regular use may encourage users to progress to other forms of drug abuse; the likelihood of this occurring is more related to the lifestyle and personality of the individual and access to sources of other illicit drugs than the effect of cannabis itself	• increased risk of experiencing psychotic symptoms in vulnerable individuals e.g. those with a personal or family history of schizophrenia • use may precipitate relapse of schizophrenia • use may adversely affect the course of schizophrenia • stimulating effects on the cardiovascular system of the major psychoactive compound in cannabis (THC) can be detrimental to individuals with cardiovascular or respiratory disease	Misuse of Drugs Act 1971 Class B cannabis, cannabis resin, synthetic cannabinoids

Source:

http://www.nta.nhs.uk/uploads/healthharmsfinal-v1.pdf

Annex D – Treasury calculations on unit costs of the impact of cannabis on the criminal justice system

Police Time

- The table below shows the calculated amount of police time spent dealing with cannabis-related incidents, and assigns a cost to it. This is based on the ISER report which updates a study from 2002 (May et al) calculating the rank and number of hours spent on various different types of cannabis scenarios. This has been updated with more recent costs.

- Unit costs have been based on average salaries in the London Metropolitan Police (excluding London weighting) increased to take into account allowances and some overheads. **NB this is NOT the total cost of employing a police officer, which is harder to quantify.**

- The most expensive and complex scenario is a supply offence which requires significant amounts of time from police constables, custody sergeants and an inspector, to process the offender, complete relevant paperwork and prepare for court.

- The quickest action is a cannabis warning or penalty notice for disorder (PND) which is an 'on the spot' warning, and which accounts for significant amounts of churn through the system.

Hours

Type of police action	Constable hours*	Sergeant hours*	Inspector hours*	Total cost
Arrest leading to caution	8	2	0	£282
Arrest leading to court	12	4	0	£456
Supply offence	24	12	10	£1,464
Cannabis warning / Penalty Notice for Disorder	2	0	0	£54 cannabis warning £0 PND (gross of fine income. On average 60% of fine income is recovered (Home Office).

***Costs[9]**

- Constable: £27/hour
- Sergeant: £33/hour
- Inspector: £42/hour

Below are police caseloads in 2013[10] (NB unable to fully disaggregate different drugs offences in some cases):

- 12,000 penalty notices for disorder (w/ 60% proceeds recovered); = 0
- 64,000 cannabis warnings: £3,456,000

[9] Metropolitan Police

[10] Criminal Justice Statistics (MoJ 2013)

- 20,000 (estimated for cannabis only) cautions: £5,640,000
- 20,000 (estimated for cannabis only) convictions: £9,120,000

Using the unit costs above, the total amount spent dealing with possession offences can be estimated at approximately **£18,216,000 (£18.2m)**

Supply offences

- In 2010 (the last year cannabis was specifically disaggregated from the statistics) there were approximately 13,000 supply offences.
- Using the same methodology as above, the cost can be calculated as roughly **£19,032,000** annually.

The total cost of policing cannabis is therefore roughly £36,816,000 per annum, based on the above calculations.

Court costs[11]

- In 2013 there were c. 63,000 proceedings at court and c. 57,000 convictions for drug offences. (Criminal Justice Statistics). Assuming that, as per 2010 (Criminal Justice Statistics), approximately 20,000 of these convictions were for cannabis (35% of 57,000) we can take the reasonable assumption that roughly 35% of drugs offences are for cannabis.

- In 2013 therefore we can estimate that 35% of proceedings at court were for cannabis, which gives us the figure of 22,050 (out of 63,000).

- From this figure, it is possible to disaggregate possession offences from supply offences with reasonable assumptions. According to MoJ's Criminal Justice Statistics in 2010 roughly 70% of offences were for possession, 20% for production, 7% for intent to supply and 3% for supply.

- The type of court also has an impact on cost. The vast majority of possession offences are dealt with at Magistrates Court (Criminal Justice Statistics).

- According to internal MoJ estimates the cost of a triable either way offence at a Magistrates Court is approximately £1,577.

- 70% of 22,050 (i.e. the number of possession offences) is 15,435.

- This gives us a cost of **£24,340,995.**

[11] Criminal Justice Statistics, Court Statistics Quarterly, Offender Management Quarterly (MoJ, various years)

- If we assume the remaining offences are more serious, and dealt with at a Crown Court this gives us a figure of **£66,315,375.**

- This is based on an internal MoJ estimate of £10,025 as the cost of an average Crown Court trail, multiplied by the remaining 30% of the 22,050 (total offences) figure (6,615).

- **This gives us an estimated total court cost of £90,656,370 spent dealing with cannabis.** – This tallies with the ISER study's estimate of ~100m, using the same methodology, but with different unit costs (sourced directly from MoJ) **of which production offences account for approximately £44m and supply offences for £22m.**

Prison

- The average prison place costs £36k per annum (based on **gross** cost of prison place, which includes back office costs as well as the cost of a prisoner)[12].

- For the purpose of illustrated savings, I have assumed all places are **adult male**. Places in youth custody and women's prisons are considerably higher.

- The average sentence length for offences of supply, production and possession are listed below, multiplied by a pro-rata £36,000 a year:
    - Supply: 15 months = £42,500 (gross)
    - Production: 21 months = £60,000 (gross)
    - Possession: 2 months = £5700 (gross)

- In 2010 (the last year statistics were disaggregated for cannabis), 346 individuals were sentenced to prison for possession. Assuming a sentence of 2 months, this gives us the figure **£1,972,200.**

- It has not been possible to disaggregate production and possession offences in the same year, so a mean sentence length of 18 months has been assumed. There were 1,972 sentences from production and supply in 2010, which gives the figure **£98,758,750, or approximately £70m per annum.**

- **The total cost of imprisonment for cannabis offences in 2010 was therefore approximately £72m.**

Community sentences[13]

[12] NOMS / MoJ estimates 2014/15

[13] Offender Management Statistics (various years, MoJ)

- In 2010 the number of community sentences for cannabis possession was 4,532. The average cost of a community sentence is £2,000 per annum, based on MoJ estimates. This includes the gross back office cost as well as the cost of the offender. Using these figures it is possible to estimate a cost of **£9,064,000.**

Probation

- The Rehabilitation of Offenders Act means that all offenders sentenced to under 12 months will receive probation support. The average unit cost of probation support (based on NOMS internal estimates) per annum, including treatment for drugs, is approximately £8,000.

- The number of people who were sentenced for possession offences in 2010 was 346. This gives us an estimate of **£2,768,000**. NB some of this will be a saving for other public services (for example local authorities and health) and not solely Criminal Justice.

Totals

The totals from the above sections (per annum) are as follows:

Possession offences: £56m

Supply and Production offences: £155m

Annex E – ISER's summary table for savings

Table S2 Summary of aggregate government budget implications of cannabis licensing in England and Wales

	Market response scenario		
	Low-response (15% quantity increase, 10% fall in THC)	Mid-response (20% quantity increase, 5% increase in THC)	High-response (40% quantity increase, 25% increase in THC)
Commodity taxes			
Taxes on licensed cannabis	+ £768m [£564m, £871m]	+ £594m [£436m, £674m]	+ £541m [£397m, £614m]
Other indirect taxes	?	?	?
Taxes on earnings			
Tax lost during incarceration	+ £10m [+£8m, +£12m]	+ £10m [+£8m, +£12m]	+ £10m [+£8m, +£12m]
Tax lost due to scarring	+ £23m [£11m, £57m]	+ £23m [£11m, £57m]	+ £23m [£11m, £57m]
Public expenditure			
Enforcement costs	+ £291m [£176m, £423m]	+ £291m [£176m, £423m]	+ £291m [£176m, £423m]
Health information and dependency treatment	- £41m [-£43m, -£39m]	- £47m [-£48, -£46m]	- £58m [-£61m, -£51m]
Mental illness treatment	+ £16m [-£0m-£53m]	- £21m [£0m-£53m]	- £43m [£0m-£107m]
Physical illness treatment	- £16m [-£31m, -£8m]	- £21m [-£41m, -£11m]	- £43m [-£82m, -£21m]
Total	+ £1,051m [£816m, £1,225m]	+ £841m [£645m, £1,000m]	+ £724m [£525m, £882m]