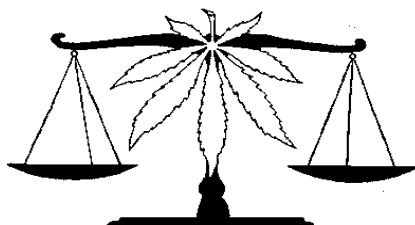


REGULAR USERS II

UK Drugs Market Analysis, Purchasing Patterns & Prices 1997

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INDEPENDENT DRUG



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ISBN: 0-9537182-1-2

REGULAR USERS II

UK Drug Market Analysis Purchasing Patterns and Prices (1997)

M. J. Atha S. Blanchard & S. Davis

Abstract

This study, the second in the series of IDMU Regular Users surveys, examined anonymous questionnaires completed by 1136 cannabis users to assess changes in patterns of use and prices of illicit drugs since previous surveys. Prices of drugs other than cannabis, including bulk prices, are included for the first time, in national and regional tables. Most drug prices had fallen compared to previous data from 1994 or 1995.

Purchasing patterns: Most users purchase drugs when they have money available, i.e. weekly, fortnightly or monthly. Daily purchase is only common among heroin users. Cannabis was purchased in amounts between 1/8oz (3.5g) and 1oz (28g) in 92% of cases.

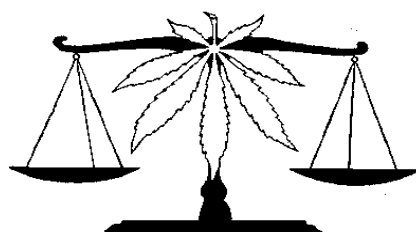
Estimates of the market shares of different cannabis varieties reveal a substantial increase in consumption of domestically-produced cannabis, 80% of this being flowering tops, at the expense of imported herbal cannabis. Cannabis resin remains the most common form of the drug.

Incidence of use of other drugs was similar to, or lower than, in previous years, but with a significant increase in the lifetime prevalence of ecstasy and to a lesser extent amphetamine representing increased saturation of the ecstasy market. Very few respondents reported daily use of illicit drugs other than cannabis, confirming findings of previous surveys. However around 20% of respondents would use stimulants (amphetamine, ecstasy) and 10% use hallucinogens (LSD, mushrooms) on a monthly or weekly basis.

The value of the UK cannabis market is estimated between £1.7 billion and £9 billion per annum, by reference to reported arrest rates, drug purchasing behaviour, and cultivation and Home Office seizure and arrest statistics, suggesting approximately 2 1/4 million regular cannabis users using weekly or more often.

Key words: UK, regular use, cannabis, questionnaire, attitudes of drug users, frequency of use, consumption, purchasing, patterns of drug use, costs of use (legal drugs, LSD, psilocybin, amphetamine, cocaine, heroin, crack, ecstasy), cannabis market, street prices, routes of administration, paraphernalia, plant cultivation, drug subcultures, purity, drug offences.

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The Independent Drug Monitoring Unit (IDMU Ltd) is a research consultancy providing expert evidence to the courts in criminal cases involving controlled drugs. We aim to provide accurate, up to date, and impartial advice and information on issues surrounding illegal drugs for all parties to the debate on drugs policy.

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Acknowledgements

The authors wish to acknowledge the practical support and assistance with distribution of the present and ongoing surveys from, Hemp Expo, the Green Party Drugs Group, Linda Hendry (LCC Scotland), the Cannabis Legalisation Campaign International Association (CLCIA), Howard Marks & Weed World magazine. Particular thanks are due to Dawn Regan for the graphics on pages 7, 21 and 27. We also appreciate assistance, information and/or encouragement from John Witton (National Addiction Centre), Harry Shapiro (ISDD), Malcolm Ramsey (Home Office), Prof Leslie Iversen, Joy Mott (Police Foundation), Don Aitken, Barbara Jacobson, Ben Ganly, Barry Mason, Paul Flynn MP, Mike Goodman, Greg Poulter & Simon Kirkham (Release). Special thanks are due to all those who participated in the survey.

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IDMU Publications

Regular Users: Self-reported drug consumption patterns and attitudes towards drugs among 1333 regular cannabis users. Atha MJ & Blanchard S (1997) IDMU Publications. *Online text-only version available on IDMU website. (1994 Survey data)*

Submission to House of Lords IDMU (1998) Select Committee on Science & Technology: Cannabis, the Scientific & Medical Evidence. Volume of Evidence HL Paper 151-I London: The Stationery Office (pp225-262 references not included). £22.60 from bookshops/HMSO. ISBN 0 10 479298 1 *Full online version at IDMU website, including references. Includes consolidated 1994 to March 98 survey data on consumption patterns, health problems and benefits, characteristics of medicinal users and their treatment by the courts. Also includes reviews of literature re cannabinoids and pain, epilepsy, asthma, alcohol/opiate withdrawal, stress & depression.*

Forthcoming Publications

Cannabis use and driving -Literature reviews and survey driving data from 1994 & 1998

Hallucinogen use in the UK - Consolidated 1994-98 data & literature review

Busted! - Deterrence or Gateway? Effects of a previous drug arrest on current drug use.

Online Drug User Survey (website launch)

Regular Users III: The 1998 survey updates prices and consumption statistics, and further investigates effects of arrest on drug consumption, and of drug use and driving. Additional drugs are included (e.g. opium and ketamine) with separation of low and high purity amphetamine, and of 'other' (e.g. exotic) and 'unknown' cannabis varieties. The survey also assesses political views on cannabis and other drug policy.

Regular Users IV: The 1999 survey will investigate health aspects of cannabis use in more detail, and include further drugs previously indicated where included as 'other'.

Cannabis: Long Term & Medicinal Use: IDMU has made funding applications for longer-term projects to study health effects of long term heavy cannabis users, and symptom relief in medicinal cannabis users.

Further details of IDMU research and online publications are available on the IDMU website.

<http://www.idmu.co.uk>

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1 Introduction

The aim of this study is to provide an analysis of the market in cannabis and other illegal drugs, including wholesale and retail prices at national and regional levels, market shares of different cannabis varieties and of each drug as a proportion of total drug spending, and to shed some light on the patterns of purchasing different drugs for personal use and/ or supply.

This survey was conducted during 1995 to 1997, with the aim of analysing the market in cannabis and other illicit drugs through targeting of heavier cannabis users. 'Regular users' are usually defined by drugs researchers as those using weekly or more often. As the most regular consumers of any commodity typically account for 80-90% of total consumption, in a distribution known to economists as a Lorenz curve, it is possible to predict with reasonable accuracy market shares of commodities with reference to the purchasing habits of regular consumers.¹

Methodology

Anonymous questionnaires were used, to avoid any tendency of respondents to conceal or exaggerate the level of their drug use. The form asked for responses from anyone who had "used cannabis or any other drug at least once". The design was kept straightforward and informal, asking respondents to give numeric or very short written responses, to mark multi-choice items, and to use a key (letters A-G) to describe frequency of consumption. The questions covered a limited number of demographic variables, the main identifiers being age, sex, area of residence and occupation.

Respondents were asked what they had paid for various drugs if they had bought any in their home areas within the previous year, what percentage of their total drug use was of each drug, what percentage of their cannabis use was of each variety, and their experience, if any, of cannabis cultivation.

Checks and balances were built in to the survey design, in particular 'lie detector' questions involving a fictitious drug 'Bliss'. Key questions were phrased in more than one way. Cannabis consumption was estimated in terms of monthly cannabis use, purchase and monthly cost, as well as the number of joints smoked and rolled per day, and average frequency of use as well as most recent use of cannabis.

To analyse the frequency of their drug use, respondents were allocated points for each drug, from zero (non-use) to 4 (daily use). These scores were aggregated to generate frequency indices for all drugs, all legal drugs, all illegal drugs, and all illegal drugs except cannabis. Market variables included estimating the market share, prices, and subjective ratings of different cannabis varieties, and of different drugs.

There were a total of 1136 responses.

Each questionnaire bore a unique reference number allowing the distribution source and response rates to be identified. Two batches of questionnaires were distributed directly from stalls at outdoor music festivals by IDMU researchers, with facilities allowing respondents to complete and return forms on site. A second venue within the main festival, and a stall at a second festival, both distributed forms on an 'ad-lib' basis to customers and collected completed forms. Further batches were distributed in Scotland (300) and a total of 700 forms were given or sent to individuals and organisations expressing an interest (including students, a London 'head shop', and a 'smokers' travel company).

Where forms were not collected on-site, respondents were given a Freepost address to which they could be returned free of charge, although no envelope was provided.

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Table 1

Questionnaire distribution and response rates			
Batch	Number distributed	Number received	Response rate
Festival 1 - 1995	600	186	31.0%
Festival 1 Site 1 1997	1515	765	50.5%
Site 2 - 1997	500 (375)	129	25.8% (34.4%)
Festival 2 - 1997	485 (100)	23	4.7% (23.0%)
Scottish booster	283	24	8.5%
Other distributors	700 (50?)	3	0.4% (6%)
No ref number	-	6	-

Response rates from festival stalls where the survey was actively promoted by researchers or staff were overwhelmingly more successful at recruiting users, and compare favourably with response rates from previous years. Those distributed at other festival stalls by third parties both gave lower, but still respectable, response rates (from returns, it appears that only 100 forms were distributed at the second festival, and 375 at the second site at the main festival). The lowest response rates were those batches sent to individuals expressing an interest in distributing questionnaires to friends or customers, in most cases it is clear that no forms were distributed, one batch was returned uncompleted. The Scottish booster sample achieved a similar response rate (8.5%) to the direct mail returns (13%) in our 1994 survey. Six forms were returned with the serial numbers torn off.

The wide discrepancy in response rates between collected and postal returns, indicates the importance of actively promoting the completion of the survey form on-site, providing facilities to do so, and collecting forms when completed. Response rates from postal returns may be improved by provision of printed addressed envelopes.

A small but significant number of respondents (n=55, 4.8%) had completed a previous drug questionnaire, of these 10 had completed our 1994 questionnaire, and 3 remembered completing our 1984 questionnaire, both of which had been distributed at the same main festival site in previous years - one respondent had completed both previous surveys. Of the 43

others who responded 'yes' to the previous questionnaire question, it is not known how many had completed IDMU surveys and how many had completed other drug surveys (e.g. British Crime Survey, schools surveys etc.).

Other questions involved patterns of drug use, ages of first use, contact with the law, best and/ or worst drug experiences, health problems and/or benefits and drug advice and treatment. Where not considered in detail here, those results will be published separately in due course.

The consistent methodology as used in previous studies by the same authors in 1994 and 1984, allows some comparisons over time.² There were minor differences in some of the questions in different versions, with other questions omitted.

It is intended to conduct similar and extended surveys in the future, in order to publish results on a regular basis, and to maintain a database allowing year on year comparisons and novel analyses on consolidated data sets.

2 UK Cannabis Prices

There are at least ten varieties of cannabis for sale in the UK, at least some of the time, though there may be little or no choice locally. Users distinguish between these 'brands' on grounds of potency, flavour, composition, and price, whenever a choice is available; however, choices are not always well informed, indicated here by the increasing use of 'other/unknown' brands. Official statistics only distinguish between resin, herbal cannabis, and 'hash oil', with some recent data on the cross-bred hybrids generically known as 'skunk'. Cannabis for personal use is usually sold in 'imperial' measurements of fractions of an ounce, e.g. 1/16oz, 1/8oz, with the unit price decreasing with larger amounts bought. Above 9oz (250 grams), cannabis is usually sold by metric weight.

The most common cannabis price reported was £15 for 1/8oz, for all varieties except for home grown and 'skunk', and the most common ounce price was £90. 'Eighths' can sell for anywhere between £4.50 and £40 (typically £13 to £15), and ounces typically from £75 to £130. Moroccan resin was cheapest, Asian resin and imported herbal cannabis (bush) a little dearer, and the hybrid herbal varieties such as 'skunk' were most expensive. (*Tables 2- 4*).

Over two thirds (69%) of transactions or 'deals' were in quantities of 1/4oz or less. We do not have evidence of 1/4oz prices being different from 1/8oz, but the jump from 1oz prices is clear. The 1/8th prices we asked for can be considered a 'street price,' the final purchase cost before consumption, whereas prices for larger amounts may be so, but not always.

Variations in prices by variety and by region, where they existed, were much more noticeable for larger purchases. This might be due to a smaller sample of people answering the questions on prices of larger amounts; For several varieties of cannabis there was insufficient data on the prices of larger amounts to break down regionally. (*Supplementary Tables*)

Cannabis Resin

For every kind of cannabis resin the most common price given was £15 per 1/8oz, but the overall mean, 'average' price was lower. Asian 'Black' cost £14.97, on average, around £1 more than Moroccan 'Soap' (£14.06), 'Slate' (£13.99), or Lebanese (£14.14). Equivalent prices per gram were all around £4. Since most answers were given in multiples of £1 or £0.50, this indicates that more people gave lower prices than higher, compared to the mean. A mean price of £15.09 for 'other/unknown hash' included a few exotic, more expensive, varieties among many examples of the more common types. Future surveys will separate 'other' from 'unknown'.

The distribution of prices quoted for 1oz and 9oz of resin was narrow, except for 'other/ unknown' types. Ounce prices for Moroccan and Lebanese were around £85; for Asian 'Black' and 'Other/Unknown Hash' around £90 (except in Scotland, where all were over £90). 9oz prices were £600 -£650, except 'other/ unknown'.

Although the distribution of 1 kg prices was wider, in each case there was a small number of much lower prices, with the majority clustered around £2000, or £2/gram. The lower prices might represent regional differences in availability, larger or more regular dealers, or mistakes by some respondents such as entering 1 lb or 1/2kg prices.

For 'other/unknown resin' the distribution of prices was wider for every quantity, with a few lower prices and a few considerably higher, probably exotic brands.

Imported Herbal Cannabis ('Bush')

Imported herbal cannabis was slightly more expensive than resin on average, though the distribution range of prices was greater within and between 'brands', and in different regions of the UK. African bush was cheapest everywhere (UK mean price £14.60 per 1/8oz), Thai bush cost from £15.50 - £17.50 depending on region, and

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American/ Caribbean from £13 - £20 (UK means £16.06 and £16.61 respectively). Although the most common price quoted was £15, in each case substantial numbers of respondents gave higher figures. Equivalent prices per gram were £4 - £4.50.

'Other/Unknown Bush' had a national average price of £14.24 per 1/8 oz, reflecting more prices of under £15 quoted than in any specific category of bush. The distribution of prices was not notably wider than for specified brands. Some of this might have been good quality home grown; far more would be imported bush, the ultimate origin of which was mysterious or irrelevant to consumers.

Ounce prices for imported bush were similar to those of resin, though within a

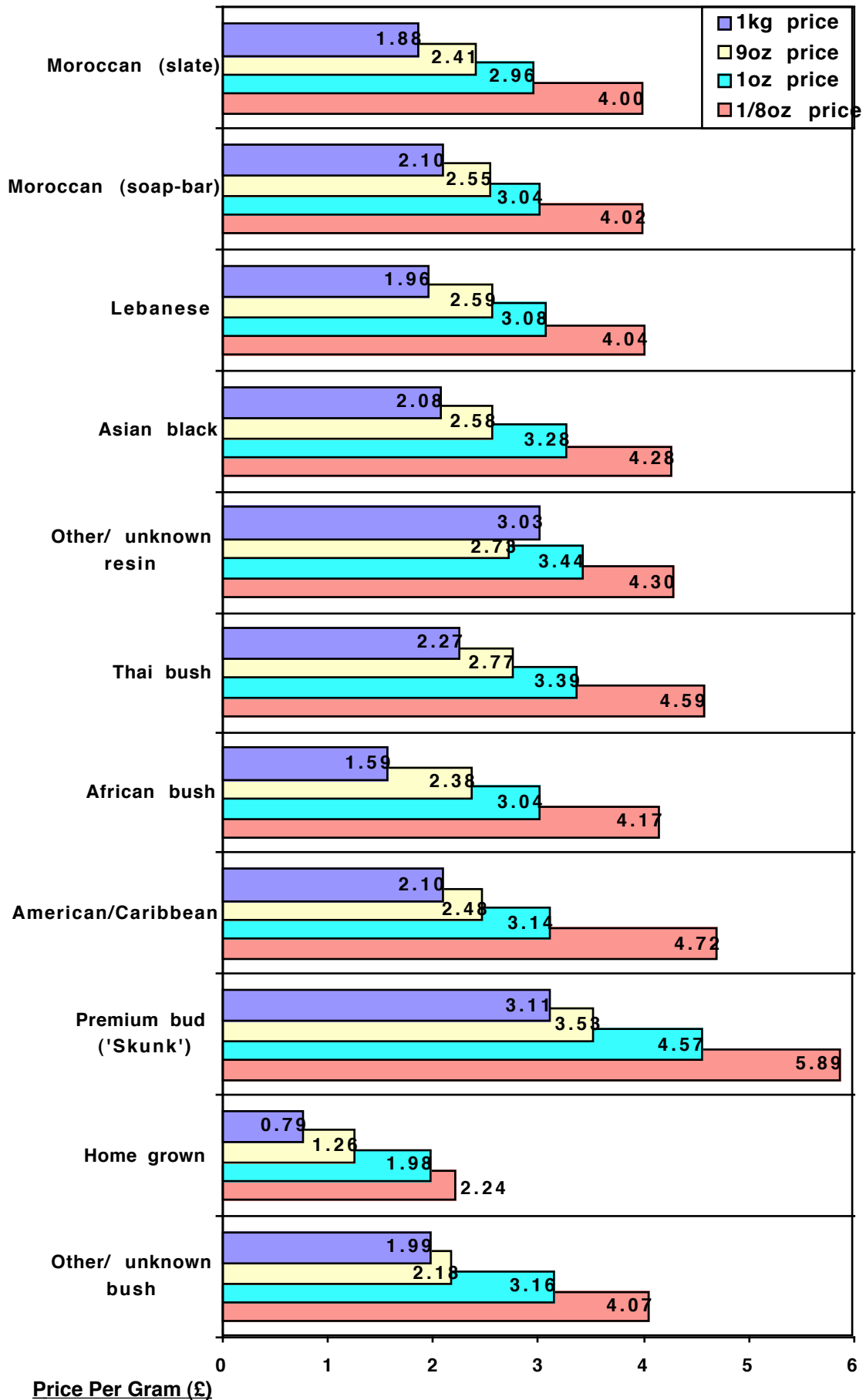
wider range, £80-£100. 'Homegrown' was much cheaper. 'Skunk' and other hybrids, which may be imported but are increasingly grown in the UK, were the most expensive.

Economics of the Cannabis Market

The near- uniformity of prices for small quantities of cannabis across the UK indicates either a very free market, responding flexibly to consumer pressure, or a national near- monopoly, either one recovering quickly from seizures or other losses, through a flexible supply and distribution network. The range of cannabis types, and seizure and conviction statistics, do not support the monopoly theory.

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Table 2 - Cannabis Prices by Size of 'Deals'



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Table 3

UK Cannabis Prices by Variety of Cannabis						
Variety of Cannabis	1/8 oz (3.5g) prices					
	Mean Price (£)	base	SD	Min. price (£)	Median price	Max. price (£)
Moroccan (slate)	13.99	256	2.60	4.50	15.00	30.00
Moroccan (Soap-bar)	14.06	328	2.53	4.50	15.00	30.00
Lebanese	14.14	88	2.80	6.00	15.00	30.00
Asian Black	14.97	148	3.75	5.00	15.00	32.50
Other/ Unknown resin	15.06	148	3.85	4.00	15.00	30.00
Thai Bush	16.06	81	3.87	5.00	15.00	30.00
African Bush	14.60	113	3.37	7.50	15.00	30.00
American/ Caribbean	16.51	51	6.65	6.00	15.00	50.00
Premium bud ('Skunk')	20.63	325	5.03	0.00	20.00	40.00
Home Grown	7.85	123	7.09	0.00	7.50	25.00
Other/ Unknown Bush	14.24	137	3.54	0.00	15.00	25.00
Hash Oil (gram)	14.29	66	7.06	0.00	15.00	30.00

UK Cannabis Prices by Variety of Cannabis						
Variety of Cannabis	1 oz (28g) prices					
	Mean Price (£)	base	SD	Min. price (£)	Median price (£)	Max. price (£)
Moroccan (slate)	82.87	142	11.37	40	83.75	160
Moroccan (Soap-bar)	85.09	201	9.94	40	85.00	120
Lebanese	86.36	49	13.77	44	85.00	160
Asian Black	91.78	90	19.10	60	90.00	160
Other/ Unknown resin	96.25	70	28.27	70	90.00	240
Thai Bush	95.01	52	20.62	60	90.00	150
African Bush	85.17	74	11.75	55	85.00	120
American/ Caribbean	87.79	26	22.70	20	87.50	160
Premium bud ('Skunk')	128.00	179	32.59	0	130.00	250
Home Grown	55.38	58	41.67	0	50.00	180
Other/ Unknown Bush	88.61	54	26.21	10	87.50	200

Continues

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Table 3 Continued

UK Cannabis Prices by Variety of Cannabis						
Variety of Cannabis	9 oz (250g) price					
	Mean Price (£)	base	SD	Min. price (£)	Median price (£)	Max. price (£)
Moroccan (slate)	601.35	37	80.09	400	600.00	810
Moroccan (Soap-bar)	636.72	62	106.83	400	630.00	1200
Lebanese	647.22	9	56.08	550	660.00	700
Asian Black	644.38	16	84.83	500	637.50	900
Other/Unknown resin	682.50	12	220.45	400	637.50	1200
Thai Bush	693.50	10	90.86	550	680.00	800
African Bush	595.83	18	105.86	400	600.00	800
American/Caribbean	620.83	6	46.31	550	645.00	660
Premium bud ('Skunk')	881.54	26	365.28	0	900.00	1500
Home Grown	315.00	5	307.00	0	350.00	625
Other/Unknown Bush	545.00	5	103.68	450	500.00	700

UK Cannabis Prices by Variety of Cannabis						
Variety of Cannabis	Kilogram (36 oz) price					
	Mean Price (£)	base	SD	Min. price (£)	Median Price (£)	Max. price (£)
Moroccan (slate)	1880.43	23	472.60	1000	2100	2400
Moroccan (Soap-bar)	2101.72	29	469.13	1000	2200	3000
Lebanese	1960.00	5	270.19	1500	2000	2200
Asian Black	2080.00	5	356.37	1500	2200	2400
Other/Unknown resin	3028.57	7	1766.32	1250	2150	5500
Thai Bush	2266.67	3	378.59	2000	2100	2700
African Bush	1587.50	8	595.67	800	1625	2450
American/Caribbean	2100.00	2	141.42	2000	2100	2200
Premium bud ('Skunk')	3111.11	9	1493.69	0	2600	4500
Home Grown	790.00	5	1091.10	0	350	2600
Other/Unknown Bush	1990.00	5	450.56	1250	2000	2400

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Table 4

UK Cannabis Prices - Equivalents per Gram								
Variety of Cannabis	Mean Prices (£)				Median Prices (£)			
	1/8 oz	1 oz	9oz	1 kg	1/8 oz	1 oz	9oz	1 kg
Moroccan (slate)	4.00	2.96	2.41	1.88	4.29	2.99	2.40	2.10
Moroccan (Soap-bar)	4.02	3.04	2.55	2.10	4.29	3.04	2.52	2.20
Lebanese	4.04	3.08	2.59	1.96	4.29	3.04	2.64	2.00
Asian Black	4.28	3.28	2.58	2.08	4.29	3.21	2.55	2.20
Other/ Unknown resin	4.30	3.44	2.73	3.03	4.29	3.21	2.55	2.15
Thai Bush	4.59	3.39	2.77	2.27	4.29	3.21	2.72	2.10
African Bush	4.17	3.04	2.38	1.59	4.29	3.04	2.40	1.63
American/ Caribbean	4.72	3.14	2.48	2.10	4.29	3.13	2.58	2.10
Premium bud ('Skunk')	5.89	4.57	3.53	3.11	5.71	4.64	3.60	2.60
Home Grown	2.24	1.98	1.26	0.79	2.14	1.79	1.40	0.35
Other/ Unknown Bush	4.07	3.16	2.18	1.99	4.29	3.13	2.00	2.00
Hash Oil	14.29	n/a	n/a	n/a	15.00	n/a	n/a	n/a

*Arithmetical mean prices, mostly given in multiples of £1 or 50p. The greater the standard deviation, the greater the variation in price for that variety.

Individual price data points were excluded when clearly outside a reasonable range. In most cases 'rogue' prices resulted from data entry errors, corrected by reference to the original forms. Some unusual prices were excluded where the respondent's stated purchasing patterns suggested the data to be unreliable. 'Asian black' and 'Other/unknown' prices included a few specific higher-quality varieties (e.g. Minali, Charas) to which substantially higher prices were attributed.

Table 5

Regional Cannabis Prices (All Varieties)								
Region	1/8 oz Price			1 Oz Price			% + or - to UK Mean	% change 1994-97
	<i>n</i>	Local Mean	SD	<i>n</i>	Local Mean	SD		
London	103	14.78	3.07	64	91.93	18.05	2.37	0.21
South East	105	14.53	3.06	64	85.61	19.17	1.45	2.03
South West	143	13.60	2.94	110	84.14	16.31	-3.28	-2.82
East Anglia	40	14.14	1.88	27	85.44	10.26	0.01	-2.20
Midlands	83	14.17	1.92	50	89.43	23.11	4.76	0.16
Wales	38	13.72	1.97	24	86.67	18.98	-2.40	1.86
Yorks/ Humbs	57	15.29	4.98	42	89.05	13.98	-2.34	9.01
North West	62	14.54	1.33	39	83.10	10.12	2.24	1.27
North East	9	13.83	1.87	6	87.00	14.35	-0.56	-7.51
Scotland	53	14.46	3.30	33	83.86	23.16	-2.09	3.63
Ireland	11	16.59	5.94	8	103.12	11.63		
Europe	14	10.79	4.32	3	91.67	14.43		
Overseas	12	15.08	2.57	7	81.43	16.51		
Not Stated	33	13.92	3.29	25	87.60	18.77	0.34	0.32
UK Average	763	14.28	3.09	502	86.87	17.75	0.00	-1.36

Regional prices for each variety of cannabis are given in the Supplementary Tables

3 Purchasing Patterns

Cannabis was typically bought on one to four occasions per month, with users buying enough to sustain use for a week, fortnight or month. 43% of 'deals' were for 1/8oz or less.

Around 5% of the sample bought cannabis less often than monthly. These included occasional users buying very little, and some heavy users purchasing in bulk. Some of those might have been dealers, but the mean of 161g bought by those whose most recent cannabis purchase was 'in the past 6 months', could be consumed in two months, at the average usage rates given by those who bought weekly.

19% of respondents claimed to purchase cannabis daily or more often, and 30% had bought some 'Today' or 'Yesterday'. Both figures seem very high. This is probably an effect of the surroundings, an event where occasional cannabis users would be more likely to indulge than in everyday life. The mean amount bought by weekly purchasers, 18.97g, was similar to what had been bought 'this week', 18.46g.

In our 1994 study the average bought by all users was 64.3g per month, around 16g per week. This was much higher than the mean amount they claimed to use, 24.8g per month. There were also two differently - phrased questions each on frequency of use and on amounts spent, the answers to which correlated closely, making it less likely that discrepancies were caused by respondent errors. The differences could be accounted for by some buying on behalf of family and friends, and some for commercial resale. The correlation between amounts bought and amounts used was closest for the least frequent users. This is generally the same in the present study.

The patterns of consumption found in 1997 were similar to 1994, with the mean amount used slightly down and the maximum slightly up.

Table 6

Quantity of Cannabis bought on last occasion, by monthly purchase frequency				
	Base	%	Mean (g)	St. Dev.
Not purchased	14	1.7	12.02	29.67
Less than monthly	18	2.2	12.68	11.50
Monthly	181	22.0	22.00	84.77
Fortnightly	205	24.9	11.50	23.42
Weekly	245	29.8	18.97	70.96
Daily	77	9.4	13.35	32.65
More than daily	82	10.0	16.53	30.65
Total	822*	100	21.16	132.56

Table 7

Quantity of Cannabis bought on last occasion, by most recent purchase				
	Base	%	Mean (g)	St. Dev.
Longer/ never	3	0.4	48.42	79.32
Past year	7	0.9	18.14	41.41
Past 6 months	29	3.7	160.81	668.22
Past Month	155	19.5	16.13	42.42
Past Week	358	45.1	18.46	62.30
Yesterday	179	22.6	14.53	35.81
Today	62	7.8	13.59	20.90
Total	793*	100	21.16	132.56

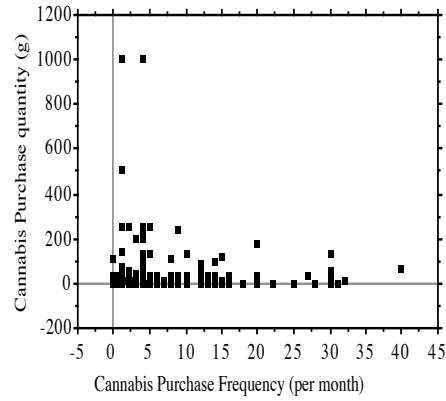
* Total base (purchase quantity) = 857. Respondents' answers re frequency of use and most recent purchase were missing in 25 and 64 cases respectively.

See Appendix for details of patterns of use, and their changes over time. A fuller analysis will be published in a separate paper.

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Table 8 - Cannabis Purchase Frequency Distributions

Quantities Bought



Frequency of Purchases

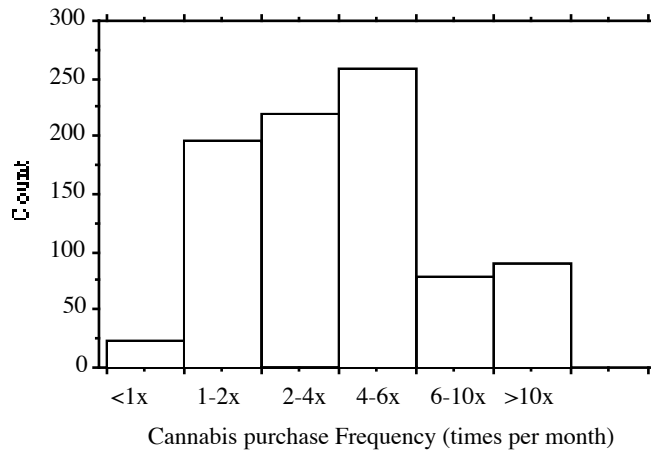


Table 8

Monthly Spending on Cannabis by Frequency of Use		
	<i>n</i>	avg (£)
Non/ex users/ No response	123	19.61
Experimental	28	34.46
Occasional	63	24.42
Regular*	353	27.53
Daily	569	106.84
	p<.0001	

* The overwhelming majority of respondents had used cannabis in the previous week, but this was not necessarily their usual pattern.

4 Home Grown

Home grown cannabis is free more often than not; the most frequent price given for every quantity was £0. From our data, we cannot tell what proportion of respondents had grown their own, for 'free', and what proportion had been given some by a grower. 63% of respondents had grown some cannabis plants at least once.

Cannabis is a common weed which can be grown almost anywhere without any expenses. UK homegrown can be of similar quality to imported herb, the main factors affecting ultimate THC potency being the seedstock, light levels while growing, and the drying and storage process after harvest.³ However, although it may be consumed, most home grown is not sold. Plants grown using only British sunlight will often not reach full maturity, and so will be undersized and low in THC. Immaturity and amateur 'curing' can adversely affect the flavour. The flowering heads ('buds') of the female plants contain the highest THC, and would usually be the only parts producing cannabis of marketable quality.

The National Criminal Intelligence Service (NCIS) have suggested to the Office of National Statistics (ONS) that a cannabis plant produces 100g of usable cannabis, which could have been sold at £3,460 per kilo in 1996, the same price as imported bush.⁴ The cost of other drug production is usually around 5% of final street price, so it would cost around £170 to grow a kilo. It should be emphasised that the ONS figures are preliminary estimates intended only for discussion. Our data suggests that this 'homegrown' estimate is incorrect on several points.

Forensic Science sources usually estimate that the buds of a female plant, (grown in a greenhouse or under lights), will produce 15-20g of marketable cannabis.⁵ Male plants and lower leaves would be discarded or consumed by the grower.

Our analysis of the market in 1996-97 indicates that around 30% of cannabis used (by regular users) was homegrown. 43% of growers had used 'pedigree' seeds for the

most recent harvest, but 70% had used only natural lighting. The mean number of plants grown was 23.9, not enough for a sustained commercial operation. The growers were significantly heavier users.

Where sold, the most common homegrown prices were from £5-£15 per 1/8oz, close to those of 'other/ unknown' bush. A maximum of £25.00 per 1/8oz indicates some 'skunk' types being home grown at least partially for sale. The national average was £7.85 per 1/8oz (£2.24/g), varying from £3 in Scotland to £9.57 in London (allowing for many £0 figures in every region).

'Skunk'

The term 'skunk' is commonly used to describe any of several varieties of herbal cannabis from plants which have been bred for a high ratio of flower/buds to leaf, usually sold as trimmed buds with a minimum of leaves and seeds. It may be imported, but increasingly is grown in the UK. Seeds, cuttings and clones of these plants are traded, and they would usually be grown under lights to produce best quality cannabis.

The national average price for 'skunk' was £20.63 per 1/8oz, or £5.89 per gram, with the most notable variation in Scotland, where at £16.50 it was reportedly much cheaper. £20 was the most common price, with slightly more people quoting higher prices than lower (commonly £25 or £15 respectively). The lowest price quoted was £0 - i.e. it was home grown or given away for free. There was a wider range of prices in larger amounts, with £0 the lowest given in each quantity, bringing the mean down, but more quotes above the mean than below. The mean kilogram price was £3,111, or £3.11/g, and the maximum £4,500.

Some people giving low prices may have been calculating actual costs of home growing such as seeds, soil, nutrients, lights and electricity.

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Table 10

Cultivation of Cannabis Plants			
1. Have you ever grown cannabis plants?			
	<i>n</i>	<i>%</i>	<i>% change since 1994</i>
YES	577	63.34	3.26
NO	334	36.66	-3.26
Base	911	100	
2. Average No of plants grown			
	23.9	19.2	4.7
3. What sort(s) of seeds or stock did you last grow from?			
Type(s) of seeds	Total (exclusive)	% of sample	% change since 1994
Hemp	96	18.53	6.59
in combination	110	21.24	4.97
Imported Bush	119	22.97	-15.39
in combination	146	28.19	-22.11
Pedigree Seeds	177	34.17	10.74
in combination	224	43.24	7.57
Cuttings	67	12.93	2.19
in combination	105	20.27	1.76
Base	518	100	
4. What growing method(s)?			
Method	Total (exclusive)	% of sample	% change since 1994
Outdoor	93	18.09	4.03
in combination	146	28.40	4.97
Greenhouse	38	7.39	-1.98
in combination	66	12.84	-1.08
Indoor	277	53.89	-4.35
in combination	346	67.32	-3.85
Hydroponics	27	5.25	1.70
in combination	49	9.53	1.86
Base	514	100	
5. What type(s) of lighting?			
Lighting	Total (exclusive)	% of sample	% change since 1994
Natural Light	358	70.47	-0.17
	383	75.39	-1.21
Fluorescent	29	5.71	-3.98
	37	7.28	-7.32
Metal Halide	28	5.51	2.38
	65	12.80	3.56
HP Sodium	40	7.87	1.76
	73	14.37	2.30
Total High Intensity	112	22.05	5.36
Base	508	100	

5 Estimated Economic Effects of UK Cultivation

The Office of National Statistics (ONS) derived four estimates, for discussion only, of the value of total UK homegrown production in 1996, from NCIS estimates and official statistics.⁶ 115,647 cannabis plants were seized by police in 1996 (and 472 by Customs). Assuming that each plant produced 100g, a production cost of £170/kg, and a street price of £3,460/kg, this would have had a street value of £38,047,864. The value of what was not seized could thus be estimated, by assuming that police seize between 0.5% - 2% of the total produced, and that all plants are intended for sale.

Table 11

ONS Implied values of all UK Home Grown sold by assumed police seizure rate			
Police Seizure rate	Quantity grown (kg)	Costs (£m)	Street Value (£m)
0.5%	2,301,000	390	7,960
1%	1,145,000	190	3,690
1.5%	759,000	130	2,630
2%	567,000	100	1,960

As most of any drugs' 'street value' is due to distribution margins, the ONS suggest, 'own use' production may be of relatively low economic value compared to production for sale. They have assumed it to be negligible.

'Own use' growing represents consumers' money being kept out of the criminal economy, which otherwise would perhaps have been spent on imported cannabis. For the legitimate UK economy, it can be seen as a net gain.

Our data suggests that the majority of UK grown cannabis is for 'own use' and a proportion of the rest is given away. Our street price estimate is lower, partly because of the many £0 prices quoted. We consider it an optimistic assumption that as much as 15g of cannabis reaches the marketplace per plant grown.

The NCIS estimated cost of production (£170/Kg) is plausible. An indoor lighting system and 'skunk' type hybrid seeds or

cuttings, for the best quality, could cost £100 to £350 to produce a kilo⁷, however, perhaps only 200g would be marketable. Entirely natural growing might cost nothing, but very little sellable product would result.

Following the same assumptions about police seizure rates, and accepting that the cost of production was 5% of street price, we can produce alternative illustrative estimates of the total market values of home grown. These are around one tenth of those suggested by the ONS.

Table 12

IDMU Implied values of all UK Home Grown sold by assumed police seizure rate			
Police Seizure rate	Quantity grown (kg)	Costs (£m)	Street Value (£m)
0.5%	345,150	38.7	773.1
1%	171,750	19.2	384.7
1.5%	113,850	12.7	255.0
2%	85,050	9.5	190.5

*Mean Homegrown 1/8th price = £2.24/g

Changes Since 1994

The 63% of respondents who had ever grown cannabis was an increase of 3% since our 1994 survey. The mean number of plants grown was 23.9, an increase of just under 5 plants. 43% of growers had used 'pedigree' seeds and 20% had taken cuttings to produce at least part of their crop, which would usually be done to ensure female plants and/or 'skunk' or similar hybrids. These were all increases from 1994. The use of seeds from imported bush has gone down. However, 70.5% had used only natural lighting, and 54% grew only indoors, which would not usually produce commercial quantity or quality. Use of high intensity lighting, hydroponics and pedigree seeds had increased by 5%, 2% and 8% respectively. Commercial growers would be more likely to have larger crops, avoid mixing seed types, and use greenhouses or multiple growlights.

6 Market Shares of Cannabis Varieties

Respondents were asked approximately what percentage of their cannabis use was of particular varieties. The figures were weighted to allow for heavier users' disproportionate consumption, based on their replies to questions on monthly cannabis use, (*see Appendix*) to estimate the percentage of all cannabis used, by all respondents, which was of that variety.

Where unweighted figures for any variety are higher than weighted, those reporting some use of that variety seem to be the less heavy users of cannabis in general.

These 'Market Shares' represent money spent on drugs for each region. They were based on the aggregate monthly spending on all drugs, divided by the sum of spending on particular drugs by all respondents in that region.

The users were asked to 'rate' each variety of cannabis, where used, from 0-10, with 0 the most negative rating and 10 the most positive. (More details of these respondents' subjective attitudes to drugs will be published elsewhere). The ratings did not appear to have direct impact on market shares. They were highest for 'skunk', which had the second largest market share despite being the most expensive variety. Ratings were low for home grown, and high for Lebanese, which had very similar low market shares.

The most commonly used varieties of cannabis were dark Moroccan 'soap', and 'skunk'. When the figures are weighted, dark 'soap-bar' Moroccan accounted for 36.46% of the total reported market, and 'skunk' for 27.64%. Unweighted figures were lower, 27.88% and 19.05% respectively, so heavier users appear to have had higher proportions of both in their intake. Lebanese was the least common. (*Table 9*)

Home grown was 2.84% of the market, weighted, but 10.55% unweighted, indicating that less frequent users reported higher percentages of use. Those who use more are more likely to grow some of their own, according to our 1994 study, but some proportion would be growing and using

skunk rather than plain homegrown leaf, and some of the occasional consumers will have had homegrown given to them.

The market shares of different varieties varied between regions. Moroccan (both types combined) varied between 18.88% of the London market and 52.72% of the Midlands'. However, where regional samples were small, percentages may have been distorted by individuals or small groups. In Scotland, for instance, Lebanese was 10.66% of use, weighted, which was three times more than anywhere else. It was only 5% of use unweighted, which suggests that some of the heavier consumers reported using it as a relatively high proportion of their consumption.

The proportions of Moroccan and skunk used nationally had increased since our 1994 study, by 8.64% and 9.64% respectively, while all other varieties had decreased. This varied regionally - Moroccan use had declined by 7% in London, skunk use declined by 24.49% in Scotland. Percentage use of African bush was lower everywhere except in the Midlands, where it rose by 7.22%.

The most striking finding from this survey is the decline in market share of imported herbal cannabis, the increase of 'skunk' consumption (particularly when weighted by use), and the increasing dominance of Moroccan in the resin market (it is estimated that Morocco produces 1500 to 3000 metric tons of cannabis resin per year representing 60% of the UK supply⁸). The decline in imported herbal cannabis consumption is also reflected in recent Customs seizure statistics.

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Table 13

Cannabis Varieties - Market Analysis						
Variety	Number reporting	% of reported use	% Weighted by use	Weighted by raw ratio	Average rating* (0-10)	1/8oz UK average price
Light Moroccan resin	338	12.56	12.78	1.02	5.81	£13.99
Dark Moroccan resin	437	27.88	36.46	1.31	6.18	£14.06
Lebanese resin	125	2.4	0.53	0.22	6.14	£14.14
Asian "Black" resin	215	5.06	4.04	0.80	7.00	£14.97
Other/unknown resin	214	8.8	7.42	0.84	6.35	£15.06
Oil	93	0.81	1.02	1.26	7.66	£14.29/g
African	162	1.79	1.63	0.91	6.62	£14.60
Thai	124	3.7	2.98	0.81	7.52	£16.06
Caribbean/American	67	1.78	0.64	0.36	6.74	£16.51
Other/Unknown bush	191	5.62	2.92	0.52	6.51	£14.24
Skunk	458	19.05	27.64	1.45	9.57	£20.63
Home Grown	259	10.55	2.84	0.27	5.63	£7.85
Total Resin		57.51	62.25	1.08		
Total Herbal		42.49	38.65	0.91		
Total Imported Herbal		12.89	8.17	0.63		
Total Home Produced		29.60	30.48	1.03		

* Respondents were asked to 'rate' each variety they used on a scale of 1-10

Market Shares (weighted/unweighted)

The differences between weighted and unweighted (weighted by raw ratio) ratios for market shares are an indication of the amount of cannabis used by adherents of any particular variety. The high ratio for 'skunk' indicates that skunk users would, on average, smoke roughly 1.45 times the average of other users, consistent with

heavier users minimising the cost of their supply by growing their own, or with consumption among growers who are otherwise 'normal' users rising when use is no longer restricted by price and availability. The low ratio for 'Lebanese' suggests this variety to be more commonly reported by light or casual users, and may well refer to remembered consumption in the more distant past.

7 Regional Variations in Cannabis Prices

Overall, if a consumer bought a 'shopping basket' of all varieties of cannabis, it would have been cheapest in the South West of England, and most expensive in the Midlands, although individual price differences were marginal. The difference was greatest for imported herbal varieties, and smallest for Moroccan 'Soap'.

Cannabis Resin

The mean ('average') regional price of cannabis resin was reported to be lowest in the South West of England, and highest in Scotland, for all varieties and quantities - except 1/8oz of 'other/unknown' resin, which was lowest in Scotland and highest in the North East. That position was reversed for 1oz prices. This was probably because of some exotic 'other' brands among the more common 'unknown' types. Future surveys will separate the two.

Herbal Cannabis

All forms of imported herbal cannabis were least expensive in the South West. African bush was most expensive in Scotland, Thai and American/ Caribbean most expensive in the Midlands. 'Other/unknown' bush varied very widely, cheapest in Wales and dearest in East Anglia.

Home grown, when sold by 1/8oz, was cheapest by far in Scotland, and most expensive in London. Ounce prices appeared to have had little connection with 1/8 prices, being cheapest in Yorkshire/ Humberside and the North East, and dearest in the South East - the difference was up to £42.50 per ounce. This may reflect different proportions grown for personal use, or more given away, rather than such a large cash price difference; there would also be variations according to the quality of the homegrown.

'Skunk' appears to have been much cheaper in Scotland than elsewhere, at £16.50 per 1/8oz, and most expensive in the Midlands at £22.29. The cheapest mean ounce price was from Wales, for other quantities Scotland was cheaper. Ounce and 250g prices seem only loosely linked to 1/8oz prices, possibly because home cultivation of smaller amounts resulted in low or £0 prices. (*Tables 14 -15*).

Prices from 'other' regions are not considered in detail here, as they vary very widely, including quotes from Ireland, Europe, the rest of the world, and forms where the region was not stated. Full details of regional variations for each variety of cannabis are given in the Supplementary Tables.

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Table 14

Cannabis Varieties - Resin: Unweighted Market Shares by Region						
Region	Base	Moroc- can	Lebanese	'Black'	Other/ unknown	'Hash Oil'
London	168	24.45	1.99	4.85	9.20	0.60
South East	149	43.06	2.73	5.84	12.23	1.19
South West	187	47.83	1.92	4.57	6.03	0.86
East Anglia	52	33.58	3.18	2.96	22.87	0.73
Midlands	120	32.44	1.88	6.81	9.94	1.47
Wales	51	55.57	0.79	2.94	6.93	0.43
Yorks/NE	86	37.20	0.88	3.83	5.58	0.64
North West	91	41.79	3.39	10.36	9.65	0.28
Scotland	67	46.91	5.13	4.16	4.52	1.16
Other	165	47.56	3.02	2.63	5.71	0.32
UK average	1136	40.44	2.40	5.06	8.80	0.81

Herbal: Unweighted Market Shares by Region							
Region	Base	African	Thai	Carib- bean	Skunk	Home- grown	Other/ unknown
London	168	7.50	2.37	3.35	27.30	9.83	8.56
South East	149	2.88	2.37	1.94	13.14	8.96	5.65
South West	187	4.64	0.73	0.63	22.63	7.19	2.97
East Anglia	52	2.45	2.45	0.78	15.26	13.35	2.39
Midlands	120	2.38	2.65	0.77	17.89	16.94	6.83
Wales	51	2.34	1.04	0.11	11.85	14.43	3.56
Yorks/NE	86	3.35	3.10	3.87	27.11	7.62	6.82
North West	91	2.89	1.20	2.05	14.52	5.34	8.53
Scotland	67	0.47	0.80	0.42	12.20	19.23	4.98
Other	165	4.01	1.16	2.89	18.13	9.91	4.66
UK average	1136	3.70	1.79	1.78	19.05	10.55	5.62

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Table 15

Cannabis Varieties - Resin Weighted Market Shares by Region						
Region	Base	Moroc- can	Lebanese	'Black'	Other/ unknown	"Hash Oil"
London	168	18.88	1.22	5.96	7.75	0.90
South East	149	41.84	1.67	6.20	8.03	0.48
South West	187	35.24	1.17	5.44	4.52	3.35
East Anglia	52	31.11	3.96	1.06	24.80	0.42
Midlands	120	27.86	1.55	7.46	9.35	1.14
Wales	51	52.74	0.58	3.98	5.82	0.58
Yorks/NE	86	29.17	1.67	3.22	4.47	0.81
North West	91	38.30	2.54	10.64	9.96	0.49
Scotland	67	43.11	10.31	3.15	2.77	0.37
Other	165	34.04	3.32	8.49	3.94	0.98
UK average	1136	49.24	0.53	4.04	7.42	1.02

Herbal: Weighted Market Shares by Region							
Region	Base	African	Thai	Carib- bean	Skunk	Home- grown	Other/ unknown
London	168	8.08	3.02	4.33	31.50	12.08	6.28
South East	149	2.46	2.38	1.91	20.74	9.30	5.01
South West	187	3.43	1.17	0.92	32.96	9.04	2.76
East Anglia	52	3.82	3.39	0.42	17.03	12.65	1.34
Midlands	120	13.58	2.49	0.61	18.22	14.19	3.56
Wales	51	3.49	1.16	0.39	19.31	8.05	3.88
Yorks/NE	86	5.95	4.53	2.29	33.30	6.02	8.56
North West	91	4.10	3.71	4.59	17.48	3.12	5.08
Scotland	67	0.25	0.37	0.17	15.77	22.03	1.70
Other	165	5.91	4.55	1.23	28.18	5.91	3.45
UK average	1136	2.98	1.63	0.64	27.64	2.84	2.92

8 Changes in Cannabis Prices and Market Shares 1994-97

The average price of 1/8 of resin appears to have fallen by 1.5% - 2.5% throughout the UK since our 1994 study, except for 'Black' and 'other/unknown', which had greater regional variations. Black had risen by 11% in the Midlands and fallen 20% in East Anglia. Unknown hash had risen 11% in the South West, fallen 14% in Scotland. Both had increased their reported UK average price by around 1%, or £0.15.

The ounce prices of resin also became cheaper, by between 2.5% - 4.5%, except for 'other/unknown' hash which went up 15% in Scotland, and down 18% in the North East. Almost certainly, these prices will not all refer to the same type of cannabis. The UK average for 'other/unknown' had risen by 6.32%, or £5.72 per ounce.

The national mean price of 1/8oz herbal cannabis had also fallen, except for Thai bush and homegrown. The differences between regions were statistically significant. African bush rose 16% in the South East, fell 9% in the South West and Yorkshire/ Humberside. Caribbean bush had risen 34% in Yorkshire/Humberside, fallen 27% in the North West. Skunk had fallen 18% in Scotland, risen 5% in the South East. 'Other/ unknown' bush had fallen by 30% in the North East, risen by 2% in the South East. These variations were up to £6 per 1/8oz, but the national changes were +£0.20 to -£1.51.

Ounce prices of herbal cannabis were all lower than in 1994 except for homegrown. There were substantial regional differences.

Homegrown was the only kind of cannabis which increased in price substantially, by 8.13% per 1/8oz and 18.21% per ounce. Although it went down 90% per ounce in Wales, it rose a whopping 239% per 1/8oz in Yorkshire/Humberside - £5.68. These figures probably represent changes in the number of people paying for it rather than a major price change. Differences in quality would also make a difference in whether it was sold at all, and if so at what price. There is no information on whether the homegrown which was sold was being grown in the same regions.

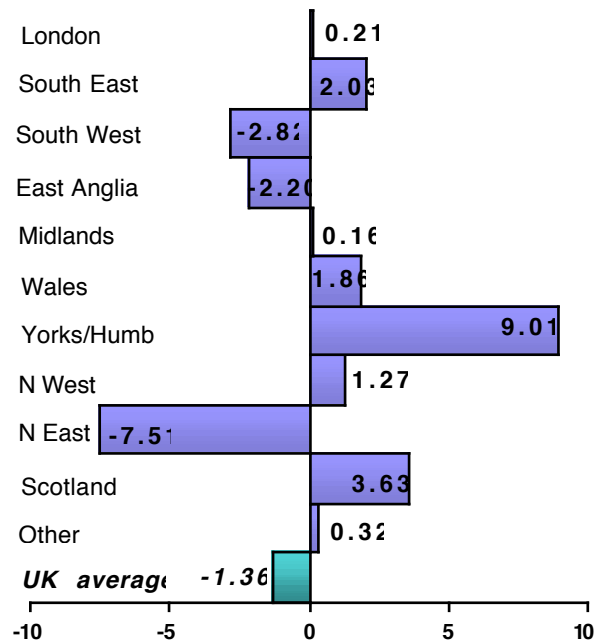
The mean price change for all varieties and quantities of cannabis was greatest in Yorkshire/ Humberside, where it had risen 9.01%, least in London where it had risen 0.21%. Overall prices in the North East fell the most, by 7.51%.

The UK average change was a price fall of 1.36%.

Compared with the Retail Price Index cannabis has seen a significant drop in cost in real terms. The 'All Items' index rose from 141.3 to 154.4, alcoholic drink from 156.9 to 171.1, and the 'Leisure Goods' index from 121.7 to 123.5, between January 1994 and January 1997.

This fall in average prices is likely to represent a greater proportion of respondents buying cheaper deals rather than a general price cut; however, this drop represented only a few pennies per gram, and to consumers might mean a 50p or £1 difference on some deals. (Tables 16 & 17)

Table 16
Regional Cannabis Price changes 1994-97 (%)



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Table 18

Cannabis Varieties - Resin: Change in Market Shares by Region 1994 -97						
Region	Base	Moroccan	Lebanese	'Black'	Other/ unknown	Oil
London	168	-7.87	-5.32	0.68	-0.17	-0.95
South East	149	10.71	-2.42	1.35	-3.91	-0.28
South West	187	-6.53	-3.09	-2.12	-2.48	1.78
East Anglia	52	-2.03	-0.15	-4.82	15.33	-4.71
Midlands	120	-2.16	-2.75	-0.25	0.17	-0.33
Wales	51	15.82	-6.49	-6.94	3.29	-0.74
Yorks/NE	86	2.25	-1.75	-3.17	-3.94	-2.86
North West	91	1.99	-1.73	1.60	7.13	0.09
Scotland	67	10.38	8.79	-5.85	-1.11	0.33
Other	165	7.15	-1.49	2.05	-1.96	-3.97
UK average	1136	8.64	-4.07	-2.86	0.02	-1.08

Cannabis Varieties - Herbal: Change in Market Shares by Region 1994-97							
Region	Base	African	Thai	Carib- bean	Skunk	Home- grown	Other/ unknown
London	168	-0.63	-8.11	-1.05	16.67	7.86	-1.11
South East	149	-6.16	-2.96	-2.72	4.71	3.68	-1.97
South West	187	-4.46	-1.63	-0.65	17.06	3.72	-1.61
East Anglia	52	-5.14	-8.93	-0.78	8.19	8.54	-5.51
Midlands	120	7.22	-2.92	-1.39	8.98	-3.00	-3.56
Wales	51	-2.29	-1.41	-0.93	-1.50	0.37	0.81
Yorks/NE	86	-1.76	-5.98	0.81	14.46	2.56	-0.63
North West	91	-10.11	2.42	3.45	-5.62	-0.11	0.91
Scotland	67	-5.83	-0.31	-0.47	-24.49	18.83	-0.26
Other	165	-1.06	0.55	-5.01	6.80	-1.87	-1.19
UK average	1136	-5.32	-4.07	-2.46	9.64	-3.46	-2.98

9 Other Cannabis Price Data

It is possible to compare national and some regional ounce and kilogram prices of cannabis from this study with those issued in the last few years by the National Criminal Intelligence Service (December 1997), and the Drugs Intelligence Laboratory (February 1994), HM Customs & Excise (March 1996 and September 1996),⁹ as well as our own previous study (June 1994). However, such comparisons must be treated cautiously. The official figures do not distinguish between varieties of resin, or of herbal cannabis (other than 'skunk' in recent years). The methods by which these Police and Customs data are collected and analysed are not given. Some regions appear to be quoting genuine 'ounce' prices, other areas multiples of eighth or sixteenth ounce prices. They list cities, presumably police regions, without indicating what area the reports to each city come from, or how they were obtained.

The 1997 NCIS national average price for 1oz resin was £97. Our most expensive mean price, for 'other/ unknown' resin was £96.25 and the mean for all types of resin was £87.14. Their ounce of unspecified herbal cannabis cost £95, ours £88.61.

In almost every case, in every region of the UK where comparisons can be made, the official figures are higher than our data from users; they tend to be too high even if the ounce prices are estimated by multiplying up 1/8oz prices. In particular, NCIS' Birmingham quote is £7 per gram for herbal cannabis, £10 for resin, and £15 for skunk (given in grams, although hardly any cannabis is sold in gram deals). This would be £24.50, £35, and £52.50 per 1/8oz respectively, which is around double the 'Midlands' prices we were given, and considerably higher than any other police region cited by NCIS. The ounce prices given by most other regions convert to between £3.00 and £4.30 per gram for both herbal and resin.

Both NCIS and HMCE reports give prices over £160 per ounce nationally for 'skunk'. Our respondents' reports average £128, a few pennies cheaper than in 1994. In the Nottingham and Cardiff regions, NCIS figures of up to £280 per ounce for skunk

are over double the mean of £125 given by our respondents from both the Midlands and Wales. The only price NCIS give for cannabis which is lower than our figures is £60-£70 per ounce for 'skunk' in Liverpool.

In March 1996 HMCE quoted a UK average resin price of £94 per ounce, varying between £60 and £120, and a herbal price of £105 per ounce, varying between £50 and £140. In September 1996 the resin price quoted was £114, the bush price £91.¹⁰ These prices were generally higher than those our respondents reported in either 1994 or 1997, but within a reasonable range of variation.

A few prices for kilograms of cannabis can be compared with the 1997 NCIS figures; oddly, our national figure for 'other/ unknown' resin was higher than theirs (£3029, against £1500-£2400), but for both types of Moroccan and for 'other/ unknown' bush, our figures lie in the middle of their range. Their 'skunk' price was £3000-£4000/kg, our mean was £3111.

10 Estimating the Value of the UK Cannabis Market

The Office of National Statistics (ONS) have examined methods of estimating the effects of illegal activities on the UK economy, and proposed some illustrative examples for discussion.¹¹

If their estimates of ‘street value’ of all illegal drugs transactions had been included in Gross Domestic Product in 1996, it would have added between £3.9-£8.6 billion (0.5-1.1% of GDP). The estimated street value of cannabis sold was between £2,012 million and £5,524 million. The differences depend on what proportion (between 5%-20%) of the total drugs imported are assumed to be seized by HM Customs and the police.

In practice, they conclude, the inclusion of illegal activities would not significantly have altered the national accounts, but it could have the capacity to do so.

Methods

‘Street Prices’: the ONS took a mean between the regional police data (ounce prices, as quoted above), and regional prices given by the national drugs advice agency Release¹² (almost all £15 per 1/8oz). These were converted to £/gram, and the same figure multiplied by a thousand taken as ‘street’ kilogram prices, giving £3,460/kg for herbal cannabis and plants, and £3,415/kg for resin.

Numbers of drug users were estimated based on 1996 British Crime Survey data; 1,734,000 regular cannabis users (used in last month), and 1,387,000 occasional (used in last year), totalling 3,121,000 users in that year.

Average expenditure figures were simply assumed, ‘derived from price data and making assumptions about the quantity used’. Regular users were assumed to spend £600 per year, occasional users 1/6th as much. This gave a UK total spent on cannabis of **£1,179 million/yr.**

Value of Imports:. A street value of £263.5 million for the imported cannabis seized by HM Customs was derived from

seizure data,¹³ the ONS ‘street value’ prices above, and an assumption that a cannabis plant = 100g, to be sold at the same price as imported bush. Four imported ‘street values’ were estimated, based on assumptions that Customs’ seizures were 5%, 10%, 15% or 20% of the total.¹⁴

Table 18

ONS Implied values of imported cannabis by assumed seizure rate (£m)				
Seizure rate	Herbal	Plants	Resin	Street Value
5%	2008.3	3.8	2994.4	5006.5
10%	951.3	1.8	1418.4	2371.5
15%	598.3	1.1	892.0	1491.4
20%	422.8	0.8	630.4	1054.0

Police Seizures were assumed to be between 0.5%-2% of the supply total, (10% of what Customs seized), and thus un-important at this stage, except for estimating home growing.

Import Prices were given as £750/kg for herbal and £800/kg for resin, derived from 50% of the lower end of the range of ‘distributor prices’ in police and customs data. They were about 20%-25% of the ‘street price’.

Distribution Margins could be derived from the differences between import price and street price, around 80%, or from a formula devised by the International Financial Action Task Force to estimate money laundering, which assumes that the margin is 70%. Both extremely theoretical estimates are better considered during the final ‘balancing’ of the accounts.

One of the authors’ purposes was to examine the validity of these assumptions by comparing supply and consumption estimates. The assumptions can then be amended so that the two sides balance.

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Alternative Assumptions

Our research indicates that regular cannabis users spent an average of £68.50 per month, or £823.20 per year in 1996-7. Almost all of our respondents were regular users by the BCS definition. If we accept that 'occasional users' spend 1/6 as much as the regulars, and the numbers of users, our total UK spending estimate would be **£1,617.8 million/yr.**

As kilo cannabis prices, the ONS estimates are far too high (typically they would be £2,000 - £2,300/kg), but if the 'street price' is the final amount paid before consumption, it would rarely be a kilo price. As gram prices they are too low, closer to a 'distributor price' somewhere in the chain of supply, or our price weighted by the quantity bought, £3.21/g (See Table 25). At that price, the value of seizures would have been £246.27 million.

Using the gram equivalents to our 1/8 oz deal prices from 1997, the implied street value of seizures in 1996 would have been **£330.70 million.**

(Herbal, 30,535.9kg x £4280 = £130.7m, 472 plants = 47.2kg x £4280 = £0.2m, Resin, 46,137.4kg x £4330 = £199.8m. Accepting that plants being imported were all for sale, and capable of producing 100g each, which we do not usually consider to be the case with home grown plants).

Table 19

IDMU Implied values of imported cannabis by assumed seizure rate (£m)				
Seizure rate	Herbal	Plants	Resin	Total Value
5%	2483.3	3.8	3796.2	6283.3
10%	1176.3	1.8	1798.2	2976.3
15%	739.8	1.1	1130.9	1871.8
20%	522.8	0.8	799.2	1322.8

Home Grown As noted above (Section 5), we cannot support some of the assumptions made by the ONS in deriving their estimated street values of homegrown. Our estimates are approx. 1/10 of theirs. Our initial figures are between 1/4-1/3 of the value of imports, which fits with our consumption data (up to 30%).

Table 20

ONS Implied values of all UK Cannabis Supplies by assumed seizure rate (£m)			
Customs Seizure rate	Imported	UK Grown & Sold	Total Value
5%	5006.5	7960.0	12,966.5
10%	2371.5	3690.0	6,061.5
15%	1491.4	2630.0	4,121.4
20%	1054.0	1960.0	3,014.0

Table 21

IDMU Implied values of all UK Cannabis Supplies by assumed seizure rate (£m)			
Customs Seizure rate	Imported	UK Grown & Sold	Total Value
5%	6283.3	773.1	7,056.4
10%	2976.3	384.7	3,361.0
15%	1871.8	255.0	2,126.8
20%	1322.8	190.5	1,513.3

Balancing the supply and consumption estimates

To make a coherent picture of the effect of the illegal drugs market on GNP, the ONS consumption estimate of £1,179 million/yr spent should equal supply estimates of between £3-£12 million/yr (imports plus domestic production, less production costs and distribution margins). The residuals, or difference between estimates, are large, and so the accounts must be 'balanced' by comparing the elements which make up the estimates, judging the reliability of the data and adjusting the assumptions where they create inconsistent figures. This is a complex process which need not be entirely followed here.

Their initial consumption estimate is multiplied by between 1.75 and 5, justified because cannabis is popular among groups who may be under-represented in the British Crime Survey, especially students, and expenditure by occasional users may also be higher than supposed. Home Office on the drug-testing of arrestees indicates that the BCS under-reports cannabis use.¹⁵

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Because cannabis is bulkier than other drugs (and smellier), the lower Customs and Police seizure estimates are the less likely. The authors consider that estimates of successful imports and home grown sold can be reduced by up to half.

Values can then be made to sum zero by adjusting the assumed distribution margins, which were always speculative.

Table 22

ONS Estimated Cannabis Values after balancing (£million)				
Seizure rate	5%	10%	15%	20%
Con- sumption	5,524	3,436	2,805	2,012
Imported	569	269	170	120
Domestic Produced	186	147	129	100
Distribution of Imports	1,937	880	594	394
Distribution of Domestic	2,833	2,140	1,912	1,398
Total Supply	5,524	3,426	2,805	2,012

All Residuals = 0

Comments on the estimates

All our initial supply estimates are lower than those derived by the ONS, largely due to the very different assumptions made about amounts of home grown reaching the commercial market. Our consumption estimate is higher, because our respondents' reported spending was higher. The residuals between estimates are smaller, so less drastic adjustments would be required to make the books balance.

We have not tried to closely follow their complex balancing process with our figures, since all of their results are purely for illustrative purposes, and the actual purpose of the exercise is to compare their initial assumptions with the data available. The adjustments they have to make in balancing are much larger than the differences between their initial estimates and ours.

Our evidence would support increasing any consumption estimates based on BCS data, and higher assumptions about spending among both regular and occasional users.

We would take a good deal more note of 'own use' home grown production. Because plants can be very noticeable, the relatively higher police seizure figures seem more likely. Both would result in smaller values for the remainder of marketable home grown.

Import and distributor prices are unreliable because it is unclear what point of the distribution chain they actually represent. The 'import price' is likely to vary according to the level of involvement of distributors in the importation - those who took part or invested in the smuggling project would get better deals. There may also be differences according to the quantity being imported, amounts in tons being relatively cheaper than amounts in tens of kilos. The 'import price' estimates of £750 for herbal cannabis and £800 for resin seem low.

Simply following the ONS increases of the consumption estimate, the first stage of their balancing, (multiplying the original estimate of £1617.8 million/yr by 1.75, 2.5 or 5 according to seizure rate), using our data and assumptions, gives street values of **£2,831.5**, **£4,044.5**, **£4853.4**, or **£8,089** million. The lower figure (20% assumed seizure rate) is close to theirs, the highest (5% rate) is considerably higher. The convergence of estimates may support a relatively high seizure rate.

The highest of these estimates would give a 'street value' of cannabis sold of over £8 billion, around 1% of Gross National Product. The lowest value would be £2 billion.

11 Estimating UK Consumption from Seizures and Busts

Another way of estimating national consumption from our data starts by assuming that the proportion of respondents who had been convicted or cautioned for cannabis offences (21% - Table 26) was similar to that among all regular cannabis users.

As in other markets, a small proportion of people buying larger quantities account for a disproportionate amount of the cannabis which is sold. As well as buying more, they are doing so at lower unit prices. Some will be consumed, some sold on. Although the proportion of transactions reported which were under 1/8oz was slightly higher than the proportion over 1oz, after ‘weighting’ according to the estimated sizes and unit prices of deals, the former account for only 0.33% of the total market, and the latter for over 40%. The price per gram can be ‘weighted’ according to the same factors, to assist in estimating the total economic value of the cannabis market. (Table 25)

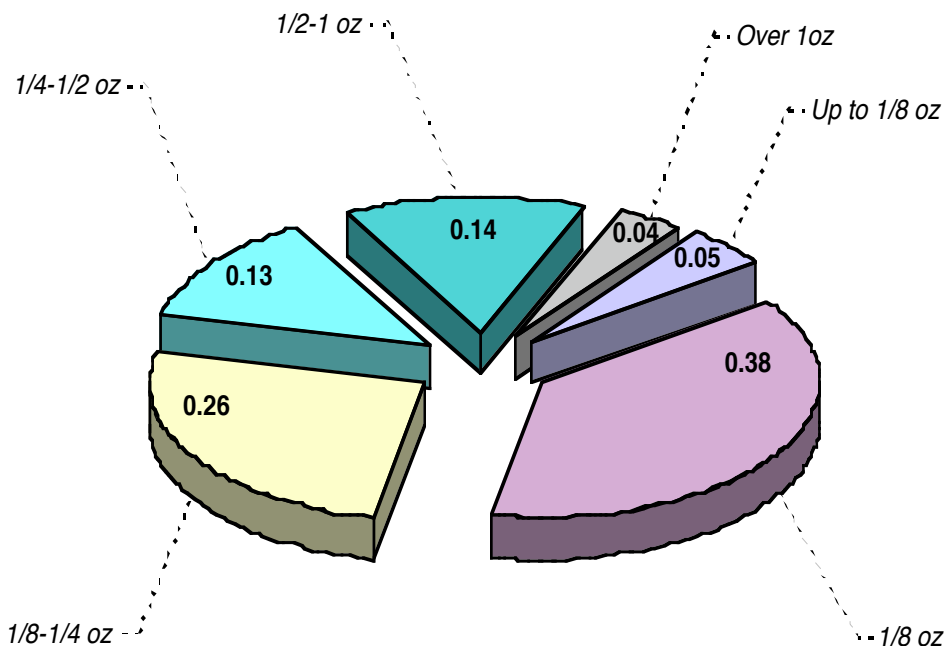
Questions used the term ‘bust’ which is common parlance, to mean a conviction or caution for any offence. It is possible that some respondents took it to

include ‘not guilty’ verdicts, dropped cases, or arrests or searches not leading to prosecution, which would lead to the proportion reporting busts being high. We have assumed one seizure per bust.

However, extrapolations from our data are unlikely to represent the general population due to the specific nature of the groups questioned (almost all regular cannabis users at rock festivals). We have probably over-represented the proportions of regular as opposed to occasional users, since the situation was one where use was more likely than usual. The estimate of total number of UK users from respondents’ ‘busts’ would probably be conservative, as other research has shown that festival-goers are more likely to be ‘busted’ than some other cannabis users. ¹⁶

Customs’ seizures tend to be of larger quantities than the polices, mean 11.5kg and 286g respectively. Police data may be a better indicator of what quantities are on the market at what prices, though still distorted by small numbers of very large transactions.

Table 23 Proportion of cannabis deals by weight of deal



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The number of 'busts' reported can be correlated with respondents' reported duration of use, frequency of purchasing and quantities usually bought, to reach estimates of the number of busts statistically likely per year for various levels of consumption. There were two questions on purchasing, and another on use, which are each given here and also averaged out. Estimates of the proportions being bought for personal use are made by comparing reported amounts used with amounts bought. (Table s 26 & 27)

From the amounts seized by police and Customs, the numbers of seizures, and the estimated numbers of busts per transaction, it is possible to estimate the total number of transactions represented, 135,826,030, and the quantity not seized, 2,874,078.8 kg.

Several estimates can then be made of the total value of the cannabis market, based on the price weighted by size of transaction, £3.21/g, or on a modal street price of £15 per 1/8oz (£4.29/g). The estimates vary according to the value and size of transactions, and the differing figures from responses to different questions on use levels. (Table 28)

Using some of the estimates above for transactions per bust and for different consumption levels, and the numbers of people convicted or cautioned for cannabis offences in that year, numbers consuming

at various levels and thus the size and value of the whole market can be estimated. The values range from **£2,933 million** to **£524,479**, much lower than estimates made by other methods.

Home Growing We have assumed that homegrown cannabis plants as estimated from police seizures produce 15 marketable grams each. Those respondents who had ever grown their own were more likely to have been busted. We have no information on what proportion took up cultivation after a bust. It is plausible that growers are more likely to be caught because plants are conspicuous. They were also significantly heavier users. Differences between reported amounts used and bought will have been partly due to home grown use and sale.

Table 24

Home Growing and 'busts'			
	Never busted	Busted	Total
Never grown	508	51	559
Grown	389	188	577
Total	897	239	1136
Never grown	90.9%	9.1%	49.2%
Grown	67.4%	32.6%	50.8%
Total	79.0%	21.0%	100.0%

Table 25

Cannabis Price weighted by size of transaction ('deal')							
Transaction Unit	Proportion of 'Deals'	£ Gram equivalent price	Price by proportion (£)	Estimated 'deal' size (g)	Market quantity	Weighted % of market	Price by weighted %
<1/8 oz	0.05	5	0.25	1	5	0.33	0.02
1/8oz	0.38	4.29	1.63	3.5	133	8.90	0.38
1/8-1/4oz	0.26	3.86	1.00	7	182	12.18	0.47
1/4-1/2oz	0.13	3.57	0.46	14	182	12.18	0.43
1/2-1oz	0.14	3.04	0.43	28	392	26.24	0.80
>1oz	0.04	2.77	0.11	150	600	40.16	1.11
	1.00	22.53	£3.88	203.5	1494	100	£3.21

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Table 26

'Busts' by Unit Purchase (Usual Transaction size)						
Busted for cannabis	Not Stated	0-5g	5-15g	15-30g	>30g	Total
No	247	309	241	79	21	897
Yes	32	73	71	40	23	239
Totals:	279	382	312	119	44	1136
No	88.53%	80.89%	77.24%	66.39%	47.73%	78.96%
Yes	11.47%	19.11%	22.76%	33.61%	52.27%	21.04%
Totals:	100%	100%	100%	100%	100%	100%
	Chi Sq= 53.9	df=4	p<.0001			
Average No of busts	0.19	0.28	0.39	0.79	0.86	

Table 27

'Busts' by Unit Purchase and Transactions ('deals') per bust						
Transaction Size	Missing	0-5g	5-15g	15-30g	>30g	Total
Avg busts	0.19	0.28	0.39	0.79	0.86	0.36
Cannabis use duration (yrs)	10.24	7.75	9.59	11.49	11.77	9.37
Busts/year %	1.86	3.61	4.07	6.88	7.31	3.84
Deals/month	4.65	5.82	4.53	4.17	7.07	5.13
Avg. quantity per deal (g)	2.86*	3.17	8.9	27.45	247.36	21.16
Avg. spent/deal	23.25	14.18	34.25	89.38	411.63	49.98
Deals/yr	55.8	69.84	54.36	50.04	84.84	61.56
Quantity/yr	160*	221	484	1374	20986	1303
Purchase/month	13.32	15.36	22.2	53.45	329.11	32.88
% personal use	78.57	70.49	74.94	67.85	34.88	70.25
Annual Use 1 (purchase units)	125	156	363	932	7320	915
Annual Use 2 (purchase/month)	126	130	200	435	1378	277
Annual Use 3 (monthly use)	323	202	295	375	603	287
Annual Use (average of 1-3)	224	163	286	581	3100	493
Monthly Use	26.92	16.87	24.57	31.24	50.27	23.92
% personal use (from use/purchase)	202.10	109.83	110.68	58.45	15.27	72.75
Busts per deal%	0.03	0.05	0.07	0.14	0.09	0.06
% of total seized	0.06	0.07	0.14	0.27	0.10	0.10
Deals per bust	3007	1933	1337	728	1161	1602

*= Calculated units

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Table 28

Estimates of Cannabis Market Values from Seizure Statistics		
	@ Weighted price £3.21/g	@ £15 per 1/8oz = £4.29/g
1 - by transaction value	6,788.58	n/a
2 - by quantity	9,027.93	12,329.80
3 - by annual use units 1	5,442.40	7,432.90
4 - by annual use purchase 2	1,648.50	2,251.42
5 - by annual use 3	1,707.15	2,331.52
6 - by average of above 3 consumption estimates	2,932.68	4,005.28
7 - using weighted user numbers	6,555.49	8,953.10
	1,985.66	2,711.89
	2,056.30	2,808.37

Table 29

Estimates of Cannabis Market Values from Conviction Statistics						
Persons found guilty/cautioned 1996	72,745					Estimated users 2,280,633
Usual 'Deal' Size	Missing	0-5g	5-15g	15-30g	>30g	Total
Est. number at each level	962887	677067	491285	110832	38562	1,893,391
Annual Consumption 1	120735	105663	178122	103294	282268	1,732,610
Annual Consumption 2	120925	87969	98080	48233	53120	524,807
Annual Consumption 3	311051	137066	144850	41549	23262	543,479
Average of above (kg)	215988	110233	140351	64358	119550	933,632
Value of market at each level (£M)	678.45	346.26	440.86	202.16	375.52	2,932.68

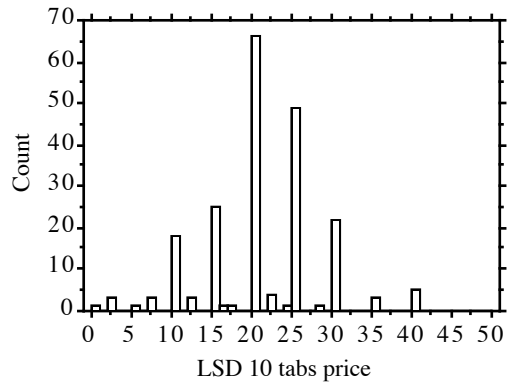
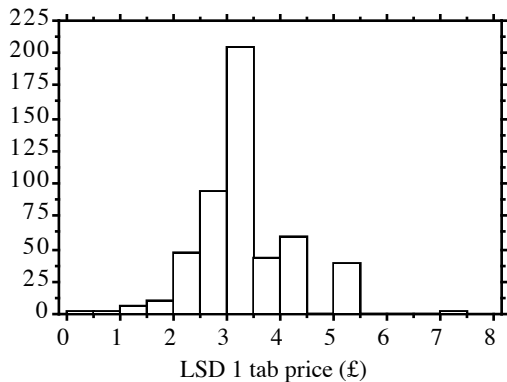
12 Other Illegal Drugs Markets

Respondents in this study, aimed at regular cannabis users, were far more likely to have experimented with other illegal drugs than the general population; however the majority were experimental users (under 10 times ever), or longer-term but occasional users, of any illegal drugs except cannabis. They were asked for average prices they had paid locally in the last year. (Table 30)

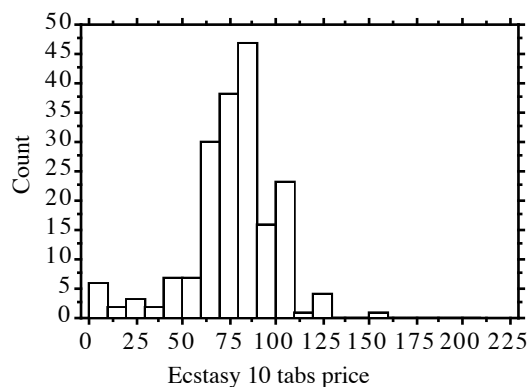
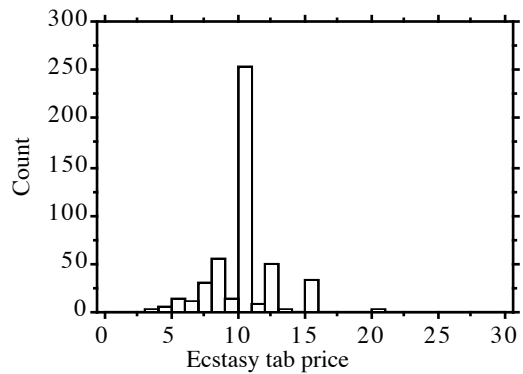
Reported prices of most illegal drugs varied widely, within and between regions. There were particularly large discrepancies in the prices of amphetamines, cocaine, and heroin. The street purities of these drugs are very variable, and they are often sold as 'deals' or 'wraps', for fixed prices regardless of quantity. 'Gram' bags do not always contain accurate weight. Our samples were very small in some regions, and most respondents were not regular users. All of these factors might account for some of the price variations.

Some of our data can be compared with figures from the National Criminal Intelligence Service (NCIS); in almost every case their prices were higher. (Full details of price variations by region are given in the Supplementary Tables).

LSD cost from an average £2.89 per dose in the Northwest to £3.58 in Scotland. NCIS gave prices of up to £5. Prices would usually be in increments of 50p. In batches of 10 they cost around £23 by our figures, up to £24.84 in Scotland.



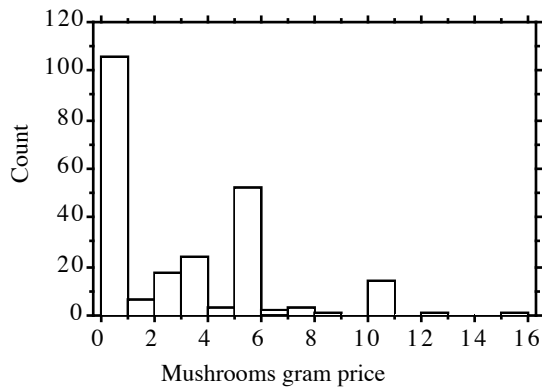
MDMA (Ecstasy). The reported cost of £9.50 - £10.60 per tablet, was only slightly below the NCIS data; UK £11, range £7 - £20. Prices seemed to vary much more in batches of 10, from £84 in London. to £63 in Yorkshire/Humberside.



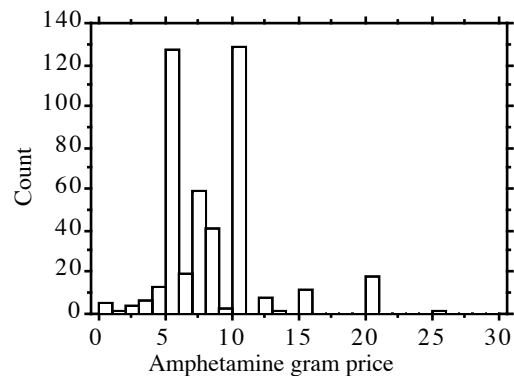
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Psilocybin Mushrooms are usually picked rather than sold, and often given away for free. The most common price given was Most respondents who had ever used mushrooms did not answer the questions on prices.

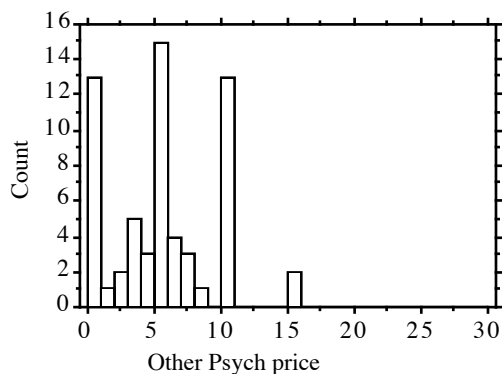
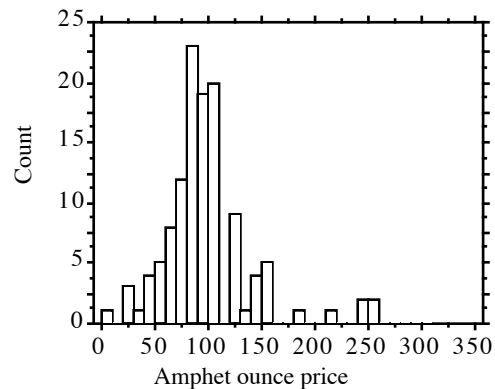
Other Psychedelic - indicative only
Sales would not always be by weight, but measured in numbers of mushrooms, whose weight would decrease with age. Where they were sold, there were significant regional differences in price, ranging from £0.41 per gram in Yorkshire/Humberside, to £8.35 in East Anglia, although these small regional samples should be treated with considerable caution.



Amphetamines Mean prices for 'speed' ranged from £6.17 per gram in Scotland to £11.43 in the North East. NCIS quoted a UK price of £10 per gram, ranging from £3 (Brighton) to £18 (Leeds). The prices quoted take no account of purity, the difference between 'base' and 'street' quality amphetamine. These will be separated in future surveys, as price of amphetamine powders appears largely dependent on quality,¹⁷ and higher purity powders are commonly sold under the name of amphetamine 'base' in user quantities. Mean amphetamine purity during 1997 was 14%, median purity 8-9%, and modal purity 5%, with four out of ten seizures involving amphetamine over 10% purity, according to official statistics.¹⁸

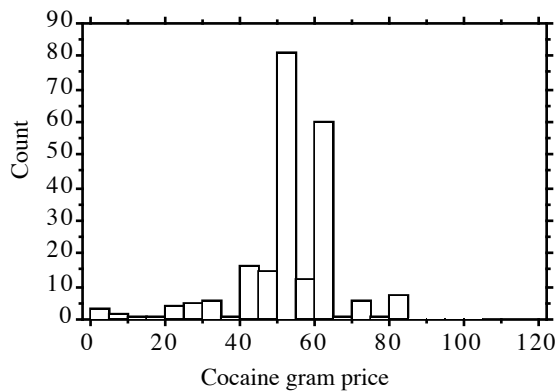


Other Psychedelics. This question was insufficiently detailed. Other substances written in beside it, or mentioned in response to other questions, include Ketamine, Mescaline, DMT, bromo-STP, and a variety of psychoactive plants and fungi. Those sold in pill or powdered form may not have been what they were marketed as, either through fraud or ignorance by dealers and users. This price data is thus only useful as a guideline - that an unusual 'trip' cost about £5 or £10, or is free.

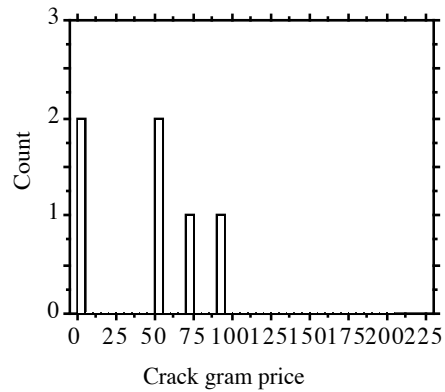
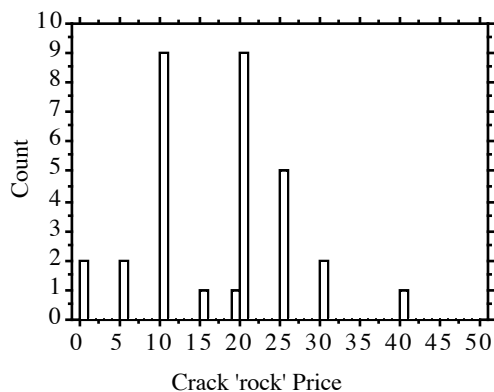


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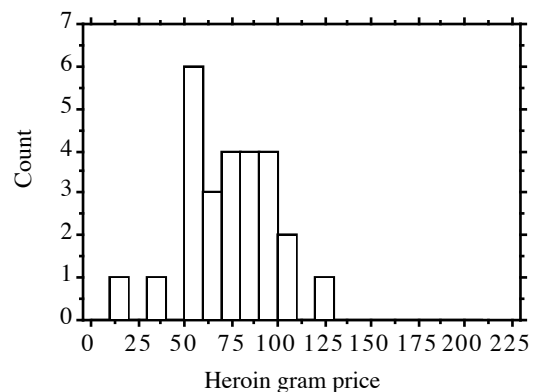
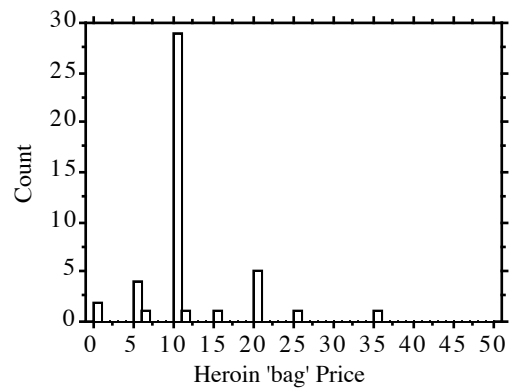
Cocaine A gram reportedly cost £45 in most parts of the UK, £54 in London, which is much lower than the NCIS national price of £71. Some will have been sold as fixed-price 'wraps'. Purity levels in 1997 would have been high; the mean from police seizures was 52% pure, from Customs' 70%, with 94% of all seizures over 20% pure, and 43% over 60% pure. The price of cocaine appeared remarkably consistent across the UK, but our sample was too small to be significant in several regions.



Crack Prices per 'rock' appeared stable nationally at approx. £20 by our figures, consistent with the £10-£35 range quoted by NCIS. The actual size of the 'rocks' will vary, with isolated prices in the range of £40-£200. NCIS prices are based on 200mg per rock, forensic analyses of 'rocks' up to 1994 suggested a mean weight of 147mg (although a proportion of rocks may have been part-used before seizure).¹⁹

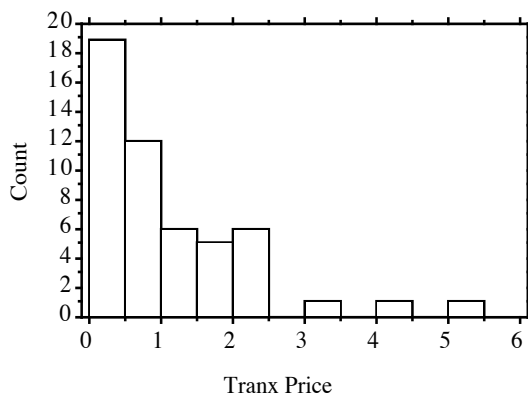
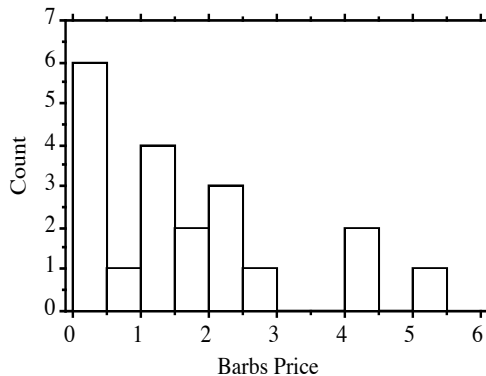


Heroin Prices per 'bag' varied enormously, from £7.76 in the 'North' to £26.67 in London. The standard 'bag' or deal varies in size, from 0.1 gram to 0.5g, as well as in purity. Purity levels of police seizures averaged 35% in 1997, and Customs' averaged 34%, with 80% of all seizures in the range 20%-60% pure. This would seem to indicate that not very much adulteration takes place after the drug gets past Customs. Prices per gram also varied very widely, from £45 in the Midlands/Wales to £93 in Scotland. Our sample, again, was very small, but with a wide geographic spread; NCIS figures are similar, ranging from £40-£100, with a UK mean of £74.



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Barbiturates and Tranquillisers may have been prescribed rather than bought illicitly, and a number of prices of £0 were given. There were very few barbiturate users altogether. The lowest mean price was £0.60 per tablet in London, the highest £2.75 in the Midlands. These may represent different drugs, different availability on prescription between regions, or regional fashions - many reports indicate a considerable Scottish trade in Temazepam ('Jellies') which are far less wide spread in England. Tranquillisers cost most in Scotland, £6.53 each, against £0.42 in London.



*Increments all on histograms (50p to £250) include lowest number in range.

Other Drugs written in as having ever been used included opium (20 users, price range £3-£20/g, mean price £9.50/g); Ketamine (17 users, range £3-£40, mean £18), DMT (5 users, £2.40-£15, mean £7.60/dose); Methadone (4 users, 1 price of £5 per 10ml); Mescaline (3 users); Amyl Nitrate (3 users, £3.50); 2-CB (2 users, £2.50 and £10); 'Base' amphetamine (2 users, £20/g or £25/g); 'Speed' pills (£2 or £3), and several others. All of these prices can only be indicative, as there is no reliable detail of quantities bought, or quality, or even whether the drug was what the consumer believed it to be.

'Bliss' The fictitious drug which we included as an 'error detector' yielded 18 respondents, around 1.5%, who claimed to have tried it, at prices between £4-£15. A pill of this name containing plant extracts has been sold as a 'legal high' recently.. Future surveys will dignify the 'error detector' drug with a more pseudo-scientific name.

'Bliss'	
Ex users	5
Experimental Use	7
Occasional Use	3
Regular Use	2
Daily Use	1
Never heard of it	187
Would never try it	187
Might try it	29

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Table 30

UK Illegal Drug Prices					
Drug	Quantity	Mean	Median	<i>n</i>	Range
LSD	tab	£3.25	£3	525	£0 to £20
	10 tabs	£22.78	£20	214	£0 to £100
Mushrooms	gram	£3.21	£2	235	£0 to £60
MDMA (Ecstasy)	tab	£9.84	£10	486	£0 to £20
	10 tabs	£72.66	£75	187	£0 to £150
Other psychedelic (e.g ketamine, mescaline)	dose	£5.17	£5	62	£0 to £15
Amphetamine	gram	£8.22	£7.50	447	£5 to £30
	ounce	£99.24	£90	123	£8 to £500
Cocaine	gram	£50.51	£50	222	£0 to £80
Crack	“rock”	£21.64	£20	36	£0 to £70
	gram	£43.33	£50	6	£0 to £90
Heroin	“bag”	£12.22	£10	46	£0 to £60
	gram	£69.69	£70	26	£12 to £120
Barbiturates	tab	£1.45	£1	20	£0 to £5
Tranquillisers	tab	£1.02	£0.50	53	£0 to £7

The data include a limited number of 1995 & 1996 questionnaires, the majority date from June 1997. Mean Prices/range include overseas respondents (e.g. LSD tab @ £20 refers to Canada)

12 Other Drugs - Purchasing and Use Patterns

Most respondents were regular users and buyers of cannabis, an in-built bias of the sample. The most usual definition of 'regular use' is 'used in the last week' and of 'occasional' is 'used in the last year,' but our questionnaire allowed for a greater range of possibilities, and for making distinctions between use and purchase data. We asked separate questions about use and purchase, and included brief questions about tea/coffee, tobacco, and alcohol, for comparison. (Tables 31-34)

The majority of users of other illegal drugs, apart than heroin, were occasional buyers, purchasing less than twice per month.

Ecstasy and amphetamine were the most commonly purchased illegal drugs other than cannabis, with a quarter of all users buying these drugs monthly or more often. Monthly, fortnightly or weekly purchases were the most common patterns in each case.

Roughly one in six would buy LSD monthly or more often, with 7.1% buying ecstasy and 6.3% buying amphetamine on a weekly basis or more often.

The only illegal drug with a significant proportion of users buying daily was heroin, with nearly half of the 14 'regular users' buying daily. The vast majority of those who reported ever using heroin had used it very few times. This was similar to the patterns of use reported in 1994 and 1984.

Those users who reported purchasing less than once a month fall into two distinct categories: those who only use occasionally and buy small amounts, and a small number of regular users buying bulk supplies at a discount. Bulk buying is more likely where particularly attractive prices are offered, or where the supply of a particular drug is intermittent (e.g. LSD) or seasonal (e.g. mushrooms). The low cost of LSD in quantity and long 'shelf-life' makes 'bulk' purchase for personal use a viable option.

It was not possible to analyse purchase quantities or deal prices by frequency due to the low incidence or absence of data points in this sample. These questions will be repeated in future surveys allowing analysis of the consolidated data set at a later date.

Table 31

Frequencies of purchasing / obtaining different drugs							
Drug	Total No. reporting purchase	<Monthly	Monthly	Fortn'ly	Weekly	>Weekly	Total No. monthly or more often
LSD	311	122	133	28	16	12	189
% of total	27.4%	10.7%	11.7%	2.5%	1.4%	1.1%	16.6%
Ecstasy	361	62	152	67	60	20	299
%	31.8%	5.5%	13.4%	5.9%	5.3%	1.8%	26.3%
Amphetamine	356	68	165	51	50	22	288
%	31.3%	6.0%	14.5%	4.5%	4.4%	1.9%	25.4%
Mushrooms	171	117	42	5	6	1	54
%	15.1%	10.3%	3.7%	0.4%	0.5%	0.1%	4.8%
Cocaine	127	75	42	7	3	0	52
%	11.2%	6.6%	3.7%	0.6%	0.3%	0.0%	4.6%
Crack	64	59	4	1	0	0	5
%	5.6%	5.2%	0.4%	0.1%	0.0%	0.0%	0.4%
Heroin	75	61	5	1	1	7*	14
%	6.6%	5.4%	0.4%	0.1%	0.1%	0.6%	1.2%

Total n = 1136

* One heroin buyer purchasing twice a week, remaining 6 buying daily.

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Prevalence of use of drugs other than cannabis was similar to those in previous surveys, with amphetamine, mushrooms and LSD the most commonly tried. The incidence of ecstasy use has also increased by 7.2%, but now appears to be reaching saturation level (93%) with a smaller proportion of non-users willing to try it if offered. Lifetime amphetamine use increased by 1.2%. The increases in ecstasy and heroin appear to reflect an increased level of use in the wider population, when

set against the overall decline in prevalence of most drugs which would reflect differences in sampling (i.e. no 'reform' or 'subculture magazine' mailings in 1997). The lifetime prevalence of heroin use within the sample was lower than in surveys in 1984 and 1994, down to 12.9% from 14.4% in 1994 and from 21% in 1984. The incidence of daily heroin use remained similar to that found in both previous surveys at under 1%.

Table 32

Frequency of Use - All Drugs					
Frequency of use	Tea/ Coffee	Tobacco	Alcohol	Cannabis	LSD
Non/ex-users/blanks	150	225	161	123	430
Experimental	38	49	27	28	283
Occasional	42	61	63	63	273
Regular	123	133	683	353	139
Daily	783	668	202	569	10
Lifetime Users*	1006	993	1018	1029	806
% of total sample	88.6%	87.4%	89.6%	90.6%	71.0
Change since 1994	-5.3%	-4.4%	-5.0%	-5.3%	-4.8%

Frequency of use	Mush- rooms	Ecstasy	Other Psych	Amphet- amine	Cocaine	Crack
Non/ex-users/blanks	424	521	963	442	701	1065
Experimental	325	254	96	205	254	52
Occasional	286	158	47	264	116	13
Regular	93	194	23	209	57	5
Daily	8	9	7	16	8	1
Lifetime Users*	766	657	189	787	478	88
% of total sample	67.4%	57.8%	16.6%	69.3%	42.1%	7.7%
Change since 1994	-2.2%	+7.2%	-2.2%	+1.2%	-0.3%	-1.2%

Frequency of use	Heroin	"Bliss"	Barbit- urates	Tranqu- illisers	Solvents
Non/ex-users/blanks	1017	1123	1057	973	1015
Experimental	85	7	42	97	79
Occasional	20	3	31	42	32
Regular	6	2	4	17	7
Daily	8	1	2	7	3
Lifetime Users*	147	18	114	208	194
% of total sample	12.9	1.6%	10.0%	18.3%	17.1%
Change since 1994	-1.5%	+0.1%	-3.6%	+0.3%	-1.1%

* 'Lifetime Users' total includes current users and ex-users.

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Table 33

Monthly Drug Spending by Frequency of Use					
Tea/Coffee			Tobacco		
	<i>n</i>	avg (£)		<i>n</i>	avg (£)
Non/ ex users/ No response	150	0.40	Non/ ex users/ No response	225	2.22
Experimental	38	2.59	Experimental	49	10.35
Occasional	42	1.45	Occasional	61	5.58
Regular	123	2.86	Regular	133	8.68
Daily	783	6.32	Daily	668	36.64
	p<.0005			p<.005	
Alcohol			Cannabis		
	<i>n</i>	avg (£)		<i>n</i>	avg (£)
Non/ex users/ No response	161	4.75	Non/ex users/ No response	123	19.61
Experimental	27	10.89	Experimental	28	34.46
Occasional	63	12.29	Occasional	63	24.42
Regular	683	32.62	Regular	353	27.53
Daily	202	58.78	Daily	569	106.84
	p<.0001			p<.0001	
LSD			Mushrooms		
	<i>n</i>	avg (£)		<i>n</i>	avg (£)
Non/ex users/ No response	430	0.21	Non/ex users/ No response	424	0.04
Experimental	283	0.94	Experimental	325	0.19
Occasional	273	2.03	Occasional	286	0.43
Regular	139	6.13	Regular	93	1.71
Daily	10	11.0	Daily	8	0.5
	p<.0001			p<.0001	
Ecstasy			Other Psychedelic		
	<i>n</i>	avg (£)		<i>n</i>	avg (£)
Non/ex users/ No response	521	0.64	Non/ex users/ No response	963	0.01
Experimental	254	2.41	Experimental	96	0.78
Occasional	158	7.48	Occasional	47	1.15
Regular	194	28.74	Regular	23	3.70
Daily	9	13.60	Daily	7	4.71
	p<.0001			p<.0001	

Continues

Regular Users II - UK Drug Market Analysis

Table 33 Continued - Monthly Spending by Frequency of Use

Amphetamine	<i>n</i>	avg (£)
Non/ex users/ No response	442	0.76
Experimental	205	1.14
Occasional	264	5.81
Regular	154	21.18
Daily	8	138.38
	p<.0001	

Cocaine	<i>n</i>	avg (£)
Non/ex users/ No response	701	0.09
Experimental	254	1.85
Occasional	116	6.73
Regular	29	30.90
Daily	2	310
	p<.0001	

Crack	<i>n</i>	avg (£)
Non/ex users/ No response	1065	0.32
Experimental	52	1.88
Occasional	13	1.62
Regular	5	32.0
Daily	1	0
	p<.0001	

Heroin	<i>n</i>	avg (£)
Non/ex users/ No response	1017	0.11
Experimental	85	0.97
Occasional	20	7.25
Regular	4	37.50
Daily	6	222.92
	p<.0001	

Barbiturates	<i>n</i>	avg (£)
Non/ex users/ No response	1057	0
Experimental	42	0.26
Occasional	31	0.9
Regular	4	0.25
Daily	2	0
	p<.0001	

Tranquillisers	<i>n</i>	avg (£)
Non/ex users/ No response	973	0.05
Experimental	97	0.49
Occasional	42	0.52
Regular	17	6.59
Daily	7	0.75
	p<.0001	

Solvents	<i>n</i>	avg (£)
Non/ex users/ No response	1015	0.02
Experimental	79	0.37
Occasional	32	0.72
Regular	7	2.86
Daily	3	0
	p<.0001	

* 'regular' and 'daily' data includes only those who could quote monthly spending, otherwise missing values recoded to '£0'.

Experimental = used ten times or less
Regular use includes regular but not weekly

Table 34

Incidence of Rarer Drugs Used ('write-in' responses)				
	Number	% of total	Drug	No.(%)
Opium	21	1.85%	Caffeine pills, Prozac,	1 each (0.09%)
Ketamine	16	1.41%	Artane, Ephedrine,	
Mescaline/Peyote	4	0.35%	Mandrax, Nutmeg,	54 (4.75%)
Methadone	4	0.35%	Scopolamine, Harmaline,	
DMT	4	0.35%	Salvia Divinorum, Codeine,	
Amyl Nitrate (Poppers)	3	0.26%	Palfium, diconal, DF118	
Amphet (pills/base)	3	0.26%	Total reporting rarer drugs	
2-CB	2	0.18%		

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Among the respondents, those who would never try drugs not yet used outnumbered those who might be willing to experiment for all drugs except magic mushrooms. The saturation level of the market for each drug was calculated from the total of those currently using or having given up divided by the total potential use including those who had not yet used the drug but would be willing to try.

Markets with 95% saturation or more included caffeine, tobacco, alcohol, cannabis, LSD, amphetamine and solvents, with Mushrooms and Ecstasy also over 90% saturated. Although the saturation levels of heroin, crack, barbiturates and tranquillisers were lower, this reflected lower levels of current use, and the maximum potential increase in prevalence of these drugs would represent 3% of the total sample or less.

Table 35

Non-Users' Intentions and Market Saturation by drug				
Drug	Tea/Coffee	Tobacco	Alcohol	Cannabis
Total Users	986	911	975	1013
Would never use	6	11	4	1
Might Use	2	1	2	0
Never heard of	0	0	0	0
Given Up	20	82	43	16
No response	123	133	113	107
Market Saturation (%)	99.80%	99.90%	99.80%	100.00%
Ratio (might/never use)	0.33	0.09	0.50	0.00
Drug	LSD	Mushrooms	Ecstasy	Oth Psych
Total Users	705	712	615	173
Would never use	58	51	113	125
Might Use	41	60	50	98
Never heard of	0	0	2	15
Given Up	101	54	42	16
No response	231	259	314	709
Market Saturation (%)	95.16%	92.74%	92.93%	65.85%
Ratio (might/never use)	0.71	1.18	0.44	0.78
Drug	Amphet.	Cocaine	Crack	Heroin
Total Users	694	435	71	119
Would never use	50	159	331	310
Might Use	25	57	32	32
Never heard of	2	3	3	3
Given Up	93	43	17	28
No response	272	439	682	642
Market Saturation (%)	96.92%	89.35%	73.33%	82.12%
Ratio (might/never use)	0.50	0.36	0.10	0.10
Drug	Bliss	Barbs	Tranx	Solvents
Total Users	13	79	163	121
Would never use	187	277	251	299
Might Use	29	40	38	9
Never heard of	187	24	10	1
Given Up	5	35	45	73
No response	715	681	629	633
Market Saturation (%)	38.30%	74.03%	84.55%	95.57%
Ratio (might/never use)	0.16	0.14	0.15	0.03

14 Market Shares of All Drugs

Among all drugs including the legal ones, nationally, cannabis had a market share of 38.27%. Alcohol was second most used, at 24.81%. It is not surprising that cannabis scored highly, as this survey was directed mainly at cannabis users. The lowest shares were of barbiturates and solvents. There were regional variations, such as more tobacco use reported than cannabis or alcohol in Yorkshire/North East, and a relatively high use of tranquillisers in Scotland. (Table 36)

Taking only the illegal drugs, and solvents, cannabis had the highest share again, of 72.49%, the next largest being Ecstasy with 8.57%. (Table 37)

Of the illegal drugs apart from cannabis, ecstasy and amphetamines had the largest share of the UK market, barbiturates and solvents the lowest. (Table 38)

For some drugs, the numbers of respondents in some regions was very small, and the regional market shares may be unduly influenced by individuals (e.g. of 51 respondents from East Anglia, none used heroin or crack, and among the 86 from Yorkshire, 7.3% of total illegal drug use reported was of heroin). These figures are not statistically significant, and certainly do not represent percentages of actual use in those areas. However, some may be indicative, e.g. tranquillisers with a share of 10% of non-cannabis illegal drugs spending in Scotland, which also reported the highest regional price by a significant margin. In several of the tables, regions have been amalgamated for some drug prices to produce enough data to enable useful comparisons.

Comparisons with seizure statistics

Market shares of the total spending on illegal drugs bought by our respondents might be compared with Home Office statistics on seizures of drugs by Police and Customs, nationally and in the various regions.²⁰ By combining seizures by police areas into regions, it is possible to compare market shares, as determined by our survey statistics, with the proportion of total drugs seizures involving particular drugs. The

total amounts of drugs seized are determined primarily by seizures of large quantities at importation level. The total number of seizures of each drug are likely to be a more reliable indicator of prevalence. (Tables 39-41)

Using comparable lists of drugs, cannabis accounted for 69.31% of respondents' total drug spending and 75.31% of the number of seizures nationally. It was the most commonly seized drug, and accounted for the greatest spending, in every region. The next highest number of seizures was of amphetamines, nationally and in every region except 'other'. Ecstasy had the second highest market share nationally, and in London, the Southeast, and Scotland, with amphetamines second elsewhere. Heroin was the third most common drug seized, and had the fourth highest market share despite relatively small numbers of regular users.

The pattern of drugs seizures is generally similar in terms of absolute percentages to the overall market shares of each drug. However, some drugs were consistently over-represented in seizure statistics when compared to survey data, notably heroin and amphetamine. Drugs which appear consistently underrepresented in seizure statistics include LSD (all regions), cocaine and ecstasy (all regions except London).

Our data would appear to under-represent the prevalence of amphetamine and heroin use among drug users as a whole, particularly in some regions where there were no respondents or only a few respondents buying heroin on a regular basis. Our results will be distorted to some extent by the actual costs of the different drugs, the bias of the survey towards cannabis users, and by the proportions of respondents from each region, determined largely by the distances they had to travel to the festival sites where the data was collected.

The Home Office figures are likely to be affected by regional targeting of specific drugs and/or supply networks, the increased activities of HM Customs in areas with international ports, and the

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variations in population size and density between regions.

Drug Counselling and treatments

As seen in our previous (1984) survey, very few recreational drug users ever contact drug advice agencies, or seek medical help in relation to drug problems. Among our respondents the use of such services does not appear to be a useful indicator of the prevalence of use, and seems of little value in estimating the prevalence of drug-related problems.

As in 1994, more users reported benefits from cannabis than problems. The 1% of respondents who had been treated for drug addiction included alcohol detox/rehab. 6% had sought drug advice or counselling. It is not clear how many of those treated by 'prescription' involved non-drug related ailments.

Table 36

Drug Problems, advice, and treatment		
Problems/Treatment	Number reporting	% of total
Health problems from cannabis	232	20.4%
Health benefits from cannabis	630	55.5%
Drug advice	68	6.0%
Detoxification	14	1.2%
Rehabilitation	11	1.0%
Prescription	30	2.6%
Drug Prescribed:	Drug not stated - 14 Methadone - 4 Heroin - 4 Valium/tranx - 3 Prozac - 2 DF118 - 1 Thordiazine +Procyclidine - 1	

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Table 37

All drugs - share of total market by region (% of total spending including legal drugs)				
Region	Base	Caffeine	Tobacco	Alcohol
London	168	4.14	14.75	30.22
South East	149	2.82	14.35	25.53
South West	187	3.36	15.71	21.93
East Anglia	52	3.64	15.37	25.38
Midlands	120	3.19	16.45	22.67
Wales	51	4.84	18.89	22.85
Yorks/NE	86	2.54	39.79	18.15
North West	91	2.92	19.07	29.34
Scotland	67	4.01	16.69	24.58
Other	165	7.16	18.01	27.70
UK average	1136	3.81	18.60	24.81

All drugs - share of total market by region (% of total spending including legal drugs)							
Region	Base	Cannabis	LSD	Mushrooms	Ecstasy	Other Psych.	Amphet.
London	168	37.09	1.49	0.44	5.86	0.27	3.20
South East	149	46.34	1.13	0.18	4.44	0.18	2.69
South West	187	41.45	0.77	0.26	4.22	0.11	6.67
East Anglia	52	45.56	0.75	0.59	3.49	0.48	3.39
Midlands	120	38.53	1.30	0.22	4.93	0.24	3.75
Wales	51	36.27	2.28	0.14	4.63	0.00	5.67
Yorks/NE	86	28.45	0.88	0.09	2.48	0.04	2.93
North West	91	38.84	1.09	0.08	3.04	0.04	4.54
Scotland	67	40.78	0.86	0.00	5.63	0.00	4.35
Other	165	29.51	1.96	0.45	5.61	0.34	6.92
UK average	1136	38.27	1.22	0.25	4.53	0.17	4.46

All drugs - share of total market by region (% of total spending including legal drugs)							
Region	Base	Cocaine	Crack	Heroin	Barbiturates	Tranx	Solvents
London	168	2.25	0.13	0.10	0.00	0.00	0.06
South East	149	1.28	0.00	0.96	0.00	0.00	0.11
South West	187	2.28	0.61	2.32	0.04	0.20	0.08
East Anglia	52	0.81	0.00	0.00	0.00	0.34	0.19
Midlands	120	4.08	2.11	2.48	0.01	0.00	0.04
Wales	51	3.55	0.00	0.89	0.00	0.00	0.00
Yorks/NE	86	1.06	0.62	2.90	0.08	0.01	0.00
North West	91	1.01	0.00	0.00	0.01	0.03	0.00
Scotland	67	1.14	0.00	0.28	0.11	1.45	0.11
Other	165	1.39	0.02	0.65	0.03	0.18	0.06
UK average	1136	1.95	0.43	1.26	0.03	0.16	0.06

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Table 38

Illegal drugs - share of total market by region (% of total spending on illegal drugs & solvents)							
Region	Base	Cannabis	LSD	Mush-rooms	Ecstasy	Other Psych.	Amphet.
London	168	72.89	2.93	0.86	11.51	0.52	6.29
South East	149	80.86	1.96	0.31	7.75	0.31	4.70
South West	187	70.26	1.30	0.44	7.16	0.18	11.31
East Anglia	52	81.94	1.34	1.06	6.28	0.87	6.09
Midlands	120	66.80	2.25	0.38	8.54	0.41	6.50
Wales	51	67.90	4.26	0.25	8.67	0.00	10.60
Yorks/NE	86	71.99	2.23	0.22	6.26	0.09	7.41
North West	91	79.80	2.24	0.16	6.25	0.09	9.32
Scotland	67	74.53	1.56	0.00	10.29	0.00	7.95
Other	165	62.61	4.16	0.96	11.91	0.73	14.68
UK average	1136	72.49	2.32	0.48	8.57	0.33	8.45

Illegal drugs - share of total market by region (% of total spending on illegal drugs & solvents)							
Region	Base	Cocaine	Crack	Heroin	Barbiturates	Tranx	Solvents
London	168	4.42	0.25	0.20	0.00	0.00	0.12
South East	149	2.23	0.00	1.68	0.00	0.00	0.19
South West	187	3.86	1.03	3.93	0.06	0.34	0.13
East Anglia	52	1.46	0.00	0.00	0.00	0.61	0.34
Midlands	120	7.07	3.66	4.30	0.02	0.00	0.07
Wales	51	6.64	0.00	1.66	0.00	0.00	0.00
Yorks/NE	86	2.67	1.56	7.33	0.21	0.03	0.00
North West	91	2.07	0.00	0.00	0.02	0.05	0.00
Scotland	67	2.08	0.00	0.52	0.21	2.65	0.21
Other	165	2.94	0.04	1.39	0.06	0.38	0.13
UK average	1136	3.69	0.81	2.38	0.05	0.30	0.12

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Table 39

Illegal Drugs Except Cannabis - Share of total market by Region (% of total spending on illegal drugs & solvents excluding cannabis)						
Region	Base	LSD	Mushrooms	Ecstasy	Other Psych.	Amphet.
London	168	10.82	3.17	42.47	1.93	23.20
South East	149	10.26	1.63	40.52	1.63	24.58
South West	187	4.38	1.47	24.07	0.61	38.03
East Anglia	52	7.44	5.87	34.79	4.79	33.72
Midlands	120	6.77	1.14	25.72	1.23	19.58
Wales	51	13.27	0.79	27.02	0.00	33.04
Yorks/NE	86	7.95	0.79	22.36	0.32	26.44
North West	91	11.11	0.80	30.93	0.44	46.13
Scotland	67	6.14	0.00	40.41	0.00	31.20
Other	165	11.13	2.57	31.85	1.94	39.27
UK average	1136	8.42	1.73	31.16	1.19	30.72

Illegal Drugs Except Cannabis - Share of Total Market by Region (% of total spending on illegal drugs & solvents excluding cannabis)							
Region	Base	Cocaine	Crack	Heroin	Barbiturates	Tranx	Solvents
London	168	16.29	0.93	0.75	0.00	0.00	0.44
South East	149	11.63	0.00	8.76	0.00	0.00	0.98
South West	187	12.97	3.47	13.23	0.22	1.13	0.43
East Anglia	52	8.10	0.00	0.00	0.00	3.39	1.90
Midlands	120	21.29	11.02	12.95	0.07	0.00	0.22
Wales	51	20.69	0.00	5.18	0.00	0.00	0.00
Yorks/NE	86	9.54	5.56	26.18	0.74	0.11	0.00
North West	91	10.22	0.00	0.00	0.09	0.27	0.00
Scotland	67	8.17	0.00	2.03	0.82	10.42	0.82
Other	165	7.88	0.11	3.71	0.17	1.03	0.34
UK average	1136	13.43	2.96	8.66	0.19	1.10	0.44

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Table 40

Illegal drugs - Spending compared with Seizure statistics				
Drug	Gross Spending (£)	Spending %	No of seizures	% of seizures
Cannabis	82008	69.31	94820	75.62
LSD	2834	2.40	1134	0.90
Mushrooms/ Other Psych.	866	0.73	859	0.69
Ecstasy	9269	7.83	6224	4.96
Amphetamine	7282	6.15	18519	14.77
Cocaine	5983	5.06	2830	2.25
Crack	3228	2.73	1212	0.97
Heroin	6495	5.49	9789	7.81
Barbs/Tranx	177	0.15	2529	2.02

Table 41

Illegal Drugs - Gross Spending by Region					
Region	Cannabis	LSD	Mush-rooms/ Other Psych	Ecstasy	Amphet.
London	7264	292	138	1147	627
South East	9633	234	75	924	560
South West	10186	189	90	1038	1640
East Anglia	2855	47	67	219	212
Midlands	6487	218	76	829	631
Wales	2456	154	9	314	384
Yorks/NE	4170	129	18	363	429
North West	4043	114	13	317	472
Scotland	3575	75	0	494	381
Other	4841	322	130	921	1135

Illegal Drugs - Gross Spending by Region				
Region	Cocaine	Crack	Heroin	Barbs/ Tranx
London	440	25	20	0
South East	265	0	200	0
South West	559	150	570	58
East Anglia	51	0	0	21
Midlands	686	355	418	2
Wales	240	0	60	0
Yorks/NE	155	90	425	14
North West	105	0	0	4
Scotland	100	0	25	137
Other	228	3	107	35

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Table 42

Illegal drugs - Seizures by Region					
Region	Cannabis	LSD	Mush-rooms/ Other Psych	Ecstasy	Amphet-amine
London	22480	222	101	1402	3380
South East	7457	96	62	585	1730
South West	7539	94	158	515	1702
East Anglia	5300	46	54	320	1264
Midlands	7480	128	58	530	2063
Wales	4601	90	125	274	1269
Yorks/NE	12771	140	53	766	2916
North West	9087	93	38	495	1881
Scotland	9914	131	124	855	2035
Other	8191	94	86	482	279

Illegal drugs - Seizures by Region				
Region	Cocaine	Crack	Heroin	Barbs/ Tranx
London	2056	753	1839	296
South East	226	38	581	169
South West	155	85	718	161
East Anglia	88	15	356	45
Midlands	177	96	631	120
Wales	40	14	229	113
Yorks/NE	293	101	2117	291
North West	245	93	1872	149
Scotland	115	2	1197	1113
Other	647	15	249	72

15 Changes in Market Shares of Illegal Drugs since 1984

Using data from our two similar studies in 1984 and 1994, some changes in the percentages of total drug spending spent on each drug can be seen. Cannabis declined as a proportion over the whole period, but rose in the last three years. Heroin and LSD use have declined consistently as proportions, amphetamines have risen. (Table 32).

Recent headlines suggesting an increase in heroin use are not confirmed by these results. It is likely that some proportion of the increase in registered addicts would be attributable to the wider availability of 'user friendly' treatment options such as needle exchanges and maintenance

prescribing, with reduced emphasis on abstinence-oriented treatment and advice. While the proportion of lifetime heroin use has fallen steadily in the surveys since 1994, the proportion of daily users has remained stable at around 0.5% to 1%. An increase in the prevalence of drug use in general would be expected to result in some increase in the numbers using heroin. However, the slight increase in average rating of heroin may suggest the drug to be losing some stigma among some individuals or groups within the drug using population.

Table 43

Changes in Proportions of Total Illegal Drug Spending 1984-97					
Drug	% Illegal 1997	% Illegal 1994	% Illegal 1984	Change 1984-97	Change 1994-97
Cannabis	72.5	69.3	81.5	-9	3.2
LSD	2.3	2.4	2.6	-0.3	-0.1
Mushrooms	0.5	0.4	0.4	0.1	0.1
Solvents	0.1	0.1	0.1	0	0
Amphetamine	8.5	6.2	6.4	2.1	2.3
Cocaine	4.5	7.8	3.1	1.4	-3.3
Heroin	2.4	5.5	5.9	-3.5	-3.1
Ecstasy	8.6	7.8	n/a	n/a	0.8

Conclusions

Cannabis Prices

Prices of cannabis fell by 1.4% between 1994 and 1997. This represents a greater reduction in real economic terms. The modal retail price of cannabis resin remained steady at £15 per 1/8oz, but a higher proportion of users reported lower prices than in 1994.

There is evidence of increasing use and cultivation of 'skunk' or other indoor cannabis varieties, and significantly reduced use of imported herbal cannabis. Consumption of 'skunk' exceeded that of 'homegrown (leaf)'.

Home grown cannabis was most commonly given away free, however when it was sold prices could be as high as imported herbal varieties. As mature female cannabis plants produce broadly equivalent quantities of leaf and flowering tops when grown indoors, it would appear that roughly 75% of home-produced leaf material, even from good quality plants, may be discarded or otherwise not consumed.

Moroccan resin (also including the majority of 'unknown' resin) appears to have consolidated its already dominant market share, largely at the expense of Asian resin. Lebanese resin, once the market leader, has virtually disappeared from the UK market. The 'drought' of Moroccan resin widely reported during 1996 appears to have had no lasting effect on cannabis prices.

The mean price of cannabis (all varieties and weights consolidated) was lowest in the South West, most expensive in the Midlands. For small amounts these regional differences were negligible and did not reach statistical significance, with greater price differentials for imported herbal varieties. The mean price of 1/8oz cannabis was lowest in Wales, highest in Yorkshire-Humberside, although the mean price of 1oz was lowest in the North-West and highest in London.

The most commonly used varieties of cannabis are dark Moroccan (a.k.a 'soapbar') and 'skunk'. Popularity ratings did not appear to have a direct effect on market share, as Moroccan had a low rating, and the most widespread use. Higher ratings of 'Lebanese' and other rarer cannabis types would appear to represent novelty and/or nostalgia value.

Prices of other drugs

The price of most drugs fell in real terms between 1995 and 1997, with particularly noticeable falls in the prices of heroin, cocaine and ecstasy. Amphetamine prices had also fallen which, taken with the increased purity and indications of wider prevalence, suggests that greater quantities are available on the UK market. Both heroin prices and purities have fallen. For most drugs, bulk prices suggest roughly a 20-30% price reduction for every 10 fold increase in quantity, although the difference between 'gram' and 'ounce' prices for amphetamine is particularly substantial, suggesting that regular or heavy users would find it economically advantageous to buy in ounces.

For all illegal drugs (consolidated) the overall price is highest in Scotland, lowest in East Anglia. There are wide variations reported in the regional prices of powders (amphetamines, heroin, cocaine). In almost every case where comparisons could be made, average prices given by our respondents were lower than those given in official police statistics.

Purchasing Patterns

Users of most drugs buy these on a weekly, fortnightly or monthly basis. Daily purchase is rare, other than for heroin users. Those having most recently bought cannabis between 1 and 6 months previously had bought substantially more than other user groups, suggesting that a minority of users (approx. 2%) buy in bulk to sustain long-term consumption. Otherwise, purchase patterns may well

reflect the availability of money, either though a weekly wage, fortnightly giro or monthly salary.

Although these data indicate that a substantial proportion of users purchase drugs for personal use on a monthly basis, those users who are arrested in possession of one month's personal supply of cannabis or other drugs would normally expect to face 'possession with intent' charges, with a real probability of conviction and imprisonment.

The purchase data suggests that the widespread police practice of quoting 'gram deal' prices for cannabis is unjustified. Only 4% of purchases by regular users involved quantities of less than 1/8oz, a similar proportion to purchases exceeding one ounce. Experimental and casual users would appear to make up the bulk of those purchasing 'sixteenths' or £5 deals.

Prevalence of other drug use

The lifetime prevalence of use of other illegal drugs was lower than in 1994, although ecstasy (up 7.2%), and amphetamine (up 1.2%) bucked the general trend, suggesting a real increase in the lifetime prevalence of these drugs since 1994. The ecstasy trend appears to reflect an increased saturation of the market, from 84.4% of potential users in 1994 to 92.9% in 1997 having tried the drug.

The overall pattern of use of other drugs was similar to previous years, with the majority of those having tried other drugs reporting experimental or occasional use. However around one in five respondents used amphetamine and/or ecstasy on a regular (monthly or weekly) basis, with around one in ten respondents considering themselves regular users of LSD or Mushrooms. The highest number of daily users for any illegal drug other than cannabis was for amphetamine (16 respondents, 1.4%), with only 8 reporting daily heroin use (0.7%), confirming the data from previous surveys showing that the vast majority of cannabis users do not become addicted to other drugs. The high incidence of frequent ecstasy use is a

particular cause for concern, as dosage levels reported by some users would exceed those reported to cause serotonergic neurotoxicity in laboratory animals. Awareness of such risks appears not to have permeated the consciousness of ecstasy users by the summer of 1997, as subjective ecstasy ratings were higher than in 1994 (up from 6.36 to 6.86 out of 10).

The prevalence of other drugs not specifically mentioned in the questionnaire, requiring respondents to 'write in' answers, will under-represent the wider incidence of use. Of these rarer drugs, Opium and Ketamine appear the most common and worthy of further investigation.

Estimating the Size of the UK Cannabis Market

Our estimates of the value of the cannabis market echo those published by the Office of National Statistics, who arrived at similar figures despite erroneous assumptions (underestimating annual personal consumption, and overestimating the risk of police arrest), the effect of which would largely be to cancel each other out. The main indicators used to derive our estimates are the incidence/probability of arrests among our users, and their reported levels of consumption, frequency of cannabis purchase, amounts purchased and prices paid.

The distribution of cannabis use is similar to previous years, with a slight reduction in overall mean monthly cannabis use from 24.8g to 23.9g per month.

The probability of arrest varies according to the size of deal currently purchased, those buying one ounce or more at a time were nearly twice as likely to have been arrested as buyers of 1/2oz or less. Based on the number of deals bought per year, and the number of busts per year per individual, the police seizure rate would vary between 1 bust every 750 to 2000 deals, or one bust every 25-30 years for the average user (3.5% chance of ever being busted per year of use).

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Those users who had grown cannabis plants were three times as likely to have been arrested for cannabis offences compared to non growers (5.7% vs. 1.9% chance of bust per year of use). Given that most users will not have been growing throughout their use history, the chances of being 'busted' during a growing season may be considerably higher than 5.7%. On the basis that three crops per year would be produced by indoor cultivation, with two being grown simultaneously (i.e.. in vegetative and flowering states), we estimate that police seize a minimum of 4% of the domestically produced crop.

Based on a range of alternative indicators, weighting and calculation methods, the value of the UK cannabis market can be

estimated as between £1.71 billion and £9.03 billion per annum. Extrapolating prevalence from the police caution & conviction statistics and our estimated 'bust rates', there would be approximately 2.3 million regular cannabis users in the UK. This does not assist with estimating lifetime prevalence, as there will be a larger but unknown number of occasional/experimental users and former users of the drug. This is slightly larger than the Home Office estimate from the British Crime Survey²¹, but consistent with their figure in the light of under-reporting of cannabis use described by the Home Office study involving drug testing of arrestees²².

Appendix - Monthly Cannabis Use (Consolidated 1994-1997 data)

The 1994 and 1997 samples both showed similar mean cannabis usage (24.8g, 23.92g per month respectively) and distributions, and were combined to form a sample of 2469 users. The distribution of monthly consumption, number of 'spliffs' and the equivalent consumption levels of users at different percentiles of the range are shown below.

The top credible reported consumption was 400g or approximately 1/2 oz per day, by a grower who had produced 208 plants in his most recent crop. At 3%-15% THC, this could represent between 400mg and 2000mg THC per day. He reported 'memory loss' as a health problem and did not report any health benefits!

There was a small cluster of 19 respondents in the range 200-250g (approx. 2 oz per week), representing THC intakes of between 200mg and 1250mg per day.

This contrasts with the maximum reported cannabis use in the literature of 10g/day (McBride)²³ in the UK, and 50g per day (Schaeffer et al)²⁴ in the Caribbean (estimated at 4000mg THC/day based on determined 8% THC content).

The top 4% of our respondents would use 1oz per week or more (one user in 25), 1% would smoke 200-250g per month. The most commonly reported use was 28g, or

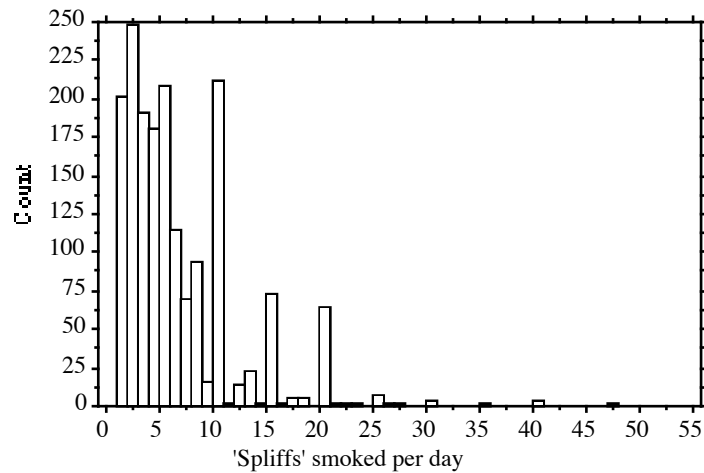
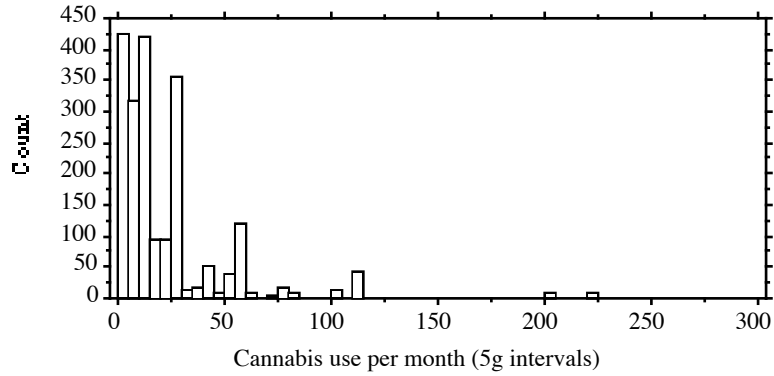
one ounce per month, although median usage was equivalent to one eighth ounce per week. One user in four would smoke 10 or more 'spliffs' per day.

Younger users, including students (who have consistently shown lower average cannabis use than other occupation groups), tend to use less cannabis than those of 5-15 years standing.

There is no evidence of any significant increase in use with longer durations, as those users of 20 or more years standing used less cannabis than their less experienced counterparts. A typical pattern would be an experimental phase in mid teens, followed by heavier use of cannabis and experimental or occasional use of a range of other drugs (notably amphetamine, mushrooms, LSD) in early adulthood, and very few users of crack or heroin, mostly experimental users. In the late 20s and early 30s cannabis use appears to stabilise to between 1/8oz and 1/4oz per week with other drugs used rarely if ever. The cross-sectional evidence of use levels are consistent with the 'up top down' pattern reported by Cohen & Sas²⁵ among 49% of cannabis users in Amsterdam.

Further results from the consolidated data set, re consumption patterns and aspects of medicinal use are published in our House of Lords Submission²⁶.

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Cannabis Use Percentiles (1994-97 - n = 2469)						
Percentile	monthl y use	weekly use	daily use	THC @ 3%	THC @ 15%	Reefers per day
50% (median)	14g	3.5g	0.5g	15mg	75mg	5
Top 25% (mode)	28g	7g	1g	30mg	150mg	10
Top 10%	56g	14g	2g	60mg	300mg	15
Top 5%	76g	19g	2.7g	81mg	405mg	17
Top 1%	200g	50g	7.1g	213mg	1065mg	23
Maximum	400g	100g	13.3g	400mg	2000mg	47

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