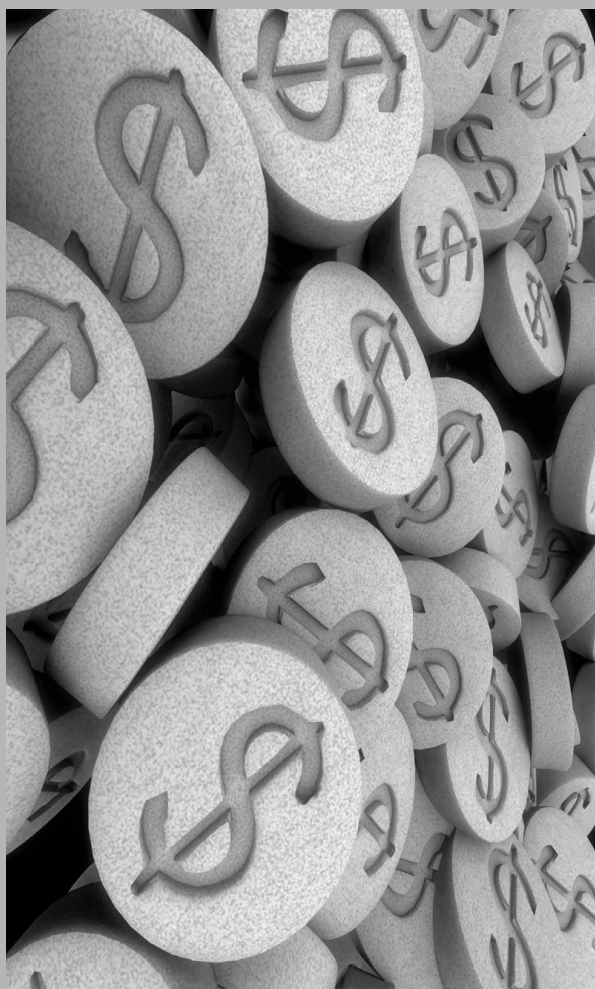


How many cones?

How many pills?

How many lines of coke?



**Estimating the size and value of Australia's
market for illegal drugs and its potential
for taxation under a regulated market**

Dr John Jiggins



Foreword

As a researcher into the illicit drug trade, I am intrigued by the question of the size of Australia's market in illicit drugs. Cannabis, it is said, is the biggest cash crop in Australia, but how can we know how many tonnes of cannabis Australians inhale each year?

What is the size of Australia's market for illicit drugs?

How much is our illicit drug trade worth?

What is the potential for taxing and regulating this industry?

We can gain some idea of how big Australia's illicit drug trade is from the many reports of drug seizures that regularly feature in our news broadcasts. In the seven month period between October 2012 and April 2013, the ABC alone ran about 500 stories related to drugs and drug seizures. Reading these stories gives an indication of the market's size. For the sake of analysis, I categorised the biggest seizures as monster (value greater than \$250 million street value); massive (seizures in the \$50 million to \$250 million street value range); enormous (\$10million to \$50 million); and big (\$1 million to \$10 million).

In the past nine months there were two monster seizure above the \$250 million range. On 30 July 2012, Customs and police found 558kg of illicit drugs valued at around \$500 million street value in a shipment of terracotta pots bound for Sydney: 306 kilograms of crystal methamphetamine (ice) and 252 kilograms of heroin. This was our third largest seizure of heroin and the largest seizure of ice in Australian history at that time. This Australian record for ice did not last long. On 28 February, 2013, the Australian black market achieved a new personal best, 585 kilos of ice, worth an estimated \$440 million dollars.

Commenting on this first monster seizure, Australian Federal Police (AFP) Deputy Commissioner Andrew Colvin talked up the success of the AFP, "This operation follows the AFP's most successful year in terms of drug seizures. In the 2011/12 financial year, the AFP and its partner agencies seized almost 14 tonnes of illicit substances bound for drug distribution networks across Australia." With drug seizures approaching the two billion dollar mark, 2012/13 is shaping up to be another bumper year for the AFP. But is the big picture really one of continuing police success, as Deputy Commissioner Colvin spun the story, or one of a country swimming in illicit drugs?

Below these two monster busts were reports of five massive seizures valued in the \$50 million to \$250 million range: *\$77m cocaine ring smashed: AFP, Foreign nationals arrested over \$237m drug seizure*, *Trio charged over 50kg heroin drug bust*, *Joint policing operation nets 200kg cocaine in shipwreck*, along with the related story, *Body on Tonga drugs yacht identified*. As well as these, there was another massive cocaine haul, 300 kilograms seized in Bundaberg in November 2012.

Dr John Jiggins, June 2013

Dr John Jiggins is a writer who has published several books including *Marijuana Australiana*, *The killer cop and the murder of Donald Mackay* and *Sir Joseph Banks and the Question of Hemp*. His academic works on Australian drug markets include *The Economic Costs of Drug Prohibition in Australia*, *Estimating the Size of the Australian Heroin Market: A New Method*, and *Australian Heroin Seizures and the causes of the 2001 Australian Heroin Shortage*, available from drjiggins.com.



Australia's biggest anti-cannabis operation was the annual police helicopter raids on the NSW North Coast, a lengthy eradication program that began in the New England district in November and wrapped up in the Coffs Harbour district in April, having swept over the entire NSW north coast. According to Drug Squad Commander, Superintendent Nick Bingham, it yielded almost 14,000 cannabis plants, valued at \$25 million. With more than a hint of wishful thinking Bingham declared: "Our aim is to disrupt the supply chain, to go and find and pull as many plants as we can and get that cannabis off the street and hopefully either drive prices up or keep prices stable and that will discourage people, we hope, (from using) cannabis."

As Bingham conceded, massive police operations are needed simply to keep the price of drugs at their present price. As cannabis activists have often joked, the Drug Squad are the Price Maintenance Squad for organised crime! But this is more than a joke: this is the essence of Prohibition. Prohibition acts as a multiplier for the black market. Every dollar we spend on drug law enforcement is worth \$10 to the black market. Currently, Australia spends about \$1.5 billion on drug law enforcement: this generates a black market worth approximately \$15 billion dollars for organised and disorganised crime. It is the weight of police, courts and prisons pushing down that drives up the price of illicit drugs and makes them more valuable than gold.

Following the current record ice seizure in March 2013 about 350 heavily-armed police officers raided 30 properties across Sydney, the Illawarra and Port Stephens and 18 people were arrested. New South Wales Police Commissioner Andrew Scipione declared. "Today you have seen evidence of the police at their very best. The one thing you can take away clearly is, in terms of organised crime, New South Wales police and the Crime Commission have you people firmly in our sights. We're not going away."

But neither are the drugs. Despite seizing close to two billion dollars worth of illicit drugs so far this year, all these massive police operations have had no significant impact on the availability of illicit drugs.

Four decades ago, when President Richard Nixon launched the War on Drugs, free market economist, Milton Friedman, declared that the failure of prohibition was inevitable because of corruption as officials succumbed to the lure of easy money: Said Friedman: "So long as large sums of money are involved—and they are bound to be if drugs are illegal—it is literally hopeless to expect to end the traffic or even to reduce seriously its scope." Stories like, *Customs officers suspected in airport smuggling ring*, *Customs corruption extends to waterfront*, *SAS officer not fit to plead*, *Police Commissioner's son breaches parole*, *Police officer facing drug charges*, demonstrated the accuracy of his prediction.

For those who enjoy irony there was, *Police take heart in more reported drug offences*, where Senior Sergeant Marty Haime from Geraldton police explained a 30.6 per cent increase in drug offences in the Gascoyne area as positive because it was showing results that would yield a 'generational change' in 'five to 10 years'. Said Sergeant Haime, "We'd like to think we're changing behaviours as time goes by."

However, the big drug story of the past year was not about Australia. It was the success of the vote for legalising cannabis in the US states of Colorado and Washington. In 1976 The Australian interviewed a group of Sydney 16-year-olds about how they saw the future. To these 16-year olds, the legalisation of drugs was inevitable. A schoolboy predicted, "The use of drugs will be so common it will be legalised. This will be a great advantage because it will no longer be a big business issue with dealers becoming millionaires overnight." Another said, "I also think it should be legalised because the more you say 'don't do this it's bad' the more the person's going to do it." Watching the results of the legalisation vote in Washington and Colorado in November 2012, were these former teenagers (now in their fifties) about to see their prediction vindicated?

Australia's Illicit Drug Markets

The ecstasy market

Ecstasy is the second most commonly used illicit drug in Australia after cannabis, used by 3% of the population over 14, or about 600,000 Australians.

In 2008, the United Nations Office on Drugs and Crimes (UNODC) declared that Australia had the highest annual prevalence of ecstasy use in the world. However, the global MDMA crisis intervened in 2009. Between 2007 and 2010, use of ecstasy declined from 3.5% to 3% of the Australian population over 14.

Estimated market size 40 million pills in 2011.
Estimated market value \$1,400 million.

The cocaine market

Of Australia's big five illicit drug markets, the cocaine market is expanding most rapidly.

Cocaine has grown in popularity at the expense of ecstasy.

Seizures are on the increase. Cocaine featured in four of the five massive seizures in the final months of 2012, and 750 kilograms of cocaine were seized.

There were an estimated 390 000 recent cocaine users in Australia in 2010, but only 839 cocaine arrests, an arrest rate of 2.1 arrests per thousand users. The cannabis arrests rate of 30.9 arrests per thousand users was fifteen times higher.

Australia's annual cocaine market is approximately 4.7 tonnes.

Estimated market value \$2.5 billion.

Market size equates to about 94 million lines of coke.

The methamphetamine market

Methamphetamine use declined from 3.4% to 2.1% of the population over 14 between 2001 and 2010. However, methamphetamine arrests recorded the most substantial increase of all drug types, increasing by 62 per cent over the same decade.

The past two years witnessed an extraordinary succession of record-breaking meth seizures.

Estimated number of users is 390,000.

Estimated market size is 6.8 tonnes.

Estimated street value is \$5 billion.

The cannabis market

Cannabis is Australia's most popular illicit drug with an estimated 2 million users.

About 250,000 Australians use cannabis daily.

70% of all illicit drug users are cannabis users.

70% of all illicit drug offences are for cannabis.

75% of drug seizures are for cannabis.

Market size is estimated to be between 150 tonnes and 300 tonnes of cannabis.

The value of the cannabis market is estimated at \$6 billion.

Depending on how you pack your cone , the estimated market size equates to 2400 million hits from the bong.

The heroin market

A revival of opium production in Southeast Asia seems to be contributing to a revival of Australia's heroin market. Heroin seizures are at decade-high levels.

Estimated size of the Australian heroin market is two tonnes.

This equates to forty million hits.

The estimated street value is \$2 billion.

Australia's illicit drug trade

The Australian illicit drug trade consists of a market of about three million Australians, composed of a cannabis market of between 150-300 tonnes, worth about \$6 billion, 2 tonnes of heroin (\$2 billion), 4.7 tonnes of cocaine (\$2.5 billion), 40 million ecstasy tablets (\$1.4 billion), and 6.8 tonnes of methamphetamine (\$5 billion), giving an estimated value of the Australian illicit drug market of about \$17 billion.

About 90,000 drug offences are prosecuted each year in Australia while an estimated 2680 million drug offences are committed each year (2400 million cones, 40 million pills, 40 million hits, etc.) or about 1 prosecution per 30,000 offences; the cocaine rate is about one prosecution for every 110,000 lines of coke.

What drugs do we prosecute most?

Regime of Prohibition (RoP) is a measure of how hard governments and police crack down on drug users measured by the ratio of the number of drug offences per thousand drug users.

Not all illicit drugs are prosecuted equally in Australia. If the illicit drugs were being policed in terms of their harmfulness (the potential for fatal overdoses and addiction) then cannabis, which is the least addictive, and which is never associated with fatal overdoses, should have the lowest relative Regime of Prohibition, followed by the amphetamine type stimulants, then cocaine and heroin. Instead, the war on drugs in Australia is a war on cannabis, the softest drug, while cocaine, a far more addictive drug, is almost decriminalised. The reason seems to be class: cocaine is the drug of choice of the highest socioeconomic groups and is rarely policed. Relative Regime of Prohibition compares the offences/1000 users of the various illicit drugs to cocaine's Regime of Prohibition,

which was 2.1 offences per 1000 users in 2010.

The main target of the War on Drugs in Australia is cannabis: 70% of all illicit drug offences are for cannabis. Among cannabis seizures, by far the biggest operation is the annual helicopter raids on the alternative communities on the NSW north coast. In the US, drug prohibition falls disproportionately on black Americans. Not so, it seems, in Australia. Aboriginal and Torres Strait Islander account for 26% of the total Australian prisoner population, an imprisonment rate 14 times more than the non-Indigenous rate. However, they constitute only 4% of the population imprisoned for illicit drugs. As well, they use cannabis and meth/amphetamines, the drugs most Australians get arrested for, at twice the national rate. In this regard, Australia's drug laws are not racially discriminatory. Drug prosecutions in Australia seem to be about lifestyle and class, rather than colour.

	Drug offences (2010-2011)	users	offences/1000 users	relative RoP
Cocaine	839	390,000	2.1	1.
Amphetamines	12,897	780,000	16.5	7.87
Cannabis	58,760	1,900,000	30.9	14.7
Heroin	2,551	50,000	51.0	24.2
All illicit	85,000	3,000,000	28.3	13.4

Drug law enforcement as a multiplier for the black market

When I was writing my paper "The economic costs of drug prohibition in Australia" I noticed a curious relationship between the money we spend on drug law enforcement and the value of the cannabis black market: if you multiplied the cost of drug law enforcement by four you came very close to my estimate of the value of the cannabis black market. This relationship was maintained over a twenty-year period. I found this puzzling. How could the money spent on drug law enforcement act as a multiplier for the cannabis market? Ultimately, I began to understand why.

For traders in the illicit drugs market, the major cost is not production but the cost of drug law enforcement. It is the combined weight of police, courts and prisons pressing down that creates the value of the market. A kilo of heroin can be bought in Burma for \$2500; once you get it into Australia, it can wholesale for \$250 000. The massive in-

crease in value is entirely due to the cost of drug law enforcement.

It is through the mechanism of price that the money spent on drug prohibition acts as a multiplier for the drug market. Pressing down hard on drugs does not make drugs less attractive, but it does make them more expensive. Cracking down on the trade causes a proportionate rise in price *i.e. price varies with the Regime of Prohibition*. As price goes up, so do profits, which mean larger sums are available for corrupting officials. Friedman argued that, so long as large sums of money are involved, it is literally hopeless to expect to end the traffic or even to reduce seriously its scope. However, by pressing down, you increase price (price varies with the Regime of Prohibition) and ensure that the value of the market increases, so the large sums of money gifted to criminals by governments become even larger.

Costing drug law enforcement

What percentage of the money Australia spends on the justice sector – prisons, police, courts – is spent on drug law enforcement?

Considering prisons first: in 2010 of the 29,700 prisoners in Australian adult prisons, 3,233 were there for illicit drug offences, which was 11% of the prison population, so the cost of drug law enforcement is assumed to include 11% of corrective services costs, whose 2009-10 budget was \$2,807 million, giving a drug law enforcement prison costs of \$309 million.

Considering the courts: illicit drug offences accounted for 2,785 (21%) of the 13,193 defendants proven guilty in Higher Courts in Australia in 2009–10. Of defendants adjudicated in the Magistrates' Courts in 2009–10, traffic and vehicle offences accounted for the greatest proportion (44%); of the remaining 56% of offences, 10.5% were for illicit drugs (6% overall). The drug law enforcement cost would be 6% of the cost of the Magistrates court and 21% of the cost of the Higher Courts or 12.3% of the total spending of \$673 million on courts (criminal), which is \$83 million.

We don't know the percentage of police time and resources devoted to illicit drugs, and you will not

find the percentage of the police time devoted to drug law enforcement estimated in any police report or by the ACC. Although the amount of police time and resources spent on illicit drugs is unknown, given that 11% of prison time and resources, and 12% of court time and resources are spent on illicit drugs, a 10% estimate for police is in line with the time and resources allocated by the other criminal justice sectors. Australia spent \$8235 million on police services in 2009-10, so the drug law enforcement component of this would be \$824 million, making the Justice sector component of drug law enforcement about \$1.2 billion.

Australia spends another \$1 billion on Customs. Since services provided by the Australian Customs Service (ACS) have a variety of simultaneous services, the drug law enforcement component is unknown, but considerable. A rounded figure of \$1.5 billion would be a reasonable estimate of the cost of drug law enforcement in Australia. This estimate does not include the capital costs involved in building more prisons. Since the size of the illicit drug market is estimated at about \$17 billion, the multiplier effect for drug law enforcement is about ten to one. Every dollar spent on drug law enforcement is worth ten dollars to the black market.

Regulating drugs

Drug prohibition is an inefficient form of taxation that gifts organised crime and disorganised crime with an illicit black market worth about \$17 billion. It costs \$1.5 billion dollars to achieve this, while drug regulation could potentially generating billions for the budget. Drug prohibition has been a monumental social policy failure. We spend one-and-a-half billion dollars, policing and prosecuting eighty-five thousand drug offences, locking up three thousand Australians under the delusionary belief that we are keeping drugs off the street. In the real world, Australia is swimming in a sea of drugs. Instead of reducing drug use, prohibition has glamorised and promoted drug use.

Politicians were warned of the dangers of corruption that would flow from drug prohibition, yet an 'Ocker Nostra,' a corrupt milieu of police, customs officers and criminals has been allowed to flourish, feeding off a series of multi-billion dollar illicit industries, which include cannabis, cocaine, amphetamines, ecstasy and heroin. Together these five illicit drugs were worth an estimated seventeen billion dollars in 2010, about 1% of GDP.

It is time to reconsider the financial benefits that would flow from abandoning prohibition and regulating and taxing the illicit drugs industry. The purpose of this paper has been to cost drug law enforcement in Australia and to estimate the size and value

of the illicit drug markets that prohibition has created in order to estimate the savings and the taxation revenue that would be generated by a more sensible and fair drugs policy.

By any sensible measure of drug harms, cannabis is a soft drug, with little harm attached to its use, yet cannabis bears most of the weight of the war on drugs in Australia. However, polls show substantial majority support for changing how it is regulated. Were we to follow the Colorado example and regulate cannabis, it would shave one billion dollars from drug law enforcement in Australia and give Australia a \$6 billion industry to tax, potentially earning \$2.4 billion dollars.

It would also allow a new model for regulating illicit drugs to be tested. In size, the illicit drug market is comparable to the alcohol industry and could generate an equivalent amount in revenue. The Distilled Spirits Industries Council of Australia in their pre-budget submission (2013–14) estimate that non-GST Commonwealth revenue from alcohol taxation in 2013–14 as \$1,900 million (customs duty), \$3,000 million (excise duty) and \$774 million (wine equalisation tax (WET)), yielding a total of \$5,650 million. An additional \$1,900 million would be collected from GST revenue from states and territories. The Commonwealth would receive \$7,600 million in total from the regulation and taxation of alcohol in 2013–14. Since the markets are similar in size, regulating all illicit drugs has the potential to generate a similar amount for the Commonwealth.

Prohibition is a special kind of tax that falls unfairly on Australia's twenty-somethings and thirty-somethings. It is a tax that discriminates against people based on their choice of drugs: while alcohol, tobacco and cocaine are privileged, cannabis, ecstasy and heroin users are targeted. It is a tax that pointlessly kills, imprisons, and destroys careers.

A journey of a thousand miles begins with a small step. Reregulating drugs will be a long journey, but the most obvious drug to begin with is cannabis, the least harmful drug, and the one that the War on Drugs targets most. The obvious place to begin is the township of Nimbin where, for over a decade, the local community has petitioned the NSW government for permission to host a trial of cannabis cafes in the town as a cure for the problems that drug prohibition overwhelms its main street with. With support from the local community, a cannabis cafe trial in Nimbin is the ideal place to begin a change in drugs policy in Australia.



Part Two:

Estimating the size of illicit drug markets

Over the four decades of the War on Drugs a number of government bureaucracies have evolved to chart the extent of illicit drug use and to record the casualties, in arrests and overdoses. Their reports allow us to gain a clearer picture of the size of Australia's illicit drug market.

The *Illicit Drug Data Report (IDDR)*, published by the Australian Crime Commission (ACC), provides a yearly snapshot of the Australian illicit drug market, with information on price, purity, number of arrests, and quantities seized. The *Illicit Drug Data Report 2010–11*, reported that there were 84,738 illicit drug related arrests that financial year, the second highest reported in the last decade. Over 9.3 tonnes of illicit drugs were seized nationally in 2010–11, representing a 19 per cent increase from the 7.8 tonnes in 2009–10. The *Illicit Drug Data Report 2011–12* reports that the quantity of drugs seized increased again by 154% to 23.8 tonnes in the last financial year. A single 11 tonne seizure of hypophosphorous acid (used as a precursor in the manufacture of methamphetamine) contributed about half this total. If we exclude this massive haul, seizures would have still risen by about 50% to around 13 tonnes in 2011–12.

Cannabis remained the dominant illicit drug in Australia in 2010–11 and 2011–12 in terms of arrests, seizures and use, and the reported cannabis arrests in these two years were the highest in the last decade. The weight of heroin seized at the Australian border increased by 241 per cent in 2010–11 and was the highest recorded since 2001–02, though the current financial year (2012–2013) is set to eclipse it. Indeed, the current financial year plus the two previous years will together constitute the three largest annual seizures of heroin in the past decade. The weight of national cocaine seizures increased by 67.7 per cent in 2010–11 and was the third highest recorded in the last decade; annual cocaine seizures increased again in 2011–2012, becoming the highest in the past decade, though the amount of cocaine seized in 2012–

2013 looks certain to surpass this, and set a new record. In 2010–11, a record 703 clandestine laboratories (overwhelmingly for the production of methamphetamines) were detected in Australia, but again the record lasted for only one year and 809 clandestine laboratories were detected in 2012–2013, a year which also saw massive seizures of precursor chemicals. Meanwhile, over the past two years, record importations of methamphetamine have followed at a bewildering pace.

In his forward to the current *Illicit Drug Data Report*, John Lawler CEO of the Australian Crime Commission (ACC), put a positive spin on the figures: “The IDDR is a statistical report that provides a national picture of the illicit drug market. Now in its tenth edition, the 2011–12 report highlights the continued vigilance and success of law enforcement in combating the illicit drug trade with over 76,000 seizures and more than 93,000 illicit drug related arrests this reporting period—both of which are the highest reported in the last decade.” Drug seizures have never been higher, more people are being arrested for illicit drugs, so the ACC is still winning the war, Mr Lawler concludes. Meanwhile, the streets have never been more awash with drugs.

Like all commodities, the supply of illicit drugs vary with market conditions, falling spectacularly in droughts, rising steadily in floods, changing with fashion. Under our ‘Tough on Drugs’ policy, successive waves of drug floods have swept across Australia. A marijuana drought in 1977 was accompanied by a heroin flood. When the heroin bubble burst in 2001, ecstasy and methamphetamine filled the drug market vacuum. Australia's ecstasy flood ended in 2009 amidst the global MDMA crisis, caused by a shortage of its precursor chemical, safrole oil; Australia now finds itself in a rising flood of cocaine.

The National Drug Survey (NDS) Household Survey, a triennial survey of illicit drug use in Australia conducted by the Australian Institute for Health and Welfare (AIHW), reported in their most recent survey (2010) that recent ecstasy use declined from 3.5% to 3.0% of the Australian population over 14 between 2007 and 2010. Other findings were that recent illicit drug use (use in the previous 12 months) rose from 13.4% of the population aged 14 and over in 2007 to 14.7% in 2010, despite the fall in ecstasy use. The rise was mainly due to an increase in the proportion of people who had used cannabis (up from 9.1% to 10.3%), cocaine (1.6% to 2.1%), and hallucinogens (0.6% to 1.4%). These drugs were perceived as being more easily available or accessible in 2010 than in 2007.

The 2010 survey showed no significant change in the use of meth/amphetamines (used by 2.1% of the population over 14 in the last 12 months) or heroin (used by 0.2% in the last 12 months). Recent illicit drug use was highest in the 20–29 year age group for both males and females (30.5% and 24.3%, respectively). Historically, all the surveys show that illicit drug use is concentrated in the 20–29 year age group. Since the 1970s, sex, drugs and rock'n'roll have become institutionalised as part of the twenty-something lifestyle in Australia.

Modelling drug markets

The amount of drugs seized by customs and police is an important indicator of the size of drugs market and various ways of estimating the size of the drugs market using the figures from police seizures developed. Of these, the earliest (and least accurate) was the seizure method. Because the police often estimated they seized about 10 percent of the market, the seizure method took the amount seized by police in a year and multiplied it by ten to estimate the market size. However, the 10 percent figure is only an average. In reality, the seizure figures vary widely, causing estimates of market size by the seizure method to vary widely also. This wide variation in the seizure figures makes their analytical use difficult because seizures go up and down, depending on how lucky police and customs were in intercepting large shipments in a particular year.

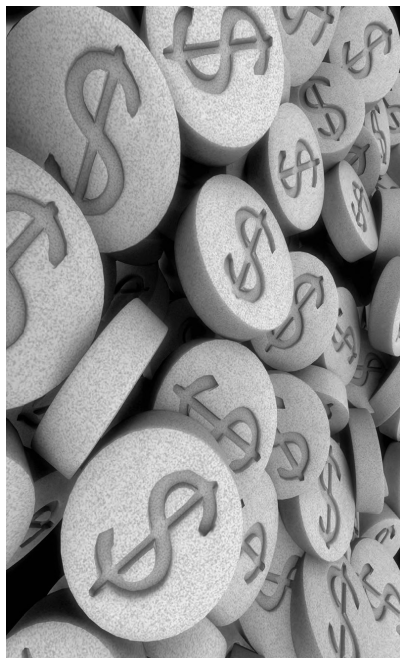
More consistent methods of estimating the size of illicit drugs market (called consumption models) were developed which used nation-wide polls, such

as the NDS Household Survey, to estimate the size of the market from the estimated number of drugs users. The formula used was yearly market size equals number of users multiplied by average amount used by a consumer in a year. However, working out a figure for average yearly use is fraught with controversy and can result in large errors.

My paper, *Estimating the Size of the Australian Heroin Market: A New Method*, (2006) proposed a method of triangulating between consumption estimates and seizure information to produce more accurate measures than consumption models or seizure methods alone. Using estimates of the number of drugs users in Australia derived from the National Drug Strategy Household Survey polls, I constructed a model of the heroin market on consumption estimates, which was then compared against the seizure figures by dividing the amount seized in that year by the estimated market size to estimate the percentage of the market seized. If the model fell in the right ballpark, the percentage-seized figure should vary around the 10 percent figure estimated by police, generally falling in the range between 2 and 18 percent, which is the Goldilocks' zone of my model.

Drought-causing seizures are indicated by seizure levels well above the 2-18 per cent range: I expect a 25% per cent seizure result or greater should cause a significant shortage, because over three months supply has been taken from the market. This should be confirmed by rises in price and by user reports. If a 25% or greater seizure figure were calculated, yet there was no evidence for a shortage, this would cast doubt on the accuracy of the consumption model. So a close reading of the table of percentage-seized allows the modeller to analyse the market and to fine-tune the estimations.

Seizure percentages approaching 100 per cent or over only occur when an international drug smuggling ring is transshipping drugs to the US market via Australia and one of their shipments is seized. Transshipping drugs via Australia, rather than sending them directly from Hong Kong or Thailand, which is where the US Drug Enforcement Agency (DEA) expect them to come from, is more prevalent than Australian authorities admit. Gangs who have used this technique include the associates of the Nugan Hand Bank in the 1970s, and John Wesley Egan and the Corset gang in the 1960s.



How many cones? How many pills?

Australia's ecstasy market

Along with cocaine and methamphetamine, ecstasy belongs to the uppers, the class of stimulants that are widely popular as recreational and party drugs among young and not-so-young Australians. A Venn diagram of the user populations of the uppers would show significant overlap. Whereas in the 2010 NDS survey, sixty percent of cannabis users reported not using another illicit drug in the past year, over ninety percent of upper users were poly-drug users, and their favourite other drugs were the other uppers. About 60% of ecstasy users reported having tried cocaine and methamphetamines in the past year.

Ecstasy is the second most commonly used illicit drug in Australia after cannabis, used by 3% of the population over 14, or about 600,000 Australians. Originally, ecstasy pills were methylene-dioxy-methamphetamine, MDMA, but this has changed since the global MDMA crisis. In 2008, the United Nations Office on Drugs and Crimes, UNODC, declared that Australia had the highest annual prevalence of ecstasy use in the world. However, reported use of ecstasy declined from 3.5% to 3.0% of the Australian population over 14 between 2007 and 2010, according to the National Drug Strategy survey. But this survey took place at the end of the GMC, the Global MDMA Crisis, when ecstasy pills were unlikely to be MDMA and were adulterated with other chemicals.

So the picture of declining ecstasy use in Australia is complicated because of this world-wide shortage of ecstasy precursors in 2009 as well as an extraordinarily enormous ecstasy seizure in Australia of 4422 kilograms that occurred in June 2007. This was not just the biggest seizure of ecstasy in Australia, it was the biggest seizure of ecstasy in the world. The effects of this massive seizure were compounded by a world-wide shortage of MDMA's chemical precursor, safrole oil in 2009. As a consequence, the purity of pills declined in Australia as MDMA was replaced with adulterants like caffeine and methamphetamine, or more dangerous chemicals like PMMA, and mephedrone, or meow meow. By 2011, a new form of MDMA, crystal MDMA or "molly", appeared, growing in popularity at the expense of pills.

So how big is the Australian ecstasy market if it can support a four-tonne seizure? According to Fowler, Kinner and Krenske, (2007), the Australian ecstasy market in 2001 was 2282 kg or 7.8 million tablets with a retail value of \$275 million. (Tablets weight about 300 mg but are only about 30% MDMA.)

In December 2006, six months before this enormous seizure, Fowler and Kinner presented a summary of their research at the Social Change in the 21st century confer-

ence at Carseldine in Brisbane. At the same session I delivered a paper on estimating the size of the heroin market. At the end of our session, I generously offered to check their figures for them because I suspected they might have underestimated the size of the market. They declined. They explained that their work had been commissioned by the Drug Law Enforcement Research Fund and could not be released until it was signed-off on by the board, which included all the police commissioners in Australia. This version of peer-review in the social sciences had been instigated by the Howard government.

Eventually, around the time of the enormous seizure, Fowler, Kinner and Krenske's estimate of the size of the Australian ecstasy market was signed-off on by all the police commissioners in Australia, none of whom were numerate enough to discern any problem with a four-tonne seizure occurring in a market with an estimated annual size of two tonnes. They were no doubt too elated by the thought that they had just seized 200% of the ecstasy market!

The method for testing consumption estimates I presented in my paper was this. You take a consumption estimate, such as Fowler, Kinner and Krenske's estimate of an ecstasy market size of 2282 kg in 2001 and, using population estimates from the NDS surveys of 2001, 2004 and 2007, you construct a model of the market, which is then compared to the seizure figures for these years by estimating the percentage of the market seized. Under normal market conditions the expectation is the percentage seized will fall in the Goldilocks' zone of 2-18%, averaging about 10%.

Using Fowler, Kinner and Krenske's estimate of a market size of 2282 kg in 2001, NDS estimates of ecstasy use in 2001, 2004 and 2007, along with Australian ecstasy seizure figures from the United Nations Office on Drugs and Crime (UNODC), we get this model:

Fowler's estimate compared to seizures 2002-2007

Year	market size	amount seized	% seized
2002	2500kg	722kg	29%;
2003	2700kg	1083kg	40%;
2004	2922kg	1334kg	45%;
2005	2962kg	1435kg	48%;
2006	3010kg	536kg	18%;
2007	3142kg	5234kg	166%.

Forty per cent of the market represents five months supply, so with seizure percentages at this level, Australia should have experienced the mother of all ecstasy droughts from 2002 onwards. Yet in this period the ecstasy market was in flood, not drought, rising to reach its high-water mark in 2007, according to the NDS surveys. The years, 2002-2007, were the ecstasy boom when Australians were the ecstasy champions of the world. After testing their estimate against the seizure figures, my conclusion is that Fowler *et al.* have underestimated the market size by a factor of four. Based on this, the 2007 seizure would still be about 40% of the market, big enough to cause a considerable drought.

But did it? A year after the massive bust, in August 2008, Keith Moor commented in an article in the *Herald Sun*, 'Dying in ecstasy as drug use soars', that neither this seizure nor the previous world's biggest ecstasy bust of 5 million pills in 2005, which also occurred in Melbourne, had caused a drought. He wrote: "the sad fact is that so many pills are getting in undetected, or being made here, that neither of the massive Melbourne busts caused an ecstasy drought on the streets." But maybe he just couldn't see what was happening: the pills were still there, but the MDMA was gone.

By 2009, there was an MDMA drought in Australia. While pills were still around, MDMA was now a less common constituent, having been replaced with adulterants like piperazine, caffeine and methamphetamine, and more dangerous chemicals like PMMA and mephedrone, or meow meow. It was an era of ersatz ecstasy, when experienced users bought pill-testing kits and learned to consult pill-testing.com; another pyrrhic victory in the War on Drugs, which saw a contested drug (which users were familiar with) replaced with potentially more dangerous chemicals. This drought happened worldwide, and is sometimes referred to as the GMC, or the Global MDMA Crisis, so it can't be attributed to the 2007 bust, though the bust no doubt contributed to making the MDMA drought worse in Australia than elsewhere. A common explanation is that there was a world-wide shortage of MDMA's chemical precursor, safrole oil, which came from a tree that grew in the mountainous rainforests of Cambodia. The Australian Federal Police added to the shortage in 2010 by sending a team to Cambodia to buy up

and burn 15 tonnes of safrole oil. Experienced Australian users lamented the decline in the quality of pills, which began around 2009. Given this, the 14% decline recorded in ecstasy use between 2007 and 2010 by the NDS poll was surprisingly small. The actual decline in MDMA use was considerably greater.

An unknown factor in the estimation of the size of the Australian ecstasy market is the question of whether the 2007 seizure was a trans-shipment, and if it was, what percentage of it was destined for the Australian market? Even by the standards of monster Australian seizures, the 2007 seizure was anomalously huge. It was 36% of the estimated yearly supply of ecstasy for Australia. In contrast, the largest heroin seizure, the 390 kilograms seized in Operation Linnet in 1998, was 6% of the estimated yearly supply of heroin, and

the recent record ice seizure, Task Force Alistair's 585 kilograms, was 8.6% of the estimated yearly Australian consumption of methamphetamines of 6.8 tonnes. These were Australian records, but the 2007 seizure was a world record.

Given the transshipment questioned is not settled, I am less certain of market size, but I will estimate market size at about 40 million pills (of unknown composition) in 2011. The *2011-2012 IDDR* gave a range for the price of a tablet of ecstasy in Australia of between \$20 and \$60, but the \$60 tablet was bought in the Northern Territory, and \$20 to \$50 is most of the range, giving an average of \$35. Sold at \$35 each, our forty million pills give an estimated market value for ecstasy and pseudo-ecstasy of \$1,400 million.

Australia's cocaine market

Of Australia's big five illicit drug markets, the cocaine market is the one expanding the most rapidly. The percentage of Australians over 14 reporting recent use of cocaine on the NDS Household survey increased 33% from 1.6% in 2007 to 2.1% in 2010. Seizures are increasing too: the average annual weight of cocaine seized between 2003 and 2006 was 207 kilos; the average annual weight seized between 2007 and 2010 was 560 kilos. The weight of cocaine detected in 2010-11 was 701.8kg; while quantity seized in 2010-11 was 12% higher, 785.7kg. While the tally for 2012-13 is incomplete, the expectation is that it will top the tonne. During the last two financial years, Customs and their partners achieved the third, fifth and sixth largest cocaine seizures in Australian history. At the end of this financial year, the Australian Crime Commission will have further tales of triumph.

Cocaine use in Australia expanded during the MDMA drought. In a 2008 study of regular ecstasy users, 48 per cent of respondents reported cocaine as easy or very easy to obtain, while 47 per cent reported it to be 'difficult' or 'very difficult' to obtain. By 2010, 60 per cent of ecstasy users reported cocaine as being easy to very easy to obtain. In the 2010 study of regular ecstasy users, 48 per cent of respondents reported recent cocaine use, an increase from 39 per cent in 2009. Respondents indicating cocaine as their drug of choice also increased from

8 per cent in 2009 to 13 per cent in 2010. Since cocaine use rose by the same amount that ecstasy use fell in the 2010 NDS survey, cocaine's growth in popularity came at the expense of ecstasy, which was experiencing its global crisis.

Another reason for the increasing popularity of cocaine may be that cocaine use seems almost decriminalised in Australia. In 2010 there were an estimated 390,000 recent cocaine users but only 839 cocaine arrests, a rate of 2.1 arrests per thousand users; that year there were an estimated 1,900,000 cannabis users and 58,760 cannabis arrests, a rate of 30.9 ar-



rests per thousand, fifteen times higher than for cocaine. The explanation for such extraordinary preferential treatment has nothing to do with the relative danger or addictiveness of the two drugs, since cocaine is far more addictive and far more lethal than cannabis, which never kills anybody. A large part of the explanation seems to be class. Cocaine use increases as you climb the socio-economic ladder: people of the highest socioeconomic status are four times more likely to use cocaine than people of the lowest socioeconomic status, and those of the second highest socioeconomic status are more than twice as likely to use cocaine as those of the lowest socioeconomic status; whereas cannabis is used equally by all socioeconomic groups.

Four of the five massive seizures in the final months of 2012 involved cocaine, and 750 kilograms of cocaine were seized. In December, five men connected with a seizure of 135 kilograms of cocaine were arrested in Sydney. The drugs, thought to be worth \$77 million, were discovered in a shipment from Chile. In November a Canadian and a US citizen were arrested in connection with 350kg of illegal drugs hidden inside a road roller which was shipped from China to Port Botany. The haul was made up of 235kg of methamphetamines and 115kg of cocaine

with a combined street value of \$237 million. The week before, 200 kilos of cocaine valued at \$116 million was found aboard a yacht that washed up on a deserted Pacific island, along with the body of a man identified as a Slovak national.

There were an estimated 390,000 recent cocaine users in Australia in 2010. My model of the Australian cocaine market assumes an average annual consumption of 12 grams of cocaine per user, making the size of Australia's annual cocaine market approximately 4.7 tonnes. I have tested the 12 gram cocaine consumption model against the seizure figures between 2002 and 2010, and it produced percentage-seized figures that all fell in the Goldilocks' zone, which is the test for accuracy for consumption models. As we know, there are 50 mg of cocaine in a line of coke, so this equates to about 94 million lines of cocaine.

Nationally, the price of a gram of cocaine in 2011-2012 ranged between \$250 and \$500, while purity ranged between 18% and 52%. Assuming an average price of \$250 per gram of 50% purity, this equates to an estimated market value of about \$2.5 billion.

Australia's methamphetamine market

The amphetamines are a family of chemicals, which includes amphetamine, methamphetamine and dexamphetamine, among others, known colloquially as 'speed', 'whip', 'louie', 'ice', 'crystal', or 'shard'. Methamphetamine is the current fashionable form of speed and most of the amphetamine-type drugs consumed in Australia is methamphetamine. Ecstasy's chemical name is methylene-dioxy-methamphetamine (MDMA) so the drugs are chemically similar, but whereas 'speed', 'goey', or 'Lou Reed' (rhyming slang) is associated with outlaw motor cycle gangs, 'eccies' are an empathogen, the 'love drug' of raves, and are perceived by the market to be very different.

According to the NDS polls, use of amphetamine-type stimulants, (ATS) declined between 2001 and 2010 from 3.4% to 2.1% of the population over 14. However, over the same period, arrests for amphetamine-type drugs increased by 62%. The police have

been paying increased attention to the amphetamine-type stimulants over the past decade, culminating in the large 'guns and drugs' police operation, Strike Force Alistair, which saw hundreds of police involved in raids on bikie gangs in March 2013. This was described by the NSW Police Commissioner as the climax of an operation that has been ongoing for twenty-one months.

Because ecstasy and methamphetamine arrests are still combined in one figure as ATS arrests, we can measure the differing arrest-rates per thousand users of these two stimulants, and compare it to cocaine, which is a very similar drug. About 4.2 % of the population over 14 were estimated to use either ecstasy or methamphetamines in 2010 and cocaine users were estimated at about 2.1%. Yet there were 12,897 ATS arrests and only 839 cocaine arrests in 2010-11, an ATS arrest-rate 7.5 times higher than cocaine. The uppers are similar drugs that have

similar potential for addiction and abuse, yet cocaine is treated with extraordinary leniency in comparison to the others. Like cocaine, amphetamine-type stimulants are uppers, but unlike cocaine, use declines as you climb the socioeconomic ladder. They are the poor person's cocaine, the downmarket upper, and their use is associated with outlaw motorcycle gangs rather than lawyers.

There were a raft of stories, which associated outlaw motorcycle gangs and ice (methamphetamines). Social scientists use the concepts of 'folk devils' and 'moral panics', and outlaw motor cycle gangs (OMCG) make ideal folk devils and ice is perfect for the role of agent of moral panic, as stories like *'Ice' implicated in crime spike*, and *Figures show alarming increase in amphetamine use* showed. The police respond to the moral panics and exploit the public relations opportunities they provide, as NSW Police Commissioner Scipione demonstrated after the Strike Force Alistair raids.

Contradicting the perceived decline in methamphetamine use, the past two years have seen a continuing series of record-breaking seizures of methamphetamines. On 4 May 2011, the AFP conducted the largest meth bust in Australian history ever (till then). Reporting for TEN news, Matt Doran exhausted his superlatives describing how this massive bust had delivered 'a monster blow to those who organise the traffic in deadly and illegal drugs'. It was an extraordinary 240 kilograms of ice with a street value in excess of \$50M, the biggest bust in Australian history, he said, and had 'dealt a major, major blow to organised crime in Australia'. However, it took only fourteen months for the methamphetamine black market to establish a new personal best. In July 2012 Australia saw a new record haul of 306 kilograms of methamphetamine, which was followed by another large haul of 237 kilograms in November, 2012. A new, new record of 585 kilograms of methamphetamine was discovered in February 2013. In the financial year 2012/2013, over a tonne of methamphetamine, 1128 kilos, were seized in these three massive hauls alone. 2012-2013 has already seen the biggest, the second biggest and the fourth biggest methamphetamine seizures in Australian history.

The frequency and size of these seizures poses the question: are these large seizures evidence of a significant increase in amphetamine use in Australia over the past two years? However, the large seizures over the past two year may be because more methamphetamine

is being seized at the border because more is being imported. Previously, amphetamine-type stimulants were largely manufactured in Australia. In their 2012 annual report, the International Narcotics Control Board suggested that the recent crackdown on precursor chemicals in Australia caused the price of amphetamine-type stimulants to rise, which has in turn attracted the attention of foreign traffickers, seeking to take advantage of the potential for profits. By increasing price, the police crackdown on home-bake and precursors has shifted the balance of the methamphetamine market toward importation, and this seems to be the reason for the recent record seizures, rather than a massive increase in market size for methamphetamine in Australia. Although the 2010 NDS survey figures indicated that methamphetamine use was declining, our rate of use was still among the highest in the world. Since the Australian price for methamphetamine remains high by world standards, any shortage caused by local law enforcement will only drive prices higher. Investors in the amphetamine industry, like the Mexican cartels, the Southeast Asian triads, and the outlaw motor cycle gangs of Canada and the US, will continue to find the Australian meth market attractive.

There are two models of the Australian meth/amphetamine market that I am aware of. The Australian Bureau of Statistics have a group who are attempting to model the Australian illicit drug market, who are working on this question, though they are using consumption models and do not check their estimates against the seizure figures, which can lead to wildly inaccurate estimates. However, the model contained in the Families and Friends for Drug Law Reform submission on methamphetamine to the ACT parliament compared its estimates of market size to the seizure figures and obtained percentage-seized figures that fell in the Goldilocks zone, which is the test I employ for accuracy. This model gives an estimated market size of 6.8 tonnes in 2010.

Purity and price of methamphetamine in Australia ranged widely according to the IDDR 2011-2012: price per gram ranged between \$300 to \$1000 (excluding the Northern Territory where it ranged between \$1000-\$2000 per gram); while purity ranged between 1% and 70%. Assuming a gram of 40% purity and a price of \$300 per gram, the estimated street value of the annual Australian methamphetamine market was \$5 billion.

Australia's cannabis market

It is sometimes claimed that marijuana is the largest agricultural cash crop in Australia. With an estimated street value of around \$6 billion, drug cannabis may be Australia's most valuable vegetable.

However, in comparison with the size of the market, most cannabis seizures are relatively small. In the seven months between October 2012 and April 2013, there were only two seizures in the \$10-\$50 million dollar range and eleven in the \$1-\$10 million dollar range. The largest seizure was the annual helicopter raids on the NSW north coast, which seized almost 14,000 plants between November 2012 and April 2013. However, this was not one single raid but a large number of small seizures in raids that targeted the alternative communities of northern NSW over a six-month period. The second largest (and the largest single seizure) was 6000 plants seized at a vineyard in Wangaratta in Victoria's north-east. There are Mr Bigs in the cannabis trade but there are far more Mr and Ms Smalls. The absence of monster seizures and the number of mid-range seizures shows that the cannabis market is more decentralised than the other illicit drug markets. Since the motivation for cannabis growers is often self-sufficiency, and because manufacture is easy (you simply grow a plant and dry its flowers) there are a large number of small marijuana growers, possibly as many as 100 000.

While this estimate may seem high, such a figure is not improbable. Of the 60,000 cannabis offences prosecuted in Australia in 2011-2012, 10,000 were for 'providers' and 50,000 were for 'consumers'. The cannabis market has a user population of about two million, according to the National Drug Strategy 2010 survey, which found that 10.3% of the population over 14 reported recent use of cannabis. About 250,000 Australians use cannabis daily. It remains the dominant illicit drug in Australia in usage (70% of all illicit drug users are cannabis users), arrests (70% of all illicit drug offences are for cannabis) and seizures (75% of drug seizures are for cannabis).

The war on drugs in Australia began as a war on cannabis and, four decades later, it remains largely a war on cannabis. Were cannabis to become legal in Australia as it has in Colorado and Washington, we would save this, and have a legal cannabis market,

to be taxed at luxury levels, via the proposed GST, or Ganga Smokers Tax. The earnings of such a GST would generate considerable income.

There are several consumption models of the Australian cannabis market in the academic literature: the model I published in "The economic costs of drug prohibition in Australia" (2005); Clement and Daryal's model published in "The economics of cannabis consumption" (1999); and the Australian Bureau of Statistics have produced a preliminary estimate. Clement and Daryal use figures for average annual consumption of cannabis that are twice the figure I use, so their estimations are twice the size of mine. My model estimates a cannabis market size of 150 tonnes in 2010, so Clement and Daryal's model would estimate a market size double that, around 300 tonnes. In the case of cannabis, the seizure figures cannot be used to refine these estimates.

The problem with using seizure figures to estimate the size of the cannabis market is that the seizure figures for cannabis are given in two differing units, in ounces of cannabis seized and in the number of plants seized: you would need to convert the thousands of plants seized per year into an equivalent figure in ounces of cannabis to do the necessary calculations to triangulate between the seizure information and consumption estimates. The guesswork involved in such a conversion is as fraught with uncertainty as the guesswork involved in choosing a figure for average yearly use of cannabis.

The size of the cannabis market in Australia is estimated at between 150 tonnes and 300 tonnes of cannabis so, depending on how you pack your cone, this equates to 2400 million hits from the bong. If we use a street value of \$20 per gram for cannabis, then the estimated value of the cannabis market would be between \$3 billion to \$6 billion. The estimates of the Australian Bureau of Statistics give a range for the marijuana market at between \$5 billion and \$7 billion. The street value of the cannabis market is the most difficult to determine, though the differing estimates suggest \$6 billion would be a consensus figure. If it were taxed at the rate of alcohol, a Ganga Smokers Tax would potentially garner annual earnings of approximately \$2400 million dollars.

Australia's heroin market

Australia's heroin plague began during the Vietnam War years and was supplied by US soldiers who flew into Sydney on rest and recreation leave ('R and R') from Vietnam. During the Vietnam War, 70% of world heroin came from the Golden Triangle region of South-east Asia. When the Vietnam War ended and the various Afghan wars started, Afghanistan replaced South-east Asia as the centre of the heroin trade. However, Australia's heroin market continued to rely on South-east Asia for its supplies because of tourism and family connections. The 1990s were the boom decade for heroin in Australia. In 1999, the National Crime Authority estimated the size of the Australian heroin market at 6.7 tonnes. This was the peak of the Australian heroin bubble. However, heroin production in Southeast Asia was declining throughout these years as Afghani production rose to dominate the world opium trade.

The heroin bubble burst in a spectacular drought in 2001 and for most of the following decade, opium production in Southeast Asia remained tiny, limiting heroin supply to Australia. However, in the last few years, opium production in Burma and Laos has revived, though Afghanistan is still producing 85% of world opium. The revival of opium production in Southeast Asia seems to be contributing to a revival of Australia's heroin market.

Heroin has the highest regime of prohibition of all the illicit drugs. In 2010 there were an estimated 50,000 heroin users and 2,551 heroin offences prosecuted (more than half of these in Victoria), a rate of 51 offences per thousand users, twenty-four times greater than cocaine's rate of 2.1 offences per thousand users. The weight of national heroin seizures in 2010-11 was the highest recorded since 2002-03, increasing fivefold from 74.7 kilograms in 2009-10 to 375.7 kilograms in 2010-11, according to the Illicit Drug Data Report of 2010-11. Significant border detections of heroin in 2010-11 included: 168.5 kilograms of heroin detected in a consignment from Malaysia to Sydney in October 2010; 42 kilograms of heroin detected in another consignment from Malaysia to Sydney; 25 kilograms of heroin detected in a consignment from Pakistan to Sydney; and 14.5 kilograms of heroin detected on a parcel post from Cambodia to Sydney. Despite Afghani dominance of the world heroin trade, only one of these shipments came from Pakistan (25 kilograms), while the rest (225 kilograms) came from Southeast Asia.



The weight of heroin seized in 2011-12 fell, but was still over 250 kilos. The biggest border detection that year was 97.7 kilograms of heroin detected in sea cargo that came from Afghanistan, concealed in food items. This was the biggest ever Australian seizure of heroin from Afghanistan.

Heroin seizures for 2012-13 are already well over the 300 kilogram level as a result of a large seizure of 252 kilograms in July 2012, which was the third largest ever. Seizures for 2012-13 may yet surpass 2010-11, more good news for the ACC to report next year. It will mean that the past three years will have been the three most successful years for heroin seizures in the past decade.

Using the model described in *Estimating the size of the Australian heroin market: A new method* (2006), I estimate the size of the Australian heroin market in 2010 at two tonnes, or about forty million hits. Price for heroin in 2011-12 ranged between \$200 to \$1000 per gram, which can be attributed to Western Australia, where price ranged between \$500 and \$1000 per gram. Purity was higher in Western Australia, however, around 50%, as opposed to 20% purity in the rest of the country. Assuming a price of \$200 per gram with purity of 20%, the estimated street value of the heroin market is \$2 billion.

The Australian illicit drug trade consists of a market of about three million Australians, composed of a cannabis market of between 150-300 tonnes, 2 tonnes of heroin, 4.7 tonnes of cocaine, 40 million ecstasy tablets, and 6.8 tonnes of meth/amphetamine (speed), giving an estimated value of the Australian illicit drug market of \$17 billion.