Nonsense Upon Stilts

A n analysis of the costs of harmful alcohol and other drug use prepared by economic consultancy firm BERL was released in April 2009. After it was cited by Law Commission head Geoffrey Palmer as a reason to hike alcohol taxes, Canterbury University economist Dr. ERIC CRAMPTON led widespread criticism in the media regarding its methods, assumptions and conclusions. BERL eventually revised their estimate, although only modestly. Here Dr Crampton turns his attention to their equally-controversial Drug Harm Index.

If the New Zealand Drug Harm Index is nonsense, then Detective Senior Sergeant Scott McGill’s claim that recent police action against marijuana prevented $379 million in social harm is nonsense upon stilts. Social cost measures provided in reports like the “New Zealand Drug Harm Index” and “Costs of Harmful Alcohol and Other Drug Use” are very good at providing very big numbers related to harms but are not terribly useful for public policy purposes. We’ll here contrast the method used in these kinds of reports with proper economic analysis.

When economists talk about social costs, they're almost always talking about costs over and above any benefits. So if we say the social costs of greenhouse gas emissions are somewhere around $20 per tonne, that’s an external cost imposed by emitters on everyone else in society: a cost not accounted for in the emitter’s decision-making. It’s what economists call an external cost. When activity has external costs, government intervention to internalize those costs, either through Pigovian taxation [a tax levied to ‘correct’ the market when there are external costs - Ed.] or through regulatory measures, can improve efficiency, although a badly-designed intervention can often make things worse. But the usual bottom-line message from economists is that a Pigovean tax is a decent intervention where social costs are large, and that if total tax revenues are roughly equal to external harm imposed, things are probably about right.

So when Sir Geoffrey Palmer contrasted BERL’s reported social costs of alcohol – well over four billion dollars – with the current excise tax take of about $800 million, that provided prima facie evidence of the need for a hike in the alcohol excise tax. Perhaps it would have, if the BERL report provided a measure of external costs imposed by harmful drinking. But the cost figure produced by BERL included a raft of costs borne exclusively by the drinkers themselves including, perversely enough, every dollar spent on alcohol by “harmful drinkers” – even the excise taxes paid by harmful drinkers.

Because the BERL report on alcohol included a high proportion of internal costs and because it seemed very likely to adversely affect policy, Matt Burgess and I spent a month reverse-engineering and correcting their figures to match what economists would recognize as external social costs. We found that external costs amounted to about $675 million and roughly matched the excise tax take, about $700 million for the year on which costs were assessed. Consequently, there appears little basis for an increase in the alcohol excise tax, at least if he guiding criteria is economic efficiency and harm internalization.

Both BERL reports provide what I’ll call a “public health” measure of social costs rather than an economic measure. In public health reports, health is the only goal and any benefits individuals might enjoy from consuming risky products don’t get counted as “real” benefits. This method is anathema to economists who prefer welfare measures that count individual benefits as the individuals themselves perceive them. So where economists have an efficiency norm that counts all costs and benefits, public health reports have a healthist norm where anything risky can’t really count as having benefits. The two methods lead to widely divergent results. Where the economic measure has a sound basis in formalized theory showing efficiency characteristics of different potential policy interventions, the healthist reports borrow the language of economics with none of its rigour.

What sorts of things then get added to healthist reports that are ruled out in economic cost analysis? First, BERL counted reduced economic output due to excess drinking as a cost of harmful alcohol use. But, employees who are less productive tend to earn less. In other words, the cost is internalized: the worker bears the cost of his drinking. Lost output totalled approximately $1.8 billion of BERL’s $4.8 billion in social costs of drinking; the vast majority of those costs are borne by the drinkers themselves in reduced wages. As such, they shouldn’t count. Worse, BERL multiplied forgone wages by 1.87
the ratio of total economic output to wage earnings. Such a multiplication is only legitimate in cases where the employee can never be replaced either by another unemployed worker or by a more capital-intensive production process; that is not the world we're living in. BERL's use of the 1.87 multiplier added over a half a billion dollars in costs to their estimates but warranted only the briefest one-line mention in the report.

Next, BERL counted $700 million spent on all alcohol purchased by "harmful drinkers" as a social cost of drinking. Until the government starts providing me with free beer, it's hard to see that what I spend on alcohol is a cost on anybody else, even in that case, should we count it as a cost of harmful drinking or as a cost of a silly government programme? Intangible costs of premature mortality and lost quality of life figured heavily in BERL's cost figures: $1.5 billion. Again, the vast majority of these costs are borne by heavy drinkers themselves. We found that only about $90 million in this kind of cost was imposed by drinkers on others through road crashes and crime. For this category, an economic measure of social cost provides a figure of $90 million where a healthist measure says $1.5 billion.

Finally, BERL counted some truly external costs imposed by harmful drinkers on others. If drunkards are more likely to commit crimes, then the costs of the excess crimes can be counted as a social cost of alcohol. So too for health care costs where the government decides to pick up the tab, although we again can quibble about whether this is properly viewed as a cost of alcohol abuse or as just one of many costs involved with having a publicly funded health care system. The costs that drunk drivers impose on innocent persons outside of their vehicles also very reasonably count as externalities. The majority of the difference between our measure of costs and BERL's came from our focus on policy-relevant external costs and their count of total costs, both internal and external. There are two basic approaches that economists view as reasonable. The first is to tally up all costs and benefits, both internal and external; the second is to focus only on externalities. BERL was commissioned by the Ministry of Health and ACC to consider only the costs of harmful alcohol use, so the first approach was likely out of scope for them. However, BERL notes that they were able to count internally-borne costs as socially-relevant because they assumed harmful drinking to have zero benefits. But is this reasonable? BERL defines costs of harmful drinking the cost of producing all alcohol consumed by anyone who drinks more than 1.8 pints per day, on average, as well as all of the realized costs for those who incur real costs from their harmful drinking (excess unemployment, poor health, or death in a car accident). Reading the kinds of heart-rending anecdotes provided aplenty in the Law Commission's report on alcohol makes very clear that for some individuals, the costs of harmful alcohol use are so far beyond any possible benefit that it would not be unreasonable to view them as having received zero benefit, at least in

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How BERL's Drug Harm Index has been used
BY BRANDON HUTCHISON
1. As a driver for draconian legislation
As part of its justification for introducing the "Gangs and Organised Crime" Bill to Parliament in February 2009, the government, in the analysis of the bill, quoted BERL's figure of $1.3 billion of "social costs" caused by illicit drugs.

2. To feed dramatic headlines and panics in the media
"Hardcore drugs... gave New Zealand a bill of about $546 million for social costs."
"They are part of the total of $1.8 billion that drug use cost the country (NZ Herald Front page story, June 2008)

3. To provide ammunition for politicians
"Over a third of the social costs of illicit drug use are caused by cannabis. That's $444 million of social costs in 2006 from cannabis alone." Jim Anderton, speech at Otago University

4. As a justification for Police cannabis eradication operations
"In the 2008/2009 year police seized 141,000 plants with the potential to cause community harm worth $379 million" Sergeant Scott McGill calling on the public to dob in pot growers in TenOne magazine, September 2009

5. To justify customs border searches and seizures
"Contributing to the recently released Drug Harm Index will aid Customs in determining the trends in the drug trade and in measuring the impact that Customs is having. It will also allow the value of Customs interceptions to be put into more meaningful context" Customs Press Release June 2008

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proportion to the costs incurred. But isn’t this true of any activity where folks take on risks and are unlucky? Imagine that we weighed up the costs of skiing by telling a lot of stories about people dying in avalanches, then assuming that skiing had zero benefits. For every tragic case where someone dies on the slopes, there are tens of thousands of others who’ve taken no fewer risks but enjoyed a great day out. If we say that the benefits from “harmful” drinking are by definition zero because we’re only counting the folks who have been unlucky, we’re ignoring the benefits to folks who have been lucky. Their enjoyment counts for something in an economic analysis, but not in a healthist report.

But what if individuals are not perfectly rational? Economists typically make rationality assumptions when deriving conclusions. If individuals are not perfectly rational — either systematically underestimating the true costs of their activity or suffering from weakness of will that leads them to drink more than they would really like to drink — then some portion of internally borne costs can legitimately be counted as being of social relevance. This does not, however, give leave to count all costs as being social costs. Suppose that the full costs to me of saving the third pint, including what I pay for the beer as well as the increased risk of adverse health or other negative consequences, are $10 and the benefits to me, including how much I enjoy the taste of the drink and any increased camaraderie I also enjoy as consequence, are $5, but weakness of will compels me to drink the third pint. “Social” costs are then $5, the net excess cost, not $5, the gross cost. If I enjoyed net $2 in benefits from the second pint and net $5 in benefits from the first pint, “I’m still $2 better off for having gone out” for the evening despite having had one pint too many. By focusing only on external costs, we essentially assume that across the whole set of all individuals who take the risk of adverse outcomes from drinking, these excess costs roughly match the benefits from prior units of consumption. By contrast, BERL assumes that these benefits do not exist. We believe our approach to be the more realistic. In sum, social cost measures like those derived in BERL’s report of the costs of harmful alcohol use differ substantially from economic notions of social costs and consequently are of very limited policy relevance.

BERL’s alcohol report can be viewed as a follow-up of work they had previously conducted under commission from the New Zealand Police: the Drug Harms Index. While I have not examined this report in nearly the detail of the alcohol costs report, some common features stand out. First, the Drug Harms Index is based on a total cost measure against a counter-factual world where no drug use exists and where every current drug user would otherwise be identical to the population average. Where in the case of alcohol BERL assumed that harmful use had zero benefits, in this case BERL assumes that all use is by definition of zero benefit. At page 5, BERL notes “Social costs are borne by an individual or the rest of society for which there is no compensating benefit”, at page 10 they say “this study assumes that illicit drug consumption is abusive and imposes a social cost.” In other words, they’ve assumed all benefits to be equal to zero. Again, this is very different from an economic approach that would either weigh benefits to users against total harms, or would consider only harms that drug users impose upon others. In assuming zero benefits, the method assumes its conclusion.

In the alcohol report we found that, after we had corrected for other errors, roughly eighty percent of tabulated costs counted as internal rather than external. A rough glance here suggests similar results: costs of illicit drug production, “labour costs” (reduced productivity and output), and intangible personal costs of loss of life or loss of health account for about sixty five percent of tabulated costs. Some of these will be external costs: loss of quality of life for crime victims, for example. Reverse-engineering the figures to more accurately apportion costs is a task beyond this essay.

Second, the Drug Harms Index counts as costs of drug use many items that could better be viewed as costs of prohibition. Some of these are internal costs: costs of the absence of prohibition; mortality due to consumption of drugs of uncertain quality or purity would drop as would deaths due to unclean injection equipment; many of the costs of “lost output” are due to the drug user being in prison for drug use; the real resource costs of producing any quantity of drugs would be lower in the absence of a prohibition regime. Other costs are borne externally: the costs of police time and effort in

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How the BERL DHI is calculated
The Drug Harm Index stood at $1.3 billion in 2005/06. This was comprised of:

$217.5m Intangibles (crime, value placed on shortened lives @$3m per life)
$518.7m Drug Production (producing drugs is assumed to have no value so is a cost)
$413.9m Crime Costs (incl. police, courts, prisons)
$106.4m Lost labour (absentee drug users etc)
$51.4m Health Care (hospital care etc)
$2.0m Road Accidents

Of this, $430 million is attributed to cannabis. The cost of production is based on the assumption that cannabis sells for four times what it costs to produce. The drug production figure is the largest item in the index. Even if it is conceded that producing drugs growing cannabis produces no benefit at all, it is hardly a “harm” in its common meaning. Moreover, the interception of drugs necessarily happens after they have been produced therefore this component of the “harm” has not been saved by Police action nor has the cost of the police effort, which also forms a large part of the index. For these reasons alone, claims by Police of the costs saved or harm prevented by drug seizures are nonsense.

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enforcing prohibition should properly be viewed as a cost of prohibition rather than as a cost of drug use, many drug-associated property crimes would disappear were the drug user able to buy his preferred substance in a legal market and hold down a steady job without fear of imprisonment.

In sum, the Drug Harms Index mixes together costs of drug use with costs of prohibition and costs borne by drug users with costs imposed by drug users on others so opaquely that it is difficult to say to what possible policy use their numbers can be put. This is truly disappointing; a proper measure that provided the different categories of harms could be very useful in helping to decide which drugs would best quickly be legalized and which might be of lower priority. If it were the case that the vast majority of the costs of marijuana use were really costs associated with prohibition and if external costs were relatively low, a very good case could be made for legalization combined with an excise tax to defray those external costs. If it were the case that methamphetamine was associated with very high relative costs, with most of those costs being due to drug use rather than to prohibition, and with a greater proportion of those costs falling on external parties, that would provide a reason to legalize marijuana while keeping P prohibited. But we simply cannot say anything useful from the numbers as presented.

So what good then is the drug harm index? Well, Detective Senior Sergeant Scott McGill found it very useful in helping him put a really big number on the social good his unit was providing by eradicating a lot of marijuana plants. Unfortunately, that's a use that even BERL ruled out. As many of the costs in the Drug Harms Index consist of things like the cost of growing marijuana—already largely incurred by the time the plants were uprooted by the police—and the costs of running police operations against marijuana growers, it is nonsense upon stilts to use numbers from the Drug Harms Index to quantify the harms avoided by police enforcement operations. Police eradicating marijuana crops simply cannot save us from the social costs of police eradicating marijuana crops. Similarly, costs of imprisonment figure largely in the Drug Harms Index; the enforcement operation raises those costs. As BERL notes at p. 49 of its report:

"The NZDHI does not directly measure harm avoided by seizures but rather harm that could be avoided had illicit drugs never been introduced to society. Drug seizures will not avoid all of the harm generated by drugs. For example, Customs or NZP operations divert in order to carry out drug seizures. These resources would not have been diverted if drugs had never been introduced, but they are diverted as a result of drug seizures. The NZDHI incorporates the value of Customs and NZP time spent on these activities, but these costs result from drug seizures rather than being prevented by them. Applied analyses of interventions, such as a cost-benefit analysis, are an appropriate way to measure avoidable harm."

It seems that the main use of the report is in agitprop: providing big scary numbers with a sciency feel that can help to justify ongoing prohibitionist policies. After all, if the costs of drugs are over a billion dollars, we'd be crazy to even consider legalization, wouldn't we? Well, maybe not if those costs accrue more to prohibition than to drug use. Unfortunately, from the report as it stands, we just cannot tell.

ENDNOTES & REFERENCES:
2. Of course, there can be many cases where tax revenues are less than social harm but raising the tax level would be inefficient. If we are constrained to using a linear tax, like with alcohol, it will be the case that the harm imposed on modern drinkers by an excise tax increase outweighs the benefits of increasing the tax even if total external costs imposed by heavy drinkers exceed the total tax take.
4. BERL has since admitted that including collected excise taxes as a cost of harmful drinking was an error.
6. However, we must be realistic about what crimes would be eliminated in the absence of alcohol. BERL assumed thatarched every crime where the criminal, or a survey, responded that alcohol had been at least "somewhat" involved in his offending would have disappeared in the absence of alcohol. It's certainly plausible that many alcohol-related crimes would disappear if there were no harmful drinking. But all of the crimes where alcohol was "somewhat" involved? No adjusted downward.
7. Browning (1999) suggests that those kinds of "fiscal externalities" do not really have efficiency consequences and are best viewed as pernicious. Further, in the context that we wish to worry about them, we need to worry about all the margins along which individuals may choose to take on excess risk due to subsidization of downside events: risky sporting and sexual activities being but two domains where individuals may well take on more risks than they would were they individually liable for their own health care expenses.
8. American data suggests that about 18% of fatalities from drink driving accrue to individuals outside of the drinker’s vehicle, the vast majority of fatalities occur to drinkers and their passengers.
9. See p. 77 of the BERL report.
11. While BERL notes the cost items at section 5.2.2, they do not provide any easy way of putting the portion of crime costs that accrue to external victims of crime, the portion due to violence between drug gangs that should properly be viewed as an internal cost due to prohibition, and the portion due to imprisonment of drug users.
12. See endnote 4. above. BERL again assumes that all crimes where the offender uses drug are contributed “same” to his offending would have disappeared in the absence of drug use.

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