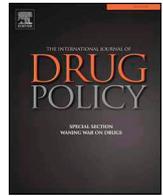




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Policy Analysis

Government monopoly as an instrument for public health and welfare: Lessons for cannabis from experience with alcohol monopolies

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ABSTRACT

Background: Government monopolies of markets in hazardous but attractive substances and activities have a long history, though prior to the late 19th century often motivated more by revenue needs than by public health and welfare.

Methods: A narrative review considering lessons from alcohol for monopolization of all or part of legal markets in cannabis as a strategy for public health and welfare.

Results: A monopoly can constrain levels of use and harm from use through such mechanisms as price, limits on times and places of availability, and effective implementation of restrictions on who can purchase, and less directly by replacing private interests who would promote sales and press for greater availability, and as a potential test-bed for new policies. But such monopolies can also push in the opposite direction, particularly if revenue becomes the prime consideration. Drawing on the alcohol experience in recent decades, the paper discusses issues relevant to cannabis legalization in monopolization of different market levels and segments – production, wholesale, import, retail for off-site and for on-site use – and choices about the structuring and governance of monopolies and their organizational location in government, from the perspective of maximizing public health and welfare interests.

Conclusion: While the historical record is mixed for government monopolies of attractive but hazardous commodities, experience with alcohol in recent decades shows that for public health and welfare public monopolization is generally a preferable option.

Introduction: public health approaches to legalization of previously banned commodities

Legalization of cannabis for “recreational” (i.e., non-medical) purposes has become a topic of wide interest, with Uruguay, a number of US states, and Canada joining the Netherlands in providing for some form of legal availability (Fischer, 2017; Room, 2014). Options for the “supply architecture” of a legalized market were laid out in some detail in a RAND report (Caulkins et al., 2015). One option is what the report terms alternatively as the “so-called alcohol model” (p. xiii) and the “alcohol-style commercial model”: “the standard commercial model, leaving production, distribution, and sale to the competitive private market, ... with some additional rules specific to that product” (p. 52). The identification of this model with alcohol reflects that campaigns for legalizing cannabis in the US have used the slogan that it should be regulated “just like alcohol”.

As Caulkins et al. go on to lay out, there are further alternatives

beyond this model and prohibition. This paper discusses the experience with what has been a major alternative for more than a century for alcohol – state monopolization of parts or all of the market – and considers the implications for how a legal recreational cannabis market may best be managed in the public health interest.

A public health approach to legalization of substances or activities which are attractive but which risk harm will inevitably be some variation on policies of “permit but discourage”, as a relevant book is titled (Bogart, 2011). Where a legal market is to be controlled in that interest, a government has essentially two choices: to regulate private or other interests acting in the market, or to become itself a market actor, making, distributing or selling the substance or activity. Given that the whole structure of the market is often quite complex, a government can choose to regulate at one level or subdivision of the market activities, and monopolize at another. Or it can allow private and government enterprise both to operate in a given activity. In Ontario, Canada, for instance, wine at the retail level is available either from government

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liquor stores or from shops run by a winery. In such a case, the government is not actually monopolizing the retail sale of wine; but for convenience, in this paper we refer to all government action of producing, distributing or selling the product as government monopoly.

From the perspective of public health and welfare, the basic issue with substances or activities which are attractive but pose risk of harm is the need to limit the harm. On the other hand, by their nature the substances or activities are potentially enormously profitable – producing, processing, conveying and selling the product or service costs considerably less than what consumers are willing to pay. With private interests operating in a market economy, there will always be pressure to expand the market, whether by advertising and other promotion to potential consumers, or by the “ratchet mechanism” (Room, 1999) of pressure on policymakers or regulators to loosen restrictions on availability. A public health approach to legalization thus needs to consider installing rules and mechanisms which limit availability and control promotion so as to discourage heavy use (Rehm et al., 2013) or other risky consumption, and which are resistant to commercial pressures for weakening.

Regulating the market in such circumstances is primarily undertaken at national or subnational levels. Even where there are international treaties, such as the drug and tobacco conventions, the prohibitions or regulations required or advised by them are implemented at these levels. But it should be recognised that the forces seeking to open up and “grow the market” are not only at these levels. Large and powerful multinationals dominate alcohol and tobacco production and marketing (Callard, 2010; Jernigan, 2009), not to mention the markets in psychopharmaceuticals and in some forms of gambling; if unchecked they are likely to move to a dominant position when a previously prohibited product with potentially wide appeal has been legalized (e.g., Eadington, 1999). Beyond their marketing expertise, the global corporations tend to be quicker in transferring innovations from one jurisdiction to another than regulatory agencies are in responding.

Economic actors in the markets for such products also include interests at the retail level, which are often among the most influential business groups in national and local politics. In Australia, for instance, the Australian Hotels Association, representing those with interests in pubs and electronic gambling machines, is among the largest contributors to both of the two dominant political parties (Coulton, 2019).

Governments also usually have a strong interest from a fiscal perspective in sales of attractive substances and activities, relying on taxes or sales other revenue as substantial contributors to their overall budget. A government's thirst for revenue may thus be at cross purposes with its public health interest in limiting sales – but can also be supportive, since higher taxes are often in the public health interest.

Government monopoly of attractive but risky substances and activities: a long and varied history

Government monopolies of attractive substances and activities have a long history, and have been instituted with a variety of motives. In the modern era, the monopoly has usually been run as a government-owned entity, though often in the past, and sometimes nowadays, the monopoly right has been subcontracted or rented out to a private contractor for a specified period (Room, 2019). Government monopolies have continued until recently or still exist for alcohol (e.g., Kortteinen, 1989; Room, 1993; Thingalaya, 2013), for tobacco (e.g., Lee & Eckhardt, 2017), for casinos, lotteries and other gambling (e.g., Sulkunen et al., 2018; Grote and Matheson, 2017), for cannabis (Bouquet, 1951) and for pharmacies (Cisneros Örnberg, 2014). For opium, state monopolies were major instruments of imperial revenue-raising and control in Asia prior to World War II (Brook & Wakabayashi, 2000; Trocki, 1999). Still nowadays, countries producing opium for medicinal use under the international drug control treaties are required to have a government monopoly at the wholesale level (Room, 2012b, pp. 62, 116).

Before the mid-19th century, the primary motivation for state monopolies of attractive goods was usually fiscal: a government monopoly was an efficient way of ensuring substantial revenue to the state. In the American southern states in the post-Civil War era, another motivation was for white-dominated governments to control access to alcohol for Black Americans (Herd, 1983); a similar motivation underlay the British Empire's municipal beer-halls in southern Africa (Wolcott, 1974).

After 1850, an alternative primary motivation gradually emerged, particularly for alcohol: government monopolies were set up as an instrument of public order and public health. The first such monopoly was set up in the town of Falun, Sweden, a mining town which was the main European source for copper (Bruun et al., 1985). A similar system was set up in the 1860s in the larger seaport of Gothenburg, with a charter which included as goals

- to reduce the number of public houses;
- to make public houses eating houses where warm, cooked food was available at moderate prices;
- to refuse sale of spirits on credit or pledge;
- to secure strict supervision of all public houses by inspectors of their own, in addition to the police; and
- to pay to the town treasury all the net profits of sales of spirits.

Such local-government monopolies of alcohol sales systems became known in the late 19th and early 20th centuries as the “Gothenburg system” (Brady, 2017, pp. 35–39).

Initially, such monopolies existed and were run at the municipal or local level – a mode which still exists, as discussed below. National or provincial monopolies emerged in the late 19th and early 20th centuries, some primarily with the function of stabilizing agricultural markets (e.g., the French brandy and German spirits wholesale monopolies; Fahrenkrug, 1989), some motivated both by this and by an interest in public health and order (e.g., Switzerland's spirits monopoly; Cahannes, 1981).

It should be noted that government monopolies were usually proposed as an alternative to prohibition of alcoholic beverages. Given this circumstance, they were usually bitterly opposed by the strong temperance movements of the era (e.g., Levine, 1983).

Legalizing after prohibition: choices in controlling the market

As noted, Uruguay, Canada, and a number of U.S. states have found themselves in the position of building legal regulatory regimes for production and sale of cannabis after a long period of prohibition. There are plenty of precedents, particularly from alcohol experience, for building legal regulatory regimes in this circumstance. Altogether, 13 independent countries had a period of national prohibition during the period from the 1910s to the mid-1930s (Schrad, 2010). U.S. states had to build and implement alcohol control systems in the year following the election of November 1932, when it became clear that U.S. federal alcohol prohibition would end. The states could draw on a considerable literature on relevant experience already elsewhere (Catlin, 1931; Fosdick & Scott, 1933), including experiences with ending prohibition in Canada and Norway, for instance, as well as regulatory regimes elsewhere and formerly in the U.S.

For a system to control a legal market in alcohol, there were two basic choices – at least in societies which had a strong alcohol temperance history (Levine, 1992), so that alcohol was not regarded as just another foodstuff. A government could monopolize the market, or private interests could be licensed under a specific “liquor licensing” system.

Facing the same choice today for controlling a newly-legal non-medical cannabis market, the choices in US states have all followed the licensed commercial model, whereas to a considerable extent Uruguay (Walsh & Ramsey, 2015; Marshall, 2016) and Canada (Cox, 2018) are

following the alternative model of state monopoly in substantial parts of their schemes. From a public health perspective, probable future developments from the model the US states are following seem highly problematic. There are health and social risks from heavy cannabis use, even if they are less serious than from alcohol or tobacco, and a consolidated and eventually multinational legal cannabis industry operating under the for-profit commercial model will offer substantial stumbling-blocks to a public health approach. Already, public health advocates are describing the “legal cannabis industry adopting strategies of the tobacco industry” (Subritzky, Lenton & Pettigrew, 2016) and proposing approaches aimed at “avoiding a new tobacco industry” (Barry & Glantz, 2016b).

The moves toward legalization have stimulated a substantial literature on public health considerations in designing regulatory systems for a legalized cannabis market. Using the terms for alternative architectures as described by Caulkins et al., public health-oriented discussions have tended to emphasise a state-monopoly or public authority model, where government-appointed agencies control the supply chain (e.g., Barry & Glantz, 2016b; Pacula, Kilmer, Wagenaar, Chaloupka & Caulkins, 2014; Rehm & Fischer, 2015). Caulkins and Kilmer (2016) add the consideration that “the ‘personality’ of the regulatory agency may matter more than the specific regulations. Will legalization vest power in an assertive agency that views its mission as reducing health harms ... or a ‘good government’ agency that merely insists that rules are followed?... Or, worse yet, does the agency, perhaps over time, end up viewing the industry as its primary constituency?” Experience with government monopolies in gambling, tobacco and alcohol warns us that public health is not necessarily the primary focus of such agencies. Concerning this, where the agency is located in government – whether in or reporting to a department with primary responsibility for state revenues, for consumer affairs, or for public health – may well be a crucial decision. The Swedish and Finnish monopolies, reporting to departments of health and social affairs, have been less subject to weakening by political pressure from economic interests than north American monopolies, which primarily report to finance departments.

State monopolies as an instrument of control – the experience with alcohol

Most of the systems set up after prohibition were and are at the state or provincial level. The Finnish and Norwegian systems are at the country level, and the Swedish system (adopted instead of national prohibition) gravitated to the country level by the 1940s. Currently, there are monopolies at the wholesale and retail levels (Canada), only at the retail level (Sweden and Finland; the European Union forced divestment of production, import and wholesale monopolies – Holder et al., 1998), and in varying combinations in one-third of the U.S. states (NABCA, 2019). The retail monopolies cover only part of the market, always including take-away spirits, but with varying coverage of take-away wine and beer. In almost all jurisdictions with an alcohol monopoly today, there is also a liquor licensing system covering all alcoholic beverages, for instance for restaurants.

Present-day discussions of the monopolization of alcohol pay most attention to monopolization of off-premise sales at a national or state/provincial level. However, alcohol monopolies run by municipalities and other local authorities also continue to exist. Many of these provide on-premise sale and consumption of alcohol. For instance, in 1985 there were 229 small cities in Minnesota operating on-sale as well as off-sale outlets (Carlson, 1986), and similar arrangements exist in a few other US states. Australia and New Zealand, with no history of national or state alcohol monopolies, continue to have municipal- and community-owned pubs and other alcohol outlets (Brady, 2017; Stewart & Casswell, 1987).

At the time they were set up, the post-Prohibition systems were often quite restrictive in terms of purchasing rules for off-premise sales and of availability and comportment rules for on-premise drinking.

Restrictions in one or another Canadian province included requirement of a permit to purchase alcohol and limits on the amount purchased at any time; where on-premise drinking was accepted, it was often initially restricted to males, and allowed only while sitting down (Campbell, 2001; Marquis, 2004; Thomson & Genosko, 2009). In Sweden there was an individualised monthly ration of take-away spirits, primarily for males, with one in ten denied a ration; in the U.K. and Australia, tavern opening hours were restricted (Room, 2012a). Many of these restrictions were abandoned in the course of the second half of the 20th Century, in successive deregulatory waves, and increases in alcohol consumption and alcohol-related problems subsequently ensued (e.g., AMS, 2004; Mäkelä, Room, Single, Sulkunen & Walsh, 1981; Norström, 1987). It should be recognised that, when U.S. cannabis legalization initiatives have promoted the idea of regulating cannabis “like alcohol”, they are arguing for mimicking systems which are now much less restrictive than they were as set up after repeal of Prohibition.

A general lesson from the alcohol experience is that market restrictions are much easier to impose at the end of a prohibition regime, when there are no existing legal commercial interests, than at any later time, when there are existing interests seeking protection and enhancement.

The public health and welfare advantages of state monopolies

The advantages of a state monopoly system for public health and welfare can be illustrated by findings on effects of alcohol monopolization. Even as they exist today, with many of the initial restrictions loosened, alcohol monopoly systems, as compared with licensing systems for commercial operations, have a number of features which operate in the public health interest and public interest.

Monopoly at the wholesale level. In the North American context, the most durable level of alcohol monopolization has proved to be the wholesale level, although in recent years there has been some privatization at this level too in the United States (NABCA, 2019). The monopoly at the wholesale level has proven to be an efficient means of ensuring government revenue. The U.S. monopolies also operate as a monopsony; under the Des Moines agreements (Rutledge, 1989), they are guaranteed that no sales of spirits will be made to any other American wholesaler at a lower price. This is one factor underlying the fact that retail prices for spirits tend to be slightly lower in monopoly states than in the other (“license”) states (Room, 1987).

While state monopolies at the wholesale level have only a limited relevance to public health, they can make a contribution in three respects:

- * ensuring purity of supply – an issue particularly in the aftermath of a period of prohibition, but in some societies also at other times. This is a substantial concern in present-day Russia, for instance, and in part underlay efforts in the 1990s to reinstate the Russian state spirits monopoly (Levintova, 2007).
- * as an instrument in effective tax collection and in discouraging illicit markets. A wholesale monopoly can more readily keep smuggled or illicitly produced products out of the retail system, including bars and restaurants. The Liquor Control Board of Ontario (LCBO), for instance, has procedures and a laboratory which enable it to determine whether spirits have come through its system or are smuggled. Seizures of spirits smuggled into Sweden rose spectacularly in 1996 (Holder et al., 1998, p. 141), reflecting increased smuggling after the wholesale and import trade was demonopolized.
- * as a replacement for private interests, which are much more active in political lobbying and in promoting consumption. For instance, the U.S. Beer Wholesalers Association, representing private wholesalers, has been characterised as “the toughest lobby you never heard of”, and is ranked as one of the most powerful lobbying groups with the US Congress (McGrath, 2003). Industry interests are

highly active in many countries in pushing for laws and regulations more in their favour (e.g., Martino, Miller, Coomber, Hancock & Kypri, 2017).

Monopoly of retail off-premise sales. Present-day retail monopolies in north America and the Nordic countries are almost always incomplete, covering only part of the full range of alcoholic beverages. Beer of 3.5% alcohol content or below is outside the monopoly system in Sweden, and is sold in supermarkets and corner stores. No U.S. state system monopolizes beer in any strength. The situation in Canada is more varied: the Brewers Retail system in Ontario, for instance, functions as a kind of provincially-sponsored private monopoly. Both in the U.S. and in Canada, a variety of exceptions and preferences for local interests have grown up around many of the monopoly systems (Room, 2000). Competition also comes from across borders. In many locations in the United States, a retail monopoly is effectively in competition with stores across the state line for sales in a larger regional market. In some cases (e.g., New Hampshire at the Massachusetts border), the monopoly state undercuts the prices in licensed retailers at the border.

There are a number of characteristics of state retail monopoly systems which potentially contribute to public health or order.

- * Limited number of outlets. Typically an alcohol monopoly has many fewer retail outlets for alcoholic beverages than in an equivalent system of private licensed shops. By five years after privatization of the Alberta alcohol retail monopoly, for instance, the number of liquor stores in the province had risen from 204 to 702 (Her, Giesbrecht, Room & Rehm, 1999). The wider spacing of outlets imposes some extra transport cost and inconvenience on the customer. And this degree of inconvenience appears to have positive consequences for public health, in holding down population levels of alcohol consumption (Babor et al., 2010, pp. 131–133).
- * Hours and days of sale. Off-sale monopoly systems are typically open for fewer hours in a week than stores in licence systems, and in particular more often closed on Friday and Saturday nights, when drinking and drinking-related trouble peak. For the liquor store to be closed when a boisterous party is running dry at 1 a.m. on a Saturday morning is in fact a quite targeted prevention strategy. A recent systematic review (Sherk et al., 2018) found that restricting hours or days of sale of take-away alcohol reduces per-capita alcohol consumption. Worries about providing “customer service” are pushing monopolies these days to open for longer hours, but it is worth keeping in mind that a system where alcohol purchases have to be planned ahead does discourage someone already drunk from keeping on drinking when supplies run out (Cisneros Örnberg & Ólafsdóttir, 2008).
- * Public health interests in product selection and pricing. Decisions on stocking particularly problematic products, or on changing a pricing structure so that, for instance, there is a minimum price per unit of alcohol, can be made quickly in administrative decisions by a monopoly—in contrast to the five years of court battles required for Scotland to implement minimum pricing in a licence system (Meier, Brennan, Angus & Holmes, 2017). It is no accident that the primary data on the public health effects of changing to a minimum pricing structure have come from Canadian provincial monopoly decisions (e.g., Stockwell et al., 2013).
- * Conditions of sale. In monopoly stores, there is generally less point-of-sale promotion and staff are more likely to adhere to conditions of sale, including rules forbidding sales to underage or intoxicated purchasers. Monopoly employees are typically unionized career employees, while the jobs in corner stores and supermarkets, paying much less, are often held by younger and more transient employees. In the television advertising campaign by the employee's union of the Ontario government liquor stores – which played a role in staving off privatization – the most effective line was a reminder of how easily teenagers could purchase cigarettes in corner stores; did

parents want the same situation for alcohol? In fact, the LCBO reported refusing sales to 41,700 under-age persons and to 15,700 customers already intoxicated in the year ending March 1993 (Goodstadt & Flynn, 1993).

- * Particularly in the Nordic countries, the retail monopoly system seems to encourage an experimental view of alcohol policy, where changes in conditions of sale and other alcohol control measures are regularly studied, sometimes as true social experiments (e.g., Norström & Skog, 2005). A substantial portion of what we know about the effects of alcohol controls comes from studies carried out in these monopoly jurisdictions, usually with the cooperation of and sometimes with funding from the monopoly.
- * “Disinterested management” and limits on political lobbying. The original point of a state monopoly on retail sales, when the systems were set up, was to remove any private profit interest in increased sales. John D. Rockefeller, Jr., no socialist with respect to other commodities, supported the monopoly system because he felt that “only as the profit motive is eliminated is there any hope of controlling the liquor traffic in the interest of a decent society” (Rockefeller, 1933). Given the potential impact of alcohol consumption on public health and welfare, a slightly sluggish state monopoly with a concern for its social responsibilities may be seen as serving the overall public interest better than a private marketplace full of competition and innovation.
- * Furthermore, a state retail monopoly is constrained by its position from lobbying as effectively as private interests to increase the volume of sales. The effectiveness of private interests in pushing against the public health interest can be seen already soon after the two most noted North American privatizations of alcohol monopoly systems. In both Iowa and Alberta, privatization had become politically possible only when it was promised that the government would continue to receive as much revenue for sales as before. But this meant that, against majority expectations, retail prices rose with the privatization. The new private store-owners then effectively lobbied after privatization to push down the government share of the price. While state monopolies, too, have built-in interests, their interests are more limited than those of private sellers, and their public status puts constraints on their political activity.

Monopoly of on-premise retail sales. The “Gothenburg systems” a century ago were primarily for on-premise sale and service of alcohol, aiming to tame and indeed replace the traditional working-class pub (Koskikallio, 1985). However, in the decades following the prohibition era, along with a move to centralization, the monopolies became primarily of off-premise sales. Monopolization of on-premise alcohol sales persisted mostly at a local or community level, often sustained in part as a source of municipal revenue (e.g., Koskikallio, 1985). One likely factor in the state level's retreat from on-premise sales was moral unease: “liquor by the drink” put the state close to and indeed responsible for what happened when the genie was out of the bottle (Room, 2019).

On-premise monopolization potentially carries all of the benefits to public health and order of off-premise monopolization, along with the potential benefit of direct control of the drinking environment and of the patterns and pace of drinking in it. And recent studies of community-run on-premise monopolies find some examples where such benefits seem to apply (Brady, 2017). But there are also clear counter-examples, where the community pub becomes a major source of funds for a resource-strapped community; in such cases community ownership of the pub can act against the public health interest (Brady, 2017).

Evaluating the public health effects of alcohol monopolies. There is a fairly substantial literature evaluating “natural experiments” in the public health effects of alcohol monopolies, primarily made possible by political decisions to privatize alcohol monopolies in the recent neo-liberal decades. Reviews of studies of privatization (and re-monopolization in one instance) in recent decades have found that monopolies have an effect in holding down levels of alcohol sales and of

alcohol-related problems (Hahn et al., 2012; Her et al., 1999); Hahn et al. concluded that there was “strong evidence that privatization of alcohol sales leads to increases in excessive alcohol consumption”.

The overriding public health issue in legalization: building a durable regime of mild discouragement in the face of vested commercial interests

Cannabis may be less inherently harmful than alcohol (Lachenmeier & Rehm, 2015; Nutt, King & Phillips, 2010), but it is far from harmless (Hall & Weier, 2015; Room, Fischer, Hall, Lenton & Reuter, 2010). There are differences in types and degrees of potential harm between different potencies, cannabinoid composition, and modes of use, as well as issues of potential contamination in the supply chain, and regulatory regimes provide the opportunity for public health-oriented controls and incentives favouring less harmful products which are not available to the state when a market is illegal. The new legal cannabis systems in Colorado, Washington and Uruguay are all strongly committed to regulating these aspects of the market (Pardo, 2014). A substantial part of the harm from cannabis is from traffic injuries caused by driving while intoxicated; along with the legalization of cannabis, the new regimes have been updating their legislation and enforcement to deter such driving.

But a central public health issue, diminishing rates of heavy use, is less likely to be tackled. Like other psychoactive substances when widely available and used, the distribution of consumption of cannabis is highly concentrated; for instance, it is estimated from population survey responses in 2012–13 that the 13% of U.S. cannabis users who used it daily accounted for 56% of the consumption (Davenport & Caulkins, 2016). The concentration of consumption means that the volume of cannabis sales is inevitably substantially dependent on sales to quite heavy users. Any regulatory regime which effectively discourages regular heavy use will be against the economic interests of private supply industries.

The challenge for a public health approach to legalization of cannabis or any other potentially harmful psychoactive substance is thus the challenge of building a system which provides for availability and use while effectively holding down overall levels of use. This can be done by generally applicable measures which limit physical or economic availability to all adults; or it can be done by individually-oriented restrictions, such as an effective rationing or licensing system, which limits the supply to those who would otherwise be heavy users, as the “motbok” rationing system in Sweden did concerning alcohol prior to 1955 (Norström, 1987). In the current era, such individually-oriented systems, with the labelling, stigmatization and bureaucratization inevitable with the individualization of controls, have proved unsustainable in most circumstances (the medical prescription system can be viewed as an interesting exception to this). The most efficient and sustainable way to hold down levels of use is thus with general limits on availability, such as through excise taxes and limits on places and times of availability.

This is a challenge which is better faced at the point of legalization than at later times. Once legal private interests have been created in a legal market, they will become effective advocates particularly against any impairment of their existing financial opportunities under the system. Thus it will always be politically easier to impose restrictions when the system is initiated than at any later time. In constructing the system, it is also crucial to give attention to insulating it from pressures to loosen controls and expand the market. The strongest argument in the interest of public health for constructing the market to minimise commercial interests (e.g., by setting it up as a government monopoly) is that such arrangements can be more effectively insulated from commercial pressures to “grow the market”.

Conclusion: public monopoly as an instrument for public health and welfare

At the heart of the case for a government monopoly on an attractive but potentially harmful commodity such as cannabis is the idea that, because of its potential for harm, it is a special commodity that should not be treated like pasta or orange juice. The historical record on public monopolies on such commodities is clearly very mixed. On the one hand, it is clear from recent decades of alcohol experience that a public monopoly can operate as an effective strategy, making the commodity legally available but within restrictions which limit the harm. As an instrument for public health, it is generally more effective than the alternative of a licensed private-enterprise commercial market (Hahn et al., 2012). But how the monopoly is motivated, constructed and run and where it is located within government are crucial determinants of whether the monopoly makes a positive contribution to public health and welfare. The retail level is the most crucial for these purposes, but there are also important functions of monopolization at the wholesale, import and production levels. From a public health and welfare perspective, public monopolization can be an effective option for minimizing harm in legalizing cannabis or other attractive psychoactive substances.

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