

The Johnson Shoyama Graduate School of Public Policy (JSGS) has issued an in-depth policy paper on the legalization of cannabis in Canada. By July 2018, the production, distribution, and sale of cannabis will be legal across the country. Faced with the scope of the policy issues and the time pressure to put an effective regulatory system in place, the JSGS has released a report examining the policy challenges.

This Policy Brief is a summary detailing a possible retail and distribution model for recreational cannabis. For the full report, visit [www.schoolofpublicpolicy.sk.ca/research/publications/reports.php](http://www.schoolofpublicpolicy.sk.ca/research/publications/reports.php).



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## ►► An Effective Retail and Distribution Model for Recreational Cannabis

*Dr. Jason Childs and George Hartner*

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The looming legalization of recreational cannabis is a policy decision by the Government of Canada that has far-reaching social and economic implications.

On July 1, 2018, the Cannabis Act will come into force, making the sale and use of marijuana legal. With it will come a multitude of complex issues, particularly for provincial governments that face the challenge of how to regulate the distribution, sale, and consumption of what was a prohibited drug under the Criminal Code of Canada for almost a century. Provincial governments need to establish regulatory systems that achieve three core objectives: minimize the risk to public health and safety; displace the illicit market; and, capture the resulting economic growth and innovation for the people of their provinces.

Aside from legalizing recreational cannabis, the Cannabis Act provides broad guidelines for regulating the recreational cannabis market. The relevant ones are:

- Producers must be federally licensed;
- Minimum age to consume cannot be lower than 18;
- Legal possession is limited to 30 grams; and,
- Provincial regulations must protect public safety, displace the illicit market, and restrict youth access.

To satisfy these guidelines and capture the benefits of increased legal economic activity, a regulatory framework that aligns market

forces with regulation must be established to out compete the illicit market. Eliminating the illicit cannabis market is a critical policy goal underpinning the decision to legalize cannabis, as failure to capture the illicit market demand will prove fatal to the objectives of any regulatory framework.

Assessing the impacts of different regulatory frameworks for cannabis requires a more complex approach than considering each of the objectives in isolation. Rather than attempting to determine the appropriate weights of each objective, we adapt the balanced score card approach to assess the likely impact of different market structures imposed by regulation of the cannabis market.

### ►► The Balanced Score Card

Our analysis assesses the likely effects of different market structures on four policy objectives:

1. Restricting youth access;
2. Economic benefits (including government revenue);
3. Product safety; and
4. Non-monetary costs of consumption.

Eliminating the illicit market is not an objective in and of itself, but is a major contributor to meeting each objective. If the illicit market is not significantly reduced, none of these objectives will be met, and

there will likely be increased resource constraints as police will be faced with trying to restrict a good that is legal for consumption. Accordingly, we take current conditions in the illicit market as the benchmark.

## ▶▶ Restricting Youth Access

Consumption of cannabis by youth (typically those under 26 years of age) has been linked to reduced cognitive ability and a higher likelihood of mental illnesses later in life. These impacts are believed to be magnified for those exposed to cannabis in vitro. Cannabis has also been shown to be addictive, much like tobacco or alcohol, thus consumption patterns established in youth are likely to persist well into adulthood. Any success in restricting youth access to cannabis will come by improving similar policy instruments used in restricting youth access to tobacco and alcohol, and by reducing the current level of youth access via the illicit market.

## ▶▶ Economic Benefits (Including Government Revenue)

The current size of the cannabis market in Saskatchewan is not known, as participants have a strong incentive to hide their activities. Based on surveys of use conducted by private firms, we estimate the size of the illicit market to be between 21 and 66 tonnes of cannabis<sup>1</sup> per year with a value ranging from \$210 million to \$660 million. Three of the four estimates of demand in Saskatchewan (Bojkovsky, et al., 2017) include a range between 21 to 27 tonnes. We opt for an estimate of current demand of 25 tonnes worth \$250 million.

Currently, illicit market activity contributes nothing to the provision of public goods (education, health care, infrastructure, etc.) as no taxes are collected on it. Simply collecting provincial sales tax on these purchases would generate \$15 million in new revenue every year. Furthermore, this illicit economic activity acts as a drain on government resources as policing and corrections require substantial resources to deal with illicit market participants who are caught and incarcerated.

From the economic benefits perspective, we assess the different possible market structures on their likelihood of supporting economic growth and capturing the illicit market demand, as well as the ability for the provincial government to generate revenue to mitigate the costs of cannabis consumption.

## ▶▶ Product Safety

Like any product ingested or inhaled by humans, impurities pose a serious risk. Currently available cannabis products may contain a range of impurities, including organic (tobacco or herbs), chemicals (herbicides, fungicides, and insecticides), or even other drugs (opioids). Additionally, the strength of the product is subject to a great deal of uncertainty. Consumers of illicit market cannabis have no meaningful way of determining, pre-consumption, the amount of THC a product contains.

From a public safety perspective, market structures are assessed based on their ability to capture illicit market demand and ensure the safety of the legal cannabis supply chain.

## ▶▶ Non-Monetary Costs of Cannabis Consumption

Consumption of cannabis is linked to several social harms including addictions and mental health issues, cognitive impairment particularly in youth, overconsumption, consequences of second hand smoke, and drug-impaired driving. Increases in consumption rates post-legalization could lead to an increase in these social harms resulting in increased demands on public programs and resources including mental health and addictions, health services, and especially policing services to monitor and enforce drug impaired driving laws.

The choice of market structure will impact the non-monetary costs of cannabis consumption through changes in total consumption post legalization. Regardless of the market structure chosen, governments will be faced with higher resource demands for policing (education and detection of impaired driving), as well as social programs by government.

## ▶▶ Assessing Potential Market Structures

We assess the impact of three categories of market structures covering distribution and retail<sup>2</sup>. While there are an infinite number of variations on these categories, all will fall into one of these three broad categories:

- State-owned monopoly;
- Colorado model;
- Borland model<sup>3</sup>.

## ▶▶ State-owned Monopoly

In this market structure, both distribution and retail are solely owned and operated by the provincial government. This model, used for alcohol across the country after the end of prohibition, was chosen by Ontario, Quebec, and New Brunswick. The government is responsible to source, distribute, and sell products to the public. It typically requires substantial capital investment and assumption of political risk by the government for any market failures.

### **State-owned Monopoly – Restricting Youth Access**

This model is likely to be moderately effective in restricting youth access to legal cannabis. Experience with alcohol sales in British Columbia, shows private retailers were more likely than government run stores to sell alcohol to under-age agents of the liquor authority. This success will only apply if government monopoly stores are able to displace the illicit market to a high degree due to the ease of access for youth in the illicit market. Government monopolies on alcohol have offered consumers less variety and convenience than private retailers. Since it is likely that cannabis consumers will value variety and convenience, government monopolies will not displace the illicit market, preserving youth access near current levels.

### **Stated Owned Monopoly – Economic Benefits**

Government monopoly offers the best opportunity for the

<sup>1</sup>Dried flower equivalent.

<sup>2</sup>Production remains under the jurisdiction of Health Canada

<sup>3</sup>(Borland, 2003)

government to capture the majority of economic benefit of legal cannabis distribution and retailing in the jurisdiction. However, the benefits will be smaller compared to other structures. Government monopolies have a weak track record in fostering private sector innovation and growth. The lack of competitiveness and profit-driven innovation will likely lead to less illicit demand capture and a smaller legal market.

### **State-owned Monopoly – Product Safety**

To improve the safety of cannabis products, the distributor and retailer must ensure the safety of cannabis sold. This can be done at the producer, distributor, or retailer level. Since only products entering the legal supply chain can be monitored and tested, products sold through the illicit market cannot be considered safe. In addition, independent tests of medicinal cannabis in Canada have shown a failure of some legally produced cannabis to meet required standards (Robertson & McArthur, 2016), making testing by the distributor advisable. Any gains to product safety from legalization and regulation will depend on capturing illicit market demand and monitoring and testing the legal supply of cannabis.

### **State-owned Monopoly - Non-monetary Costs of Consumption**

Reducing the non-monetary costs of consumption will come from limiting youth access and reducing overall consumption. Limiting outlet density and pricing can be effective in reducing youth and total consumption in markets without alternative sources. Although the government monopoly can do both, limiting purchasing options and inflating prices will sustain the illicit market, limiting the effectiveness of these policy options. Education and restrictions on public consumption, could limit increased consumption post legalization.

## ▶▶ Colorado Model

Colorado has used “light touch” regulation, resulting in a high number of privately-owned retailers and distributors in a highly competitive free market. The key features of this market structure are high density of retail outlets and multiple distribution channels.

### **Colorado Model-Restricting Youth Access**

Private retailers under competitive pressure will be more likely to sell to youth than government-run firms, worsening or maintaining youth access. The proliferation of retail outlets and distribution channels makes enforcing minimum purchase age (21 years old) a major challenge. If one outlet is closed for providing cannabis to youth, a plethora of other outlets remain to do so. Surveys of youth show no change in cannabis use since legalization in Colorado .

This model has reduced the size of the illicit market, but the relatively high (by Canadian standards) minimum age leaves a large portion of the illicit market unserved by the legal market driving illicit production and sales. This effect would be significantly reduced with a lower minimum purchase age.

<sup>4</sup>(Colorado Department of Public Health & Environment, 2016)

<sup>5</sup>(Smith, 2017)

<sup>6</sup>(Simmons, 2017)

<sup>7</sup>(Blake, 2016)

### **Colorado Model – Economic Benefits**

The free market approach taken by Colorado has generated significant economic benefits for the state, including substantial tax revenue. During the 2015–2016 fiscal year, Colorado collected nearly \$200 million in revenue from cannabis sales, nearly doubling the revenue collected by taxing the sale of alcohol. Washington State collected \$256 million and Oregon just \$60 million<sup>5</sup> from direct cannabis taxation. Colorado sales of cannabis were estimated at \$1.3 billion in 2016<sup>6</sup>. Washington State saw total sales of \$1.1 billion over the same period<sup>7</sup>. Colorado has also seen substantial innovation and peripheral economic growth in addition to large amount of illicit demand captured in the legal market.

### **Colorado Model – Product Safety**

The relative success of Colorado in displacing the illicit cannabis market for adults has improved product safety. Legally sold products must meet well-defined standards for quality and safety. However, thousands of retailers with multiple distribution channels make it impossible to be certain that product being sold in the legal market meets these standards. Colorado regulators have struggled with seed-to-sale tracking and monitoring of legal cannabis. There have been several deaths in Colorado linked to ingestion of cannabis products. There have been numerous product recalls in Colorado due to contamination or other product safety issues.

### **Colorado Model – Non-monetary Costs of Consumption**

The high availability of cannabis in Colorado does little to limit over consumption of cannabis and the open market approach will lead to higher non-monetary costs of consumption. The effects of taxation on demand have been limited as legal demand has risen year over year and prices have fallen since legalization (though they appear to have stabilized). Both lower prices and higher availability lead to higher consumption and associated non-monetary costs.

## ▶▶ Borland Model

This model was originally developed for the tobacco market (Borland, 2003). A variant has been applied in Washington State’s cannabis market. In this version, the government limits the total number of private legal retailers and their locations, while requiring all product be sourced through a single distributor charged with testing products for safety.

### **Borland Model – Restricting Youth Access**

Youth access under the Borland model, named after Ron Borland’s research into tobacco regulation is expected to be similar to under state-owned monopoly. Though private firms are more likely to sell to youth than government monopoly, these private firms are more likely to capture illicit market demand (which has no mandate to restrict youth access) as their profitability depends on it. By restricting the number and location of private retail outlets, regulation and enforcement is more effective at restricting youth access.

### **Borland Model – Economic Benefits**

While the economic benefits will not be as large as under the Colorado model where production licenses are more available than in Canada, they are likely to be higher than under state-owned

monopoly. Private retailers will ensure their product mix matches consumer demand as they pursue profits, including preferences for locally produced product. Although a single distributor reduces costs through economies of scale, the distributor in a Canadian context could also facilitate the development of a locally based production market by providing shared services that are required under Health Canada for producers. The reduction in barriers to entry for producers along with profit seeking by the distributor could lead to substantial economic growth (exporting and ancillary market development) unavailable with multiple distributors or with a state-owned monopoly.

## **Borland Model – Product Safety**

The Borland model's single distributor captures the legal product safety benefits of the state-owned monopoly. The distributor is incentivized to monitor cannabis supply sold at retailers to ensure only legal supply is making it to market. If the distributor tests all product entering the legal market for contamination and potency, consumers have greater assurance that legally sold products are safe and have an additional reason to purchase only from legal retailers, further reducing the size and reach of the illicit market.

## **Borland Model – Non-monetary Costs of Consumption**

A Borland market structure is likely to cause little change in the non-monetary costs of consumption from the status quo. Retailers will have an incentive to keep price in line with the illicit market and offer the varieties desired by consumers. Slight gains will be made by reducing the size of the illicit market and thus allowing government agencies to ensure all cannabis consumers are exposed to education through posters and other means at retail outlets. The other, non-market structure options will have similar impacts in both the Borland model and state-owned monopoly.

## ►► Conclusions and Recommendations

SCORE-CARD	RESTRICTING YOUTH ACCESS	ENSURING PRODUCT SAFETY	CAPTURING ECONOMIC BENEFITS	REDUCING NON-MONETARY COSTS
State-owned Monopoly	Moderate	Moderate	Moderate	Moderate-High
Colorado Model	Low	Low	Moderate-High	Low
Borland Model	Moderate-High	High	High	Moderate

As shown in the above table:

- Youth will continue to have access to cannabis after legalization, just as youth currently have access to tobacco and alcohol. Both the Borland and State-owned Monopoly

models will have slight improvements over the Colorado model due to a lower legal age limit. However, the Borland model has a higher likelihood of displacing the illicit market than the state-owned monopoly, which represents the highest likelihood of restricting youth access.

- By aligning market forces with regulation, the Borland model, and to a lesser extent the Colorado model, provide the greatest likelihood of displacing the illicit market with the legal market. Displacing the illicit market offers the greatest gains in economic benefits. The Borland model's single distributor with a requirement to test all product entering the market will greatly enhance product safety and also provide greater opportunities for Canadian producers to get licensed.
- None of the market structures assessed offers meaningful improvements in non-monetary costs of consumption. Reducing total consumption will have to rely on policy options beyond the structure of the market.

On these criteria, we believe the Borland model is the best structure for the recreational cannabis market in a Canadian context. Having a single distributor mitigates some of the issues found in Colorado from a lack of central coordination, and by reducing the barriers to entry for local producers, bring economic benefits that would not be achieved under the State-owned Monopoly or Colorado model. The Borland model option promises to bring the greatest benefits to consumers and the province, while maximizing public safety and competing with the illicit market. If the Borland model is chosen thought should be given to restricting the concentration of retail ownership, as in Washington State, to limit the possibility of regulatory capture by retailers. No matter the market structure chosen, we recommend that the provincial government establish a cannabis advisory board to recommend adjustments to the regulatory structure as more is learned and as the market for cannabis evolves.

## ►► References

A detailed summary of references is posted online at [www.schoolofpublicpolicy.sk.ca/research/publications/reports.php](http://www.schoolofpublicpolicy.sk.ca/research/publications/reports.php).

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*People who are passionate about public policy know that the Province of Saskatchewan has pioneered some of Canada's major policy innovations. The two distinguished public servants after whom the school is named, Albert W. Johnson and Thomas K. Shoyama, used their practical and theoretical knowledge to challenge existing policies and practices, as well as to explore new policies and organizational forms. Earning the label, "the Greatest Generation," they and their colleagues became part of a group of modernizers who saw government as a positive catalyst of change in post-war Canada. They created a legacy of achievement in public administration and professionalism in public service that remains a continuing inspiration for public servants in Saskatchewan and across the country. The Johnson Shoyama Graduate School of Public Policy is proud to carry on the tradition by educating students interested in and devoted to advancing public value.*

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