

# Cannabis Industry: An Introduction

**indxx**

February 2020

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## Executive Summary

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This research report examines the global cannabis industry along with trends and expectations for future developments.

A few key data points on the industry include:

1. The cannabis industry is witnessing worldwide development, fueled mainly by legislative modifications that decriminalize consumption and regulate the manufacturing of cannabis plant derivatives for therapeutic and recreational purposes.
2. The global legal cannabis market is expected to reach \$66.3 billion by the end of 2025, expanding at a compounded annual growth rate (CAGR) of 23.9 % between 2019 and 2025<sup>i</sup>.
3. The U.S. legal cannabis market that was valued at \$11.9 billion in 2018 is expected to grow at a CAGR of 24.1% from 2019 to 2025<sup>ii</sup>.
4. Medical cannabis is anticipated to expand at a CAGR of 12.7% from 2019 to 2025 due to an increase use of cannabis in cancer treatment and other medical conditions<sup>iii</sup>.

## 1. Introduction

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For centuries, cannabis has been used for medicinal and therapeutic purposes, with evidence of its use dating back more than 5,000 years in what is now Romania and 10,000 years ago in Japan. In the U.S. however, marijuana was first defined in the U.S. Pharmacopoeia in 1850 and removed in 1942. The removal coincided with increasingly hostile cannabis legislation beginning in 1937, with an effective ban under the Marijuana Tax Act and culminating in 1970 with a complete federal ban under the Controlled Substances Act, which placed cannabis as a controlled substance under Schedule 1 (the most restrictive level).

Against the background of increasing worldwide criminalization, there has been a burgeoning movement to acknowledge the therapeutic advantages of cannabis and raising awareness of the elevated price of enforcement of prohibition versus the social detriment of cannabis itself. Soon after the 1972 amendment to the UN Treaty, sentiment shifted from a higher ban to increased tolerance practices.

Despite U.S. federal legislation, New Mexico became the first state to legally acknowledge the therapeutic advantages of cannabis in 1978 and by 1982 there were different medical cannabis frameworks in 30 countries. As the worldwide perception of cannabis started to change to a more favorable light, other jurisdictions shifted towards the reclassification and/or decriminalization of cannabis. As tolerance increased, so did cannabis medical recognition. This encouraged further decriminalization and tolerance, a trend that has led to the current landscape of medical cannabis.

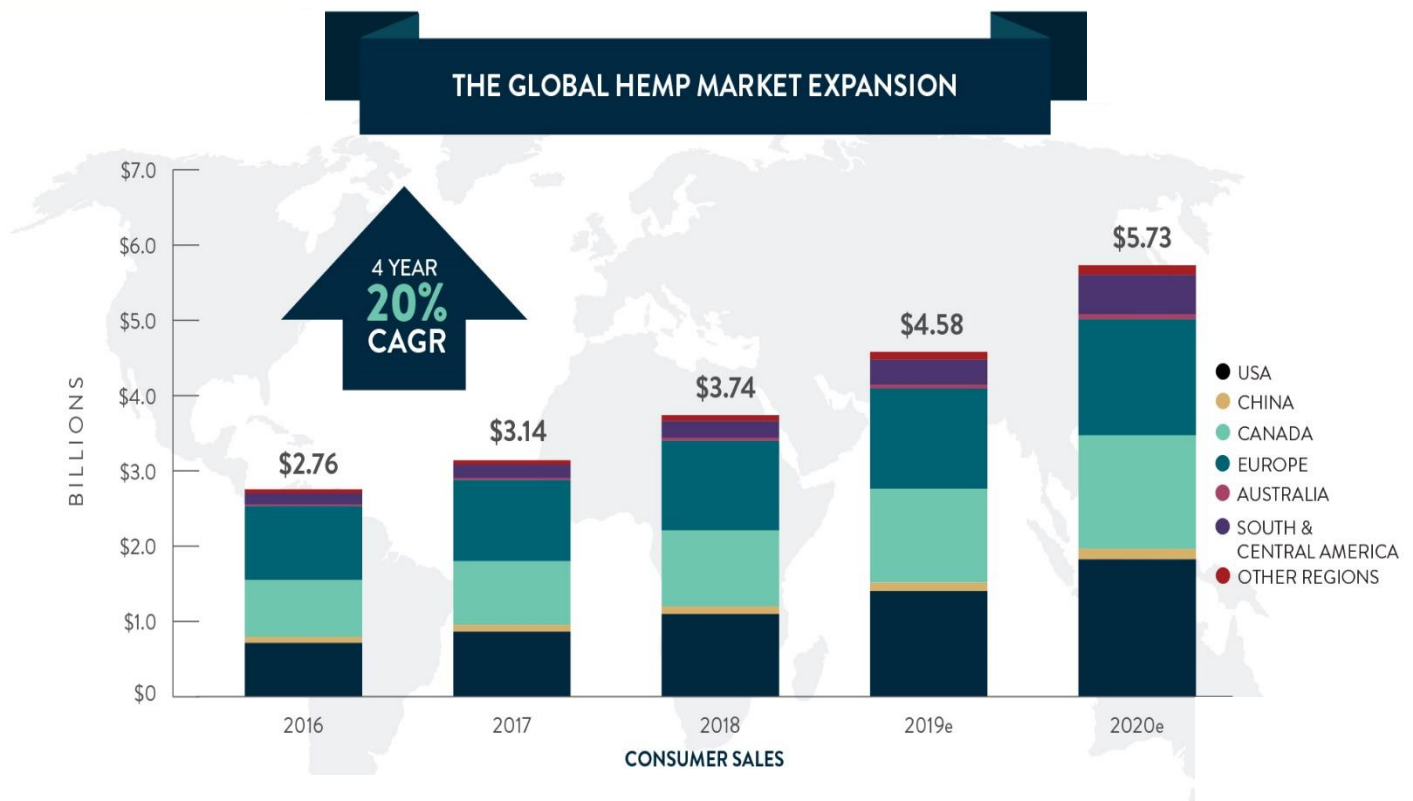
Today, the cannabis industry is experiencing unprecedented growth globally, driven primarily by legislative changes that decriminalize consumption and regulate the production of cannabis plant derivatives for therapeutic and recreational purposes.

Currently, more than 30 nations have legalized cannabis extract therapy and it is estimated by experts that in the coming years at least a dozen more will do so. Uruguay, Israel and the Netherlands have been pioneers in this respect, but legislative modifications are also underway in the US and Canada, as well as other countries that have a great deal of financial power on the world stage.

## 2. Outlook of Global Cannabis Industry

The global legal market size of the cannabis market is expected to reach \$66.3 billion by the end of 2025, a CAGR of 23.9% between 2019 and 2025. The growth is due to the increase in legalization and use of cannabis in both medical and recreational applications as well as growing adoption of cannabis in pharmaceutical products for the treatment of serious medical circumstances such as cancer, Parkinson's disease, Alzheimer's disease, arthritis, and other neurological conditions. There is also expected to be an increased need for pain management therapies and an increased burden of chronic pain among older people.

The US legal cannabis market in 2018 was valued at \$11.9 billion and is expected to grow at a CAGR of 24.1% from 2019 to 2025. Medical cannabis is anticipated to expand at a CAGR of 12.7% by 2025 due to an increase in use of cannabis for cancer treatment and other medical conditions.



Source: Hemp Business Journal Estimates

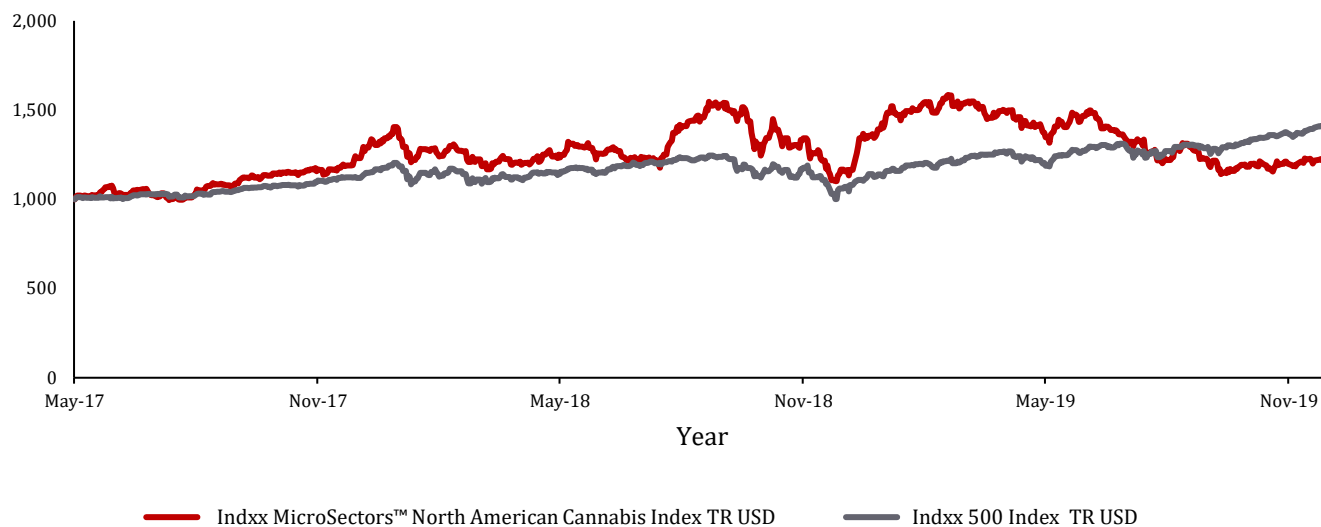
What is striking is how quickly Wall Street and other areas are embracing cannabis investments. In a survey of 120 senior managers at leading private equity, venture capital (VC), hedge funds and other institutional investment organisations led by EisnerAmper, nearly 33% were of the view that the cannabis sector has the biggest growth potential, a close second behind technology.

In the first half of 2019, venture capital companies invested \$1.3 billion in 150 cannabis-related deals, exceeding \$1 billion in VC money spent throughout 2018. Private equity firms have also jumped in, investing \$474 million in 19 cannabis transactions in 2018 and anticipating at an even faster investment rate in 2019<sup>iv</sup>.

### 3. Indxx MicroSectors™ North American Cannabis Index

The Indxx MicroSectors™ North American Cannabis Index is designed to track the performance of companies that provide products or services related to the medical or industrial use of cannabis or cannabis derivatives.

**Figure 1: Index Performance: Indxx MicroSectors™ North American Cannabis Index v/s Indxx 500 Index\***



**Table 1: Index Risk and Key Statistics: Indxx MicroSectors™ North American Cannabis Index\***

Statistic	QTD	YTD	1 Year	2 Year	Since Base Date
Returns	-0.88%	-0.88%	-16.80%	-4.73%	7.68%
Volatility	20.30%	20.30%	18.66%	21.07%	19.31%

**Table 2: Index Risk and Key Statistics: Indxx MicroSectors™ North American Cannabis Index and Indxx 500 Index\***

Statistic	Indxx 500 Index	Indxx MicroSectors™ North American Cannabis Index
Returns	13.93%	7.68%
Volatility	11.34%	19.31%
Active Return	-	-6.25%
Beta	-	1.08
Correlation	-	0.64

**Table 3: Top 5 constituents by weight of Indxx MicroSectors™ North American Cannabis Index\***

S.No.	Name	Sub-Theme	Market Capitalization (\$ Bn)
1	Agilent Technologies Inc	Testing & Analytics	25
2	Thermo Fisher Scientific Inc	Testing & Analytics	125
3	Mettler-Toledo Intl	Testing & Analytics	18
4	Waters Corp	Testing & Analytics	14
5	Abbvie Inc	Pharmaceuticals	119

\*(Base date : 05/29/2015, Data as of 01/31/2020)

## 3.1 Methodology

### 3.1.1 Investability Criteria

To be eligible for inclusion in the Initial Universe, securities must have:

- Their issuer's incorporation in the United States or Canada;
- A minimum total market capitalization of US\$100 million.
- A 6-month average daily turnover greater than or equal to US\$10 million.
- The security must have traded on 90% of the eligible trading days in the last 6 months. In case a security does not have a trading history of 6 months (only IPOs), such a security must have started trading at least 3 months before the start of the Reconstitution/ Rebalancing Process and should have traded on 90% of the eligible trading days for the past 3 months.
- All securities must have a minimum free float of at least 10% of shares outstanding.

### 3.1.2 Security Selection

Indxx has defined cannabis as being comprised of the following sub-themes:

Ancillary	Cannabis focused activities
Cultivators	Production or cultivation of medical cannabis and industrial hemp
Industrial Hemp	Use of hemp for the industrial uses of its derived product
Pharmaceuticals	Medicines with key ingredient as cannabis with the aim of improving human health
Testing and Analytics	Analytical tools, research materials or cannabis-based compounds for usage in drug testing, clinical toxicology analysis, drug monitoring or developing new drugs, among other applications – all in the context of cannabis

The index only includes companies that are engaged exclusively in legal cannabis activities under applicable national and local laws, including U.S. federal and state laws and applicable Canadian laws. Therefore, the index will not include any companies that are in violation of any United States federal or state laws.

All companies deriving revenue from the other defined sub-themes form the final portfolio.

### 3.1.3 Reconstitution & Rebalancing

The index follows an annual 5 day rolling reconstitution and a monthly 1-day rebalancing schedule.

### 3.1.4 Periodic Review

The public filings and press releases of the index constituents are reviewed on a quarterly basis to ensure an Issuer's compliance with cannabis laws.

### 3.2 Portfolio Analysis

Figure 2: Sub-Theme Breakdown\*\*

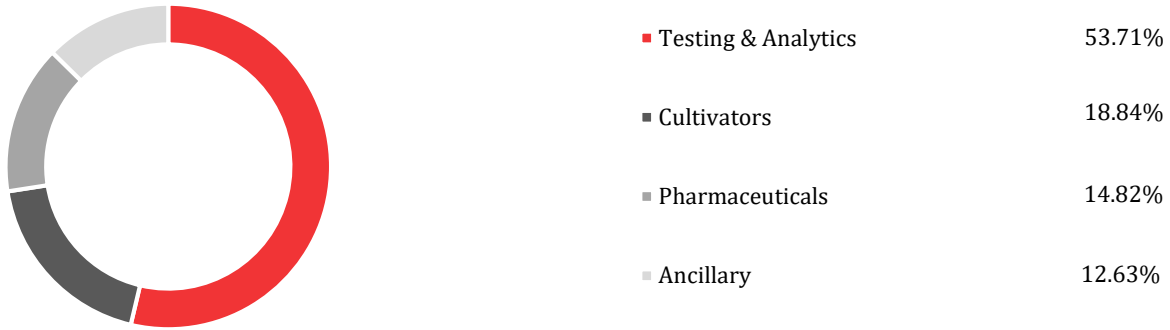
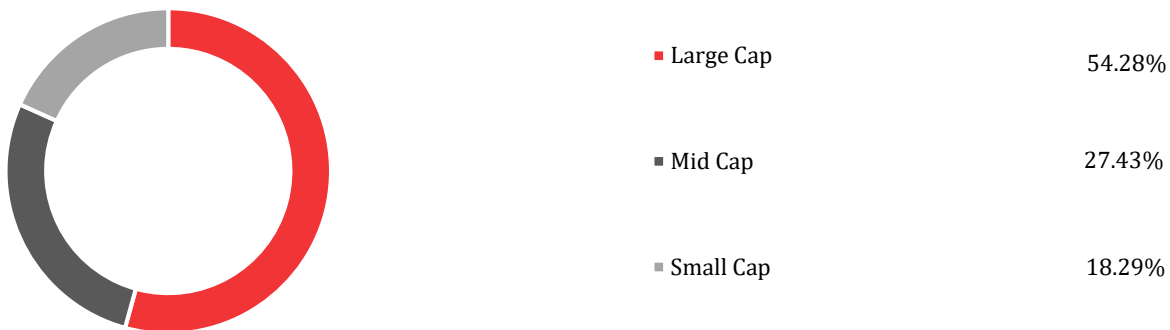


Figure 3: Market Capitalization Breakdown\*\*



\* Large Cap: >\$10 billion; Mid Cap: \$2 billion - \$10 billion; Small Cap: <\$2 billion;

Figure 4: Country Breakdown (Based on Country of Incorporation) \*\*



\*\*Data as of 01/31/2020



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## References

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<sup>i</sup> Grand View Research Inc.- 'Legal Marijuana Market' Report dated May, 2019

<sup>ii</sup> Grand View Research Inc.- 'Legal Marijuana Market' Report dated May, 2019

<sup>iii</sup> Grand View Research Inc.- 'Legal Marijuana Market' Report dated May, 2019

<sup>iv</sup> Business Insider- 'Top venture investors say these 11 tech startups in the red-hot cannabis sector are set to blow up this year' article dated June 3, 2019.