

# ECONOMIC DIGEST

Vol.25 No.12 A joint publication of Connecticut Department of Labor & Connecticut Department of Economic and Community Development

**DECEMBER 2020**

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**In October...**

**Nonfarm Employment**

Connecticut ..... 1,600,200  
 Change over month ..... +0.89%  
 Change over year ..... -5.31%

United States ..... 142,373,000  
 Change over month ..... +0.45%  
 Change over year ..... -6.06%

**Unemployment Rate**

Connecticut ..... 6.1%  
 United States ..... 6.9%

**Consumer Price Index**

United States ..... 260,388  
 Change over year ..... +1.2%

## CBD and THC: "High" Trends in Connecticut and the Nation

*By Caroline Czajkowski, Research Analyst, Department of Labor*

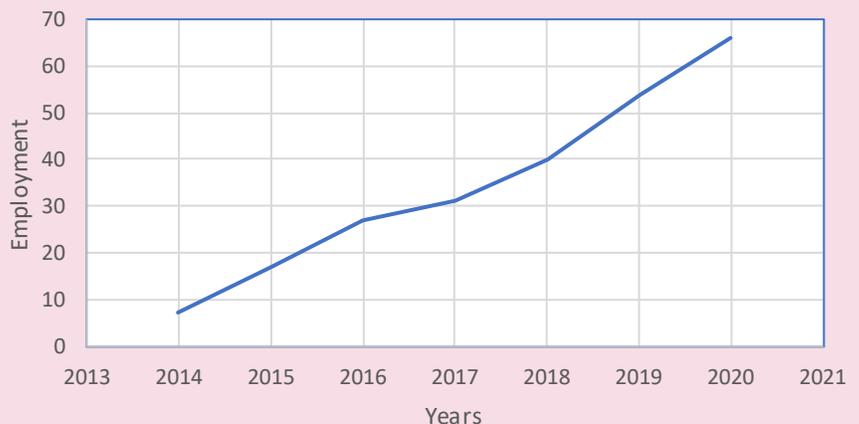
**C**annabidiol (CBD) is a non-psychoactive natural compound primarily extracted from the hemp plant which is being investigated for numerous potential health benefits. Tetrahydrocannabinol (THC) is the chemical component in marijuana that causes the euphoric "high." In recent years the debate on CBD and THC has taken the nation by storm. Products can be purchased in a multitude of forms ranging from oils and cartridges to bath products. Proponents of both natural compounds claim that they have many therapeutic effects. However, critics are skeptical as limited research and data is currently available on both substances. With divided opinions on whether these compounds have beneficial or detrimental effects

on both individuals and a society, it is noteworthy to investigate our nation and Connecticut's current standing on CBD and THC as well as the effects on our local economy.

CBD is a cannabinoid, one of over 100 naturally occurring chemical compounds found in the cannabis plant (1). It can be derived from both hemp and marijuana plants. CBD extracted from hemp is federally legal in the United States, but if acquired from marijuana is classified as a schedule 1 drug. Unlike its distant cousin THC, CBD is non-psychoactive, meaning it will not provide a hallucinatory effect which is associated with marijuana utilization (2).

The United States has historical roots in hemp farming. It was cultivated by early colonists but by the early 1900s

Graph 1. Employment for Medical Marijuana Producers in Connecticut



*The Connecticut Economic Digest* is published monthly by the Connecticut Department of Labor, Office of Research, and the Connecticut Department of Economic and Community Development. Its purpose is to regularly provide users with a comprehensive source for the most current, up-to-date data available on the workforce and economy of the state, within perspectives of the region and nation.

The annual subscription is \$50. Send subscription requests to: *The Connecticut Economic Digest*, Connecticut Department of Labor, Office of Research, 200 Folly Brook Boulevard, Wethersfield, CT 06109-1114. Make checks payable to the Connecticut Department of Labor. Back issues are \$4 per copy. The Digest can be accessed free of charge from the DOL Web site. Articles from *The Connecticut Economic Digest* may be reprinted if the source is credited. Please send copies of the reprinted material to the Managing Editor. The views expressed by the authors are theirs alone and may not reflect those of the DOL or DECD.

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We would like to acknowledge the contributions of many DOL Research and DECD staff and Rob Damroth to the publication of the Digest.

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attitudes began to change. Restrictions were placed on both hemp and cannabis through the Marihuana Tax Act of 1937 and both became illegal under the Controlled Substance Act in 1970. However, a whirlwind of factors helped instigate a resurgence in hemp growth and cultivation over the past years. Job creation, an interest in sustainable agriculture, the potential natural health benefits and applications associated with CBD as well as the weakening tobacco industry were the major factors. Although initially resistant, support from the federal government came most notably in the form of The Industrial Hemp Farming Act of 2013 whereby industrial hemp was excluded from the definition of marijuana under the Controlled Substance Act (3). Then the 2014 US Farm Bill was signed which allowed State Departments of Agriculture and institutions of higher education to legally grow and harvest industrial hemp at less than 0.3% THC for research and non-commercial purposes (4). Later, under the 2018 Farm Bill, hemp plants at less than 0.3% THC were no longer considered a controlled substance and therefore became legal under federal law to use and consume (4). It allowed for more broad hemp cultivation. Pilot Programs were requested by the federal government to formulate a national regulatory framework for hemp cultivation in order to universalize each state's individual rulings on the crop (4). Restrictions on sale, transport and possession were also lifted if the products were in accordance with the law (4).

The new accessibility to hemp gave rise to the ongoing CBD craze. In May of 2019, Public Act 19-3 was passed to make the sale of hemp-derived CBD legal in Connecticut. The act called for the CT Department of Agriculture (DOAG) to establish a hemp research pilot program (HRPP) (5). In it, three types of licenses were created which would be allocated

to hemp growers, processors, and manufacturers with the intent of studying the growth, cultivation and marketing of industrial hemp (5). Under the program, the DOAG would license and regulate growers and processors through inspection and testing of hemp plants (5). The CT Department of Consumer Protection (DCP), on the other hand, would regulate manufacturer's products for human consumption (5).

Results from the pilot program are still pending and will be submitted to the USDA once federal regulations are adopted for the submission of state plans. Upon approval, the DOAG will regulate production of industrial hemp in conjunction with the 2018 US Farm Bill and the Connecticut Public Act Concerning a Pilot Program for Hemp (5). In September of 2020 H.R. 8337 was passed which extended the deadline for all participating states to submit the hemp pilot programs for federal review to September 30, 2021. This is crucial as it gives additional time to amend some of the rules and regulations that have been shown to harm farmers and stakeholders such as destroying fields that yield crops with higher THC concentrations. House Bill 7003 was passed in September of 2020 to revise the state's hemp pilot program to comply with federal USDA regulations for hemp production. By embracing and aligning with federal regulations, the state government gives farmers more certainty going into the next crop season, promoting reinvestment into the state's young hemp industry.

Although a fledgling in the farming industry in Connecticut, some hope industrial hemp will be the next up and coming cash crop. As the tobacco industry is waning and there is less demand for its cultivation in Connecticut, many of these farmers along

with other small-scale growers are considering hemp as an alternative. In 2019, over 200 farmers expressed interest in growing the crop (6). At the program's inception, 82 hemp growers were licensed to cultivate hemp on roughly 300 acres of land (7). Although many believe CT to be a prime host for hemp cultivation, it may prove to be difficult to grow for profit. Maintenance and processing of fields to weed out male plants, which yield higher concentrations of THC, can be time consuming and investing in seeds or plants may also be expensive (8). However, revenue is expected to increase with gained experience and time (8). According to a report from Zwick Center for Food and Resource Policy and Department of Agricultural and Resource Economics at UConn, published in February of 2020, CT grown hemp is estimated to cost roughly \$19,000 per acre (9). Approximately \$6,600 is associated in fixed costs while \$12,600 is dependent on the level of production (9). Depending on the local price, researchers deem that revenue of about \$24,300 per acre could be attained (9). Projected profits are estimated between roughly \$5,000 and almost \$12,000 an acre for Connecticut farmers (9). These projections have helped promote CT licensed hemp-based businesses by increasing the 105 establishments to more than 170 (10). In early 2020 a hemp conference and trade show were held and quickly sold out.

Net profit forecasts such as from the Zwick Center along with national studies and projections have expanded interest in hemp. But these results are not isolated to Connecticut. The earliest pilot programs, started in four states (Colorado, Indiana, Vermont and Kentucky) in 2014, dedicated less than 2,000 acres of land for cultivation. With a pledge made by the federal government in 2016 to invest \$3 billion in CBD research, within 2

years hemp was planted on over 90,000 acres of land in 22 states (11). By the end of 2019 it was reported that nearly 146,000 acres of hemp were grown on US farmland accounting for an approximate whopping 100-fold increase from 2014 (12). As of 2019, frontrunners in hemp cultivation include Montana, Colorado, Kentucky and North Carolina (12). Increasing demand internationally for hemp and CBD will give the United States the opportunity to boost its economy with trade opportunities even though contending with established producers like Europe, China and Canada (13).

Interest in CBD has flourished due to the compound's latent therapeutic properties. Studies have shown that the agent has analgesic, anticonvulsant and neuroprotective properties with the FDA approving of a single CBD based drug, Epidiolex, for seizures (14). CBD may also have the potential to help improve many other ailments however, currently, there is limited research to confirm its effects. Yet, CBD has been infused into everything from foods\beverages to beauty and pet products. Many companies have labeled these goods as health and wellbeing treatments although unsanctioned and violating the Federal Food, Drug and Cosmetic Act (15). Countless unknowns still need to be addressed prior to accepting CBD as a natural cure-all that bears little to no consequences as just recently the FDA found that their approved drug showed liver toxicity in some patients taking the medication.

Tetrahydrocannabinol (THC) is the chemical compound found in cannabis that causes the intoxicating effects that accompany marijuana use (16). Although most frequently used recreationally, THC has been found to aid in many debilitating ailments. The FDA has approved of three THC derivatives to use for treatment: Marinol, Syndros

and Cesamet for weight loss or nausea (16). Use of THC as a therapeutic agent rose in interest as a botanical alternative in part to a response to opioid abuse (17). Most states have chosen that in extreme cases the beneficial aspects of marijuana outweigh the negative associations. Thus, resulting in the creation of the medical marijuana program. Currently 36 states and Washington DC have legalized medical marijuana and 16 states have legalized recreational marijuana use (18).

On June 1, 2012 Connecticut became the 17th state to adopt the use of medical marijuana when House Bill 5389 was signed by Gov. Dannel Malloy. Under the program, participating patients and their caregivers would be protected from criminal penalties as long as they were registered with the DCP and met all other requirements as outlined by the bill. The law disqualified minors from participating in the program. It wasn't until May 17, 2016 that House Bill 5450 was signed that allowed young patients to partake in medical marijuana under certain debilitating conditions starting in October 2016.

To qualify for medical marijuana use patients must be diagnosed with a disorder that is on their state's list of qualifying ailments. The most common conditions include ADHD/ADD, HIV/AIDS, nausea, neurodegenerative disease, MS, wasting syndrome, cancer, chronic pain, seizures/epilepsy, glaucoma, and PTSD (19). Although many states allow THC use for these purposes and unlike CBD at <0.3% THC from hemp plants, U.S. federal law prohibits the use of whole plant Cannabis or its derivatives for any purpose (20). Since federal law supersedes state laws, people using medical marijuana or dispensaries may still be charged with possession or distribution of an illegal

substance even in states allowing its use for medicinal purposes (20). However, under the Obama administration in 2009, federal prosecutors were discouraged from prosecuting these individuals (20). Policies continue to evolve in regards to the discrepancy in perspective on a state and federal level (20).

Initially, 6 dispensaries were approved for the purpose of administering medical marijuana to registered patients in 2014 (25). With a surge in demand, an additional 3 were approved in 2016 and subsequently another 9 in 2018 bringing the total to 18 permitted dispensary facilities in Connecticut (21). Of the 18, six are in New Haven County, three in Fairfield County, two in New London County, one in Windham County, one in Tolland County, four in Hartford County, and one in Litchfield County. Currently, no dispensaries are located in Middlesex County. As per the DCP, as of November 1, 2020, the number of registered patients in the state is 47,631 translating to one dispensary per 2,650 patients (22). The patient amount accounts for an approximate 26% increase from December 2019's total of 37,725. The number of registered physicians in the state has also increased during this time. By the end of last year, 1,203 physicians had been enrolled in the program (23). By the beginning of November of this year, 1,352 were licensed amounting to an approximate 12% increase (22).

The medical marijuana program has currently four sanctioned producers (22). Starting in 2014, employment for most of the fledgling companies were in the single digits. On average, all four have seen a steady gain in employment amounting to a 7-fold increase from its inception to present day (Graph 1). As demand and interest in medical marijuana increases it is likely that employment will continue to trend upward. Connecticut's medical research sector has also seen a

spike in requests for patient studies as applications for licenses for new medical marijuana research programs have increased (8). Within the last 2 years, the DCP issued 4 new licenses for human studies with 1 currently pending as it is under review (8).

Currently, recreational marijuana is illegal in the state of Connecticut. Yet, possession of small amounts of the substance has been decriminalized (24). This means that there is no prison time or criminal record but a fine for offenders who have 0.5 ounces or less of marijuana (24).

As THC and CBD interest continues to grow nationally due to increased legalization, some are promoting hemp cultivation and recreational marijuana legalization due to their potential to create jobs and generate revenue. Initial results from pilot endeavors in industrial hemp production and the medical marijuana program as well as positive economic projections have amplified interest in both projects. However optimistic, these budding industries are contingent on the continued willingness of the government to allow them to go forward. Government leaders and citizens will consider the costs (including any possible harm) and benefits of expanding hemp production and possible changes in the legal status of marijuana in our state, in other states, and at the federal level. ■

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## GENERAL ECONOMIC INDICATORS

<i>(Seasonally adjusted)</i>	2Q 2020	2Q 2019	YoY CHG NO. %		1Q 2020	QoQ CHG NO. %	
<b>General Drift Indicator (1996=100)*</b>							
<b>Leading</b>	120.2	141.5	-21.3	-15.0	132.6	-12.4	-9.3
<b>Coincident</b>	117.1	122.8	-5.7	-4.6	123.3	-6.2	-5
<b>Real Gross Domestic Product**</b>							
<i>(2012 Chained \$, SAAR)</i>							
<b>Connecticut (\$ in millions)</b>	247,129.1	247,584.7	-455.6	-0.2	250,045.1	-2,916.0	-1.2
<b>United States (\$ in millions)</b>	18,977,363	18,927,281	50,082	0.3	19,221,970	-244,607	-1.3
<b>New England (\$ in millions)</b>	982,957.3	983,349.4	-392.1	0.0	996,132.2	-13,174.9	-1.3
<b>Per Capita Personal Income**</b>							
<i>(Current \$, SAAR)</i>							
<b>Connecticut</b>	81,606	77,111	4,495	5.8	78,213	3,393	4.3
<b>United States</b>	61,842	56,307	5,535	9.8	57,519	4,323	7.5
<b>New England</b>	78,469	69,625	8,844	12.7	70,827	7,642	10.8
<b>Philadelphia Fed's Coincident Index (2007=100)***</b>							
<b>Connecticut</b>	121.21	128.59	-7.4	-5.7	116.44	4.8	4.1
<b>United States</b>	124.04	129.51	-5.5	-4.2	123.01	1.0	0.8

Sources: \*Dr. Steven P. Lanza, University of Connecticut \*\*U.S. Bureau of Economic Analysis \*\*\*Federal Reserve Bank of Philadelphia

**General Drift Indicators** are composite measures of the four-quarter change in three coincident (Connecticut Manufacturing Production Index, nonfarm employment, and real personal income) and three leading (housing permits, manufacturing average weekly hours, and initial unemployment claims) economic variables, and are indexed so 1996 = 100.

The **Philadelphia Fed's Coincident Index** summarizes current economic condition by using four coincident variables: nonfarm payroll employment, average hours worked in manufacturing, the unemployment rate, and wage and salary disbursements deflated by the consumer price index (U.S. city average).