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THE WISCONSIN
TAXPAYER



Vol. 87, Number 3 | 2019

Going for Broke in America's Dairyland?

With Milk Prices Low, Wisconsin Farms See Rise in Bankruptcies

As milk prices have fallen, Chapter 12 federal bankruptcy filings by Wisconsin farms have doubled over the last five years, providing added confirmation of the widely reported troubles facing dairy operations. Preserving the state's heritage as "America's Dairyland" is important not just to rural Wisconsin, but to urban communities as well.

Wisconsin's dairy industry accounts for nearly half of the state's critical agricultural sector and generates \$43.4 billion a year in economic activity—or more than \$82,500 per minute, according to the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP).

Dairy is the backbone of Wisconsin agriculture and a key element of the state economy, producing the raw material that feeds much of Wisconsin's food processing infrastructure. Directly and indirectly, agribusiness, including dairy, supports 413,500 jobs or 11.9% of the state's employment,

including both urban and rural jobs in manufacturing, construction, and services. It also provides tax revenues for public services such as education and transportation, especially in rural areas anchored by dairy farming.

In addition, the industry's impact goes beyond economics. Dairy farms are a core part of Wisconsin's identity and heritage.

Today, however, this legacy faces serious challenges. For many years the number of small farms has been decreasing due to a range of factors including low milk prices. Ironically, these conditions can also lead to increased production.

Lower prices mean less profit; to raise their incomes, many dairy farmers have purchased more cows to produce more milk and increase sales. In recent years a combination of increased supply and sluggish demand has created a vicious cycle where small farmers who cannot keep up are squeezed out of the market.

A Wisconsin Policy Forum review finds that, in the midst of these low milk prices, the num-

Also in this issue:

Clearinghouse Proposed For Clean Water Credits • Impact of Internet Sales Tax Repeal

ber of small farms in the state filing for federal bankruptcy has more than doubled in the past five years. These numbers include different types of farms—not just dairy operations—and various factors could be contributing to the increase. Still, as we will see below, milk prices appear to be having a painful impact on the finances of state farmers.

Our research looks at many of the key financial indicators for dairy farms. One important set of factors that we do not discuss here are the impact of tariffs and trade policy. Wisconsin producers, however, have felt those effects firsthand. In April

Figure 1: Farm Bankruptcy Filings in WI Increase
Ch. 12 Filings (Blue) vs. Milk Prices in \$ (Brown), 2001-2017



Sources: U.S. Court System, National Agricultural Statistics Service

2017, for example, Grassland Dairy in Greenwood announced it would no longer purchase milk from 58 state dairy operations, blaming a change in Canadian dairy policies which favored domestic milk over imported products. As a result, these Wisconsin farms lost a customer for nearly one million pounds of daily milk production.

Trade policy, whether for milk, dairy products, or other commodities produced by farmers in the state, is currently in flux and is not a core area of expertise for the Wisconsin Policy Forum. Instead, we focus on domestic factors that help explain the financial difficulties faced by dairy operations in the state, especially small farms.

WHY DAIRY FARMS FACE HARD TIMES

Milk prices have declined 13.1% since 2008, and 33% since the recent high in 2014. Prices for the commodity are measured according to a unit known

CHAPTER 12 BANKRUPTCY RULES

For whom? - individual or husband and wife must be engaged in a farming operation or commercial fishing operation

Debt level - maximum secured and unsecured debt must not exceed \$4,153,150 for a farming operation

Source of Debt - at least 50% of the family farmer's debt (exclusive of loans for the debtor's home) must be related to the farming operation

Income Source - more than half of the gross income of the farmer in the prior tax year must have come from the farming operation

as a "hundredweight," which equals 100 pounds of milk (just under 12 gallons).

The drop in milk prices correlates with the recent increase in Chapter 12 bankruptcy filings in the state of Wisconsin. (See Figure 1.) Chapter 12 bankruptcy is designed primarily for family farms, which account for the majority of cases. These filings allow farmers to restructure debt while under court protection. (See the gray box for more details.)

The latest figures from the U.S. court system show that annual Chapter 12 filings in Wisconsin more than doubled between 2014 and 2017, from 22 to 50. Since 2001, annual Chapter 12 filings have increased more than sevenfold. While a rela-

THE WISCONSIN TAXPAYER

2019 Vol. 87 Number 3

Publication Number USPS 688-800

Periodical postage paid at Madison, Wisconsin

Receiving This Publication:

The Wisconsin Taxpayer is a regular publication of the Wisconsin Policy Forum. WPF members receive an e-mail when each Taxpayer is released. For membership information, go to wispolicyforum.org/join.

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Send address changes to *The Wisconsin Taxpayer*,
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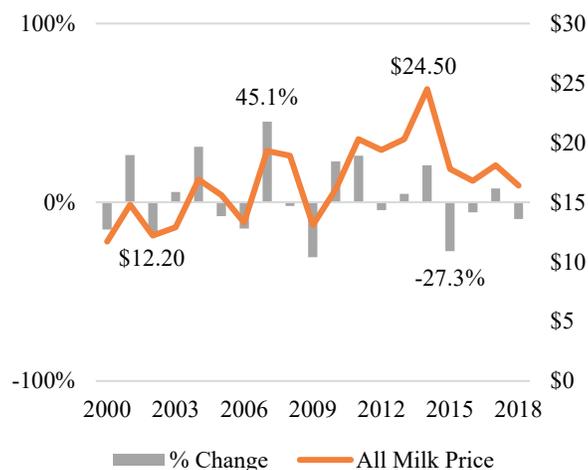
tively low amount compared to the total number of farms in Wisconsin, the bankruptcies provide added confirmation of the widely reported troubles facing farms in the state.

Milk prices have dropped for various reasons, but most importantly because of increased production and reduced demand for dairy products. Dairy farms are becoming more efficient, mainly by increasing the amount of milk each cow produces. Additionally, the industry is consolidating into fewer, larger farms that may better handle price shocks. Sustained low milk prices have a cumulative impact on Wisconsin's dairy farms. Many farmers can weather one, or even a few years of low prices, but the impact builds over time.

In addition to low milk prices, farmers are faced with high operating costs and thin profit margins, all contributing in recent years to a decline in net farm income, both nationally and in Wisconsin. After accounting for inflation, Wisconsin farmers are estimated to have lost half their net income between 2011 and 2018, just slightly larger than the average decrease across the country. Combined with significant debt burdens, these forces may be pushing a growing number of Wisconsin farmers into bankruptcy to restructure their finances.

Figure 2: Milk Price Falls

All Milk Price in \$ for Wisconsin per 12 gallons, 2001-2018



Source: National Agricultural Statistics Service

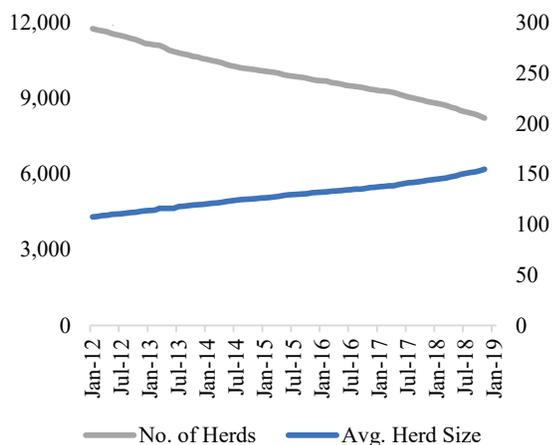
MILK PRICE

An explanation of how low milk prices impact Wisconsin agriculture starts with a look at how those prices are set. Milk prices are determined in part by traditional forces of supply and demand.

However, the U.S. Department of Agriculture (USDA) sets a floor, or a minimum price for milk, that directly affects dairy farmers as well as consumers.

As in other parts of the country, the milk produced in Wisconsin is subject to a regional federal pricing policy (the state's producers belong to the Upper Midwest region). Under this "milk marketing order," the USDA sets a minimum price that

Figure 3: Dairy Herd Size Increases in Wisconsin
No. of WI Dairy Herds vs. Herd Size in Cows, 2012-2019



Source: National Agricultural Statistics Service

those who buy milk—referred to as handlers—are required to pay to milk producers. Prices for the different classes of milk are determined through complex formulas that depend on the end use of the product (drinking milk, dry or powdered dairy products, cheese, butter, etc.)

The process for setting milk prices is much more complicated than can be expressed here. The goal of these somewhat arcane provisions is in part to address certain challenges unique to producing and selling milk.

Since milk is highly perishable, it must be kept cool or refrigerated almost immediately after production. This creates logistical hurdles because refrigerated products are expensive to store and ship.

Additionally, milk has no "harvest" season. Cows are milked daily and most farms have limited onsite storage. Since milk must be moved to markets quickly, producers are at a bargaining disadvantage with handlers because they generally cannot wait for a better offer.

While there is no harvest time for milk, seasonal patterns do exist for both supply and demand. Dairy cows are more productive in the spring compared to the winter months. At the same time, demand peaks during the winter months (during the school year) and declines during the spring and summer.

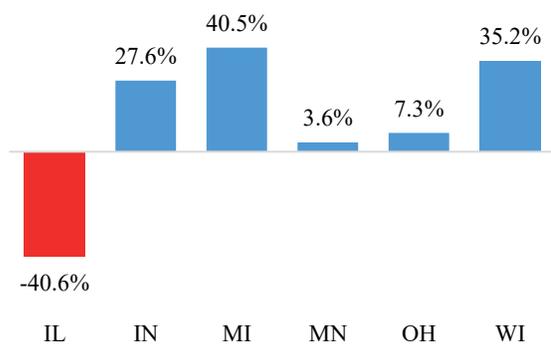
Even though federal policies are designed to stabilize markets, milk prices have remained challenging for farmers due to factors such as the consolidation of herds, increased production, and reduced demand. (See Figure 2 on page 3).

Consolidation

The number of herds in Wisconsin has consistently declined over the years, highlighting the industry trend toward consolidation. In August 2012, there were 11,400 total dairy herds in the state, but by August 2018 that number had decreased 26.4% to 8,419. Over that period, the number of dairy cows has stayed essentially the same, rising from 1,271,000 in August 2012 to 1,274,000 in August 2018. As a result, the size of the average Wisconsin dairy herd increased. (See Figure 3 on page 3.)

One factor that may contribute to the consolidation of small dairy farms is the lower cost and

Figure 4: Confined Livestock Farms Growing in Midwest
% Growth in Number of CAFOs by State, 2011-2017



Source: Environmental Protection Agency

greater efficiency of operations with larger herds. Concentrated animal feeding operations (CAFOs) are agricultural meat, dairy, or egg facilities where large numbers of animals are fed and raised in confined spaces rather than being allowed to graze over a wider area.

According to the Wisconsin Department of Natural Resources (DNR), CAFOs are livestock

operations with at least 1,000 animal units (which are based on the weight of the animals). From 2011 through 2017, the number of CAFOs in Wisconsin increased 35.2%, from 233 to 315. Among surrounding states, this level of growth was only exceeded by Michigan, where CAFOs increased 40.5%. Illinois actually saw a 40.6% decrease. (See Figure 4.)

Larger operations and especially CAFOs can reduce costs through economies of scale. For instance, many of the inputs such as feed can be purchased in bulk. Total costs for farms with fewer than 50 cows averaged \$22.79 per 12 gallons of milk, or hundredweight, according to the USDA's Economic Research Service (ERS). Due in large part to the reduced operating costs, larger farms with 2,000 or more cows averaged total expenses of \$17.16.

Taking into account both costs and values, dairy farmers are in a difficult financial situation. Nationally, in 2017 net total value—gross sales minus total costs—averaged \$1.86 per 12 gallons for large farms, while small farms averaged \$1.40. (See Figure 5 on page 5.)

Operating Costs:

- feed
- veterinarian and medicine
- bedding
- marketing
- fuel
- repairs

Allocated Overhead:

- hired labor
- capital recovery of machinery
- machinery storage
- dairy breeding
- taxes
- insurance

Supply and Demand

While federal policies attempt to stabilize the milk market for dairy producers of all sizes, the price still reflects basic economic forces. When supply outstrips demand, prices fall.

The total number of dairy cows in Wisconsin has remained relatively constant for years, but the milk supply in the state has risen because each cow produces more milk due to better technology, cattle breeding, and farm practices. In August 2012, production per cow averaged just under 1,820 pounds of milk per month, but in August 2018, each cow produced 2,065 pounds per month, an increase of 13.5%.

Demand has not kept pace, however. According to the most recent U.S. Census Bureau data, the average American consumed 154 pounds of milk in 2016, compared to 178 pounds in 2010, a drop of 15.6%. (See Figure 6.) At the same time, Americans are eating more cheese, but not enough to make up the difference.

Lower dairy product consumption occurred both at home and abroad in 2017, according to the Inter-

Figure 5: Larger Herds More Profitable
Net Value Per 12 Gallons of Milk by Herd Size, U.S. Totals, 2017



Source: Economic Research Service

national Dairy Federation. However, this per capita trend may not be quite as dire as it may seem, since U.S. and global populations are increasing.

FARM FINANCE

Nevertheless, as individuals consume fewer dairy products, milk prices remain low. How does this impact farmers?

Wisconsin Farm Margins

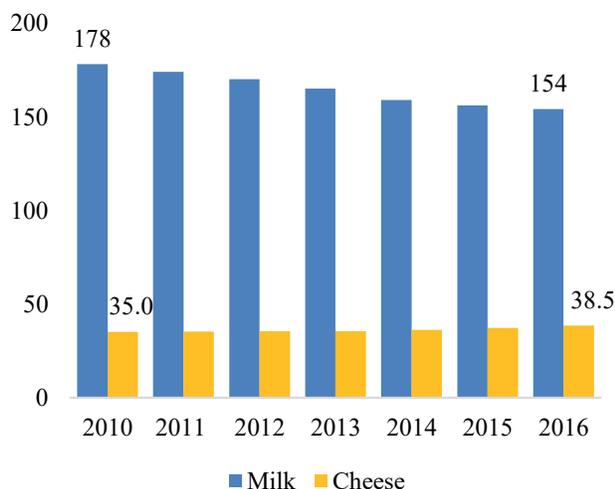
Despite the challenges of low milk prices, dairy farmers in the state appear to do better than most of their Midwestern neighbors, with federal statistics suggesting they have better margins.

The average net value of production—again, gross revenues minus costs—for Wisconsin was \$2.86 per twelve gallons in 2017, according to the USDA. That was the highest in the region and above the national average of \$1.42. (See Figure 7 on page 6.) However, those figures may be too rosy. The USDA data track many producer costs such as feed and fuel (see box on page 4) but do

not include the debt payments on farm loans that may be pushing more producers into bankruptcy.

These figures show Wisconsin fares better than its neighbors, with the lowest per unit cost in the region at \$18.33; meanwhile, state dairy farmers averaged \$21.19 in revenue per twelve gallons of milk sold before costs, according to the USDA, somewhat higher than the national average of \$20.19.

Figure 6: Dairy Consumption Decreasing
U.S. Per Capita Milk and Cheese Consumption*, 2010-16



Source: National Agricultural Statistics Service (*Pounds Per Year)

So though these figures are not all-encompassing, they suggest Wisconsin dairy farms have the best margins in the region. The higher margins here may be due to the fact that the state’s agricultural industry is largely built around dairy, which may provide some competitive advantages.

Nevertheless, low milk prices threaten the state’s position as an international dairy industry hub. The 2017 margin was narrow at just 24 cents per gallon in Wisconsin and that positive number may not fully reflect producers’ costs. Such slim margins mean a drop in the milk price, or a rise in costs such as feed, can quickly turn a challenging business environment into an untenable one.

Impact of Falling Farm Incomes

Low milk prices and tight profit margins have contributed to decreasing overall farm income in the state. From 2011 through 2017 (the most recent year available), Wisconsin’s net farm income has decreased 55.6% from an inflation-adjusted \$4.1 billion to \$1.8 billion. (See Figure 8 on page 6.)

With net farm income and interest rates both low and land values increasing, some farmers may have turned to borrowing money against their property in an attempt to ride out low commodity prices. Because agriculture in general and dairy in particular require substantial investments to operate, improve, and expand operations, debt is an important tool—and significant risk—for farmers.

Consequently, the recent decrease in milk prices and net farm income have likely contributed to an increase in Chapter 12 bankruptcies both in Wisconsin and nationwide. The Federal Reserve Bank of Minneapolis has reported that in 2018, Wisconsin accounted for nearly 60% of the small farm bankruptcies in a region including Minnesota, the Dakotas, and Montana. As one potential explanation, the bank cited the prevalence of small dairy farms in Wisconsin and their greater possible exposure to price fluctuations in the market.

One key question is what are the broader impacts of these bankruptcies and the more widespread distress they signal within Wisconsin’s dairy farms? It is worth remembering that the processing of dairy products such as cheese and milk supported

Figure 7: Wisconsin Dairy Farms Have Higher Margin
Net Value of Production by State, 2017



Source: Economic Research Service

just under 20,000 direct jobs statewide in 2017, according to Wisconsin Department of Workforce Development data. Between 2000 and 2017, dairy processing jobs grew by 19.5% in Wisconsin and represented one of the few manufacturing segments to increase employment during that difficult period.

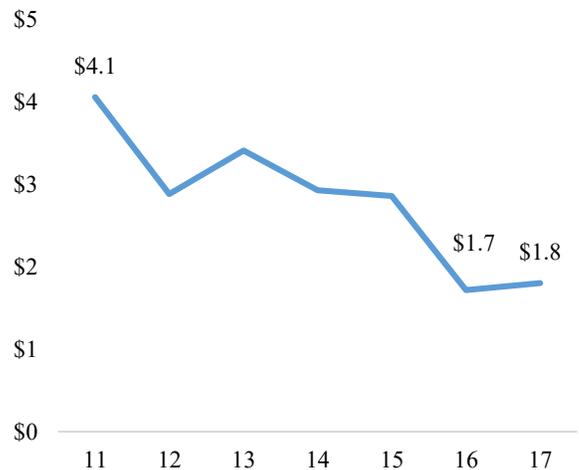
In the short run, dairy processors may be helped by low prices for milk since it is a key input. In the

long run, however, these manufacturers depend on viable dairy farms to be a reliable source of raw material to keep their production facilities running.

So far, low milk prices do not appear to have had serious impacts on farm output. Annual total milk production has increased in Wisconsin every year since 2004, from 22.1 billion pounds to 30.3 billion pounds in 2017. (See Figure 9 on page 7.)

There are no guarantees, however, that milk production will continue to increase if the difficulties facing dairy farms persist. For instance, the average age of farmers across the state continues to rise, reaching 57 in the 2012 USDA Census of

Figure 8: State’s Net Farm Income Declines
Wisconsin Net Farm Income, 2011-17 (2018\$ in Billions)



Source: Economic Research Service

Agriculture. Linger low prices might lead some farmers to retire earlier and make it more difficult to recruit new entrants to replace them.

In addition, the trend toward bigger dairy operations brings with it some other challenges. Larger numbers of animals in confined spaces mean more waste for farmers to safely manage in order to avoid environmental impacts. Likewise, state regulators have added duties and costs under state law to provide oversight of large farms and ensure clean water.

CONCLUSION

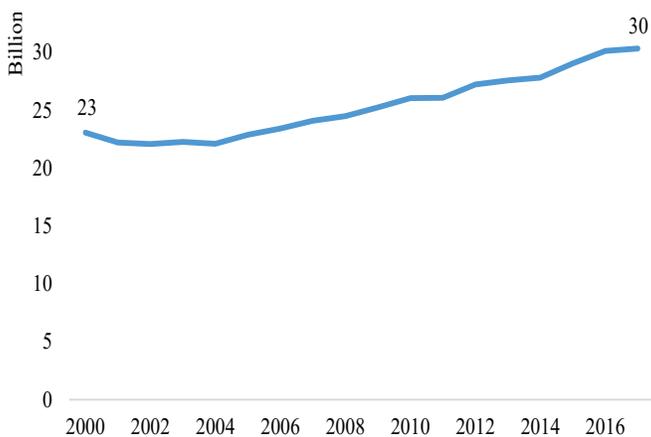
How do farmers and the state move forward in this difficult environment? Short of diversifying, dairy farmers have very few ways of earning more money. Cows need to be milked every day, making it difficult to work part-time off the farm. One of the few effective methods to bring in more revenue

is to increase production, which further floods a market in which stagnant demand cannot match the added supply.

In addition to Grassland, other Wisconsin cheese plants have also reduced milk purchases. Last May, Hollandtown Dairy near Kaukauna gave 11 producers 60 days’ notice that it would stop buying their milk. Other plants have closed altogether in recent years, including Saputo Cheese in Fond du Lac, a Dairy Farmers of America plant in Plymouth, and Foremost Farms plants in Jackson and Buffalo Counties, resulting in a loss of over 500 jobs at these facilities.

In 2018, these dairy market conditions led then-Gov. Scott Walker to appoint a “Dairy Task Force 2.0,” a joint effort between state cabinet agencies and the UW System modeled after a similar panel in 1985. Members—dairy industry stakeholders including farmers, processors, and consumers—have

Figure 9: Milk Production Rises Despite Challenges
Milk Production in Wisconsin in Billions of Pounds, 2000-2017



Source: National Agricultural Statistics Service

been charged with developing proposals aimed at securing a more certain future for the state’s dairy industry. The panel, having held several meetings and public hearings, has thus far forwarded to Gov. Tony Evers initiatives ranging from loan guarantees to money for dairy research.

However, some stakeholders argue that increased state loan guarantees might actually make the problems worse. First, as we have seen, some farmers are already in debt and may need to reduce their outstanding loans, not increase them. Further, loan guarantees

might encourage farmers to buy more cows or make other investments to produce more milk, adding more supply to an already over-saturated market.

Conversely, other observers maintain that Wisconsin’s dairy producers need more access to capital to invest in their operations and make them more efficient. In addition, renewed investment in the industry as a whole might lead to innovative dairy products that open up new markets and lead to increased demand and higher milk prices.

Dairy task force members are considering several additional policy options. However, since milk pricing is not a state issue, no proposal on its own can directly address the core issue: milk price and supply. Wisconsin would have to lobby the federal government for any changes the panel may recommend in those areas.

Further, the state’s dairy industry stakeholders currently seem to lack agreement on what those changes should be. Some producers maintain that milk prices are unlikely to recover unless federal pricing policies specifically address over-production.

One supply-management option discussed last October by dairy task force subcommittee members is some type of two-tier pricing structure in which farmers are paid less for production over a certain level. However, some producers may be concerned about any potential reduction to their bottom line, especially if they have loan payments to make.

How state and federal policy makers address the rise in farm bankruptcies will directly impact the 30% of the state’s population—and 97% of its land area—considered to be rural by the U.S. Census Bureau. Past Wisconsin Policy Forum research has documented the economic challenges facing rural communities in parts of Wisconsin such as the North Woods and Central Sands regions. Keeping Wisconsin’s agricultural economy strong will be important to addressing these broader needs in the state’s smaller communities.

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POLICY NOTES

■ **Bill Would Streamline State’s Pollution Credit Trading System.** Struggling farmers looking to receive additional income by selling pollution credits could find a better market under a bill that would establish a private third-party clearinghouse to boost Wisconsin’s current pollution credit trading system. The proposal’s sponsors say the current program, created in the 1997-99 state budget, has not caught on because point and non-point sources simply lack the relationships to set up contracts. Only 15 trades have been approved by the Department of Natural Resources since the program’s inception, with another 11 pending. Under the bill, a private clearinghouse, hired by state officials, would contract with non-point sources such as farmers and pay them for pollution reduction efforts that generate credits. Point sources such as factories and sewage treatment plants could then purchase the credits directly from the clearinghouse.

■ **Initial Veterinary Credential Fee Waiver.** First-time applicants for Wisconsin veterinary or veterinary technician credentials would not have to pay the \$115 application fee, under a bill introduced in the state Legislature. The proposal, which aims to address what the authors call “a shortage of veterinarians working with large animals,” would not change the biennial \$160 renewal fee for the credentials.

■ **Impact of Internet Sales Tax Repeal.** The repeal of state taxation of internet access services is projected to reduce sales tax revenues by \$166 million annually beginning July 1, 2020, according to estimates from the Wisconsin Legislative Fiscal Bureau (LFB).

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The action could contribute to lower growth in overall sales taxes, which are estimated to increase 0.8% in fiscal 2021 after rising a projected 4.2% in 2020.

The repeal was included in the 2017-19 state budget to comply with federal law. When Congress passed the original temporary internet tax moratorium in 1998, more than a dozen states were allowed to continue taxes that were in effect before the prohibition. As the ban was extended eight times over nearly 20 years, Wisconsin was among the seven remaining states with taxes still allowed under the federal provision. However, a law enacted in 2016 made the prohibition permanent and gave those states a firm deadline of June 30, 2020 to end their taxes on internet access.

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