FOOD & BEVERAGE MANUFACTURING ASSESSMENT

auri
Agricultural Utilization Research Institute

R9 REGION NINE DEVELOPMENT COMMISSION

DEPARTMENT OF AGRICULTURE

Acknowledgments

This work represents a collaboration among many people and organizations. First and foremost, it would not have been possible without the collaborative work of Region Nine Development Commission, FoodOps LLC, and participation from the many business leaders who took time away from their busy schedules to share their insights and perspectives.

Financial support for this project came from the Minnesota Department of Agriculture and the Agricultural Utilization Research Institute.

Finally, the Minnesota Departments of Health and Public Safety provided guidance and support throughout this process. We thank them for sharing their time and expertise, as well.

Our mission is to foster long-term economic benefit for Minnesota through value-added agricultural products.

Sincerely,

Shannon M. Schlecht
Executive Director

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Executive Summary

The Minnesota Department of Agriculture (MDA) and the Agricultural Utilization Research Institute (AURI) commissioned this report in response to a perceived lack of capacity or access to affordable, right-sized manufacturing options in Minnesota for growing, ready-to-scale small food and beverage businesses. Failure to address this infrastructure need not only places Minnesota at risk of losing the economic benefit these businesses provide today (jobs, revenue, capital, and agricultural product utilization) but also minimizes the economic potential of attracting new food and beverage businesses to the state.

This study, completed by the Region Nine Development Commission (RNDC) in partnership with FoodOps LLC, assesses the current state of Minnesota food and beverage manufacturing (F&BM) capacity / capability, defines the economic opportunity associated with sector investment, and identifies gaps, opportunities, and strategies in supporting "ready-to-scale" food and beverage businesses. Key findings include:

1. Minnesota can unlock significant Gross Domestic Product (GDP) growth through investment in F&BM, which appears to be an untapped (or under-tapped) driver of growth for Minnesota's economy. Analysis indicates F&BM generates the highest overall returns of any industry in the state, with a 5% gain in manufacturing output yielding over $11 billion in impact to the state's GDP and an additional (estimated) 167,822 jobs. Note that these estimates reflect increases across industries, indicating the reach and external dependencies of the F&BM sector.

2. The research premise of a perceived lack of access to affordable, "right-sized" manufacturing for ready-to-scale food and beverage businesses is not only confirmed but expanded. In other words, this is not a Minnesota problem; rather, it is a national problem for scaling food and beverage businesses.

3 The research could not confirm the premise of an apparent lack of capacity of affordable, "right-sized" manufacturing for ready-to-scale food and beverage businesses. This may be attributable to inadequate information sharing and brand/manufacturer communication barriers. For example, a survey conducted across manufacturers shows not only available capacity but also willingness to contract manufacture for mutual success. These results indicate that brands and manufacturers appear to have difficulty finding one another, and, once connected, brands and manufacturers have difficulty creating mutually beneficial relationships. Possible solutions include:

   a. Develop a platform for information exchange among brands and manufacturers. For example, licensing and regulatory data is fragmented by the differing jurisdictional responsibilities of the Minnesota Department of Agriculture (MDA), Minnesota Department of Public Safety (MN DPS), and Minnesota Department of Health (MDH), as well as how each business self-identifies in the licensing process. Consolidating these data sets into a publicly accessible database could eliminate this matchmaking barrier.

   b. Develop educational tools for brands and manufacturers that encourage an empathetic understanding of the differing business models. Supportive mentorship programs that move entrepreneurs from idea to self-manufacturing to contract manufacturing at a reasonable pace and time frame could break down these communication barriers and put Minnesota at the forefront of innovation and wage growth.

Minnesota is in a unique position to not only unlock significant state GDP growth, but also to lead the nation in identifying solutions for affordable, accessible, and "right-sized" food and beverage manufacturing. This assessment is simply the first step in expanding the economic opportunities for value-added agricultural products. From here, key stakeholders at MDA and AURI will lead a task force to transform this information into actionable knowledge and specific activities, encouraging both public and private investment to close the gaps identified herein.

Section I:
Existing Conditions

Food and Beverage Manufacturers (North American Industry Classification System [NAICS] Codes 311 and 312) include brand manufacturers and entrepreneurs in the food and beverage industry operating locations in Minnesota. Food and beverage manufacturing (F&BM) sectors are showing continuous growth. There is growth in almost every segment supported by increasing numbers of companies and annual sales over time. Each year a growing number of brand manufacturers proceed from one level of annual sales to the next. Although the scope of this analysis focuses on businesses with annual sales from $20,000 to $3 million, it is necessary to review the annual sales overflow from $3 million to identify if there is indication of stalled growth; therefore, $10 million was the end state for this review. A method to control for which brand manufacturers consolidated with another company, went out of business, or left the state, was not identifiable with the data available. Yet, the numbers of companies with annual sales continue to experience growth over nearly two decades.

Minnesota's top three growth industry sectors for F&BM are in the beverage sector, specifically alcohol producing establishments (see Table 1). Thanks to the Minnesota legislature appropriating funding for research and allowing producers of alcohol to also offer on-site tasting and retail sales, these three industries have experienced disproportionate growth.

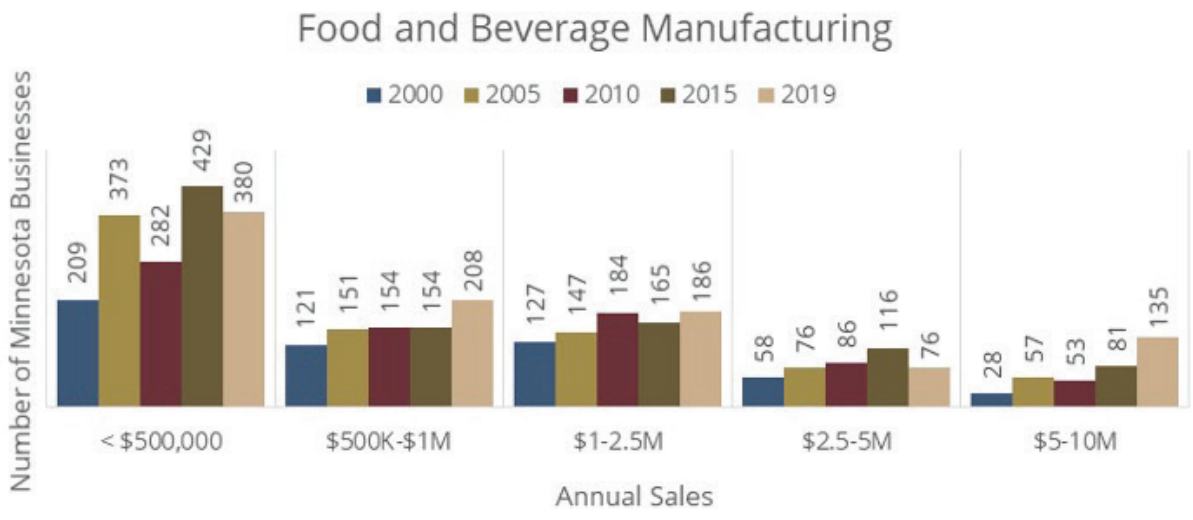


FIGURE 1: Number of F&BM businesses by annual sales[1]

[1]ReferenceUSA, 2020

The individual F&BM sectors experiencing growth are more difficult to identify because of reporting limitations. ReferenceUSA (a business and residential information database, recently rebranded as Data Axle) did not list many companies licensed in Minnesota. The state of Minnesota groups the F&BM sector into one classification: wholesale food processors or manufacturers and does not further delineate the types of industry sectors through their licensing systems (Figure 2).

Ranking	SIC Description	Δ Number	Δ Percent
1	Distillers	1 to 10	900
2	Wineries	6 to 53	783
3	Breweries	3 to 25	733
4	Poultry Processing Plants	2 to 14	600
5	Potato Chips Corn Chips/Snacks	0 to 4	400
6	Food Products & Manufacturing	12to 52	333
7	Chocolate & Cocoa Manufacturers	2 to 6	200

TABLE 1. Change in number of F&BM businesses from 2002 to 2019 with annual sales <$5 million.[2]

F&B Merchant Wholesalers (NAICS Codes 4244) are primarily contract, or toll, manufacturers (commonly referred to as co-manufacturers, co-mans, or co-packers) and, in some cases, brand manufacturers that have co-manufacturing capability. Merchant wholesale manufacturers are not experiencing the growth associated with the increase of F&BMs. Each year a declining number of wholesale manufacturers drop from one level of annual sales to the next. There were no merchant wholesalers with annual sales below $500,000 and a method to control for which wholesale manufacturers consolidated, went out of business, or left the state, was not identifiable.

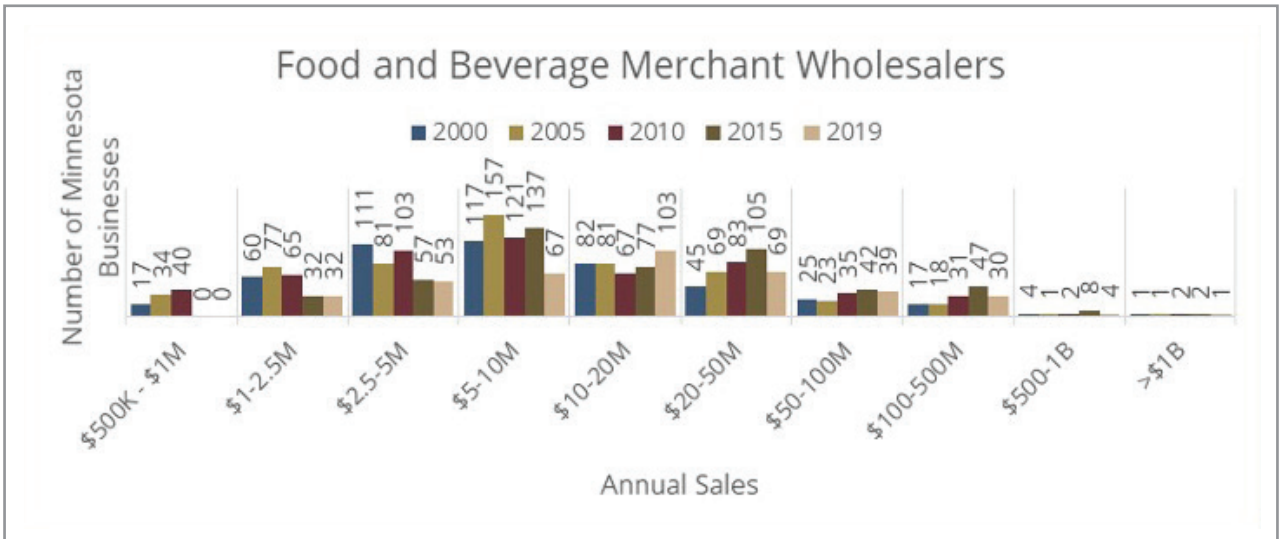


FIGURE 2. Number of food and beverage merchant wholesalers in Minnesota, by annual sales, from 2000 to 2019.[2]

[2]ReferenceUSA, 2020

The state of wholesale manufacturing depends upon the sector examined. Sectors experiencing change are more difficult to identify because of the manner of reporting. For example, Reference USA does not list many of the businesses located in Minnesota, and the State of Minnesota groups F&BM businesses into one classification: "wholesale food processors or manufacturers." It does not further delineate within its publicly available searchable systems and so is a poor surrogate for a comprehensive inventory.

Ranking	SIC Description	Δ Number	Δ Percent
1	Frozen Food	0 to 22	2200
2	Potato Chips	0 to 15	1500
3	Beverages	23 to 44	91
4	Food Products	91 to 93	2
5	Dairy Products	38 to 25	-34
6	Meat	32 to 21	-34
7	Bakers	47 to 29	-38
8	Grocers	29 to 12	-59
9	Potatoes	27 to 10	-63
10	Fruits & Vegetables	38 to 12	-68

TABLE 2: CHANGE IN THE NUMBER OF F&BM MERCHANT WHOLESALERS FROM 2000 TO 2019.[3] NOTE: A SIC (STANDARD INDUSTRIAL CLASSIFICATION) CODE IS A FOUR DIGIT NUMBERIAL CODE ASSIGNED BY THE U.S. GOVERNMENT TO IDENTIFY THE PRIMARY BUSINESS OF AN ESTABLISHMENT.

[1]Reference 3, located in the Table title.

Section II:
Current Problem and Associated Opportunity

Whether for a start-up or an existing brand, access to resources that initiate and support steady growth is unpredictable across the state. Brand manufacturers report difficulty identifying the necessary resources to expand offerings and increase production.

When asked what the state needed most, one Minnesota brand reported the following:

> *"Lack of support in many forms—from capital, to mentorship, to labs for testing or help with distribution and connecting to big retailers in the area, the Hy-Vees and the Targets. Minnesota now has tons of networking units and incubating units like Grow North, AURI, Midwest Pantry, Forge North. So, we network, and we incubate, then what? Where is the capital to grow? Where are the retail units and the wholesale units who will help us grow? All wish for volume and the lowest cost of goods sold (COGS)… Who will work with the smaller companies to support them? Where is the help to connect small producers to join in the supply chain?"*
>
> *— Anonymous Minnesota Small Food Business Founder 1*

The missing resources appear to be disparate and disjointed. In other words, there is no simple answer. Investing heavily in one aspect of the industry is unlikely to resolve issues like increased apple processing capacity to meet Panache LLC's needs. Rather, the entire landscape stands to benefit from increased connectivity and dynamism via a statewide system that supports innovation, growth, and resilience.

Problem One: Lack of Classification Granularity in Minnesota Statutes 28A.05

Per state statute, the Minnesota Department of Agriculture (MDA) codifies all food processors and manufacturers as a single business type, regardless of product, i.e., soft drinks, processed poultry, or milled flour. This limits capacity to examine individual sectors and needs.

> *Wholesale food processors or manufacturers are persons who process or manufacture raw materials and other food ingredients into food items, or who reprocess food items, or who package food for sale to others for resale, or who commercially slaughter animals or poultry. Included herein are persons who can, extract, ferment, distill, pickle, bake, freeze, dry, smoke, grind, mix, stuff, pack, bottle, recondition, or otherwise treat or preserve food for sale to others for resale, cold storage warehouse operators as defined in section 28.01, subdivision 3, salvage food processors as defined in section 31.495, subdivision 1, and dairy plants, as defined in section 32D.01, subdivision 6.*

Problem Two: Difficulty Identifying Businesses to Support Expansion

The predominant issue reported by F&BMs was difficulty identifying vendor/contractor businesses necessary to support expansion.

Those needed supports align within broad categories of manufacturing, supplies, and business services, manufacturing being the most difficult to find but the issue is not unique to co-manufacturing alone.

This issue occurs in both directions: from the brand manufacturer seeking to expand to the services of a co-manufacturer, and from the co-manufacturer having excess capacity but no brand client pool with which to develop a business relationship, maximize capacity, and income.

> *"A huge opportunity exists for food manufacturers to market themselves to all the food start-ups located in Minnesota. Without referrals to the companies we work with, we would never have found out about them. Manufacturers have very little visibility to makers. Paid search, an updated manufacturer database and communication about how to access the database would be a huge help for makers that are interested in scaling."*
>
> *— Anonymous Minnesota Small Food Business Founder 2*

Estimate of utilized contract manufacturing in other states

To clarify how the two problems are interrelated, an analysis was conducted of all manufacturers, regardless of annual sales level, to identify how many businesses in the food and beverage sector were in Minnesota and not manufacturing food or beverages in Minnesota.

Of the F&BMs not manufacturing alcohol; more than 630 business do not have a license to manufacture food or beverages in the state and may be manufacturing in other states.

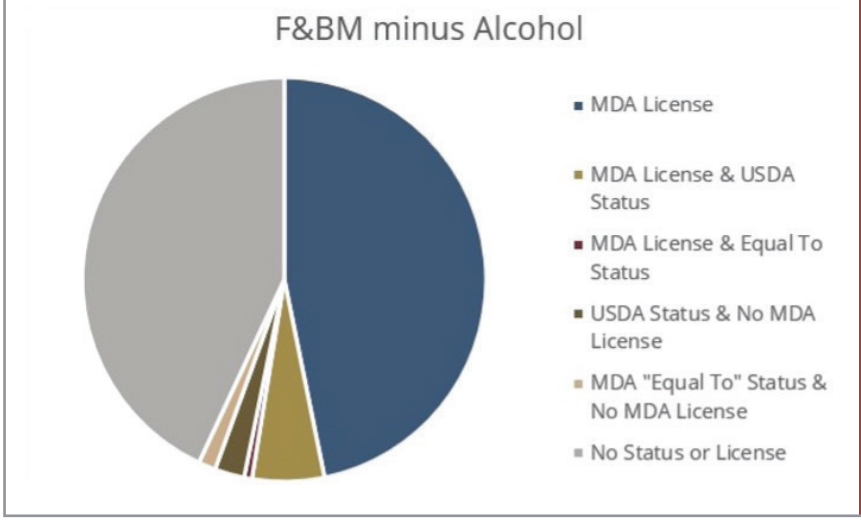


FIGURE 3: F&BM BUSINESSES (EXCLUDING ALCOHOL) NOT LICENSED TO MANUFACTURE IN MINNESOTA[5]

[5]ReferenceUSA, 2020

FIGURE 4: ALCOHOL BEVERAGE BUSINESSES NOT LICENSED TO MANUFACTURE IN MINNESOTA[6]

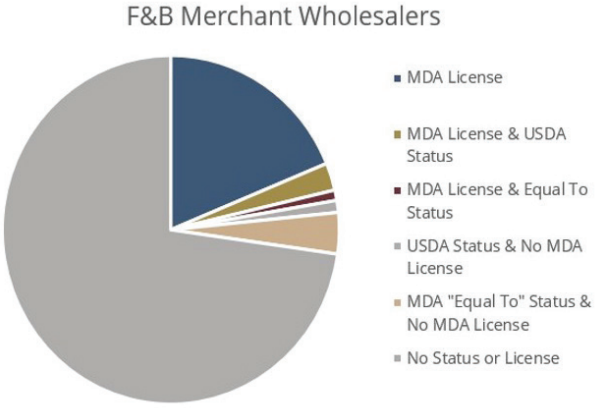


FIGURE 5: F&B MERCHANT WHOLESALERS NOT LICENSED TO MANUFACTURE IN MINNESOTA

MDA Food and Feed Safety Division is responsible for licensing and inspections of permanent and mobile retail food establishments, wholesale food handlers, wholesale food processor manufacturers and food brokers. Per statute, there is an exemption or exclusion for some food businesses from licensing (though this does not exempt these businesses from MDA food safety oversight, i.e., inspection).

More than 70 alcohol manufacturers with a presence in Minnesota are unlicensed to produce the product within the state and may conduct the manufacturing elsewhere while continuing to operate other brand functions here. Adding to the complexity in clarifying what (if any) co-manufacturing capacity these businesses may have, many have licenses, instead, from the Minnesota Department of Public Safety's (DPS) Division of Alcohol and Gambling Enforcement, Alcohol Enforcement Unit. DPS is responsible for issuing manufacturing/ wholesale licenses to a person to manufacture, wholesale, or sell at retail alcoholic beverages which include distilled spirits, wines, or malt beverages.

More than 388 wholesale manufacturers have no license to manufacture in Minnesota and may conduct the manufacturing component of their business in another state.

This analysis also includes business headquarters, supply, and service locations, which would not need a license.

[6]ReferenceUSA, 2020

[7]ReferenceUSA, 2020

"There's a significant shortage of co-packing capacity and adjacent services (cold storage, warehousing, office space, HPP [High Pressure Processing], etc.) in Minnesota relative to other states like Wisconsin. Due to these challenges, we are opening a new manufacturing facility in Rockford (open by Jan 2021). We'll have co-packing capacity, cold storage, warehouse and office space available to sublet."

— Anonymous Minnesota Small Food Business Founder 3

The opportunity within the state is to facilitate food and beverage industry connections, relationship building, and product creation. This facilitation can assist licensing and identifying which sectors need outside support. Additionally, this same facilitation will support manufacturers from other states in connecting, developing business relationships, and creating products using identifiable Minnesota resources.

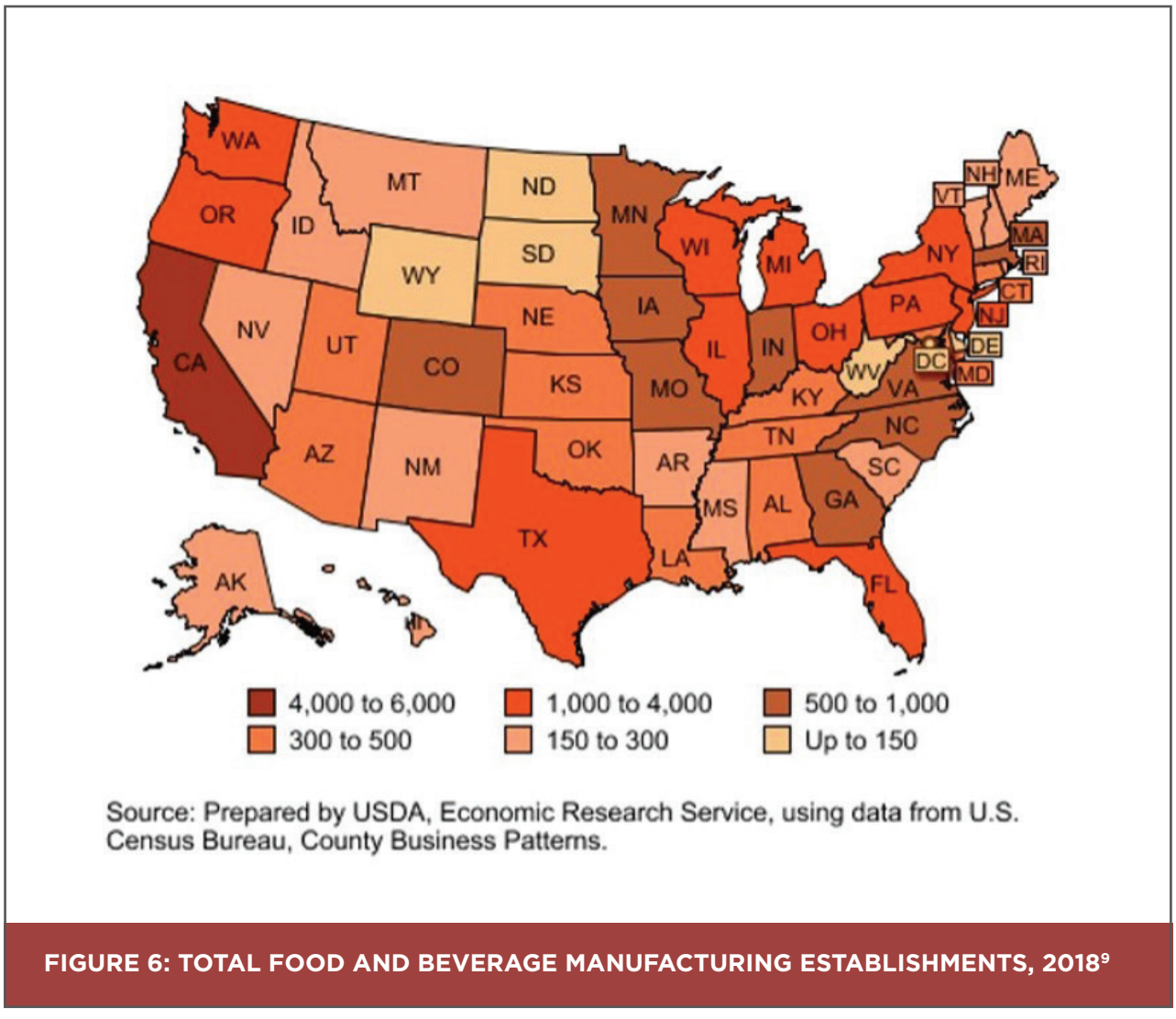


FIGURE 6: TOTAL FOOD AND BEVERAGE MANUFACTURING ESTABLISHMENTS, 2018[9]

[9]https://www.ers.usda.gov/topics/food-markets-prices/processing-marketing/manufacturing/

Summary: Why Minnesota F&BMs may look outside the state for services

In summary, Minnesota F&BMs are looking outside the state because they cannot identify resources within the state. Minnesota is not included in the top Midwest densest F&BM states of Illinois and Ohio, followed by Wisconsin and Michigan (see Figure 6). The output of these facilities extends well beyond the region and includes international trade partners.

Available Capacity

Available capacity seldom outweighs the following other items, as far as what brands are seeking from a co-manufacturer.

- Final Landed Cost—includes logistics and supply chain expenses versus unit cost.
- Quality and Safety—impacts brand value, which is measurable in millions of dollars and is more important than cost per unit.
- Speed to Market—production schedule and innovation impact competitive advantage.
- Ease of Doing Business—transparency, flexibility, customer focused, and a high degree of trust.[10]

> *"AURI and Grow North are helpful, but we don't have good options for flexible co- packers. Most are simply too rigid or too large for small yet emerging food companies."*
>
> *— Anonymous Minnesota Small Food Business Founder 4*

Manufacturing food products is expensive, and many start-up companies and food entrepreneurs lack funding for test-runs and experimentation needed to validate the manufactured product. Often co-manufacturers prefer to work with established food companies.[11]

> *"Starts ups normally don't have much money so they want tiny minimum order quantities (MOQs) with extended terms. This is all understandable but makes it difficult to work with start-ups."*
>
> *— Anonymous Minnesota Food Manufacturer 1*

> *"The facility we currently use does not require minimums and they only require a seven-day lead time for complete fulfillment of our order. Both of these factors are very uncommon in the manufacturing world."*
>
> *— Anonymous Minnesota Small Food Business Founder 2*

Workforce

While the food and beverage manufacturing industry represents a critical component of the state's workforce there remains a labor shortage for manufacturers looking to hire. Survey responses from business owners include the following comments:

> *"Seasonal labor is not easy to obtain."*
>
> *— Anonymous Minnesota Food Manufacturer 2*

> *"Labor costs have gone up and can be difficult to find employees to show up. Right now, $15.00 per hour is what I am facing."*
>
> *— Anonymous Minnesota Food Manufacturer 1*

> *"Labor market is tight."*
>
> *— Anonymous Minnesota Food Manufacturer 3*

[10]Contract Packaging Association – State of the Industry Report 2018-2019

[11]Ricardo Cordero, Ricardo Food Group, March 2017

According to labor market studies by the United States Census Bureau, Minnesota is the eighth largest F&BM state by number of jobs and the eleventh largest by number of establishments. The Twin Cities ranks fifth among all metropolitan statistical areas (MSA)s in the nation for number of jobs and eleventh for number of establishments.

Additionally, F&BM represents a major driver for employment in Minnesota. In terms of raw number of establishments, Minnesota ranks seventh in the nation from among all 50 states, with employment accounting for more than 30,000 jobs (see Figure 7).

Statewide, F&BM has a high location quotient (LQ), which indicates a high concentration of jobs in the industry. Whereas an LQ of 1 indicates employment on par with the national average relative to the work force, Minnesota weighs in at 1.38, or 38 percent higher than the national average, which places the state 13th nationally (see Figure 8).[13] This reaffirms the critical nature of F&BM industry to the state's overall economic function and workforce employment.

Transportation

Minnesota enjoys certain location advantages being situated near the geographic center of North America, with direct access to interstate highway corridors, rail options, international airports, and water routes leading to the Gulf of Mexico and Atlantic Ocean.

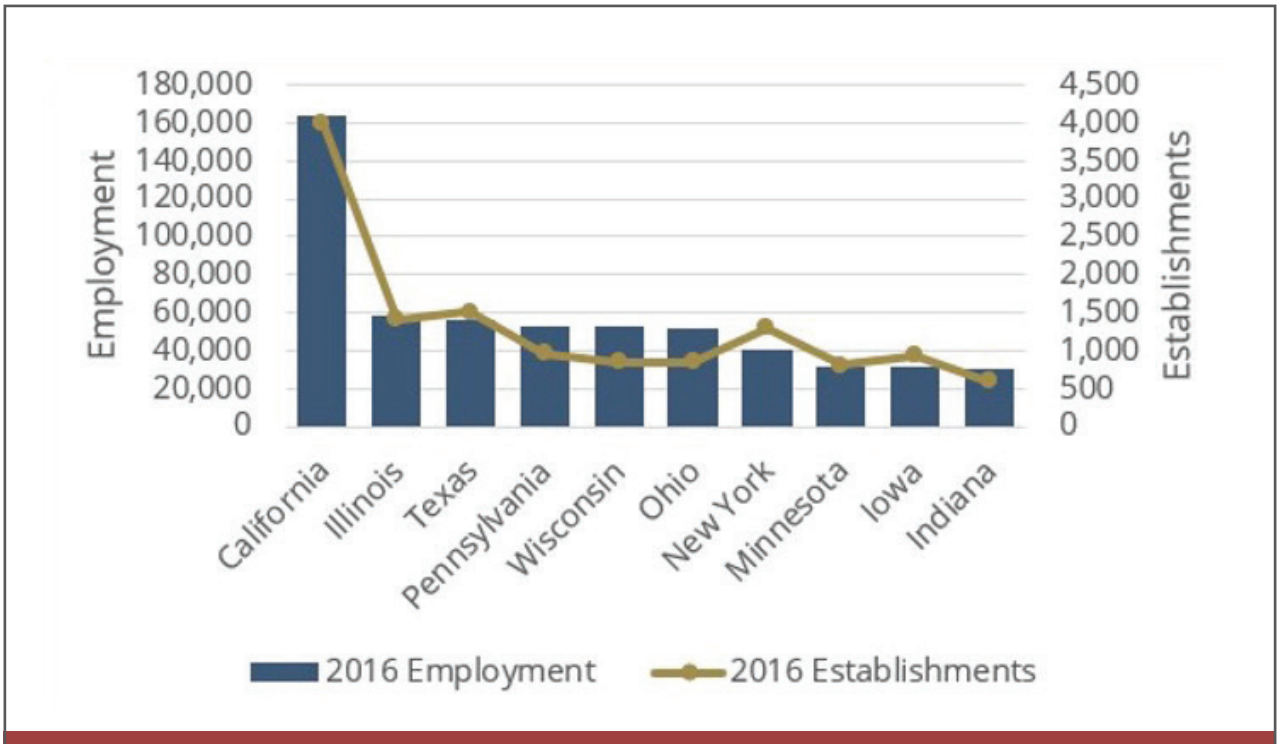


FIGURE 7: TOP TEN F&BM STATES BY EMPLOYMENT AND ESTABLISHMENTS[12]

[12]U.S. Census Bureau, 2016

[13]U.S. Census Bureau, 2016

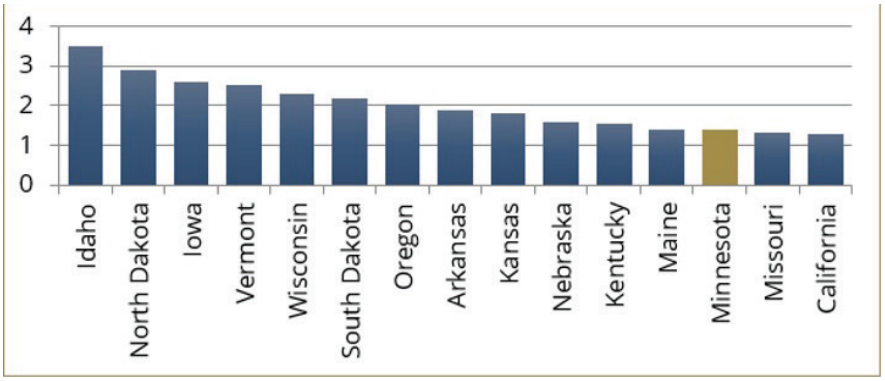


FIGURE 8: TOP 15 F&BM STATES BY LOCATION QUOTIENT[14]

However, the state's relative distance from the continent's dominant east-west trucking and rail corridors through Chicago and the United States heartland temper these advantages. While Minnesota and the Minneapolis-Saint Paul metropolitan area experience considerable truck traffic, volumes are modest compared to other regions and corridors.[15]

Survey respondents also expressed long-distance shipping costs:

"Labor-transportation cost to both coasts."

— Anonymous Minnesota Food Manufacturer 4

"Distance from East/West Coast."

— Anonymous Minnesota Food Manufacturer 5

In the year 2045, Minnesota's predicted top five domestic export trading partners are Illinois (6.6 percent) Wisconsin (6.6 percent) Iowa (5.3 percent) and California (4.3 percent) with over 36 percent of the value in commodities remaining within the state. Experts expect those commodities to rise in value 53 percent. The Minnesota State Freight Plan identifies the following challenges facing the freight transportation system:[16]

1. Maintaining and improving Minnesota's transportation system with limited funding
2. Providing modal alternatives for shippers
3. Improving connections between different modes of transportation
4. Managing the impacts of energy development in North Dakota
5. Addressing truck driver and workforce shortages
6. Responding to competition for investment from neighboring states.

Minnesota's F&BM industry relies on a steady intermodal balance of truck, rail, water, and air-based carriers to deliver commodities and products. Time requirements and pricing drive these decisions, and while both factors can change over time, Minnesota shippers likely won't drive significant modal shifts over the next 20 years.[17]

Any future planning for F&BM investments should, therefore, include recommendations for maximizing value in freight and shipping.

[14]U.S. Census Bureau, 2016

[15]Minnesota Freight Advisory Committee (MFAC), Components of an Attractive Minnesota Freight Market, White Paper, 2017

[16]MnDOT Statewide Freight Plan Summary, 2016

[17]Minnesota Freight Advisory Committee (MFAC), Components of an Attractive Minnesota Freight Market, White Paper, 2017

Section III:
Economic Impact of Manufacturing Elsewhere on Minnesota

Despite its traditionally strong performance in the F&BM sector, Minnesota has forfeited a significant share of its competitive advantage over the last two decades. A location quotient analysis ranks Minnesota 32nd among the states for overall growth rates, with a cumulative growth that lags even the national average. (An LQ of zero indicates no change relative to the national average.)

The LQ analysis shows that during the 18 years from 1998-2016, 31 other states overshadowed F&BM growth in Minnesota which failed to keep pace with national averages. Without intervention, there is little reason to believe this trend will change. Although this revelation may be distressing, it also suggests that the F&BM industry is ripe for investment and growth.

Likewise, the growth rate of F&BM consumer establishments in Minnesota ranks 38th among U.S. states. Again, this suggests that competing states have discovered more competitive and lucrative strategies for F&BM industry growth in both number of establishments and employment. (See Appendix V for more detail.)

Minnesota remains competitive for average wages, not seasonally adjusted, in the F&BM cluster nationwide with the 11th highest wages of all states. However, the growth rate is lagging the national developments, only registering at 30th of all states in terms of wage growth.

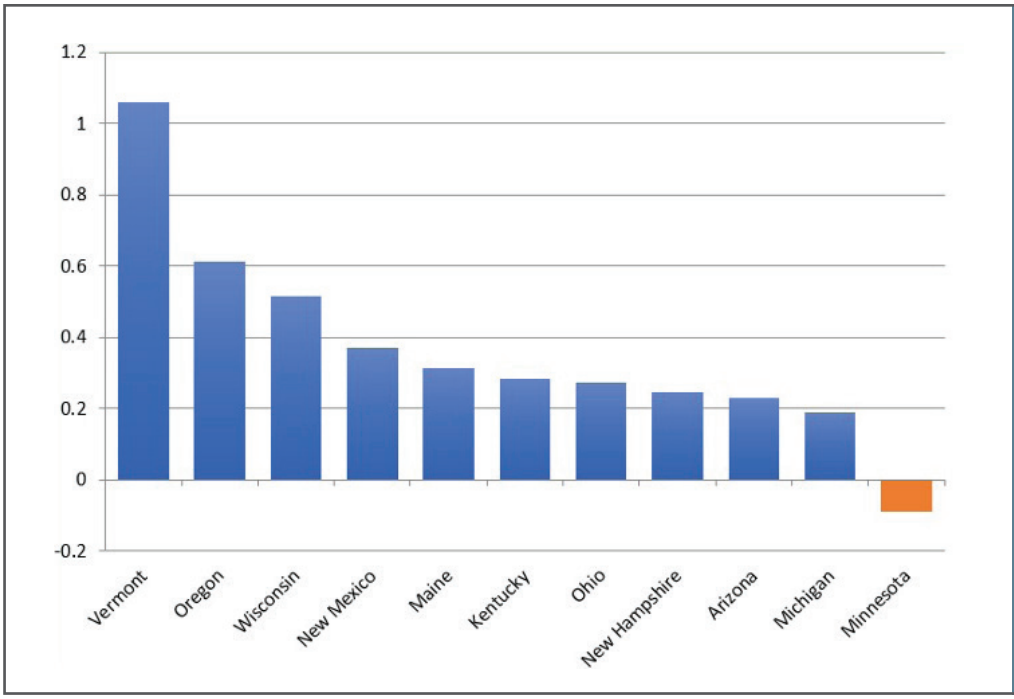


FIGURE 10: TOP TEN F&BM STATES, PLUS MINNESOTA, BY LOCATION QUOTIENT CHANGE (1998-2016)[18]

[1]U.S. Census Bureau, 2016

Patents and Trademarks

Patents and trademarks can be excellent benchmarks to measure development and growth of an industry. The state of Minnesota remains an industry leader on innovation in the national F&BM cluster with a patent count of 25.6 per 10,000 employees, which places the state third in the nation, according to the United States Patent and Trademark Office, as of 2015. However, patent growth has been slowing, placing Minnesota in 32nd place nationally with respect to patent growth rates from 2000 through 2015, which is an alarming development.

Discussion

The above analysis presents a complex reality for the future of food and beverage manufacturing in Minnesota. In short, F&BM in Minnesota has lost competitive position in the United States for the following categories:

1. Sector growth
2. Employment growth
3. Wage growth
4. Patent growth

From the late 1990s to the mid-2000s, many states grew their F&BM industries faster than Minnesota—at least to the extent assessed by each of these categories. Despite this trend, Minnesota remains competitive—the state still ranks third in patents, as an example. Furthermore, F&BM has long been a cornerstone of Minnesota's economy. This assessment does not suggest a shift in the fabric of Minnesota's agricultural economy. It does, however, suggest that cultivation of and investment in this value-added industry sector may lead to significant economic gains as the state begins to close these widening gaps.

Section IV:
Economic Benefits of Manufacturing in Minnesota

A quantitative economic analysis offers several lenses through which one can evaluate the F&BM industry's position in and contributions to Minnesota's economy. For the sake of clarity and utility, this section focuses on three dimensions of the F&BM industry: Gross Domestic Product (GDP), earnings, and employment. Unsurprisingly, F&BM catalyzes a large share of the state's overall economic output. According to the full analysis below, investments in F&BM have the greatest and most efficient influence on Minnesota's economic output than any other industry in the state.

The following analysis draws from the Quarterly Workforce Indicators (QWI), a set of 32 economic indicators including employment, job creation/destruction, wages, hires, and other measures of employment flows. The reported QWI are based on detailed firm characteristics and worker demographics. They are available for national, state, metropolitan/micropolitan areas, county, and workforce investment areas (WIA).

The QWI are unique in their ability to track both firm and worker characteristics over time, enabling analyses, such as a longitudinal look at wages by worker sex and age across counties, ranking job creation rates of young firms across the 1,083 NAICS industry groups, and comparing hiring levels by worker race and education levels, across a selection of metropolitan areas.

The use of data from 1995 through 2018 supported compilation of the information and associated forecasts below. The aggregate numbers also include 35 years' worth of historic data, which is considered robust for forecasting purposes.

Earnings and Employment

As Figure 16 indicates, F&BM wages are significantly below wage rates for all other manufacturing industries, and projections indicate that the differences will increase by a monthly rate of more than $40 annually over the next 10 years.

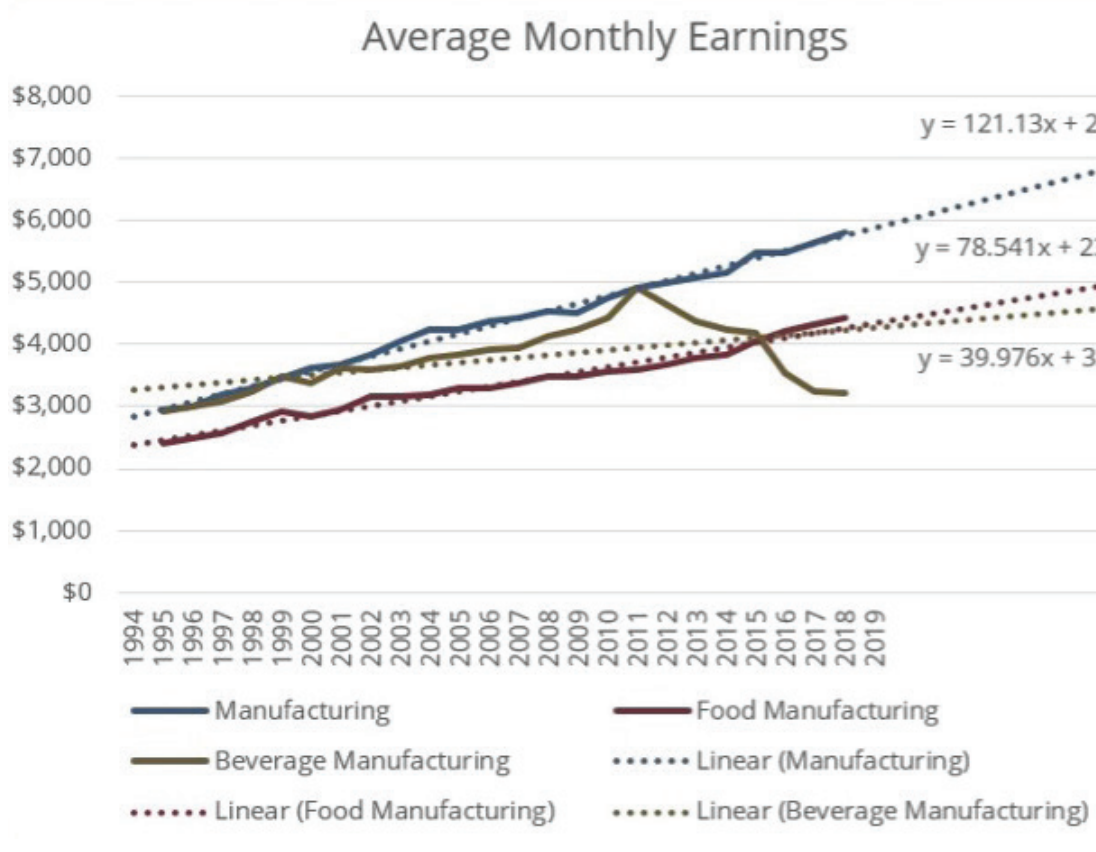


FIGURE 16: MINNESOTA FOOD, BEVERAGE, AND MANUFACTURING AVERAGE MONTHLY EARNINGS[19]

[19]QWI Explorer application, U.S. Census Bureau, qwiexplorer.ces.census.gov/exp-r/1149b4.html

Researchers expect a steady decrease in employment figures when historical data is viewed across all manufacturing sectors and extrapolated 10 years into the future (see Figure 17). However, the decrease in employment for food manufacturing is significantly slower when compared to all manufacturing, while beverage manufacturing will actually see slight employment growth over the next 10 years.

Labor force participation rates in Minnesota have stagnated since 2000 at historically high rates. All but one region (Northeast Minnesota) has a participation rate of over 80 percent among 20-64-year-olds.[21] Barriers to employment are keeping the remaining 20 percent out of the workforce. These barriers include disability status, criminal history, immigrant or refugee status, and dire financial circumstances, which include additional challenges such as access to transportation, childcare, housing, or healthcare. Other barriers include court-ordered counseling, reporting to a parole officer, language, and cultural or religious barriers. Employers' perceptions of accommodating multiple languages and cultures can also lead to barriers.

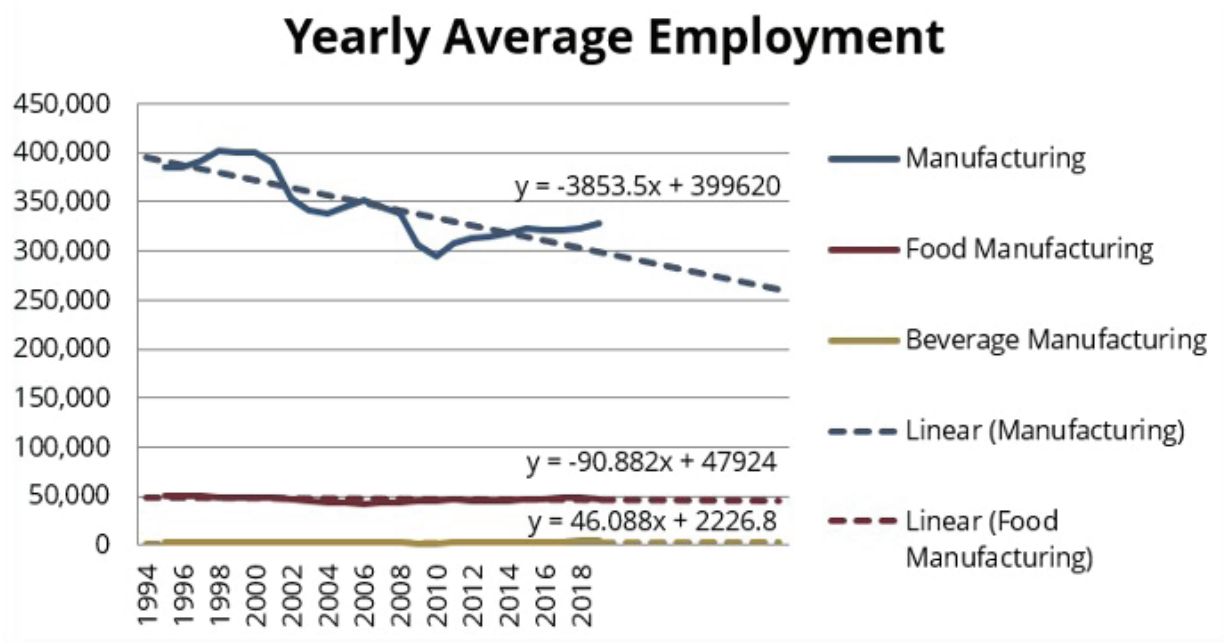


FIGURE 17: MINNESOTA AVERAGE YEARLY EMPLOYMENT[20]

[20]QWI Explorer application, U.S. Census Bureau, qwiexplorer.ces.census.gov/exp-r/1149b4.html

[21]Center for Rural Policy Development, Finding Work or Finding Workers, 2018 (https://www.ruralmn.org/finding-work-or-finding-workers-pt-3/)

Downstream Impact & RIMS-II Analysis

State economies are not closed systems, and as a result any examination of production, sales, employment, exports, and capital investments tend to underestimate the potential direct impact of increases or decreases in production volumes. However, economic impacts do not end with direct effects because consumers outside the state primarily purchase capital and labor in Minnesota. The industry impact is significantly larger than the direct impacts, and its influence upon the state and its economy should therefore examination is necessary to understand the impact of production capacity changes.

The Regional Input-Output Modeling System (RIMS-II) from the Bureau of Economic Analysis (BEA) is a tool to assess the total potential economic impacts of projects, the benefits of investments, and impact of capacity changes.[22] Data are based on a series of national input-output accounts, which show the goods and services produced by each industry and the use of these goods and services by both industry and final users. Like most regional input-output models, RIMS-II adjusts these national relationships to account for regional supply conditions.

Conceptually, RIMS-II analysis asserts that an initial change in one economic sector results in other rounds of spending. For example, building a new road will lead to increased production of asphalt and concrete. The increased production of these commodities will lead to more mining. Workers benefiting from these increases will presumably spend more on other goods, services, and housing, such as eating at regional restaurants, spending more on entertainment, or engaging in home improvements.

Economic modeling is never perfect, and the assumptions made are not "one-sided." The entire dataset encompasses 64 industries, and the top-20 rankings by value-added final-demand output provide a set of consistent industries for the earnings and employment analysis.

Extrapolations utilize three assumptions about these data:

1. F&BM impacts the state economy proportionally to the current level (all other things being equal). F&BM is a mature industry in the state's economy, and it is therefore reasonable to assume relative stability as a percentage of the overall economy.

2. The economic impact includes household spending. Household spending (Type II Indicators) on food and beverages are consumer products and not inputs in other production processes.

3. Positive and negative growth in capacity impact the economy equally. Gains associated with increased capacity are equal to losses associated with capacity decreases.

[22]The Bureau of Economic Analysis does not endorse any resulting estimates and/or conclusions about the economic impact of a proposed change on an area

Input-Output Analysis: Final Demand Multipliers

In this analysis, the "value added" consists of the total value of income generated from production. This income consists of payments to labor, government, and returns on investment. BEA considers regional value-added outputs to be a surrogate for increased gross domestic product (GDP) in the geographic area for which they are provided. Widely viewed as a favorable indicator for robust economic health and stable growth is an increasing GDP. Larger value-added multipliers correlate with greater increases in Minnesota's GDP.

Note that the term "final demand" is used in this report rather than "output delivered to final users" because of its widespread use in regional impact analysis (https://apps.bea.gov/scb/pdf/regional/perinc/meth/rims2.pdf, pg 3 footnote 6).

Table 3 below lists the 20 Minnesota industries that add the most value toward the state's value-added outputs. In other words, one can assume activity among these industries adds the most value to Minnesota's total gross domestic product.

Minnesota Industries	Total change in output per $1.00
Food and beverage and tobacco product manufacturing	2.8430
Funds, trusts, and other financial vehicles	2.5194
Transit and ground passenger transportation*	2.3098
Truck transportation	2.2528
Apparel, leather, and allied product manufacturing	2.2355
Securities, commodity contracts, and other financial investments & related activities	2.2184
Construction	2.2113
Paper manufacturing	2.2041
Social assistance	2.1927
Farms	2.1792
Hospitals	2.1778
Food services and drinking places	2.1593
Printing and related support activities	2.1564
Other transportation and support activities*	2.1389
Water transportation	2.1373
Nursing and residential care facilities	2.1316
Furniture and related product manufacturing	2.1296
Ambulatory health care services	2.1153
Administrative and support services	2.1152
Pipeline transportation	2.1114
*Includes government enterprises.	

TABLE 3: FINAL DEMAND OUTPUT MULTIPLIERS, TOP 20 STATE INDUSTRIES[23]

[23]BEA RIMS II multiplier (2019)

According to conclusions derived from RIMS-II multipliers, one can expect a $1.00 input to the F&BM industry to return approximately $2.84 in total economic impact—by far the greatest impact of the 20 industries included in this study.

> **In other words, Minnesotans, on average, reap more economic reward from investments in the F&BM industry than from any other industry in the state.**

This is a compelling case for placing heightened legislative and infrastructure attention on this industry, particularly when considered within the context of the state's declining competitive position, as discussed in Section III above.

Analyses on earnings and employment that follow are limited to the above 20 industries. This keeps the analyses succinct and to highlight only interactions among the industries where Minnesota appears to have competitive advantages. Additionally, the multipliers used offer a macro perspective for the entire state. Local multipliers are available from the BEA to assess microeconomic and interindustry impacts at the local level. Finally, these analyses assume that increased spending (or, in the case of the RIMS-II analysis, an increase in inputs) has a proportional impact on F&BM output. As such, the following analyses assume that a GDP increase is roughly equivalent to sector investment.

Earnings Analysis

While the input-output analysis describes a robust, positive relationship in F&BM, the workforce earnings created by an increase in F&BM outputs produces lag more than a dozen other industries. Table 4 shows that F&BM ranks 14th in the state for new earnings generated by an increase in F&BM outputs.

An overview analysis suggests two possible explanations for the disproportionate growth of GDP vs. earnings:

1. F&BM operates with a high degree of leverage. In other words, it is more labor intensive than other industries in the state, and wages increase slower than industry output.

2. There is little synergy within the industry through collaboration and shared capacity.

The latter explanation assumes high productivity and low connectivity. In this scenario, producers struggle to capitalize on excess capacity and therefore carry unnecessary costs. Quantitative verification of this possibility falls outside the scope of this report; however, it aligns with qualitative survey data which show that at least some manufacturers and co-manufacturers report both having excess capacity and uncertainty on how to capitalize on it. The researchers recommend further investigation of this possibility.

Minnesota Industries	Earnings created by $1.00 of new ouput
Pipeline transportation	0.8753
Ambulatory health care services	0.8485
Administrative and support services	0.8381
Securities, commodity contracts, and other financial investments & related activities	0.7891
Nursing and residential care facilities	0.7883
Social assistance	0.7709
Construction	0.7548
Hospitals	0.7529
Other transportation and support activities*	0.7224
Transit and ground passenger transportation*	0.6997
Truck transportation	0.6747
Food services and drinking places	0.6560
Funds, trusts, and other financial vehicles	0.6512
Food and beverage and tobacco product manufacturing	0.5954
Apparel, leather, and allied product manufacturing	0.5930
Printing and related support activities	0.5812
Furniture and related product manufacturing	0.5445
Farms	0.4993
Water transportation	0.4981
Paper manufacturing	0.4624
*Includes government enterprises.	

TABLE 4: FINAL-DEMAND EARNINGS MULTIPLIERS, TOP 20 STATE INDUSTRIES[24]

[24]BEA RIMS II multiplier (2019)

Employment Analysis

Table 5 illustrates the total change in number of jobs that occurs in all industries for each additional $1 million of output delivered to final demand by the industry corresponding to the entry.

Unsurprisingly, the F&BM industry generates a high number of jobs in comparison to other industries, ranking 12th with nearly 15 value-added jobs per $1 million investment. That said, one might expect even more value added jobs than highlighted in Table 5 given the output levels described in Table 3. This supports the conclusion that there is little synergy within the industry through collaboration and shared capacity resulting in some manufacturers having both excess capacity and uncertainty on how to capitalize on it, rather than excessive degrees of operating leverage.

Industries	Jobs created by $1M of new output
Social assistance	25.3949
Food services and drinking places	23.6762
Transit and ground passenger transportation*	23.5300
Nursing and residential care facilities	23.4402
Administrative and support services	21.6033
Securities, commodity contracts, and other financial investments and related activities	17.7143
Farms	17.7047
Apparel, leather, and allied product manufacturing	16.1125
Other transportation and support activities*	15.9247
Ambulatory health care services	15.0082
Funds, trusts, and other financial vehicles	14.9279
Food and beverage and tobacco product manufacturing	14.8017
Construction	14.1646
Hospitals	13.8235
Truck transportation	13.0591
Pipeline transportation	12.4578
Printing and related support activities	12.3862
Furniture and related product manufacturing	11.7106
Water transportation	9.0833
Paper manufacturing	8.3350
*Includes government enterprises.	

TABLE 5: FINAL EMPLOYMENT MULTIPLIERS, TOP 20 INDUSTRIES[25] ($1M = $1 million)

[25]BEA RIMS II multiplier (2019)

Economic Impact

With estimates for Minnesota's GDP, it is possible to derive estimates for potential gains and losses based on changes in economic output for the F&BM industry as it pertains to revenues and employment.

Minnesota's observed overall GDP for 2019 not seasonally adjusted is over $380.8 billion.[26] Multiplied by the F&BM earnings multiplier, this results in an estimate that F&BM affects $226.8 billion (60%) of the total state GDP.

> **Thus, a 5% gain in output would potentially yield $11.3 billion greater impact to the state's GDP and add an estimated 167,822 more jobs, based on 2019 RIMS-II multipliers.**

It is important to note that this reflects an increase across industries impacted by the F&BM sector, not just F&BM in isolation. Additionally, RIMS-II does not distinguish between full time employment and part-time or seasonal. Appendix VI contains a detailed explanation of the assumptions and calculations associated with this economic model.

Regional Impact

Using the benchmark series from 2017, the regional analysis of Minnesota is economically significant in that a new manufacturing plant may have a large effect on economic activity in the region but negligible effect on economic activity in the Midwest. These findings are similar when compared to the regional analysis for the nine-county region (Blue Earth, Brown, Faribault, Le Sueur, Martin, Nicollet, Sibley, Waseca, and Watonwan) represented by RNDC, which is economically significant for the region, but to a lesser extent, Minnesota.

Greatest Impact on All Industries in the Region:

BEA's RIMS-II[27] multipliers show which top five F&BM industries have the greatest effect on final demand, impacting all industries in the region.

- Output: Cheese, Poultry, Animal, Fats and Oils, Fluid Milk
- Earnings: Cheese, Poultry, Animal, Fats and Oils, Fluid Milk
- Employment: Animal, Poultry, Cheese, Soybean, Fluid Milk
- Value Added: Animal, Poultry, Cheese, Bread and Bakery, Frozen Food

For every $1 of change in demand for the cheese manufacturing industry, $3.62 is the resulting gross output across all industries; ($1.00 x 3.6222 = total output impact). The higher the value, the more in the industry depends on other industries in the region.

For every $1 of change in demand for the cheese manufacturing industry, $0.74 is the resulting earnings impact across all industries. RIMS II earnings include the net earnings of sole proprietors and partnerships as well as employer contributions to health insurance.

For every $1 million change in demand in the animal (except poultry) slaughtering, rendering, and processing industry, 19.1 jobs are impacted. These jobs are not full time equivalent and tend to be higher for the industries that employ more part-time workers.

For every $1 change in demand in the animal (except poultry) slaughtering, rendering, and processing industry, $1.14 is the value-added (GDP) impact for the area. This is comparable to measures of GDP and includes earnings.

[26]https://fred.stlouisfed.org/series/MNNGSP

[27]BEA RIMS-II multipliers (2019)

Greatest Impact on the F&BM Industries in the Region:

BEA's RIMS II multipliers[28] show which five F&BM industries have the greatest effect on final demand, with direct effect to the F&BM industries in Minnesota.

- Earnings: Cheese, Animal, Poultry, Soybean, Fluid Milk
- Employment: Soybean, Flour, Cheese, Animal, Fluid Milk

Each $1 change for all the industries affected by the cheese manufacturing industry results in a $4.96 change in earnings recognized by the cheese manufacturing industry ($1 x $4.9605 = total earnings impact).

For each $1 change of all the industries affected by soybean and other oilseed processing, the result is 8.1 total jobs impacted in the soybean and other oilseed processing industry.

Discussion

In some respects, key findings from this analysis suggest what many already know: **F&BM is a major component of Minnesota's macro economy**. As such, investments in this industry offer greater returns on GDP than any other industry in the state (Table 3). In the context of Section III, which describes Minnesota's declining national position and competitiveness, this revelation offers considerable justification for deeper analysis at the legislative and administrative levels, in addition to local and regional support mechanisms.

From a job's perspective, F&BM generates significant wealth for workers. Compared to other industries in Minnesota, F&BM ranks in the 90th percentile of earnings generated per dollar invested. Likewise, F&BM investments create a significant number of new jobs.

(Detailed tables are available in Appendix V)

Three key findings are:

1. F&BM generates the highest value-added component to the state's economy, as measured by output per dollar invested.
2. Data on the economic impact of final demand earnings suggest that the state's F&BM industry may either be too labor intensive to increase earnings as output increases and/or under-utilizing capacity sharing, i.e., co-manufacturing efficiently.
3. A five percent increase in F&BM output can generate an increase in state earnings of more than $11 billion and 167,000 jobs across all industries. These are thanks to a ripple-effect from increased productivity within the industry.

[28]BEA RIMS II multiplier (2019)

Section V:
Minnesota's Pre-COVID F&BM Manufactuing Capacity

The current size of Minnesota's F&BM capacity is likely under-recognized by industry participants. This may be due to the lack of a centralized database that identifies manufacturers' capabilities and capacity. Reduced awareness of capability, capacity, and absent relationships with potential brands, merchant wholesalers, and those with co-manufacturing capacity is the result of this absence. Throughout this assessment, collection of data came from ReferenceUSA, Minnesota Department of Agriculture, Minnesota Department of Public Safety, and the United States Department of Agriculture and was compiled into three data sets using Microsoft Excel.

If NAICS Codes are unfamiliar, a copy of the manual is available to download from the US Census Bureau.[29]

The datasets are publicly available on Region Nine Development Commission's website at the following link: https://www.rndc.org/what-we-do/auri-fbm-assessment-2020/.

Brands Dataset

- Food and Beverage Manufacturers (NAICS Codes 311 and 312). These are the brand manufacturers or entrepreneurs in the food and beverage industry operating with locations in Minnesota. These data do not include alcohol or tobacco manufacturers. This dataset identifies:

  Wholesale Food Processors/Manufacturers by MDA License number

  Minnesota "Equal To" meat and poultry slaughtering and processing establishments by number.

  USDA meat, poultry, and egg establishments by number

  Businesses without MDA licenses, which could mean they manufacture in other states, but have locations in Minnesota.

  It also includes all available addresses, so the complete capacity is examinable. For example, if PepsiCo were one line, it would eliminate their multiple manufacturing locations statewide.

- Alcohol Manufacturers (NAICS Codes 312). These are the breweries, distilleries, and wineries with locations in Minnesota. This list includes both brand and wholesale manufacturers. This list excludes tobacco manufacturers and mobile canners. This dataset identifies:

  Minnesota Department of Public Safety Alcohol License by type and number

  Wholesale Food Processors/Manufacturers by MDA License number

  Businesses without licenses, which could mean they manufacture in other states but have locations in Minnesota.

[29]https://www.census.gov/eos/www/naics/

Manufacturers Dataset:

- F&B Merchant Wholesalers (NAICS Codes 4244) – These are primarily co-manufacturers and, in some cases, brand manufacturers that have co-manufacturing capabilities and capacity. This list also includes facilities known to co-manufacture in Minnesota, such as mobile canners, but not identified with NAICS Code 4244. This dataset identifies:

    Wholesale Food Processors/Manufacturers by MDA License number

    Minnesota "Equal To" meat and poultry processing establishments by number

    USDA meat, poultry, and egg establishments by number

    Businesses without MDA licenses, which could mean they manufacture in other states, but have locations in Minnesota.

    It also includes all available addresses, so the complete capacity is examinable.

Licensing for F&BM is the responsibility of the MDA, in collaboration with the USDA. It is important to recognize the MN DPS maintains a database that includes a gray area for the F&BM sector: alcoholic beverages. It is also important to note that F&BM licensing is determined by sales predominance of the business; for example, a hypothetical restaurant (Joe's BBQ Shack) that also manufactures packaged food for wholesale distribution (barbecue sauce) will be licensed according to the predominance of its sales. If Joe's BBQ Shack generates more than 50 percent of its annual revenue from restaurant sales, it will be licensed as a retail business and inspected by the Minnesota Department of Health (MDH). However, if Joe's BBQ Shack generates more than 50 percent of its annual revenue from wholesale distribution of its packaged barbecue sauce, it will be licensed as a wholesale food manufacturer and inspected by the MDA.

None of these databases interface with each other at the user level and must be accessed individually to compile the database available at the above links. Imagine the possibilities for the state's economy if the information technology infrastructure were somehow interlinked to support public health, safety, and economic resiliency concurrently.

Key finding: *State licensing databases hold a wealth of information that could be useful for food entrepreneurs, investors, and others. However, the information is currently difficult to access and navigate. Future alignment and distribution and knowledge could unlock significant economic gains in Minnesota.*

[28]BEA RIMS II multiplier (2019)

Section VI:
Underutilized Manufacturing Capacity in Minnesota

A central question guiding this study was, "Does Minnesota offer sufficient manufacturing capacity to support food and beverage brand growth and business expansion?" The short answer is: "Apparently, but it's difficult to know for certain." What is apparent is that underutilized manufacturing capacity exists in multiple areas and across multiple locations. Some of the underutilized capacity stems from disconnects created by business-naming conventions and licensing predominance, as outlined in the previous section. The following businesses provide an illustration of some of the disconnects:

- A business whose licensed name has not yet reached brand recognition and does not describe the F&BM industry sector.
- A fresh fruit company with a current meat and poultry license from the USDA.
- A retail bakery in a town of fewer than 20,000 residents with a similarly named business that holds a meat and poultry processing license from the USDA, in addition to a second address using a similarly named business that offers co-manufacturing capacity.

Other underutilized capacity potentially stems from the facts that NAICS does not offer a code for co-manufacturing. A consequence of this is that co-manufacturers must select from illogical second-best choices, as in the Table 7 examples below.

Each company listed has an MDA license and is a known co-manufacturer. Without a platform, underutilized co-manufacturing will continue because the brand manufacturers cannot easily locate co-manufacturers to establish a relationship and vice versa.

Company Name	Primary NAICS Code	NAICS Description
Dahmes Stainless	2389	Other Specialty Trade Contractors
Pouchtec Industries	3339	Other General-Purpose Machinery Manufacturing
Fischer's United Supply	4238	Machinery, Equipment, and Supplies Merchant
J&J Distribution	4452	Specialty Food Stores
Accessibility Inc	5613	Employment Services
Chippewa Packaging	5619	Other Support Services
ProAct Inc.	6243	Vocational Rehabilitation Services
Juice So Good	7225	Restaurants and Other Eating Places
Bare Honey	9999	Unclassified Establishments

TABLE 7: CO-MANUFACTURERS AND THEIR PRIMARY NAICS CODES

[29]https://www.census.gov/eos/www/naics/

What is the necessary infrastructure to support the needs of the growing food and beverage innovation ecosystem?

Consider State Statutes

Does the definition of "food" include alcoholic beverages?

"Food" means every ingredient used for, entering into the consumption of, or used or intended for use in the preparation of food, drink, confectionery, or condiment for humans or other animals, whether simple, mixed, or compound; and articles used as components of these ingredients.[30]

The Minnesota Consolidated Food Licensing Law is the responsibility of the MDA. Included are persons who can, extract, ferment, distill, pickle, bake, freeze, dry, smoke, grind, mix, stuff, pack, bottle, recondition, or otherwise treat or preserve food for sale to others for resale. The MN DPS is responsible for a person who, by a process of manufacturing, fermenting, brewing, distilling, refining, rectifying, blending, or combining, prepares or produces intoxicating liquor for sale. The two agencies clearly overlap, yet significant discrepancies in licensing and record-keeping persist. DPS licenses 194 breweries, 30 distilleries, and 85 wineries and MDA licenses 80 breweries, 32 distilleries, and 25 wineries. This leaves a gap of 172 alcoholic beverage manufacturers.

Growth in the brewing, distilling, and wine making industry necessitates clarity in this area, as any ambiguity in statute results in licensing confusion for applicants, compliance enforcement, and potential public health issues.

Revisions to licensing policies that include synchronization among the MDA, MPH, MN DPS, and local jurisdictions could potentially mutually support applicants, administrators, and public safety.

	Number of alcohol-producer licenses issued in Minnesota, by regulatory authority		
Licensing category	Department of Public Safety (DPS)	Minnesota Department of Agriculture (MDA)	Difference (n, %)
Breweries	194	80	114, 83.2%
Wineries	85	25	60, 109.1%
Distilleries	30	32	2, 6.5%
Total establishments	309	137	172, 77.1%

[30]https://www.revisor.mn.gov/statutes/cite/34A.01

The MDA Food and Feed Safety Division is responsible for licensing and inspections. Development of a comprehensive license database that is usable by all could eliminate gaps, add clarity to the process for public health, and support the F&BM industry. MDA's website hosts a directory of both co-packers/co- manufacturers and commercial kitchens, but the directory is incomplete and based on self-reporting from businesses. An example revision (not a recommendation) could be to group licenses according to NAICS codes during the annual license issuance or renewal. Examples below:

NAICS Codes 311 Food Manufacturing

311920 Coffee and Tea Manufacturing

311930 Flavoring Syrup and Concentrate Manufacturing

NAICS Codes 312 Beverage and Tobacco Product Manufacturing

312111 Soft Drink Manufacturing

312112 Bottled Water Manufacturing

Evaluate licensing systems

As a matter of public safety and health, Minnesota requires a license for an entity selling or processing food or beverages anywhere in the state. The type of food sold and business location determines which state or local agency will issue the license and what agency will conduct inspections. Three state agencies—Minnesota Departments of Agriculture, Health, and Public Safety—share regulatory responsibility for food and beverage industry oversight. Regulatory authority for all F&BM activity in the state falls to one of these three agencies, depending on the activity and industry. Each agency operates under different statutes and their administrations have evolved into three often independent systems.

State statute allows delegation from the MDA and MDH to local jurisdictions, promoting local control of the food safety program. Of the local public health agencies, 31 currently have a delegation agreement with MDH; seven agencies have delegation agreements with both MDH and MDA; and the remaining agencies have no delegation agreement, leaving authority with the state.

Agencies can choose their licensing database and there is minimal synchronization among systems or across agencies. At MDH, local jurisdictions annually submit their lists; however, the emphasis is on public health risk and not the list itself.[32]

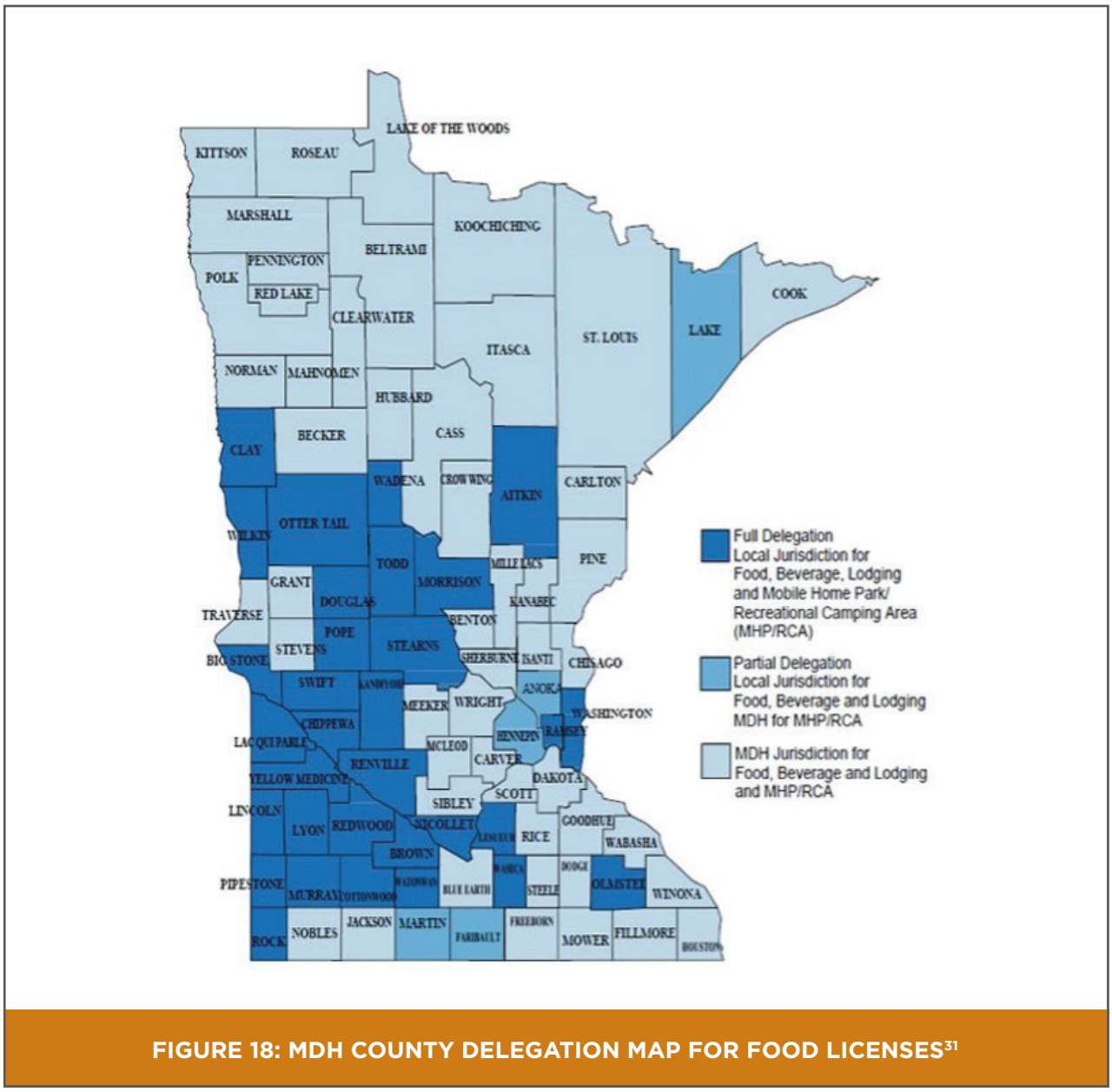


FIGURE 18: MDH COUNTY DELEGATION MAP FOR FOOD LICENSES[31]

[31]https://www.health.state.mn.us/communities/environment/food/license/delegation.html

[32]White Paper on MN Retail Food Safety System, Local Public Health Association of Minnesota

Each agency uses an independent licensing database, based upon licensee name which can be different from the full, true name of each business owner. In some cases, such as DPS, the license also includes a "doing business as" (d/b/a) name. Each business must register the name by filing a certificate with the Secretary of State.[33]

Based upon changes in amount and types of products sold by vendors, there may be a requirement for businesses to change from one licensure and inspection agency from one year to the next. When this happens, businesses must learn new rules, procedures, and policies.[34]

Recommendations and connections

Develop incubator and accelerator programs

The goal of this type of program, led by technical advisors to optimize and scale production for cohort businesses with less than $1 million in annual revenue, is to transition F&BM from self-production into co-manufacturing. One example of this is At Last + FoodOps Accelerator, or ALFA.[35] This type of resource can support industry growth, guide entrepreneurs, and grow the F&BM sector.

"This is an incredible opportunity for the food start-up scene in Minneapolis and the broader Midwest region," said Mike Rakes, founder of Philia feta cheese spreads and volunteer entrepreneur in residence at ALFA. "One of the most challenging tasks for early-stage food entrepreneurs is finding a production solution that gets them out of the kitchen and focused on sharing their stories and selling their products. By partnering early and aligning goals, there is early-stage production flexibility for the entrepreneur, and long-term volume potential for At Last! as a co-manufacturer with expertise in scaled production." He continued, "I was fortunate to work closely with At Last! as my brand began its growth journey beyond the Minneapolis market. Their expertise combined with the guidance participants will receive from FoodOps, will greatly benefit the business owners as they take their food companies to the next level. If this program were around when I was building my brand, it would have benefited me greatly. I'm excited to be involved and hope to share the experience and knowledge I've gained over the last seven years with other driven and passionate entrepreneurs."

Use and/or develop tools to connect brands with manufacturers

Digital discovery platforms such as PartnerSlate[36] enable food and beverage industry businesses to connect, create and develop brands with the right manufacturers. This would not only connect Minnesota F&BM to co-manufacturers in the state but also connect other state's F&BM industry to Minnesota's co-manufacturers, suppliers, and business services.

[33]A Guide To Starting A Business In Minnesota, Minnesota Department of Employment and Economic Development. ISBN 987-1-888404-83-8

[34]White Paper on MN Retail Food Safety System, Local Public Health Association of Minnesota

[35]https://www.atlastgourmetfoods.com/alfa

[36]https://partnerslate.com/about

PartnerSlate started in 2015 to help food and beverage consumer packaged goods brands find and connect with the necessary partners to get their products made. They realized that for an industry that is full of so much innovation and forward thinking, the way that businesses interacted with one another was still stuck in the past. PartnerSlate believes their platform will change that by enabling food and beverage brands to easily and efficiently connect with the right partners to help their businesses grow.

Consider alignment of licensing regulations horizontally across state agencies and vertically with federal classifications

Several co-manufacturers and co-packers stated having underutilized capacity and a willingness to offer the service as a contract/revenue source, while brands stated having difficulty finding this service (Section VIII, Industry Feedback). So, where is the disconnect? Minnesota offers the supply, and brands have the demand.

For the purposes of this discussion, two major themes emerged during the research:

1. Records systems / licensing and databases that are not integrated in their current iterations make it difficult for brands to locate and connect with co-packers and co-manufacturers.

State databases at MDA, DPS, and MDH are replete with useful information but can be difficult to access and search. Redesigning and aligning these databases, including converting them into searchable tools for entrepreneurs and others, is likely to increase productivity, profitability, hiring, and earnings—not only for the F&BM industry but across the state. (Refer to the Section IV economic analysis.)

2. Producers and manufacturers have inadequate business support.

State agencies excel at ensuring food safety, and this is rightly their primary concern. However, and as shown in both the economic analysis and stakeholder survey, an opportunity exists to facilitate industry growth.

Section VII:
Steps Minnesota and Other Industry Supporters Can Take to Epand Local Processing Opportunities

Program

One step would be to develop opportunities for conferences that include brands and manufacturers along with mentorship panels. Similar to an employment fair where employers are seeking employees and they gather to share information and opportunities, hosting a Food and Beverage Fair where brand manufacturers and co-manufacturers meet, develop relationships, and share information would be an easy first step to bridge some of the information gaps.

Re-Assess Tax Policies

Craft Breweries, Distilleries, and Farm Wineries

State efforts to influence agriculture diversity and tourism in rural communities through grape growing and winemaking as opportunities for farmers have been relatively successful given the growth in the numbers of business and annual sales. Industry experts suggest Minnesota's alcohol industry will continue to reap the benefits of local and regional markets. However, input costs, such as bottles, containers, or shipping, will hamper growth on a national scale, compared against larger alcohol beverage companies.

One area worthy of examination is Minnesota's state excise taxes on various alcoholic beverages, which rank among the higher rates in the nation.

- 10th in the nation for alcohol tax on beer.
- 14th in the nation for alcohol tax on spirits.
- 17th in the nation for alcohol tax on wine[37]

Assessment and forecast of downstream economic impacts from changes to alcohol excise taxes are outside the scope of this report. However, further investigation is recommended, as this is a high growth industry and Minnesota state tax rates currently rank in the highest third of U.S. states, on average.

Federal Excise Tax

The Craft Brewers Modernization and Tax Reform Act (CBMA) included in the Tax Cuts and Jobs Act of 2017 (Public Law 115-97) made changes to the Internal Revenue Code of 1986 as it relates to taxes on alcohol. This effectively reduced the excise tax paid by the beer, wine, and distilled spirits industry. It is most significant for distilled spirits, $2.70 on the first 100,000 proof gallons, thereafter $13.34 per proof gallon. A proof gallon is one gallon of 100 proof spirits which is the equivalent of 50 percent alcohol. The percentage of alcohol in the product determines the tax amount.

Those federal provisions were set to expire at the end of 2019 but then extended for one year, through December 31, 2020. The Brooking Institute reports producers with the largest to gain from this tax break are mostly foreign and industrial producers.[38] Industry experts agree and add that the benefits will also support Minnesota's expanding craft industry but not to the same extend.

[37]The Tax Foundation, https://taxfoundation.org/

[38]https://www.brookings.edu/research/who-benefits-from-the-craft-beverage-tax-cuts-mostly-foreign-and-industrial-producers/

What is clear is the expiration of the CBMA will be damaging to Minnesota craft spirits industry which has seen growth over the last decade. Consideration of legislative action is advisable due to this, coupled with the relatively high ranking of excise taxes for the state. This is not to make a statement for or against the level of tax placed upon Minnesota's alcohol industry, rather to identify the ranking amongst our nation for informational purposes.

Business Enterprises

Analysis of the leadership demographic of the F&BM industry for reporting companies indicated that women held 36 percent of the leadership positions. That percentage carries forth regardless of annual sales or regional analysis.[39]

Small businesses considered women, minority, or veteran-owned are eligible for the Disadvantaged Business Enterprise (DBE) program. The primary goal and objective of the DBE program is to level the playing field by providing small businesses owned and controlled by socially and economically disadvantaged individuals a fair opportunity to compete for federally and state funded contracts. Examples of federal and state agencies that purchase food and beverage products include prisons and regional treatment centers.

Many leading companies have DBE targets for their supplier networks and report a shortage of minority businesses to meet the demands of the marketplace. Several companies expressed interest in pursuing some form of structure that helps their customers fulfill their DBE objectives which leads to opportunities for women, minority, veteran-owned, or small-business entrepreneurs.[40]

Since 1991, the Procurement Technical Assistance Center (PTAC) has contributed to the growth of Minnesota's economy by providing counseling and procurement technical assistance of the highest quality and relevancy. Minnesota PTAC provides technical and marketing assistance to all Minnesota businesses interested in selling their products and services to the government. They provide the necessary tools to be competitive in the contracting arena. These services are complimentary when contacting Minnesota PTAC through the Minnesota Department of Administration.

[39]ReferenceUSA, 2020

[40]Contract Packaging Association – State of the Industry Report 2018-2019

Section VIII:
Industry Feedback

Leadership Interviews

In addition to survey data, study authors conducted a series of phone interviews with leaders at seven different businesses to gather a more detailed picture of their perspectives on the F&BM industry. Interview participants encompassed a wide range of F&BM sub-industries, including a commercial kitchen, co-operative kitchen, software design firm, food shipping logistics provider, branded tree-nut processor, co-manufacturer, and branded ice cream manufacturer.

Their input paints a picture of common issues facing the industry, including bottlenecks in distribution and logistics, and limited awareness of services and brands.

Several interviewees reported difficulty locating food-grade storage for their products. This can result in delayed production, cost overruns, logistical difficulties, and more. For example:

> *"There are businesses that want to keep control of their production but have to go to a co-packer to get access to the size of storage they need."*
>
> *– Commercial kitchen operator*

In this context, the interview subject stated a frustration with finding new contractors for services like packing and distribution.

> *"There is little interaction between brands and co-manufacturers."*
>
> *– Soup co-manufacturer*

Information sharing also emerged as a frustration for smaller brands, one of whom stated they would benefit from the support and mentorship of larger, more established companies:

> *"We tried to work with [large distributor's] direct frozen shipment program but were too small" to penetrate the network, the interviewee said. "This is a great opportunity for small and large Minnesota companies to work together."*
>
> *– Niche ice cream brand*

Key finding: *Pressures on smaller, niche brands can be mitigated, at least in part, by improved information sharing and networking opportunities.*

Key finding: *Collaborative or cooperative packaging, distribution, and logistical partnerships could help reduce costs for smaller brands.*

Leadership Survey & Analysis

Introduction

Surveys of the F&BM industry provide unvarnished insight that can inform policy and advocacy priorities for Minnesota. The survey consisted of 33 questions, which included demographic and business profile inventories, in addition to open-ended questions that helped generate a SWOT analysis. Appendix I includes the survey questions. Business leaders were made aware of the survey in person and through email, in addition to television, radio, newsprint, and social media advertising. Forty-four business leaders responded, encompassing all industries within the scope of this assessment. Six of the 44 respondents operated businesses outside the scope of this report. However, their input remains, as these six businesses all operate in fields related to F&BM.

Respondent Profile

Most respondents identified as manufacturing raw materials or other ingredients into food for beverage items or packaged food for sale to others for resale. The survey does not represent the commercial slaughter sector of animals or poultry. A high percentage (46.6%) of respondents identified as female, more than double the national average of woman-led businesses (21% according to a 2019 McKinsey & Company study).[41] Furthermore, more than half of the businesses identified as federally designated women-owned enterprises. Two respondents reported federal recognition as minority-owned, and two more were veteran-owned.

Examining the full-time employee equivalent, 56 percent had fewer than five employees; 16 percent had between 50 and 249 employees. The majority reported employee tenure between two and five years, with 21 percent reporting employee turnover of one year or less.

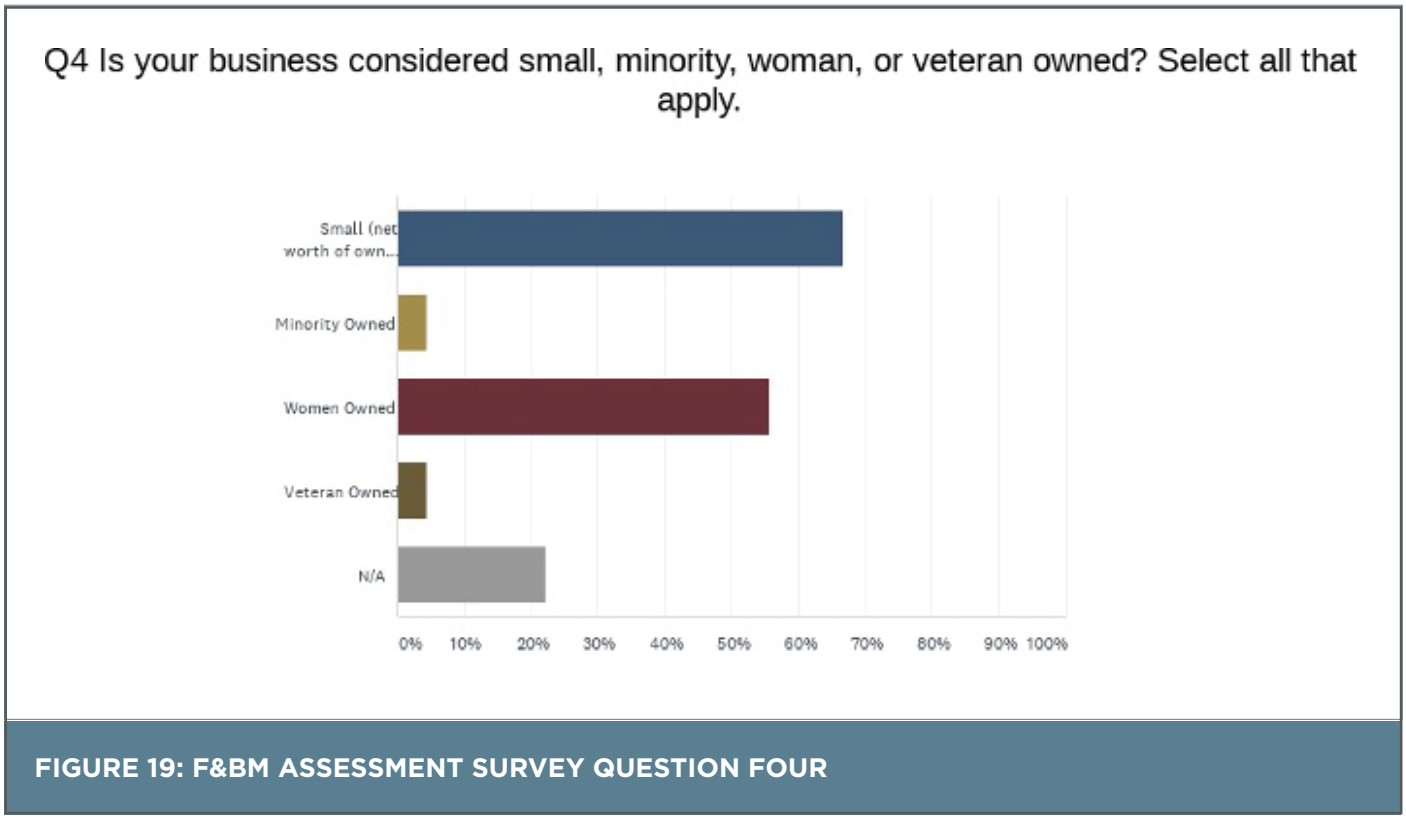


FIGURE 19: F&BM ASSESSMENT SURVEY QUESTION FOUR

[41]https://www.mckinsey.com/featured-insights/gender-equality/women-in-the-workplace-2019#

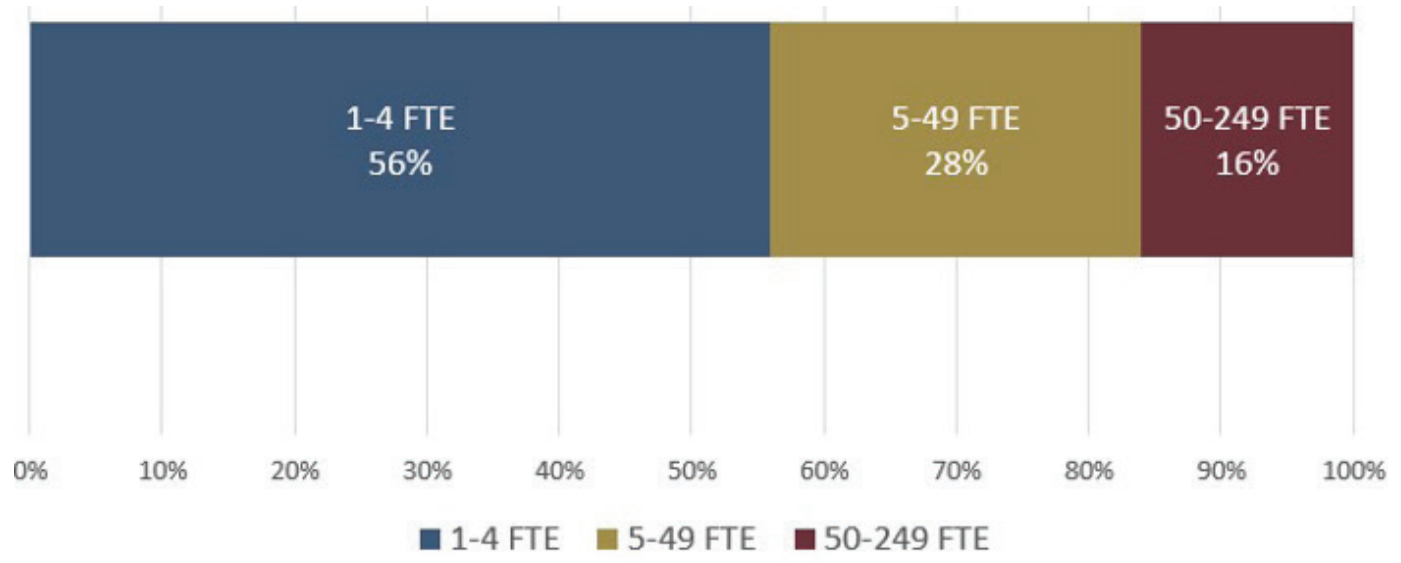


FIGURE 20: NUMBER OF FULL-TIME EMPLOYEES WORKING FOR SURVEY RESPONDENTS AT THE TIME OF SUBMISSION

Co-Manufacturing Capacity and Considerations

When asked whether their business would make unused co-manufacturing capacity available to other companies, those who responded negatively listed not being owners, anticipating growth to capacity, or intellectual property concerns. Of the 57 percent that responded yes, only four percent have listings in the MDA Co-Packer or Commercial Kitchen Directory, each having over $5 million in annual sales.

Key finding: *Ingredient suppliers show promise as target industry group for conversion of excess capacity into co-manufacturers.*

The types of businesses with available capacity:

- Other, 25%
- Commercial kitchen, 33%
- Branded goods, 53%
- Co-manufacturer, 67%
- Ingredient supplier, 67%

As seen in survey responses, excess capacity for co-manufacturing currently exists throughout Minnesota. Paradoxically, some brands have cited limited access to capacity as among the primary reasons for relocation and/or slowed expansion. This perceived need is explainable, at least in part, by poor information sharing about what services are available and how to access them. In other words, a centralized database of all manufacturers and their services could greatly benefit the F&BM industry.

Key finding: *Centralized data collection and sharing could help current brands and entrepreneurs find the capacity they need to grow within Minnesota.*

Long-answer Questions and SWOT Analysis

Companies completing the survey answered a series of open-ended, long-answer questions about the strengths, weaknesses, opportunities, and threats (SWOT) that surround the F&BM industry. In addition to these four questions, respondents had the opportunity to complete a fifth long-answer question: "What makes your facility unique?"

A summary of the responses appears in the following grid. Appendix II compiles responses to these questions.

Strengths	Opportunities
• Strong market demand for small and novel products • Talented labor pool • Geographic location • Supporting industry, i.e. agriculture and ag sciences • Government and official support *"Support from the State, excited and supportive customer base, great local retailer/grocery groups."*	• Room for current co-manufacturers to expand • Market demand for start-up co-manufacturers • Small to mid-sized manufacturers can fill unmet need • Flexible co-packing companies have change to grow • Many types of food manufacturing is in demand *"Opportunity for test kitchens, small capacity co-manufacturing. Sensory testing for consumers and new product development. A place to help with R&D."*
Weaknesses	**Threats**
• Expensive or inaccessible supporting services, i.e. supply chain assistance and warehousing • Consumer resistance to change, relative to other regions in U.S. • Lack of access to capital and other funding sources • Poor mentorship and peer support *"Lack of financial support for innovation."*	• High labor costs • Resources difficult to locate • Competition from out-of-state co-manufacturers and service providers *"From capital, to mentorship, to labs for testing/help with distribution/connecting to big retailers in the area, the HyVees and the Targets. MN now has tons of "networking units and incubating units." So, we network, and we incubate, then what? Where is the capital to grow? Where are the retail units and the whole sale units who will help us grow?"*

FIGURE 22: SUMMARY OF RESPONSES TO THE LONG-TERM QUESTIONS ASKED ON THE F&BM SURVEY

[41]https://www.mckinsey.com/featured-insights/gender-equality/women-in-the-workplace-2019#

While the survey gives a brief overview of the themes that manufacturers identified, a closer look at each of the categories reveals some key details. Notably, funding and access to capital represent the overwhelmingly most frequently cited theme by survey respondents. The following chart provides some further insight:

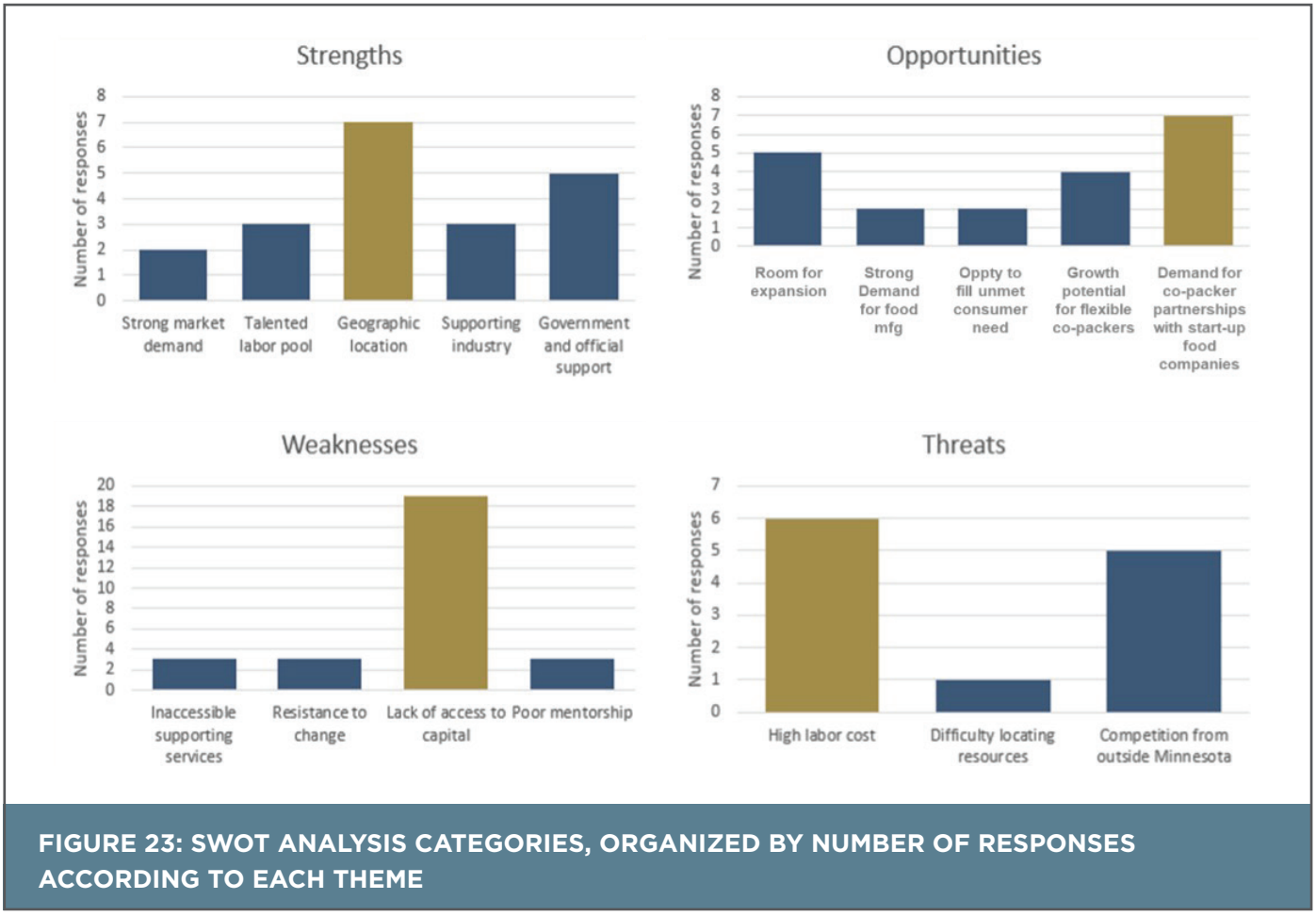


FIGURE 23: SWOT ANALYSIS CATEGORIES, ORGANIZED BY NUMBER OF RESPONSES ACCORDING TO EACH THEME

The single most frequent theme is lack of access to funding and capital. This weakness, as cited by survey respondents, in Minnesota's F&BM industry infrastructure occurred with more than double the frequency of any other theme—any of weakness, strength, opportunity, or threat.

Notably, geographic location and government support reflected the two most common strengths among survey respondents. Additionally, the two highest-ranking opportunities are encouraging for ecosystem growth: high demand for services and room for expansion. Taken together, these strengths and opportunities suggest a strong position for Minnesota in sustained growth in F&BM. For this growth to occur, however, it is necessary to address weaknesses and threats, specifically access to capital and high labor costs. Whether the issues are real or perceived, respondents cited these problems as obstacles to growth and expansion within the State of Minnesota.

Key finding: *Survey respondents cite lack of access to capital and funding as the No. 1 most common theme. Government and official support were cited as a strength. High labor costs and out-of-state competition were cited as the most serious threats.*

The fifth question, "What makes your facility unique?" focused primarily on the benefits of flexibility and customization. For example, one respondent stated they are *"Small, able to work with variety of customer from small to large runs and a lot of different capabilities to pivot."*

Additionally, respondents cited an ability to support small batches with minimum lead time, and in some cases a store front to support local sales.

Key Finding: *Survey respondents cite their ability to offer small-batch, customizable services on a shorter timeline as among their greatest competitive strengths*

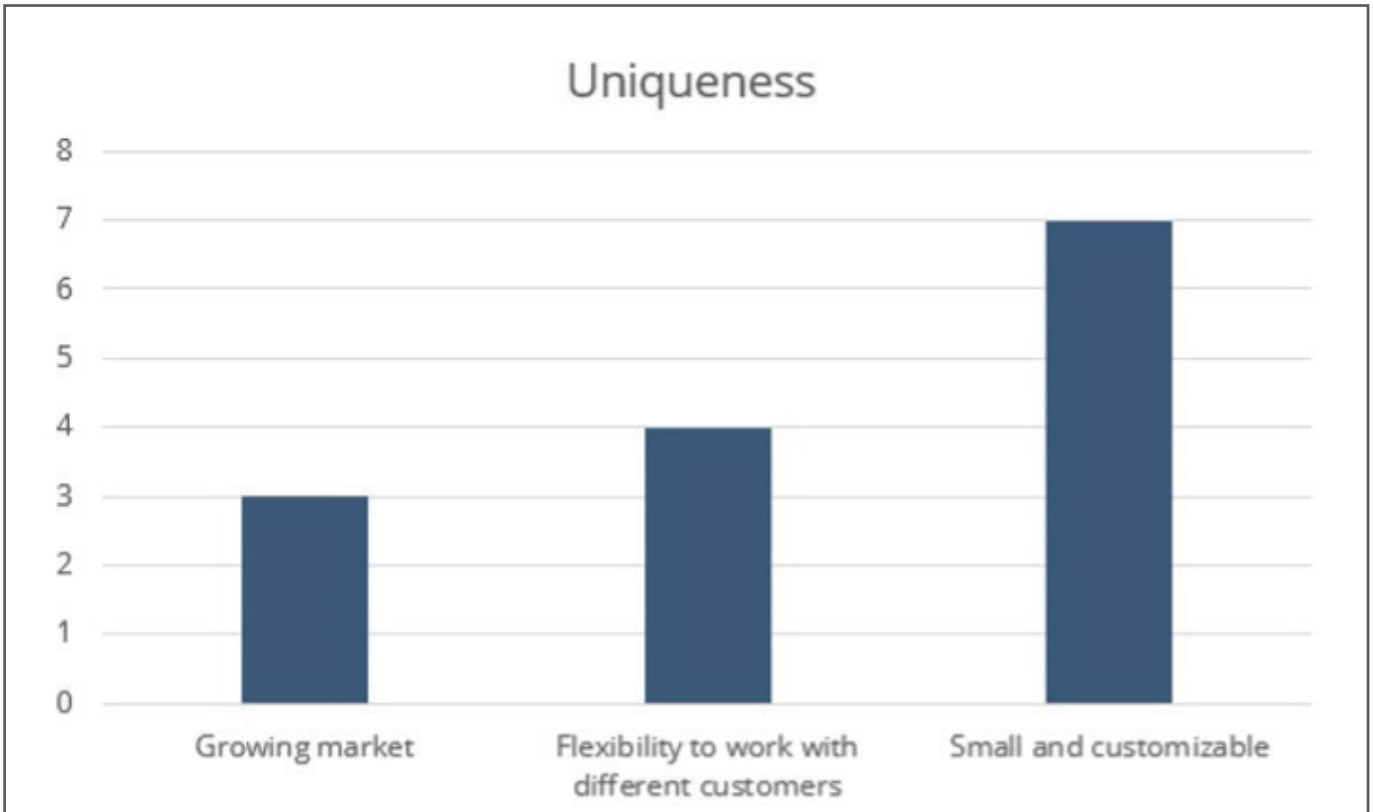


FIGURE 24: F&BM ASSESSMENT SURVEY QUESTION FIVE

[41]https://www.mckinsey.com/featured-insights/gender-equality/women-in-the-workplace-2019#

Section IX:
Summary

A study of the food and beverage manufacturing industry in Minnesota was conducted, with a primary focus on small-to-medium-sized companies that deliver $5 million or less in annual sales. The purpose was to identify strengths and weaknesses in Minnesota's F&BM landscape, particularly as they relate to food entrepreneurs and start-up brands. Among the observations that motivated the charter of this study was anecdotal evidence of business flight among new and growing food and beverage manufacturers. In short, the observation went, entrepreneurs are finding Minnesota a great place to start a food business, but limited growth and expansion opportunities to scale their business force them to look elsewhere.

General impressions from this study suggest the answer to that question is: "maybe." A closer examination of available data reveal that Minnesota is, indeed, home to a great many start-up F&BM businesses. The data also show a significant decrease in the number of businesses selling $5-$10 million in product (the number dropping from 137 businesses in 2015 to 67 businesses in 2019). Additionally, survey data revealed frustration among some entrepreneurs/brands regarding access to two key elements for expansion and growth: business capital financing and co-manufacturing/co-packing. It would be natural to conclude that Minnesota, therefore, lacks sufficient co-manufacturing capacity to support growth and expansion of native, novel food brands.

However, survey data also show that co-manufacturers across the state have significant amounts of underutilized capacity that they would convert into useable toll capacity to generate a new revenue stream. What is missing from the equation, the authors postulate, is neither a lack of capacity nor a desire to leave. (Respondents overwhelmingly stated a preference for remaining in Minnesota.) Rather, brands and co-manufacturers appear to have difficulty finding one another.

Key recommendation: *Develop a platform for information exchange among brands and co-manufacturers.*

In attempting to answer this question more definitively and with a quantitative analysis, researchers discovered an opportunity to revise the structure of public access to the state's licensing databases. Moreover, the authors propose it is impractical and nearly impossible to answer this question using public data sets that are currently available. This is largely because at least three state agencies (Minnesota Department of Agriculture, Minnesota Department of Public Safety, and Minnesota Department of Health) plus the U.S. Department of Agriculture all have different licensing and regulatory jurisdictions, depending on how different F&BM companies self-identify. Each agency maintains and makes public robust records, but they are inconsistent horizontally across state agencies and vertically with the USDA.

The authors submit that resolution of this issue is a significant undertaking—at the political, infrastructure, and interpersonal levels. However, fragmented data sets prevent maximization of the information contained across various regulatory authorities. Unification and standardization of these data sets stand to unlock significant economic activity and wealth throughout the State of Minnesota.

Key recommendations:

- **Invest in resources to compile a robust database from among the relevant state agencies.**
- **Revise administrative statutes and policies to maintain consistent and accessible records across all state agencies.**

To the point of significant wealth across the state, perhaps the most important finding of the economic analysis is that investments in food and beverage manufacturing generate more wealth for Minnesotans than any other industry in the state. In other words, and in terms of overall return on investment, there is no better industry in the state—at least that is the case right now. The Regional Input-Output Multipliers (RIMS-II) are timebound and can change from year-to-year. While there is no indication of an immediate shift in these economic winds, there are rumblings of a storm on the horizon. For example, the economic analysis reveals that for two decades Minnesota has been losing competitive advantage in three key metrics: job growth, wage growth, and patents-per-capita. Unless these trends reverse, there is reason to believe that other industries, such as financial services and transportation (currently ranked second and third in GDP return-per-dollar invested) will overtake food and beverage manufacturing as the state's most profitable sectors for public investment. The economic implications of such a shift are outside the scope of this work.

Key recommendation: Research and consider appropriate public investments in the F&BM industry. (Specific recommendations for investment are outside the scope of this report.)

In summary, the authors' final message emphasizes timeliness: (1) investments in F&BM in Minnesota will generate more wealth for Minnesotans than any other industry, and (2) the time is now to make these investments.

From a policy standpoint, there are many ways to invest in F&BM in Minnesota—financing, education, incubation, administration, legislation, infrastructure, and many more. Research into where these investments should go is largely beyond the scope of this study. However, a few critical components identified above stand to deliver swift gains in the industry. These are: (1) improved communication among Minnesota's current F&BM concerns, and (2) modernized and standardized data practices that make information sharing more equitable and accessible.

Appendix I:
Survey Questions

1. What is the name of your company?

2. What is your position at the company?

3. What is the gender of your senior executive director?

   Male

   Female

   Other

   I prefer not to answer

4. Is your business considered small, minority, woman, or veteran owned? Select all that apply. Small (net worth of owner $3.5 million after deductions)

   Minority-owned

   Women-owned

   Veteran-owned

   N/A

5. Is your business federally recognized by the Department of Commerce as a disadvantaged business enterprise?

   Yes

   No

6. What is your annual sales volume in dollars?

   0 - $19,999

   $20,000 - $499,999

   $500,000 - $999,999

   $1 - $2.9 Million

   $3 - $5 Million

   Greater than $5 Million

7. Please identify your industry classification with appropriate primary, secondary, and tertiary (if applicable) four-digit standard industrial classification (SIC) code. Copy and paste the below URL to view SIC code list. https://www.osha.gov/pls/imis/sic_manual.display?id=13&tab=group

8. Please describe your food processing or manufacturing process. Select all that apply.

   Manufacture raw materials or other ingredients into food or beverage items

   Reprocess food items

   Package food for sale to others for resale

   Commercially slaughter animals or poultry

   Other

9. If packaging for sale to others for resale, how is your product sold? Select all that apply.

   As an ingredient

   Direct to the ultimate consumer

   Direct to wholesale food handlers

   Direct to retail food handlers

   Not applicable

10. In Minnesota, how much of the facility is utilized for processing or manufacturing?

    0 - 4,999 square feet

    5,000 - 24,999 square feet

    25,000 or more square feet

11. In Minnesota, how much of the facility is utilized for warehousing?

    0 - 4,999 square feet

    5,000 - 24,999 square feet

    25,000 or more square feet

12. How are your products packaged? Select all that apply.

    Aseptic processing

    Bags

    Boxes

    Cans

    Cartons

    Flexible packaging

    Pallets

    Trays

    Wrappers

    Other

13. How many full time equivalent (FTE) employees do you employee across all shifts at your Minnesota locations?

    1 - 4

    5 - 9

    10 - 19

    20 - 49

    50 - 99

    100 - 249

    250 or more

14. How many open positions are available at your Minnesota locations?

15. What is your average employee tenure or retention rate in years?

    0 - 6 months

    6 months - 1 year

    2 - 5 years

    5 - 10 years

    10 years or more

16. Do you co-manufacture products in states other than Minnesota?

    Yes

    No

17. What percentage of your products are produced in states other than Minnesota?

    0 - 25 percent

    26 - 50 percent

    51 - 75 percent

    76 - 100 percent

18. Which of the following describe your operations? Select all that apply.

    Organically Certified

    Third Party Audited (Certified to a Global Food Safety Initiative (GFSI) recognized standard)

    Kosher or Halal

    USDA Inspected

    Gluten Free Certified

    Not applicable

    Other

19. Under the Food Allergen Labeling and Consumer Protection Act (FALCPA), products including the major food allergens, must comply with the food allergen labeling requirements. Which of the food allergens are included on your labels? Select all that apply.

    Milk

    Eggs

    Peanuts

    Tree nuts (almonds, walnuts, and pecans)

    Soybeans

    Wheat

    Fish

    Crustacean shellfish (crab, lobster, and shrimp)

    Not applicable

20. How would you best describe your facility?

    Branded goods

    Co-manufacturer

    Commercial kitchen

    Ingredient supplier

    Other

21. What is your standard unit(s) of measure? Select all that apply.

    Items

    Cases

    Pounds (weight)

    Gallons (volume)

    Time

    Other

22. What is the annual capacity in unit(s) of measure at your Minnesota location(s)?

23. How much unused Minnesota annual capacity do you have for your unit(s) of measure? Select all that apply.

24. Would you make this capacity available to other companies under a contract of manufacturing agreement?

    Yes

    No

25. If no, please explain why?

26. How much Minnesota capacity in units of measure would you make available for contract manufacturing?

27. What is your minimum order quantity (MOQ) size in your units of measure?

28. What opportunities exist for food manufacturers in Minnesota?

29. What challenges exist for food manufacturers in Minnesota?

30. What strengths exist for food manufacturers in Minnesota?

31. What weaknesses exist for food manufacturers in Minnesota?

32. What makes your facility unique?

33. How can we reach you for follow up questions?

Appendix II:
Full Results of SWOT Analysis

Strengths

Strong Market/Labor Pool

1. The market recognizes small and unique operations.
2. An incredibly strong labor pool (marketing, manufacturing, finance, food developers, agencies, etc.) and state incentives help make up for the challenges mentioned previously.
3. Huge wealth of food industry knowledge from a manufacturing and a marketing standpoint
4. It currently has a critical mass of major food companies and talent they bring into the state. UMN has traditionally had a decent Food Science/Ag program for supplying the market with employees. The state also has decent agricultural production of soybeans, corn, and other commodities. Lots of good entrepreneurs for brewing and distilling, coffee, etc.

Centrally Located

1. Central location, hub of other food companies
2. Good work force, centrally located, experienced professionals, emerging support programs from State and private organizations.
3. Centrally located.
4. People like buying local. We have a strong co-op scene here.
5. We use a packaging supplier in Minneapolis and that has been helpful for lead time and delivery convenience.
6. Local produced
7. Strong economy and consumer desire to support local.

Agricultural community/production

1. The large agricultural community here makes me believe that Minnesota will be a market that continues to innovate and introduce new food, agriculture, and supply chain ideas, which all support continued growth of Minnesota manufacturers
2. Geography, agriculture
3. There are plenty of resources and opportunities. There is a lack of willingness and leadership to make MN as good as CA in terms of the ag sector. MN has chosen to build the infrastructure for the Cargills/ADMs and Gen Mills to grow. It is time that we use the resources to add value to our own agricultural production and produce quality food and beverages. Why have Cargill distribute the ag production out of state? Why not have Cargill participate with startups to build a value-added sector in the state?

Government Supported

1. Good support from local, regional, and state governments with funding and programs
2. Support from the State, excited and supportive customer base, great local retailer/grocery groups
3. Tons and tons of support from AURI, Dept. of Ag
4. Good ecosystem and potential availability of expertise. More health insurance options and dept of agriculture support programs than most states. Dense food coop concentration willing to try new stuff.
5. There are a lot of resources for small businesses.

Weaknesses

Lack of Services

1. Full service, i.e., purchasing ingredients and offering warehousing and fulfilment.
2. Helping smaller, emerging food brands produce the quantities they need, with enough profit margin to keep manufacturing?
3. Ability to find material and services on a smaller scale.

Lack of Exposure

1. Not as forward-thinking consumers as the coasts--less exposure to new products
2. Lack of progressive viewpoints on CBD production in food and beverage
3. Can be tough to expand Minnesota products outside of Minnesota.

Underfunded or Lack of Resources

1. Starts ups normally do not have much money so they want tiny MOQs with extended terms. This is all understandable but makes it difficult to work with startups.
2. Increased cost of wages, people
3. Perhaps equipment needs.
4. Cost is high.
5. Funding - locally based. Not a good base of local co-packers for smaller companies
6. Lack of staff, lack of funding for women
7. Weak finances and poor inventory management of customers
8. Labor market is tight.
9. Lack of financial support for innovation
10. Scaling up is expensive, prohibitively so. And investors want to see success before investing. It is a Catch 22
11. Lack of support along the entire supply chain between raw materials/ production/ and finally retail. Lots of opportunity to network but fewer real support to integrate into the supply chain.
12. Extra costs in distribution. Few mid-sized distribution companies
13. Lack of good co-manufacturing facilities that are food grade and do not require surrendering intellectual property to run plant trials. People wanting to do scale up work have to go to Northern Crops Institute in Fargo, Texas A&M, Kansas State, etc. University of MN has not kept up, with the exception of a pretty good dairy pilot plant.
14. Cost to make is always an issue.
15. Our regulations are more stringent than other state in the areas of water and air emissions. This adds to our cost of doing business.
16. Many new companies are underfunded and inexperienced.
17. Financing and others not understanding what it costs to produce products.
18. Cash and local investment. Food focused fund
19. Funding

Opportunities

Lack of Co-Manufacturers

1. I have found that there are not many food manufactures that co-manufacturer in MN. The ones that do, have huge MOQs that are hard to meet for start-ups. Co-manufacturers are few and far between

2. This is a great market, but it is hard because the facilities do not exist to grow. You basically have to stay small or build your own because there are so few co-manufacturers.

3. New food innovation in local market creates need for contract manufacturing partners.

4. Co manufacturing like products

5. Positives are a fairly educated workforce, and good resources and pilot facilities for some products (dairy, especially) at University of MN. It also helps that Minneapolis is a food industry hub, so there is a critical mass of expertise and interest to serve the area. There is also a gap for co-manufacturing capacity in MN to serve as a bridge for small/mid-sized companies that need help scaling up, until they can invest in their own manufacturing capacity.

Limited Capacity

1. Large manufacturers have limited capacity leaving a lot of opportunity for small to mid-size manufacturers.

Co-Packing Relationship

1. Co-packing relationships

2. AURI and Grow North is helpful, but we do not have good options for Flexible co-packers. Most are simply too rigid or too large for small yet emerging food companies.

3. Co-packing for those with sizeable facilities and excess capacity

4. There is a significant shortage of co-packing capacity and adjacent services (cold storage, warehousing, office space, hpp, etc.) in Minnesota relative to other states like Wisconsin. Due to these challenges, we are opening a new manufacturing facility in Rockford (open by Jan 2021). We will have co-packing capacity, cold storage, warehouse, and office space available to sublet.

Resources

1. A huge opportunity exists for food manufacturers to market themselves to all the food start-ups located in Minnesota. Without referrals to the companies, we work with, we would never have found out about them Manufacturers have very little visibility to makers. Paid search, an updated manufacturer database and communication about how to access the database would be a huge help for makers that are interested in scaling.

2. Opportunity for test kitchens, small capacity co-manufacturing. Sensory testing for consumers and new product development. A place to help with R&D.

3. Collaborative resources and supply chain as well as academic resources

4. Opportunities for specialty beverage and an experience

5. Certain grocery store chains are interested in local products. There is also a large food community and entrepreneurial resources that I think may not be available in other states.

6. Taking advantage of local supplier preferences

7. Networking, Professional support system

Threats

Labor Cost

1. Labor costs have gone up and can be difficult to find employees to show up. Right now, $15.00 per hour is what I am facing.
2. Labor and food safety regulations
3. Seasonal labor is not easy to obtain.
4. Labor-transportation cost to both coast
5. Cost of labor. Distance from East/West Coast

Difficulty locating Resources

1. High real estate costs
2. I have heard that other regions of the U.S. are much more into buying new products, but we have been growing up here, so that is good. Finding affordable kitchen and storage space is tough.

Competition from outside Minnesota

1. Not having the ability to market themselves. The people that we work with are family owned and operated shops that focus mainly on production and operations. They are typically always buried in work and there simply is not time to focus on marketing.
2. Regulations, lack of affordable facilities, resources
3. Cost, dynamics, quality
4. Lack of support in many forms—from capital, to mentorship, to labs for testing/ help with distribution/ connecting to big retailers in the area, the Hyvees and the Targets. Mn now has tons of "networking units and incubating units" like Grow North/AURI/Mid-west Pantry/Forge North. So, we network, and we incubate, then what? Where is the capital to grow? Where are the retail units and the whole sale units who will help us grow? All wish for volume and the lowest COGS, be they the UNFI/Sysco/Reinarts/Bix etc. Who will work with the smaller companies to support them? Where is the help to connect small producers to join in the supply chain?
5. Scaling from a locally produced company to a nationally produced and distributed is a big challenge. We also have a very limited amount of early-stage food investors.

Uniqueness

Growing Market

1. Good, dedicated skilled labor, and more available; nimble and flexible; organic, non-GMO, Kosher, gluten-free, Fair Trade certifications; ability to segregate product lines well; ability to fulfill and ship via UPS as well as palletized product; excellent Netsuite/ Oracle system to manage inventory, plan production and product traceability.

2. We are full service, R&D to scale beverage development and manufacturing.

3. Small enough to be flexible, more competitive labor than in the larger metro areas.

Work with a variety of Customers

1. Small to be able to work with variety of customer from small to large runs and a lot of different capabilities to pivot.

2. Location and flexibility (any dry food in pouches)

3. Our capabilities are broad, minimums are reasonable, adept at labor intensive products.

4. We are the only carrot storage facility in the state.

Benefit for Small Companies

1. We are unique in that we can work with smaller companies in that we do not require large MOQs. I would like to think we are flexible and easy to work with since we are a small GFSI certified company.

2. We have fast turn around and can source lots of different produce and fruit. Make small batches so we can control flavors.

3. The facility we currently use does not require minimums and they only require a 7-day lead time for complete fulfilment of our order. Both factors are VERY uncommon in the manufacturing world.

4. It has all functions localized - R&D, management, greenhouse capability, Quality, etc. We can take projects from inception to small scale in house for plant-based ingredients/foods.

5. Combination production facility with café storefront. We sell packaged products from other local MN vendors, support local as best as we can.

6. We believe in supporting other local vendors. From day 1, we have used local breweries. It has totally made my business unique. We've always whether it is renting to them or selling their items in our cafe. We 100% believe in support local in one way or another.

7. Our ability to co-pack for small brands, niche products that are shelf stable, oils, honey syrup.

Appendix III:
References

Freight Analysis Framework, Oak Ridge National Laboratory

https://faf.ornl.gov/fafweb/Default.aspx

Minnesota Statute Definitions, Minnesota Office of the Revisor of Statues

https://www.revisor.mn.gov/statutes/cite/34A.01

North American Industry Classification System (NAICS), United Stated Census Bureau

https://www.census.gov/eos/www/naics/

Standard Industrial Classification (SIC) System, United States Department of Labor

https://www.osha.gov/pls/imis/sic_manual.html

Study Sources:

- ReferenceUSA[42] identified 2,041 unique verified and unverified companies regardless of annual sales using SIC Major Group 20 and Industry Group 5461 to account for Retail Bakeries.
- ReferenceUSA identified 2,091 unique verified and unverified companies with annual sales under $5 million using primary NAICS Codes 311 Food Manufacturing and 312 Beverage and Tobacco Products Manufacturing.
- Minnesota Department of Agriculture[43] identified 1,079 Wholesale Food Processor/ Manufacturer and USDA Licenses on October 17, 2019.
- Minnesota Department of Public Safety[44] identified 308 active license holders in categories of Brewer Off- Sale, Minnesota Brew Pub, Farm Winery, Farm Winery Branch, Farm Winery Distiller, Micro Brewer, Micro Distillery Small, Minnesota Brewer, Small Minnesota Brewer, Wine Manufacturer's Licenses on January 10, 2020.
- Minnesota Department of Employment and Economic Development Labor Market Information[45] identified 892 establishments using NAICS Codes 311 Food Manufacturing and 312 Beverage and Tobacco Products Manufacturing for the year 2018.

To identify a data set of companies that met within the scope of $20,000 to $3 million in annual sales, databases were combined. License databases from the Departments of Agriculture and Public Safety had a notable number of companies not identified by ReferenceUSA and annual sales were not included. Licenses issued from the Department of Health were not open source. As a result, the lists were combined which expanded the database considerably.

[42]http://resource.referenceusa.com/

[43]https://www.mda.state.mn.us/licensing/license-lookup

[44]https://app.dps.mn.gov/AGEDIS5/DataAccess/pages/Welcome.html

[45]https://apps.deed.state.mn.us/lmi/qcew/AreaSel.aspx

Appendix IV:
Methodology

RNDC used Minnesota Statute 34A.01 to define and identify the F&BM industry.

"Food" means every ingredient used for, entering the consumption of, or used or intended for use in the preparation of food, drink, confectionery, or condiment for humans or other animals, whether simple, mixed, or compound; and articles used as components of these ingredients.[46]

The Standard Industrial Classification (SIC)[47] system provides sector identification for comparison, contrast, and additional study. Major Group 20, Food and Kindred Products, in addition to Industry Group 5461 Retail Bakeries from Major Group 54, Food Stores, was included in this assessment.

Major Group 20, Food and Kindred Products,[48] includes establishments manufacturing or processing foods and beverages for human consumption, in addition to related products, such as manufactured ice, chewing gum, vegetable and animal fats and oils, and prepared feeds for animals and fowls. Products described as dietetic are classified in the same manner as non-dietetic products (e.g., candy, canned fruits, cookies).

5461 Retail Bakeries[49] includes establishments primarily engaged in the retail sale of bakery products. The products may be purchased from others or made on the premises.

[46]https://www.revisor.mn.gov/statutes/cite/34A.01

[47]https://www.osha.gov/pls/imis/sic_manual.html

[48]https://www.osha.gov/pls/imis/sic_manual.html

[49]https://www.osha.gov/pls/imis/sic_manual.html

NAICS Code 311:[50] Industries in the Food Manufacturing subsector transform livestock and agricultural products into products for intermediate or final consumption. The industry groups are distinguished by the raw materials (generally of animal or vegetable origin) which are processed into food products. The food products manufactured in these establishments are typically sold to wholesalers or retailers for distribution to consumers, but establishments primarily engaged in retailing bakery and candy products made on the premises but not for immediate consumption are also included.

NAICS Code 312:[51] Industries in the Beverage and Tobacco Product Manufacturing subsector manufacture beverages and tobacco products. The industry group Beverage Manufacturing includes three types of establishments: (1) those that manufacture nonalcoholic beverages, (2) those that manufacture alcoholic beverages through the fermentation process, and (3) those that produce distilled alcoholic beverages. Ice manufacturing is included.

In the case of activities related to the manufacture of beverages, the structure follows the defined production process. Brandy, a distilled beverage, is not placed under distillery product manufacturing, but rather under winery product manufacturing since the production process used in the manufacturing of alcoholic grape-based beverages produces both wines (fermented beverage) and brandies (distilled beverage).[52] Researchers excluded the Tobacco Manufacturing industry group from this study, as it is out of the scope of work.

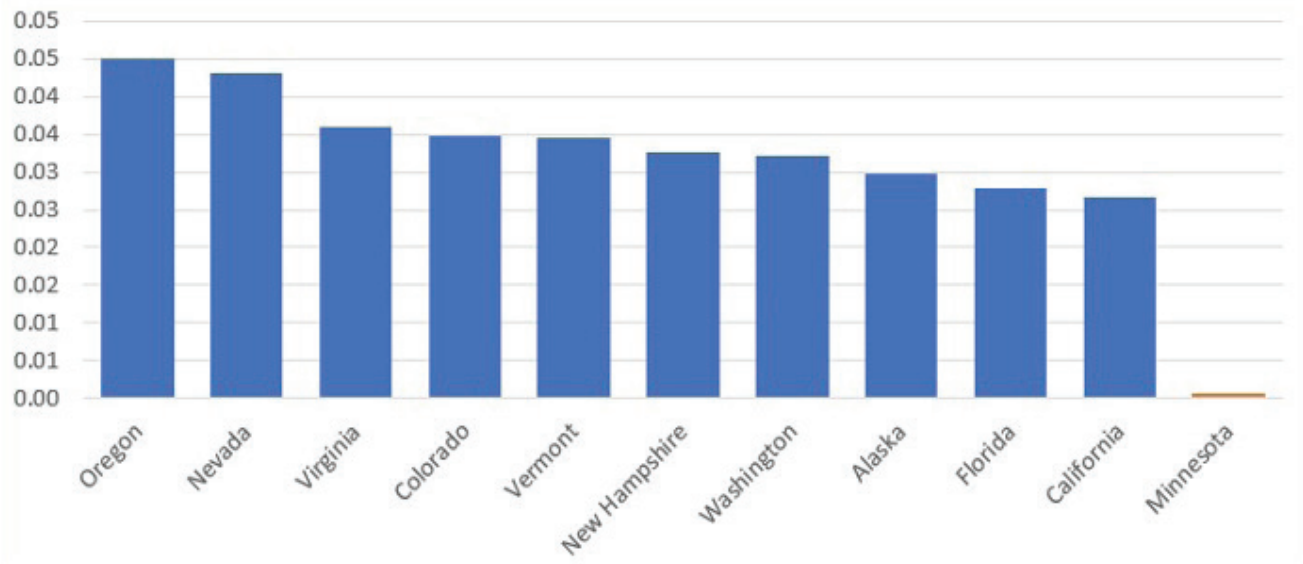
Using those definitions, more than 4,800 business addresses were known to be operating in the state. When correcting for duplicates by name, the list had over 3,700 companies. When correcting for scope of less than $3 million in annual sales, researchers identified over 2,800 unique business names drawing from the study's sources.

[50]https://www.census.gov/eos/www/naics/

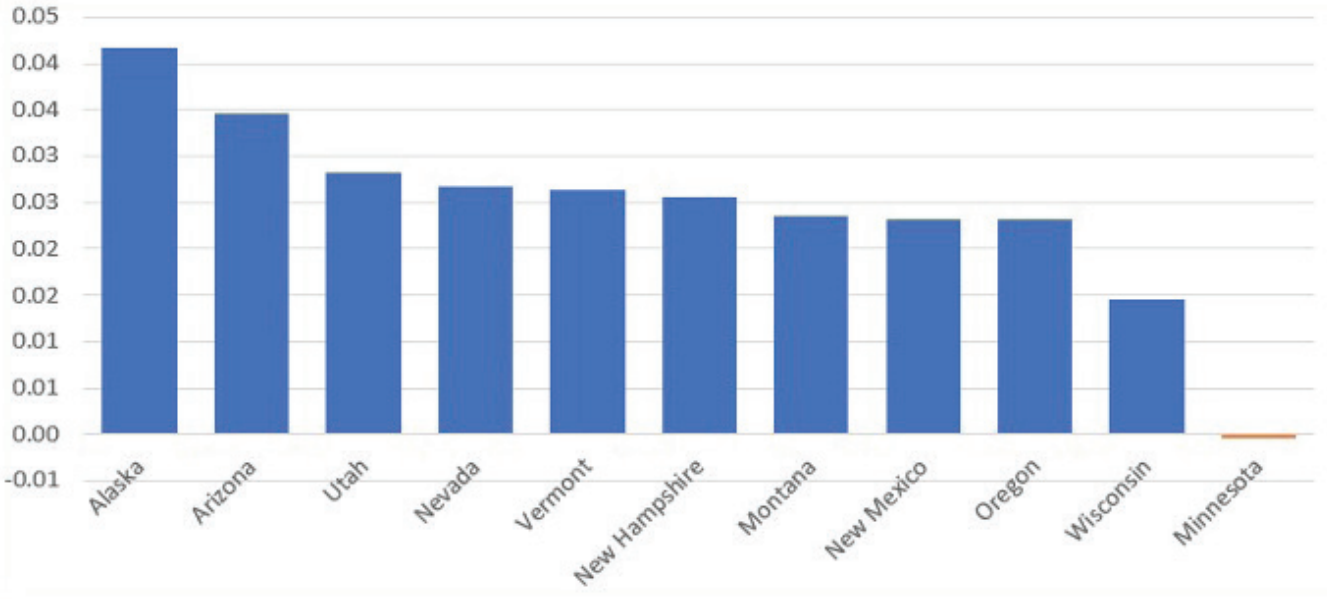
[51]https://www.census.gov/eos/www/naics/

[52]North American Industry Classification System United States, 2017, Executive Office of the President, Office of Management and Budget

Appendix V:
Economic Analysis Data



TOP TEN F&BM STATES BY ESTABLISHMENT GROWTH (1998-2016)[53]

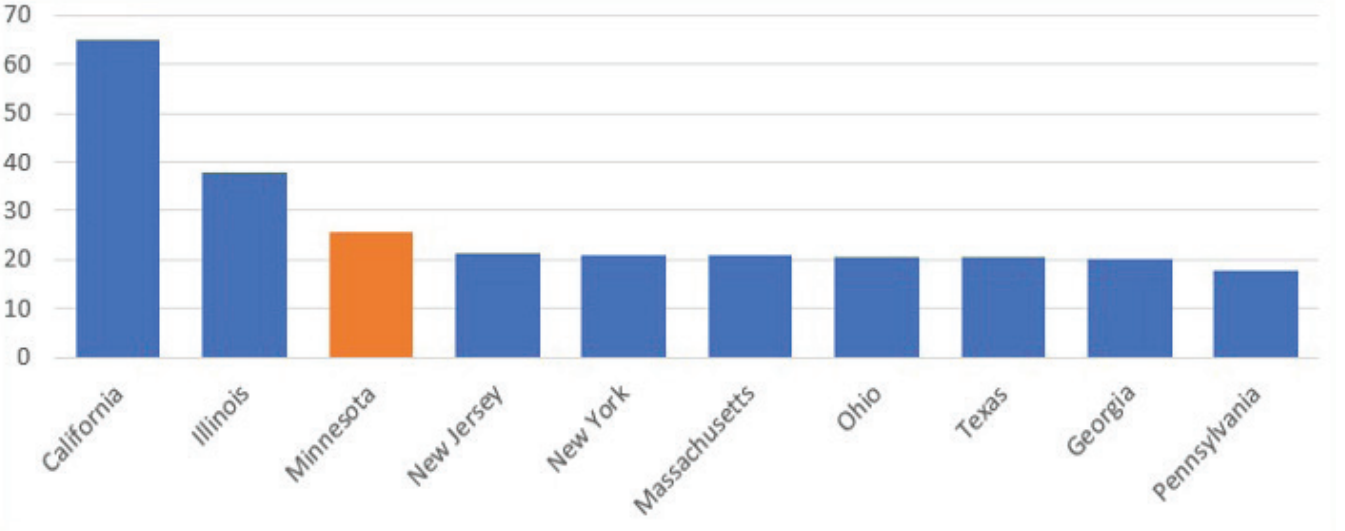


TOP TEN F&BM STATES BY EMPLOYMENT GROWTH (1998-2016)[54]

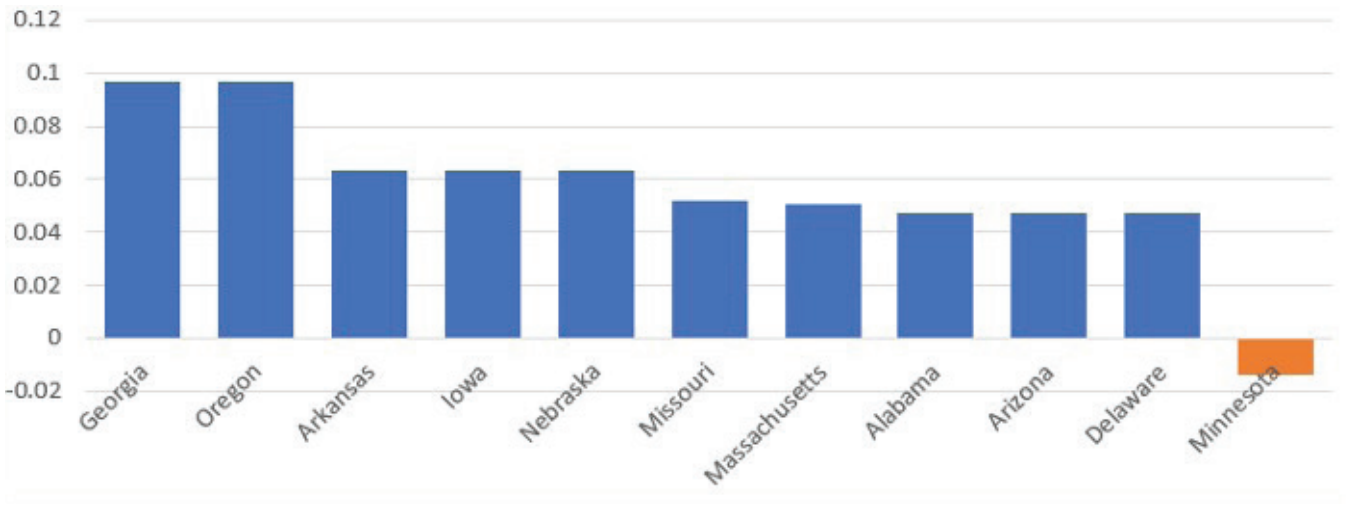
[53]U.S. Census Bureau, 2016

[54]U.S. Census Bureau, 2016

TOP 11 F&BM CLUSTER STATES BY WAGES (2015) AND ASSOCIATED GROWTH RATES (1998-2015)[55]



TOP TEN F&BM CLUSTER STATES BY PATENTS PER 10,000 EMPLOYEES[56]



TOP TEN F&BM CLUSTER STATES, PLUS MINNESOTA, BY GROWTH IN PATENTS, PER 10,000 EMPLOYEES[57]

[56]U.S. Patent and Trademark Office, 2015

[57]U.S. Census Bureau, 2016; U.S. Patent and Trademark Office, 2015

Top Five Industries		Multiplier					
Top Ten Industries		Final Demand				Direct Effect	
NAICS	Industry	Output ($)	Earnings ($)	Number of Jobs	Value-added ($)	Earnings ($)	Number of Jobs
311513	Cheese manufacturing	3.6222	0.7413	17.6985	1.1034	4.9605	7.262
311615	Poultry processing	3.5396	0.7215	17.8244	1.1297	4.8283	5.3127
31161A	Animal (except poultry) slaughtering, rendering, and processing	3.3456	0.6869	19.1131	1.1404	4.5968	6.286
311225	Fats and oils refining and blending	3.3863	0.6839	15.1565	1.0136	4.5765	6.0247
31151A	Fluid milk and butter manufacturing	3.1013	0.6428	15.2956	1.0497	4.3015	6.658
311810	Bread and bakery product manufacturing	2.5427	0.6407	15.0729	1.0719	2.6111	2.42
311119	Other animal food manufacturing	3.0885	0.6325	14.728	0.9913	4.2327	6.158
311224	Soybean and other oilseed processing	3.0082	0.6229	15.57	0.9752	4.1687	8.1354
311514	Dry, condensed, and evaporated dairy product manufacturing	3.0191	0.6181	14.3153	1.0279	4.1365	5.4781
311410	Frozen food manufacturing	2.7858	0.5708	13.4029	1.0033	3.8198	4.6296
311210	Flour milling and malt manufacturing	2.7102	0.567	14.0824	0.9661	3.7942	7.599
311221	Wet corn milling	2.7071	0.5669	14.4575	0.972	3.7936	7.187
311230	Breakfast cereal manufacturing	2.7602	0.5602	11.146	1.0104	3.7489	5.7606
3118A0	Cookie, cracker, pasta, and tortilla manufacturing	2.6981	0.5572	11.7869	1.0118	3.729	4.3194
311111	Dog and cat food manufacturing	2.7169	0.5459	11.9245	0.9928	3.653	4.9613
311520	Ice cream and frozen dessert manufacturing	2.6163	0.5375	11.2402	0.9212	3.5967	4.1039

TOTAL RIMS-II MULTIPLIERS FOR DETAILED F&BM INDUSTRIES[58]

[58]BEA RIMS-II multipliers (2019)

Top Five Industries		Multiplier					
Top Ten Industries		Final Demand				Direct Effect	
NAICS	Industry	Output ($)	Earnings ($)	Number of Jobs	Value-added ($)	Earnings ($)	Number of Jobs
311940	Seasoning and dressing manufacturing	2.5228	0.5272	11.3941	0.9246	3.528	4.5928
311300	Sugar and confectionery product manufacturing	2.5148	0.5265	10.9084	0.9227	3.5234	3.8032
311990	All other food manufacturing	2.44	0.5148	11.8122	0.8865	3.4453	3.8823
311910	Snack food manufacturing	2.3936	0.4949	10.8156	0.903	3.3122	3.9875
311420	Fruit and vegetable canning, pickling, and drying	2.2933	0.4663	9.5685	0.8348	3.1206	3.409
312120	Breweries	2.2483	0.4521	11.4199	0.9916	3.0254	2.5032
312130	Wineries	1.9369	0.407	13.0284	0.8428	2.7236	1.659
311920	Coffee and tea manufacturing	1.9398	0.4058	8.1787	0.6909	2.7153	3.1446
312110	Soft drink and ice manufacturing	2.0173	0.4054	7.8699	0.7256	2.7129	3.0998
312140	Distilleries	1.9054	0.3811	7.9163	0.9934	2.5504	2.6005
311700	Seafood product preparation and packaging	1.7404	0.3626	7.4628	0.5843	2.4265	2.466
311930	Flavoring syrup and concentrate manufacturing	1	0	0	0	0	0

TABLE 6: TOTAL MULTIPLIERS FOR DETAILED F&BM INDUSTRIES CONT[59]

[59]BEA RIMS-II multipliers (2019)

Appendix VI:
Economic Analysis Calculations

Earnings: Calculating a theoretical gain of 5% in F&BM output and subsequent impact upon 2019 state earnings

Estimated impact upon state earnings (2019):

This is estimated by the product of the 2019 final demand multipliers for F&BM (Table 4) and the state's estimated GDP ($380,800,000,000; 2019).

(State GDP) x (Table 4 earnings multipliers) = ($380,800,000,000) x (0.5954) = $226,728,320,000

This means that F&BM affects $226.8 billion (60%) of the total state GDP.

To estimate the impact upon state earnings of a theoretical 5% gain in F&BM output:

This is estimated by the product of the final demand multipliers x 1.05 for F&BM and the state's estimated GDP.

(State GDP) x (Table 4 earnings multipliers) x (1.05) = ($380,800,000,000) x (0.5954) x (1.05) = $238,064,736,000, or **+$11,336,416,000** ($238,064,736,000 - $226,728,320,000)

Employment: Calculating the 2019 impact upon state employment of a theoretical 5% gain in F&BM output

This is estimated by the product of increased earnings per $1 million and the Table 5 multiplier for employment (per $1,000,000 of output) in the F&BM industry.

(Estimated increased output/1,000,000) x (Table 5 employment multiplier) = ($11,336,416,000/1,000,000) x (14.8017) = **+167,798 jobs**

Note that RIMS-II does not distinguish between full time employment and part-time or seasonal.

Earnings Update: Calculating a theoretical gain of 5% in F&BM output and subsequent impact upon 2020 state earnings

The calculations in this report were originally completed assuming 2019 RIMS-II multipliers from the Bureau of Economic Analysis. Upon report release, the 2020 RIMS-II multipliers were available; thus, this appendix also includes an updated input-output analysis (below).

Estimated impact upon state earnings (2020):

This is estimated by the product of the 2020 final demand multipliers for F&BM (Table 7) and the state's estimated GDP ($328,473,000,000; 2020) .

(State GDP) x (Table 7 earnings multipliers) = ($328,473,000,000) x (0.438) = $143,871,174,000

This means that F&BM affects $143.9 billion (44%) of the total state GDP in 2020.

To estimate the impact upon state earnings of a theoretical 5% gain in F&BM output:

This is estimated by the product of the final demand multipliers x 1.05 for F&BM and the state's estimated GDP.

(State GDP) x (Table 7 earnings multipliers) x (1.05) = ($328,473,000,000) x (0.438) x (1.05) = $151,064,732,700, or +$7,193,558,700 ($151,064,732,700 - $143,871,174,000)

Employment Update: Calculating the 2020 impact upon state employment of a theoretical 5% gain in F&BM output

This is estimated by the product of increased earnings per $1 million and the Table 7 multiplier for employment (per $1,000,000 of output) in the F&BM industry.

(Estimated increased output/1,000,000) x (Table 7 employment multiplier) = ($7,193,558,700/1,000,000) x (10.9354) = **+78,664 jobs**

Note that RIMS-II does not distinguish between full time employment and part-time or seasonal.

While the 2020 updated analysis is not as impressive as the analysis using 2019 estimates, the basic conclusion is still accurate: **Minnesotans, on average, reap more economic reward from investments in the F&BM industry than from any other industry in the state.**

Industries	Final-demand Output per $1.00	Final-demand Earnings per $1.00	Final-demand Employment per $1M
Food and beverage and tobacco product manufacturing	2.3173	0.438	10.9354
Funds, trusts, and other financial vehicles	1.9445	0.479	10.6995
Paper manufacturing	1.7957	0.3402	5.3321
Farms	1.7383	0.3673	14.4622
Apparel, leather, and allied product manufacturing	1.7119	0.4362	12.262
Water transportation	1.6975	0.3664	5.8486
Transit and ground passenger transportation*	1.692	0.5147	18.9868
Truck transportation	1.6571	0.4963	8.6779
Furniture and related product manufacturing	1.6488	0.4005	8.175
Wood product manufacturing	1.6435	0.3637	7.2416
Printing and related support activities	1.6432	0.4275	8.6123
Plastics and rubber products manufacturing	1.6343	0.3053	5.1921
Warehousing and storage	1.6029	0.4166	9.1642
Chemical manufacturing	1.5902	0.2976	4.3181
Nonmetallic mineral product manufacturing	1.5875	0.3416	7.185
Food services and drinking places	1.5801	0.4825	19.4166
Insurance carriers and related activities	1.5734	0.3849	5.3244
Data processing, hosting, and other information services	1.5678	0.3575	5.6936
Motor vehicles, bodies and trailers, and parts manufacturing	1.5644	0.2953	5.1531
Machinery manufacturing	1.5521	0.3268	5.1018

TABLE 7: UPDATED (2020) RIMS-II INPUT/OUTPUT DEMAND MULTIPLIERS. Note that this table contains 2020 values updates from the Bureau of Economic Analysis, corresponding to those foudnin Tables 3, 4, and 5, respectively.