
Economic Impact of the Detroit Demo Day

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Rocket Community Fund



Economic Impact of the Detroit Demo Day

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Economic Impact of the Detroit Demo Day

Executive Summary

Rocket Community Fund engaged PwC to provide a report that estimates the economic impact of Detroit Demo Day (“DDD”) winners on the Detroit Metropolitan Statistical Area (“MSA”) and the State of Michigan since the inception of DDD in 2017. The report relies on self-reported financial data from a survey completed by DDD winners and a well-established economic impact modeling methodology. DDD winners responding with complete survey information are referred to in this report as “participating DDD winners.” Participating DDD winners represent 56% of all DDD winners.

We have assessed three dimensions of the participating DDD winners’ economic impacts:

- 1) **Direct effects** include the jobs, labor income, and value added (i.e., contribution to gross domestic product or GDP) directly attributable to the participating DDD winners.
- 2) **Indirect effects** measure the jobs, labor income, and value added occurring throughout the supply chain in the Detroit MSA and Michigan of the participating DDD winners attributable to their capital and noncapital purchases.
- 3) **Induced effects** reflect spending by employees of the participating DDD winners and their supply chain in the Detroit MSA and Michigan. Employees throughout the supply chain earn wages associated with the direct and indirect activities, a portion of which will be consumed in the Detroit MSA and Michigan. This consumption causes additional economic activity in the Detroit MSA and attributable to the participating DDD winners’ operations in the Detroit MSA and Michigan.

The analysis was conducted using the IMPLAN model for the Detroit MSA and Michigan, an input-output model based on federal government data. Only the economic impact attributable to participating DDD winners is estimated in this report. While the economic impact attributable to all DDD winners is greater than that of participating DDD winners, this report does not extrapolate the economic impact of participating DDD winners to the total population of DDD winners.

By 2021, all past and present DDD winners participating in the study *directly* provided 375 jobs, paid \$7.6 million in labor income, and generated \$10.7 million of value added in the Detroit MSA. Including direct, indirect, and induced impacts, the participating DDD winners in the Detroit MSA supported 484 jobs, and contributed \$14.4 million of labor income and \$21.1 million of value added in 2021. Each job at the participating DDD winners is found to support 0.3 additional jobs in the rest of the Detroit MSA’s economy in 2021 (a multiplier of 1.3). The corresponding labor income and value-added multipliers are 1.9 and 2.0, respectively.

These economic impacts for the Detroit MSA are shown for each year from 2017 to 2021 in **Table E-1**, below.

Table E-1 – Economic Impact of Participating DDD Winners on the Detroit MSA, 2017-2021

| Item | Direct | Indirect and Induced | | Total | Total / Direct ("Multiplier") ^c |
|---|--------|----------------------|--------------------|-------|---|
| | | Operations | Capital Investment | | |
| 2017 | | | | | |
| Employment (jobs)^a | 14 | 5 | 1 | 20 | 1.4 |
| Labor Income (\$million)^b | 0.3 | 0.3 | 0.1 | 0.6 | 2.1 |
| Value Added (\$million) | 0.5 | 0.4 | 0.1 | 1.0 | 2.1 |
| 2018 | | | | | |
| Employment (jobs)^a | 58 | 17 | 1 | 76 | 1.3 |
| Labor Income (\$million)^b | 1.2 | 1.0 | 0.1 | 2.2 | 1.9 |
| Value Added (\$million) | 1.6 | 1.6 | 0.1 | 3.3 | 2.0 |
| 2019 | | | | | |
| Employment (jobs)^a | 153 | 40 | 4 | 197 | 1.3 |
| Labor Income (\$million)^b | 3.3 | 2.3 | 0.3 | 5.9 | 1.8 |
| Value Added (\$million) | 4.3 | 3.7 | 0.4 | 8.4 | 1.9 |
| 2020 | | | | | |
| Employment (jobs)^a | 223 | 58 | 12 | 293 | 1.3 |
| Labor Income (\$million)^b | 4.8 | 3.4 | 0.8 | 9.0 | 1.9 |
| Value Added (\$million) | 6.6 | 5.4 | 1.1 | 13.2 | 2.0 |
| 2021 | | | | | |
| Employment (jobs)^a | 375 | 92 | 17 | 484 | 1.3 |
| Labor Income (\$million)^b | 7.6 | 5.6 | 1.2 | 14.4 | 1.9 |
| Value Added (\$million) | 10.7 | 8.7 | 1.6 | 21.1 | 2.0 |

Source: PwC calculations using the IMPLAN modeling system and data from the participating DDD winners. Details may not add to totals due to rounding.

^a Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

^b Labor income is defined as wages, salaries, and benefits, as well as proprietors’ income.

^c Economic multiplier represents the overall impact (including direct, indirect, and induced impacts) relative to the direct impact.

For the State of Michigan as a whole, by 2021, all past and present DDD winners participating in the study *directly* provided 392 jobs, paid \$7.9 million in labor income, and generated \$11.2 million of value added in the State. Including direct, indirect, and induced impacts, the participating DDD winners in Michigan supported 531 jobs, and contributed \$15.8 million of labor income and \$23.8 million of value added in 2021. Each job at the participating DDD winners is found to support 0.4 additional jobs in the rest of the Michigan economy in 2021 (a multiplier of 1.4). The corresponding labor income and value-added multipliers are 2.0 and 2.1, respectively.

These economic impacts for the State of Michigan are shown for each year from 2017 to 2021 in **Table E-2**, below.

Table E-2 – Economic Impact of Participating DDD Winners on Michigan, 2017-2021

| Item | Direct | Indirect and Induced | | Total | Total / Direct ("Multiplier") ^c |
|---|--------|----------------------|--------------------|-------|---|
| | | Operations | Capital Investment | | |
| 2017 | | | | | |
| Employment (jobs)^a | 14 | 6 | 1 | 21 | 1.5 |
| Labor Income (\$million)^b | 0.3 | 0.3 | 0.1 | 0.7 | 2.2 |
| Value Added (\$million) | 0.5 | 0.5 | 0.1 | 1.1 | 2.3 |
| 2018 | | | | | |
| Employment (jobs)^a | 58 | 22 | 1 | 81 | 1.4 |
| Labor Income (\$million)^b | 1.2 | 1.2 | 0.1 | 2.4 | 2.0 |
| Value Added (\$million) | 1.6 | 2.0 | 0.1 | 3.7 | 2.3 |
| 2019 | | | | | |
| Employment (jobs)^a | 165 | 54 | 5 | 224 | 1.4 |
| Labor Income (\$million)^b | 3.5 | 2.9 | 0.3 | 6.7 | 1.9 |
| Value Added (\$million) | 4.6 | 4.9 | 0.4 | 9.9 | 2.1 |
| 2020 | | | | | |
| Employment (jobs)^a | 238 | 78 | 13 | 329 | 1.4 |
| Labor Income (\$million)^b | 5.0 | 4.4 | 0.8 | 10.2 | 2.0 |
| Value Added (\$million) | 7.1 | 7.2 | 1.1 | 15.3 | 2.2 |
| 2021 | | | | | |
| Employment (jobs)^a | 392 | 120 | 19 | 531 | 1.4 |
| Labor Income (\$million)^b | 7.9 | 6.8 | 1.2 | 15.8 | 2.0 |
| Value Added (\$million) | 11.1 | 11.0 | 1.6 | 23.8 | 2.1 |

Source: PwC calculations using the IMPLAN modeling system and data from the participating DDD winners. Details may not add to totals due to rounding.

Direct economic impacts differ from those shown in **Table E-1** for 2019-2021 because two participating DDD winners have some of their business activities outside of the Detroit MSA in addition to their activities within the Detroit MSA.

^a Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

^b Labor income is defined as wages, salaries, and benefits, as well as proprietors' income.

^c Economic multiplier represents the overall impact (including direct, indirect, and induced impacts) relative to the direct impact.

Economic Impact of the Detroit Demo Day

I. Introduction

Rocket Community Fund, through the Detroit Demo Day (“DDD”) program, invests over \$1 million yearly in Detroit-based companies through an annual pitch competition. Its objective is to elevate Detroit as a destination for small businesses and high-growth startups by deploying capital and providing supportive resources. The funding is awarded through grants and interest-free loans for businesses in four categories;

Start, for companies introducing their product or service to market;

Pivot, for companies who have pivoted to meet the needs of the new marketplace;

Scale, for more established businesses looking to expand; and

Youth, for emerging entrepreneurs aged 8-18.

Rocket Community Fund engaged PwC to provide a report that estimates the economic impact of DDD winners on the Detroit MSA and the State of Michigan for the years 2017-2021. In particular, this study covers the direct, indirect, and induced economic impact of over half of the DDD’s winners, including jobs created, impacts on their supply chain, and capital expenditures.¹

Most data used in this study were sourced from a survey of the DDD winners.² We estimated DDD’s economic impacts using a well-establishment input-output model for the Detroit MSA and the State of Michigan produced by the IMPLAN Group.³

Specifically, the economic impact is measured in terms of employment, labor income, and value added (i.e., contribution to GDP). For each measure, the direct, indirect, and induced economic impacts are calculated.

It should be noted that all impacts are reported in gross terms, which means that they do not take into account what would have taken place in the absence of the DDD winning businesses in each study area.

The remainder of this report is organized as follows. **Section II** of this report profiles the DDD winners participating in this study. **Section III** presents participating DDD winners’ economic impacts on the Detroit MSA and Michigan. An overview of the methodology is provided in the **Appendix**, along with a list of the participating DDD winners.

¹ This report does not extrapolate the economic impact of participating DDD winners to the total population of DDD winners.

² PwC has not validated or audited the data provided by third parties. PwC, therefore, makes no representations or warranties with respect to the accuracy of the data provided by the participating DDD winners.

³ The IMPLAN model is similar to the Regional Input-Output Modeling System used by the US Department of Commerce. It is widely used by government and private researchers for regional economic impact studies.

II. Profile of Participating DDD Winners

The DDD company survey was sent electronically to all DDD winners. The survey requested demographic, geographic, and financial information. Financial information included total revenues, profits before tax, annual average number of employees, annual total employee compensation (including wages, salaries, and benefits) and total capital expenditures for the study period (2017-2021). The survey had a response rate of 56%. DDD winners responding with complete survey information are referred to in this report as “participating DDD winners.” Participating DDD winners represent a diverse group of business owners with broad industrial and geographic reach within the Detroit MSA.

Demographic summary statistics are described below in **Table II.1**. Women-owned businesses represent 50% of participating DDD winners. Sixty-four percent of participating DDD winners are minority-owned businesses. Fourteen percent of participating DDD businesses operate multiple locations.

Table II.1 – DDD Survey Summary Statistics

| Item | Number |
|---|--------|
| Number of DDD respondents | 28 |
| <i>Number of woman-owned</i> | 14 |
| <i>Number of minority-owned</i> | 18 |
| <i>Number of veteran-owned</i> | 1 |
| <i>Number of businesses with multiple locations</i> | 4 |
| Number of unique industries represented | 26 |
| Number of unique MI zip codes covered | 17 |

Source: PwC tabulations using the survey data from the participating DDD winners.

The North American Industry Classification System (NAICS) industry codes are used to classify business establishments by industry. The 28 participating DDD winners operate in 26 different industries as their primary line of business. The industry descriptions range from restaurants to product manufacturing to professional agencies. **Table II.2** lists each industry of the participating DDD winners.

Table II.2 – Participating DDD Winners: Industries Represented

| Number | Industry Code | Industry Description |
|--------|---------------|---|
| 1 | 238910 | Site Preparation Contractors |
| 2 | 311400 | Fruit and Vegetable Preserving and Specialty Food Manufacturing |
| 3 | 311812 | Commercial Bakeries |
| 4 | 311941 | Mayonnaise, Dressing, and Other Prepared Sauce Manufacturing |
| 5 | 312111 | Soft Drink Manufacturing |
| 6 | 315280 | Other Cut and Sew Apparel Manufacturing |
| 7 | 316998 | Other Leather and Allied Product Manufacturing |
| 8 | 325412 | Pharmaceutical Preparation Manufacturing |
| 9 | 339910 | Jewelry and Silverware Manufacturing |
| 10 | 423930 | Recyclable Material Merchant Wholesalers |
| 11 | 445299 | All Other Specialty Food Stores |
| 12 | 446120 | Cosmetics, Beauty Supplies, and Perfume Stores |
| 13 | 446199 | All Other Health and Personal Care Stores |
| 14 | 454110 | Electronic Shopping and Mail-Order Houses |
| 15 | 519130 | Internet Publishing and Broadcasting and Web Search Portals |
| 16 | 541510 | Computer Systems Design and Related Services |
| 17 | 541990 | All Other Professional, Scientific, and Technical Services |
| 18 | 561311 | Employment Placement Agencies |
| 19 | 611519 | Other Technical and Trade Schools |
| 20 | 611710 | Educational Support Services |
| 21 | 722410 | Drinking Places (Alcoholic Beverages) |
| 22 | 722511 | Full-Service Restaurants |
| 23 | 722513 | Limited-Service Restaurants |
| 24 | 722515 | Snack and Nonalcoholic Beverage Bars |
| 25 | 812111 | Barber Shops |
| 26 | 812910 | Pet Care (except Veterinary) Services |

Source: PwC tabulations using the survey data from the participating DDD winners.

The participating DDD winners have business activities in 17 unique zip codes in Michigan, with 11 in the city of Detroit, and 15 in the Detroit MSA. Two participating DDD winners have business activities outside the Detroit MSA in addition to their activities within the Detroit MSA. The zip codes are listed in **Table II.3**, below.

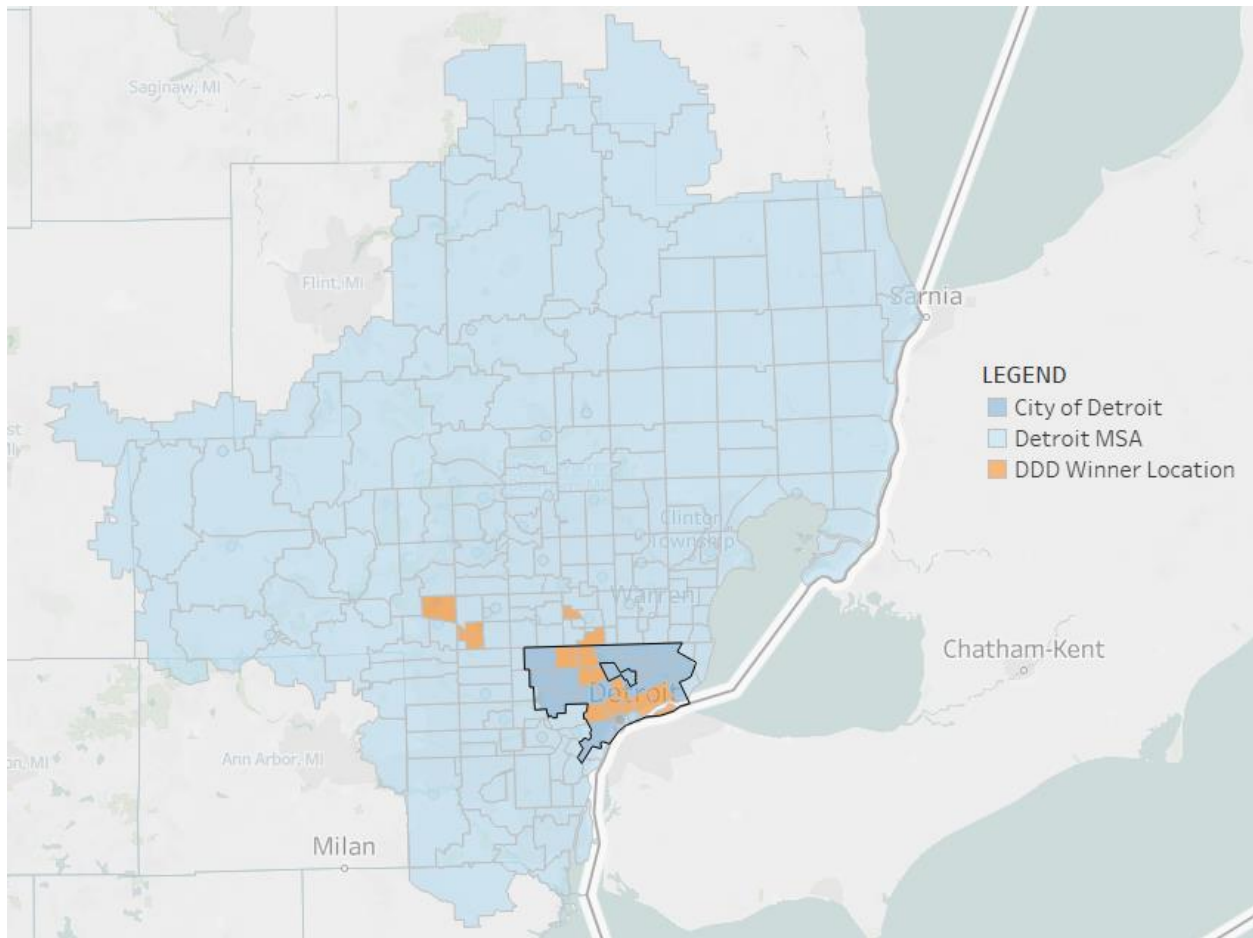
Table II.3 – Participating DDD Winners: Geographic Coverage

| Number | Zip Code | Area Description |
|--------|----------|--|
| 1 | 48072 | Berkley, MI |
| 2 | 48104 | Ann Arbor, MI |
| 3 | 48201 | Midtown, Detroit |
| 4 | 48202 | New Center/Boston-Edison, Detroit |
| 5 | 48207 | McDougal-Hunt/Eastern Market/Riverfront, Detroit |
| 6 | 48208 | Northwestern H.S., Detroit |
| 7 | 48210 | Michigan Ave./SW Detroit |
| 8 | 48214 | Indian Village/Riverfront, Detroit |
| 9 | 48216 | Corktown, Detroit |
| 10 | 48220 | Ferndale, MI |
| 11 | 48221 | Bagley/University District, Detroit |
| 12 | 48226 | Downtown, Detroit |
| 13 | 48235 | Sinai-Grace Hospital, Detroit |
| 14 | 48238 | Oakman Blvd., Detroit |
| 15 | 48335 | Farmington, MI |
| 16 | 48377 | Novi, MI |
| 17 | 49686 | Traverse City, MI |

Source: PwC tabulations using the survey data from the participating DDD winners.

Figure II.1, below, maps the geographic coverage of participating DDD winners, with their business zip code locations shaded in gold.

Figure II.1 – Participating DDD Winners: Geographic Coverage



Note: The map does not show two zip codes outside the Detroit MSA (Ann Arbor and Traverse City) where two participating DDD winners have business operations in addition to their activities within the Detroit MSA.

As shown in **Table II.4**, below, three of the 2017 DDD winners participated in the study. In 2017, they collectively generated \$1 million in revenue, provided 14 jobs, and paid out over \$300,000 in employee compensation. In addition, they made a total capital investment of approximately \$150,000.

For 2021, the number of the past and current DDD winners participating in the study reached 28. They collectively generated \$20 million in revenue, provided 392 jobs, and paid out \$7.9 million in employee compensation. These 28 businesses also made a total capital investment of \$2.8 million.

Table II.4 – Participating DDD Winners: Summary Economic Statistics by Award Year*

| Item | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------------------------|-------------|-------------|-------------|--------------|--------------|
| Number of active businesses | 3 | 5 | 12 | 22 | 28 |
| Total employment (jobs) | 14 | 58 | 165 | 238 | 392 |
| Total employee compensation | \$312,550 | \$1,196,216 | \$3,474,591 | \$5,069,024 | \$7,884,723 |
| Total revenue | \$1,048,872 | \$3,778,929 | \$8,778,297 | \$13,473,701 | \$20,020,350 |
| Total capital expenditures | \$146,152 | \$163,470 | \$704,372 | \$2,267,264 | \$2,832,164 |

Source: PwC tabulations using the survey data from the participating DDD winners.

* Including the past and current award winners as of a given award year.

III. Economic Impact Analysis

The total economic impact of the participating DDD winners on the Detroit MSA and Michigan includes their *direct*, *indirect*, and *induced* effects.

- 1) ***Direct effects*** include the jobs, labor income, and value added (i.e., contribution to GDP) directly attributable to the participating DDD winners.
- 2) ***Indirect effects*** measure the jobs, labor income, and value added occurring throughout the supply chain in the Detroit MSA and Michigan of the participating DDD winners attributable to their capital and non-capital purchases.
- 3) ***Induced effects*** reflect spending by employees of the participating DDD winners and their supply chain in the Detroit MSA and Michigan. Employees throughout the supply chain earn wages associated with the direct and indirect activities, a portion of which will be consumed in the Detroit MSA and Michigan. This consumption causes additional economic activity in the Detroit MSA and Michigan attributable to the participating DDD winners' operations in the Detroit MSA and Michigan.

To estimate these effects, economists have built models known as input-output (I-O) models that trace the flow of inputs throughout the economy needed to produce a given level of output by an industry. In this study, we use the IMPLAN model (an input-output model based on federal government data) to examine the participating DDD winners' economic impacts on the Detroit MSA and Michigan. One can summarize the relationship between the participating DDD winners' *direct* economic impact to their *total* economic impact as a multiplier. For example, the employment multiplier measures how many jobs in total are gained in the Detroit MSA and Michigan for each job at the participating DDD businesses. Similar multipliers can be constructed for labor income and value added.

Impact on the Detroit MSA

As shown in **Table III.1**, below, in 2017, the DDD winners participating in this study *directly* provided 14 jobs in the Detroit MSA. By 2021, all past and present DDD winners participating in the study *directly* provided 375 jobs, paid \$7.6 million in labor income, and generated \$10.7 million of value added in the Detroit MSA. Including direct, indirect, and induced impacts, the participating DDD winners in the Detroit MSA supported 484 jobs, and contributed \$14.4 million of labor income and \$21.1 million of value added in 2021. Each job at the participating DDD winners is found to support 0.3 additional jobs in the rest of the Detroit MSA's economy in 2021 (a multiplier of 1.3). The corresponding labor income and value-added multipliers are 1.9 and 2.0, respectively.

Table III.1 - Economic Impact of Participating DDD Winners on the Detroit MSA, 2017-2021

| Item | Direct | Indirect and Induced | | Total | Total / Direct ("Multiplier") ^c |
|---|--------|----------------------|--------------------|-------|---|
| | | Operations | Capital Investment | | |
| 2017 | | | | | |
| Employment (jobs)^a | 14 | 5 | 1 | 20 | 1.4 |
| Labor Income (\$million)^b | 0.3 | 0.3 | 0.1 | 0.6 | 2.1 |
| Value Added (\$million) | 0.5 | 0.4 | 0.1 | 1.0 | 2.1 |
| 2018 | | | | | |
| Employment (jobs)^a | 58 | 17 | 1 | 76 | 1.3 |
| Labor Income (\$million)^b | 1.2 | 1.0 | 0.1 | 2.2 | 1.9 |
| Value Added (\$million) | 1.6 | 1.6 | 0.1 | 3.3 | 2.0 |
| 2019 | | | | | |
| Employment (jobs)^a | 153 | 40 | 4 | 197 | 1.3 |
| Labor Income (\$million)^b | 3.3 | 2.3 | 0.3 | 5.9 | 1.8 |
| Value Added (\$million) | 4.3 | 3.7 | 0.4 | 8.4 | 1.9 |
| 2020 | | | | | |
| Employment (jobs)^a | 223 | 58 | 12 | 293 | 1.3 |
| Labor Income (\$million)^b | 4.8 | 3.4 | 0.8 | 9.0 | 1.9 |
| Value Added (\$million) | 6.6 | 5.4 | 1.1 | 13.2 | 2.0 |
| 2021 | | | | | |
| Employment (jobs)^a | 375 | 92 | 17 | 484 | 1.3 |
| Labor Income (\$million)^b | 7.6 | 5.6 | 1.2 | 14.4 | 1.9 |
| Value Added (\$million) | 10.7 | 8.7 | 1.6 | 21.1 | 2.0 |

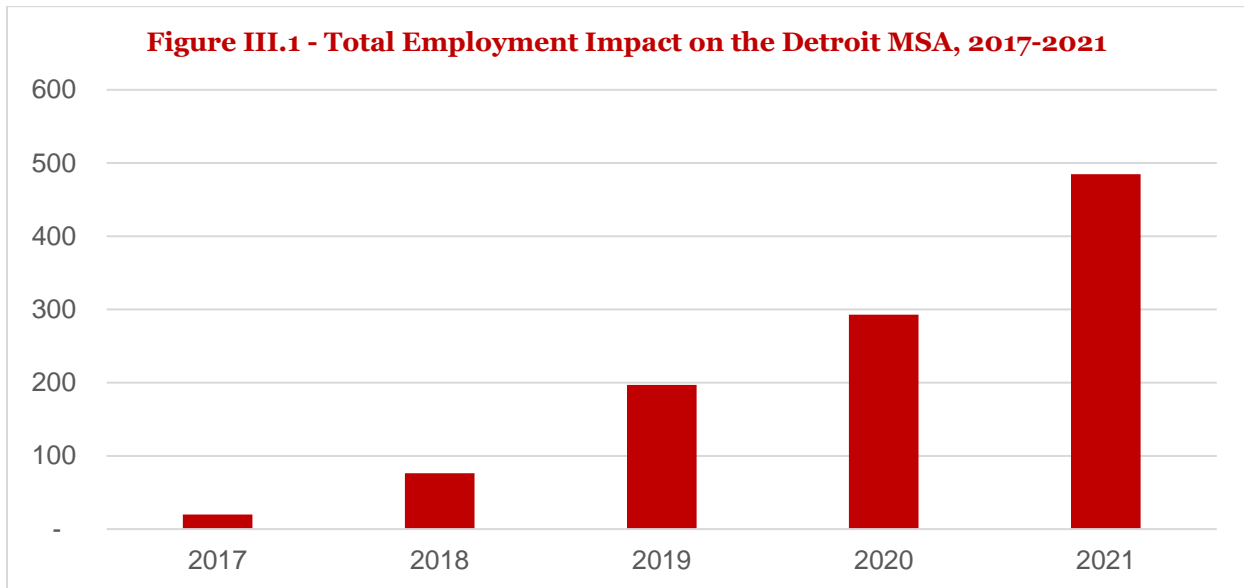
Source: PwC calculations using the IMPLAN modeling system and survey data from the participating DDD winners. Details may not add to totals due to rounding.

^a Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

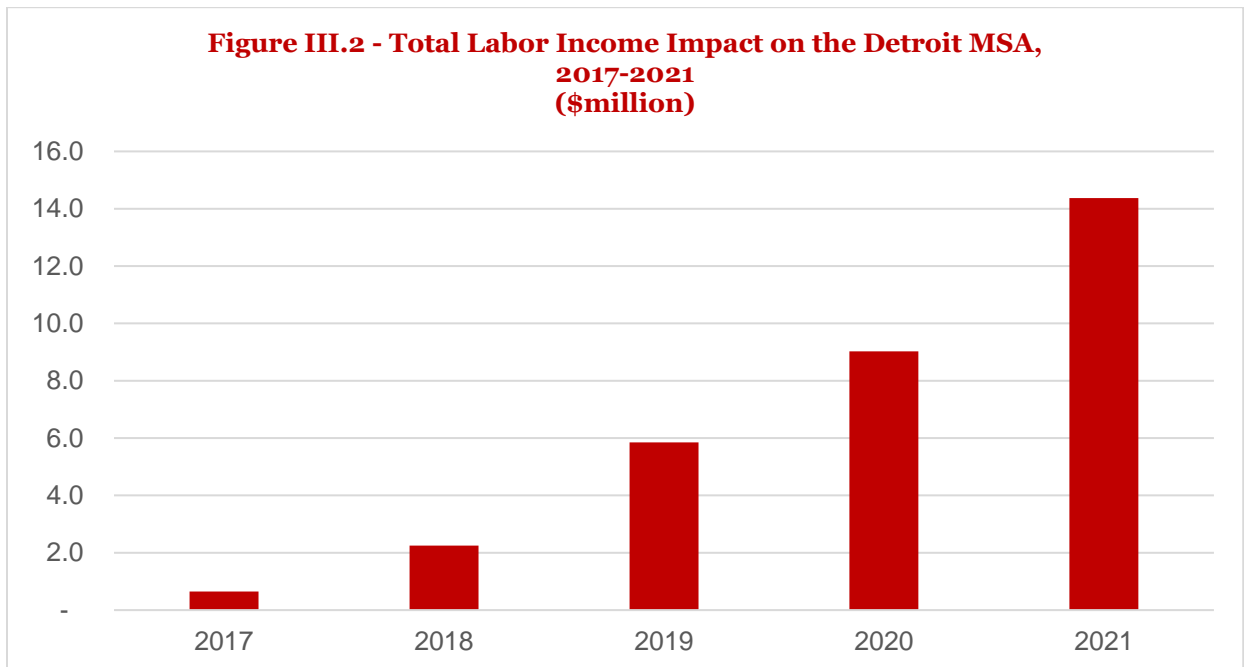
^b Labor income is defined as wages, salaries, and benefits, as well as proprietors' income.

^c Economic multiplier represents the overall impact (including direct, indirect, and induced impacts) relative to the direct impact.

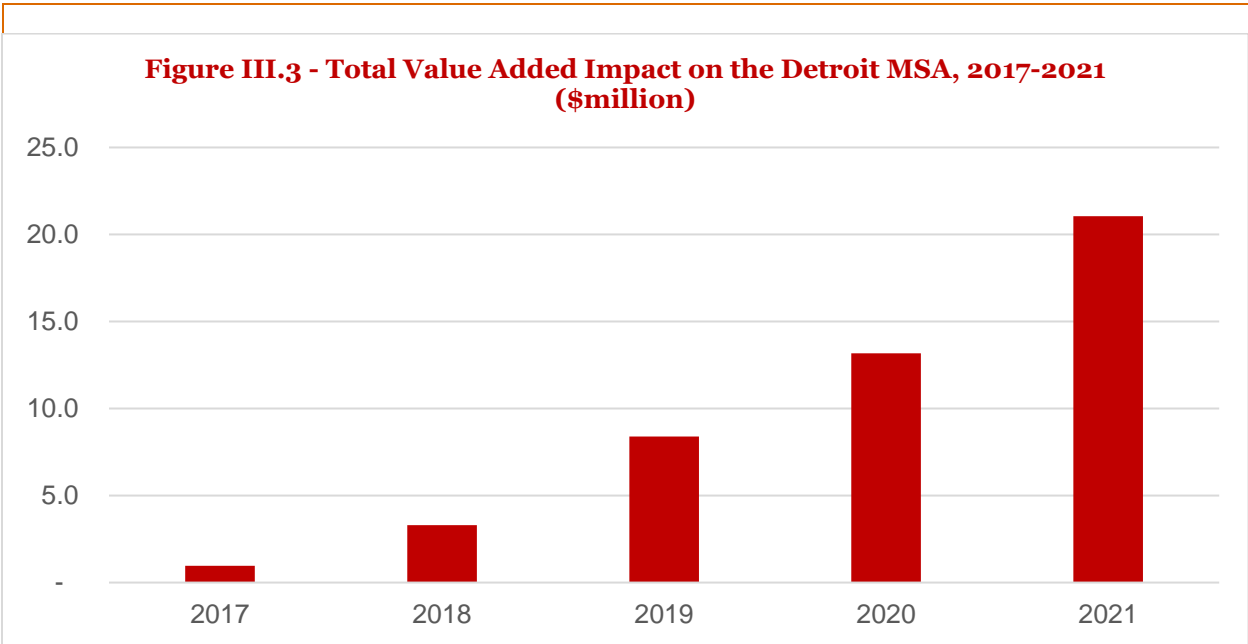
A graphical summary of these results is provided in **Figures III.1-III.3**, below.



Source: PwC.



Source: PwC.



Source: PwC.

The participating DDD businesses have linkages to a range of other industries in the Detroit MSA due to the variety of inputs required. This results in the economic benefits brought about by the DDD winners being distributed across the Detroit MSA’s economy.

For employment, over the 5-year study period, the service sector accounted for 55 to 60 percent of the combined *indirect* and *induced* impacts attributable to the participating DDD winners’ operational and capital expenditures and the consumption spending by the employees of the participating DDD winners and their Detroit MSA-based supply chain. Examples of services provided by this sector include legal services, health care, entertainment, and lodging. The high concentration of the indirect and induced impact in the services sector is not surprising given that that the service sector accounts for half of the employment in the Detroit MSA. The wholesale and retail trade sector accounted for another 12 to 13 percent of the indirect and induced employment impact, and the finance, insurance, real estate, rental, and leasing sector accounted for 10 to 13 percent (see **Table III.2a**, below).

Table III.2a –Participating DDD Winners’ Indirect and Induced Impact on the Detroit MSA by Industry Impacted: *Employment*

| Industry Impacted | 2017 | 2018 | 2019 | 2020 | 2021 |
|--|-------------|-------------|-------------|-------------|-------------|
| Total Employment Impact | 6 | 18 | 44 | 70 | 110 |
| Agriculture, forestry, and fishing | * | * | * | * | * |
| Mining | * | * | * | * | * |
| Utilities | * | * | * | * | * |
| Construction | 7% | 3% | 5% | 7% | 7% |
| Manufacturing | 4% | 3% | 4% | 5% | 5% |
| Wholesale and retail trade | 12% | 12% | 13% | 13% | 13% |
| Transportation and warehousing | 9% | 7% | 6% | 7% | 7% |
| Information | 1% | 1% | 1% | 1% | 1% |
| Finance, insurance, real estate, rental, and leasing | 10% | 13% | 12% | 11% | 11% |
| Services | 56% | 60% | 58% | 55% | 55% |
| Other | 1% | 1% | 1% | 1% | 1% |
| Total | 100% | 100% | 100% | 100% | 100% |

Source: PwC calculations using the IMPLAN modeling system and survey data from the participating DDD winners. Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

* Less than 0.5%.

Similarly, for labor income, over the 5-year study period, the service sector accounted for 56 to 60 percent of the combined *indirect* and *induced* impacts attributable to the participating DDD winners' operational and capital expenditures and the consumption spending by the employees of the participating DDD winners and their Detroit MSA-based supply chain. The wholesale and retail trade sector accounted for another 11 to 12 percent of the indirect and induced labor-income impact, and the finance, insurance, real estate, rental, and leasing sector accounted for 9 to 12 percent (see **Table III.2b**, below).

Table III.2b – Participating DDD Winners' Indirect and Induced Impact on the Detroit MSA by Industry Impacted: Labor Income

| Industry Impacted | 2017 | 2018 | 2019 | 2020 | 2021 |
|--|-------------|-------------|-------------|-------------|-------------|
| Total Labor Income Impact (\$million) | 0.3 | 1.1 | 2.6 | 4.3 | 6.8 |
| Agriculture, forestry, and fishing | * | * | * | * | * |
| Mining | * | * | * | * | * |
| Utilities | 1% | 1% | 1% | 1% | 1% |
| Construction | 7% | 4% | 5% | 8% | 8% |
| Manufacturing | 5% | 4% | 5% | 6% | 6% |
| Wholesale and retail trade | 12% | 11% | 11% | 12% | 12% |
| Transportation and warehousing | 7% | 6% | 5% | 6% | 6% |
| Information | 1% | 2% | 2% | 1% | 1% |
| Finance, insurance, real estate, rental, and leasing | 9% | 12% | 10% | 9% | 9% |
| Services | 57% | 60% | 59% | 56% | 56% |
| Other | 1% | 2% | 2% | 1% | 1% |
| | | | | | |
| Total | 100% | 100% | 100% | 100% | 100% |

Source: PwC calculations using the IMPLAN modeling system and survey data from the participating DDD winners. Labor income is defined as wages, salaries, and fringe benefits, as well as proprietors' income.

* Less than 0.5%.

For value added, over the 5-year study period, the services sector accounted for 44 to 45 percent of the *indirect* and *induced* impacts attributable to the participating DDD winners’ operational and capital expenditures and the consumption spending by the employees of the participating DDD winners and their Detroit MSA-based supply chain. The finance, insurance, real estate, rental, and leasing sector accounted for another 23 to 28 percent of the indirect and induced value-added impact, followed by the wholesale and retail trade sector (11 to 12 percent) (see **Table III.2c**, below).

Table III.2c – Participating DDD Winners’ Indirect and Induced Impact on the Detroit MSA by Industry Impacted: Value Added

| Industry Impacted | 2017 | 2018 | 2019 | 2020 | 2021 |
|--|-------------|-------------|-------------|-------------|-------------|
| Total Value-Added Impact (\$million) | 0.5 | 1.7 | 4.1 | 6.5 | 10.3 |
| Agriculture, forestry, and fishing | * | * | * | * | * |
| Mining | * | * | * | * | * |
| Utilities | 1% | 1% | 2% | 2% | 2% |
| Construction | 5% | 3% | 4% | 5% | 6% |
| Manufacturing | 5% | 4% | 5% | 6% | 6% |
| Wholesale and retail trade | 12% | 11% | 12% | 12% | 12% |
| Transportation and warehousing | 6% | 5% | 4% | 4% | 5% |
| Information | 2% | 3% | 3% | 2% | 2% |
| Finance, insurance, real estate, rental, and leasing | 23% | 28% | 26% | 24% | 23% |
| Services | 44% | 45% | 45% | 44% | 44% |
| Other | 1% | 1% | 1% | 1% | 1% |
| Total | 100% | 100% | 100% | 100% | 100% |

Source: PwC calculations using the IMPLAN modeling system and survey data from the participating DDD winners.
 * Less than 0.5%.

Impact on Michigan

For the State of Michigan as a whole, by 2021, all past and present DDD winners participating in the study *directly* provided 392 jobs, paid \$7.9 million in labor income, and generated \$11.2 million of value added in the State (see **Table III-3**, below). Including direct, indirect, and induced impacts, the participating DDD winners in Michigan supported 531 jobs, and contributed \$15.8 million of labor income and \$23.8 million of value added in 2021. Each job at the participating DDD winners is found to support 0.4 additional jobs in the rest of the Michigan economy in 2021 (a multiplier of 1.4). The corresponding labor income and value-added multipliers are 2.0 and 2.1, respectively.

Table III.3 – Economic Impact of Participating DDD Winners on Michigan, 2017-2021

| Item | Direct | Indirect and Induced | | Total | Total / Direct ("Multiplier") ^c |
|--|--------|----------------------|--------------------|-------|---|
| | | Operations | Capital Investment | | |
| 2017 | | | | | |
| Employment (jobs)^a | 14 | 6 | 1 | 21 | 1.5 |
| Labor Income (\$millions)^b | 0.3 | 0.3 | 0.1 | 0.7 | 2.2 |
| Value Added (\$millions) | 0.5 | 0.5 | 0.1 | 1.1 | 2.3 |
| 2018 | | | | | |
| Employment (jobs)^a | 58 | 22 | 1 | 81 | 1.4 |
| Labor Income (\$millions)^b | 1.2 | 1.2 | 0.1 | 2.4 | 2.0 |
| Value Added (\$millions) | 1.6 | 2.0 | 0.1 | 3.7 | 2.3 |
| 2019 | | | | | |
| Employment (jobs)^a | 165 | 54 | 5 | 224 | 1.4 |
| Labor Income (\$millions)^b | 3.5 | 2.9 | 0.3 | 6.7 | 1.9 |
| Value Added (\$millions) | 4.6 | 4.9 | 0.4 | 9.9 | 2.1 |
| 2020 | | | | | |
| Employment (jobs)^a | 238 | 78 | 13 | 329 | 1.4 |
| Labor Income (\$millions)^b | 5.0 | 4.4 | 0.8 | 10.2 | 2.0 |
| Value Added (\$millions) | 7.1 | 7.2 | 1.1 | 15.3 | 2.2 |
| 2021 | | | | | |
| Employment (jobs)^a | 392 | 120 | 19 | 531 | 1.4 |
| Labor Income (\$millions)^b | 7.9 | 6.8 | 1.2 | 15.8 | 2.0 |
| Value Added (\$millions) | 11.1 | 11.0 | 1.6 | 23.8 | 2.1 |

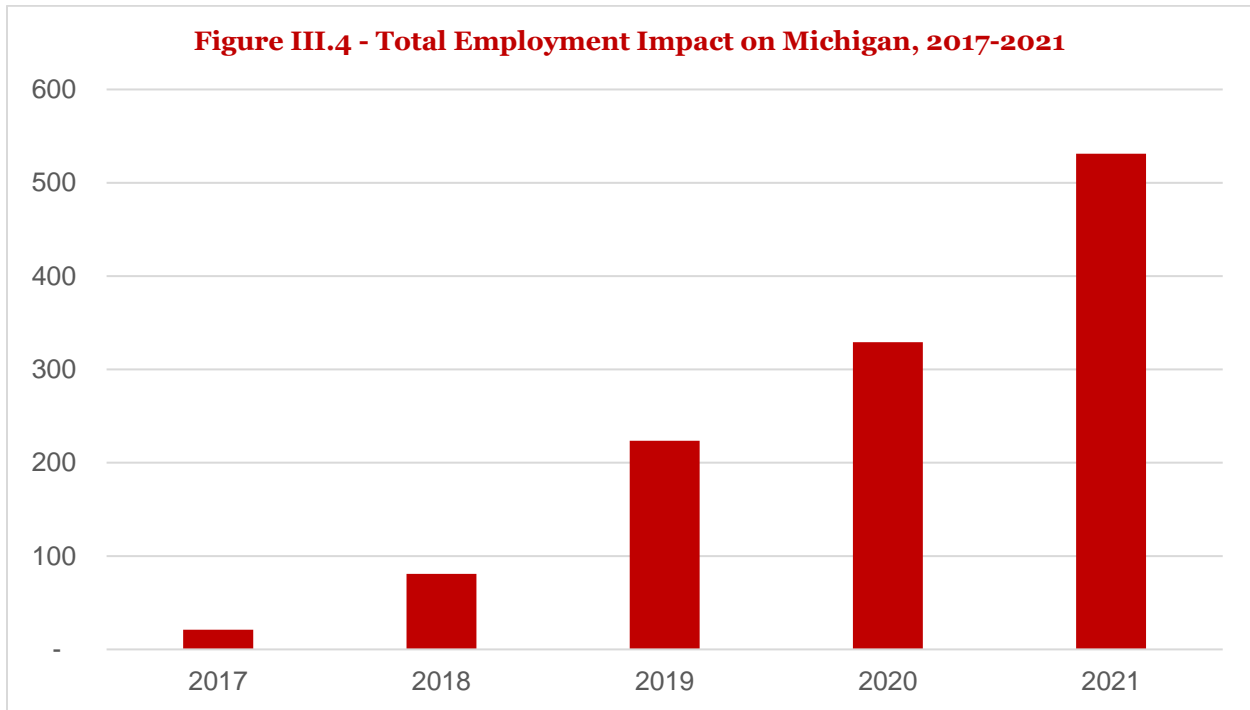
Source: PwC calculations using the IMPLAN modeling system and survey data from the participating DDD winners. Details may not add to totals due to rounding.

^a Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

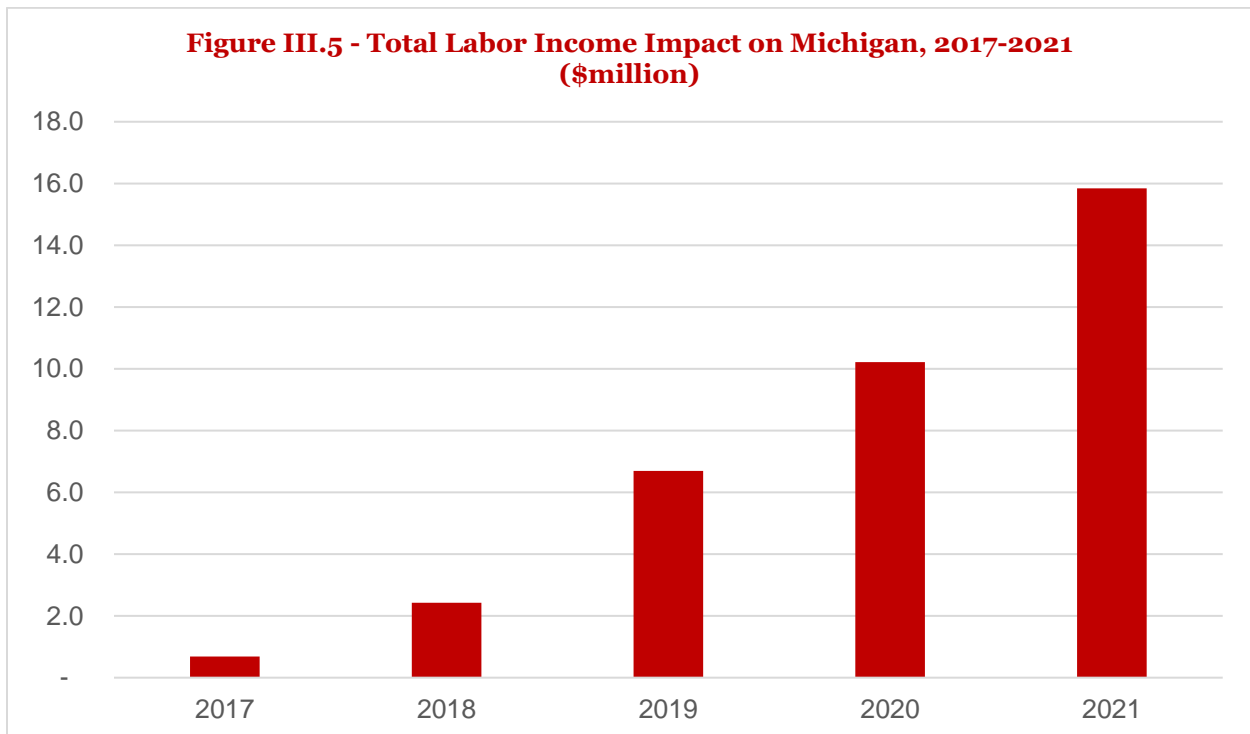
^b Labor income is defined as wages, salaries, and benefits, as well as proprietors' income.

^c Economic multiplier represents the overall impact (including direct, indirect, and induced impacts) relative to the direct impact.

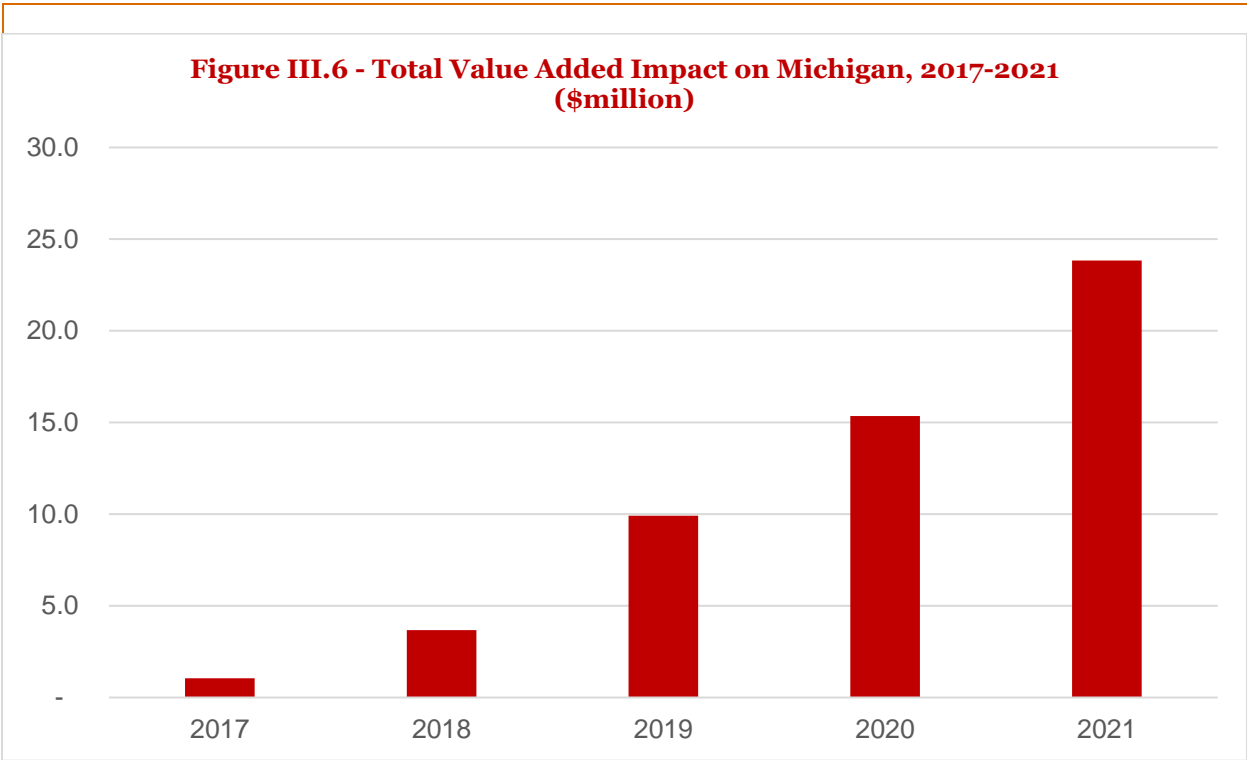
A graphical summary of these results is provided in **Figures III.4-III.6**, below.



Source: PwC.



Source: PwC.



Source: PwC.

The participating DDD businesses have linkages to a range of other industries in Michigan due to the variety of inputs required. As such, the economic benefits brought about by the participating DDD winners are distributed across the Michigan economy.

For employment, over the 5-year study period, the service sector accounted for 55 to 59 percent of the combined *indirect* and *induced* impacts attributable to the participating DDD winners' operational and capital expenditures and the consumption spending by the employees of the participating DDD winners and their Michigan-based supply chain. The wholesale and retail trade sector accounted for 12 to 13 percent of the indirect and induced employment impact, and the finance, insurance, real estate, rental, and leasing sector accounted for 12 to 15 percent (see **Table III.4a**, below).

Table III.4a – Participating DDD Winners' Indirect and Induced Impact on the State of Michigan by Industry Impacted: *Employment*

| Industry Impacted | 2017 | 2018 | 2019 | 2020 | 2021 |
|--|-------------|-------------|-------------|-------------|-------------|
| Total Employment Impact | 7 | 23 | 59 | 91 | 139 |
| Agriculture, forestry, and fishing | * | 1% | 2% | 2% | 1% |
| Mining | * | * | * | * | * |
| Utilities | * | * | * | * | * |
| Construction | 6% | 3% | 4% | 6% | 6% |
| Manufacturing | 3% | 3% | 3% | 3% | 3% |
| Wholesale and retail trade | 13% | 12% | 13% | 13% | 13% |
| Transportation and warehousing | 8% | 6% | 6% | 6% | 6% |
| Information | 2% | 2% | 2% | 2% | 2% |
| Finance, insurance, real estate, rental, and leasing | 12% | 15% | 13% | 13% | 13% |
| Services | 56% | 59% | 56% | 55% | 55% |
| Other | 1% | 1% | 2% | 1% | 1% |
| | | | | | |
| Total | 100% | 100% | 100% | 100% | 100% |

Source: PwC calculations using the IMPLAN modeling system and survey data from the participating DDD winners. Employment is defined as the number of payroll and self-employed jobs, including part-time jobs.

* Less than 0.5%.

Similarly, for labor income, over the 5-year study period, the service sector accounted for 56 to 59 percent of the combined *indirect* and *induced* impacts attributable to the participating DDD winners' operational and capital expenditures and the consumption spending by the employees of the participating DDD winners and their Michigan-based supply chain. The wholesale and retail trade sector accounted for another 11 to 12 percent of the indirect and induced labor-income impact, and the finance, insurance, real estate, rental, and leasing sector accounted for 10 to 13 percent (see **Table III.4b**, below).

Table III.4b – Participating DDD Winners' Indirect and Induced Impact on the State of Michigan by Industry Impacted: Labor Income

| Industry Impacted | 2017 | 2018 | 2019 | 2020 | 2021 |
|--|-------------|-------------|-------------|-------------|-------------|
| Total Labor Income Impact (\$million) | 0.4 | 1.2 | 3.2 | 5.2 | 8.0 |
| Agriculture, forestry, and fishing | * | * | 1% | 1% | * |
| Mining | * | * | * | * | * |
| Utilities | 1% | 1% | 1% | 1% | 1% |
| Construction | 7% | 3% | 4% | 6% | 7% |
| Manufacturing | 4% | 3% | 4% | 4% | 4% |
| Wholesale and retail trade | 12% | 11% | 12% | 12% | 12% |
| Transportation and warehousing | 6% | 5% | 5% | 5% | 5% |
| Information | 2% | 3% | 3% | 2% | 2% |
| Finance, insurance, real estate, rental, and leasing | 10% | 13% | 12% | 11% | 11% |
| Services | 56% | 59% | 57% | 56% | 56% |
| Other | 2% | 2% | 2% | 2% | 2% |
| | | | | | |
| Total | 100% | 100% | 100% | 100% | 100% |

Source: PwC calculations using the IMPLAN modeling system and survey data from the participating DDD winners. Labor income is defined as wages, salaries, and fringe benefits, as well as proprietors' income.

* Less than 0.5%.

For value added, over the 5-year study period, the services sector accounted for 41 to 42 percent of the *indirect* and *induced* impacts attributable to the participating DDD winners' operational and capital expenditures and the consumption spending by the employees of the participating DDD winners and their Michigan-based supply chain. The finance, insurance, real estate, rental, and leasing sector accounted for another 27 to 31 percent of the indirect and induced value-added impact, followed by the wholesale and retail trade sector (11 to 13 percent) (see **Table III.4c**, below).

Table III.4c – Participating DDD Winners' Indirect and Induced Impact on the State of Michigan by Industry Impacted: Value Added

| Industry Impacted | 2017 | 2018 | 2019 | 2020 | 2021 |
|--|-------------|-------------|-------------|-------------|-------------|
| Total Value-Added Impact (\$million) | 0.6 | 2.0 | 5.3 | 8.3 | 12.7 |
| Agriculture, forestry, and fishing | * | * | 1% | 1% | 1% |
| Mining | * | * | * | * | * |
| Utilities | 2% | 1% | 2% | 2% | 2% |
| Construction | 4% | 2% | 3% | 4% | 5% |
| Manufacturing | 4% | 3% | 4% | 4% | 4% |
| Wholesale and retail trade | 13% | 11% | 12% | 13% | 13% |
| Transportation and warehousing | 5% | 4% | 4% | 4% | 4% |
| Information | 3% | 5% | 4% | 3% | 3% |
| Finance, insurance, real estate, rental, and leasing | 27% | 31% | 29% | 27% | 27% |
| Services | 42% | 42% | 41% | 41% | 41% |
| Other | 1% | 1% | 2% | 1% | 1% |
| | | | | | |
| Total | 100% | 100% | 100% | 100% | 100% |

Source: PwC calculations using the IMPLAN modeling system and survey data from the participating DDD winners.
 * Less than 0.5%.

Appendix A: Study Methodology

This appendix describes the approach used in this report to quantify the direct, indirect, and induced impacts of the participating DDD winners on the Detroit MSA and Michigan.

1. Scope of assessment

The geographical scope of this analysis is the Detroit MSA and the State of Michigan. Any economic impact that accrues to other states, for example through expenditures on non-Michigan) suppliers, is not captured. The relevant time period of the analysis is 2017 to 2021.

Our economic impact analysis assesses the economic impacts of the participating DDD winners in gross terms, which means that it does not take into account what would happen to economic activity in the absence of the activities of the participating DDD winners.

Only the economic impact attributable to DDD winners who responded to the study survey is estimated in this report (i.e., participating DDD winners). While the economic impact attributable to all DDD winners is greater than that of participating DDD winners, this report does not extrapolate the economic impact of participating DDD winners to the total population of DDD winners.

2. Variables of interest

Economic impact in this study is measured in terms of three indicators: employment, labor income, and value added.

Employment is measured in terms of the headcount of people employed (rather than full-time equivalents) and is also referred to as “jobs” in this report.

Labor income consists of employee compensation and proprietors’ income. Employee compensation includes is defined as wages, salaries, and fringe benefits.

Value added or GDP is the difference between the value of production and the expenditures on intermediate inputs (referred to as intermediate consumption). Value added of a sector can also be measured as the sum of compensation of employees, taxes on production and imports, and gross operating surplus, less subsidies.

3. Approach to estimating economic impact

The participating DDD winners’ direct impact in the Detroit MSA and Michigan is provided by these businesses in terms of the employment within each business, the labor compensation paid by each business, and the value added created within each business. The IMPLAN input-output model for the Detroit MSA and Michigan is used to estimate the participating DDD winners’ indirect and induced impact.⁴ IMPLAN is built around an “input-output” table that relates the purchases that each industry has made from other industries to the value of the output of each industry. An input-output table shows how industries use inputs from other industries and from factors of production, and how industries sell outputs to other industries and for final consumption. To meet the demand for goods and services from

⁴ IMPLAN is a product of IMPLAN Group, Inc.

an industry, purchases are made in other industries according to the patterns recorded in the input-output table. These purchases in turn spark still more purchases by the industry's suppliers, and so on. Additionally, employees and business owners make personal purchases out of the additional income that is generated by this process, further increasing demand that ripples through the economy. Multipliers describe these iterations. The Type I multiplier measures the direct and indirect effects of a change in economic activity. It captures the inter-industry effects only, i.e., industries buying from other industries, and excludes household spending. The SAM (Social Accounting Matrix) multiplier includes the Type I direct and indirect effects and additionally includes induced effects (i.e., changes in spending from households as income increases or decreases due to the changes in production).

Economic multipliers are often used to measure the overall change in production that would result from a marginal increase in a particular industry. For example, a labor-income multiplier of 2.0 for DDD winners in the State of Michigan converts a \$1.0 million increase in labor income paid by DDD winners into the total resulting change in labor income in the State of \$2.0 million due to the increased production throughout the supply chain and from the increased spending of their employees and the employees of their supply chain.

Appendix B: List of the Participating DDD Winners

The following DDD winners participated in this study.

| Business Name | DDD Award Year |
|---------------------------------|----------------|
| 5 Mile Brewing Company LLC | 2019 |
| Alerje | 2019 |
| Ash & Erie | 2017 |
| Bea's | 2020 |
| Blue Horizon Construction | 2021 |
| BrandXR | 2021 |
| City Bark | 2020 |
| Detroit Training Center, Inc. | 2018 |
| Ellis Isle Inc. | 2019 |
| EnBiologics, Inc. | 2019 |
| Fierce Staffing Services LLC | 2021 |
| Gildform Inc | 2020 |
| Good Cakes and Bakes, LLC | 2017 |
| Guilde | 2021 |
| Gus & Grey | 2019 |
| ILERA Apothecary | 2021 |
| LCG Foods Inc. | 2019 |
| Lush Yummies Pie Company LLC | 2018 |
| Mi Frozen Foods, LLC | 2019 |
| Mongers' Provisions | 2020 |
| Pingree Detroit | 2020 |
| Pioivot Materials | 2020 |
| RIZZARR, Inc. | 2020 |
| ShiftUp | 2020 |
| The Kitchen by Cooking With Que | 2020 |
| The Social Club | 2017 |
| York Project Inc. | 2021 |
| YumVillage LLC | 2020 |

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