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# Analysis of Covid-19's Economic Impact

US, Minnesota, and the MSP Metro

November 6, 2020

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## **US Economic Impact Analysis**

MN Economic Impact Analysis

Restaurant and Hospitality Analysis

# US Economic Impact Executive Summary

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- McKinsey Global Institute models the **potential impact of COVID-19 on GDP using 9 scenarios**
- **A virus contained (A3) and a muted recovery (A2) are the current most likely scenarios in the U.S.** with expected GDP recovery between Q1 of 2021 and Q1 of 2022
- **The US GDP is down -10.1% through Q2 of 2020**
- Global executives' **sentiment about potential virus health impacts improved** from July to October

# The virus and the economy remains the central frame of reference

GDP scenarios for the economic impact of the COVID-19 pandemic, October 2020

## Virus Health Impact & Public Health Response

Effectiveness of the public health response in controlling the health impact of COVID-19

### Effective control of virus health impact

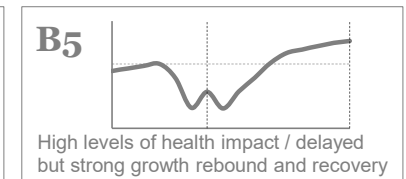
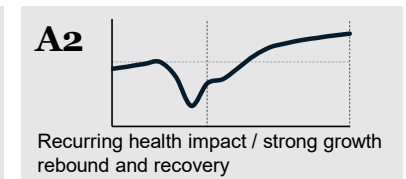
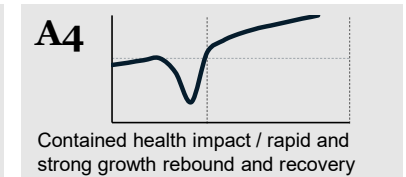
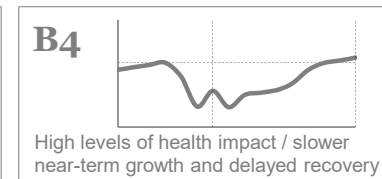
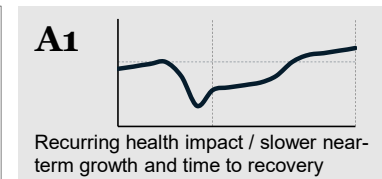
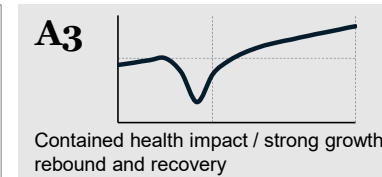
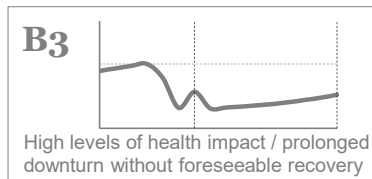
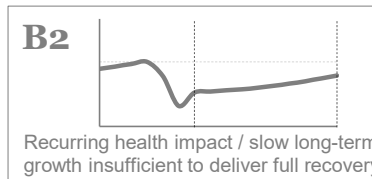
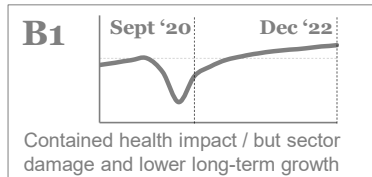
Strong public health response succeeds in minimizing health impact within 2-3 months and then maintaining control

### Effective response, but (regional) recurring adverse health impact

Initial public health response generally succeeds but localized increases in health impact occur periodically requiring ongoing intervention

### Material failure of public health interventions

Response fails to prevent sustained high levels of health impact that may wax and wane, potentially rolling into 2022



### Ineffective economic interventions

Self-reinforcing recession dynamics kick-in; widespread bankruptcies and credit defaults; potential banking crisis

### Partially effective economic interventions

Policy responses partially offset economic damage; banking crisis is avoided; recovery levels muted

### Highly effective economic interventions

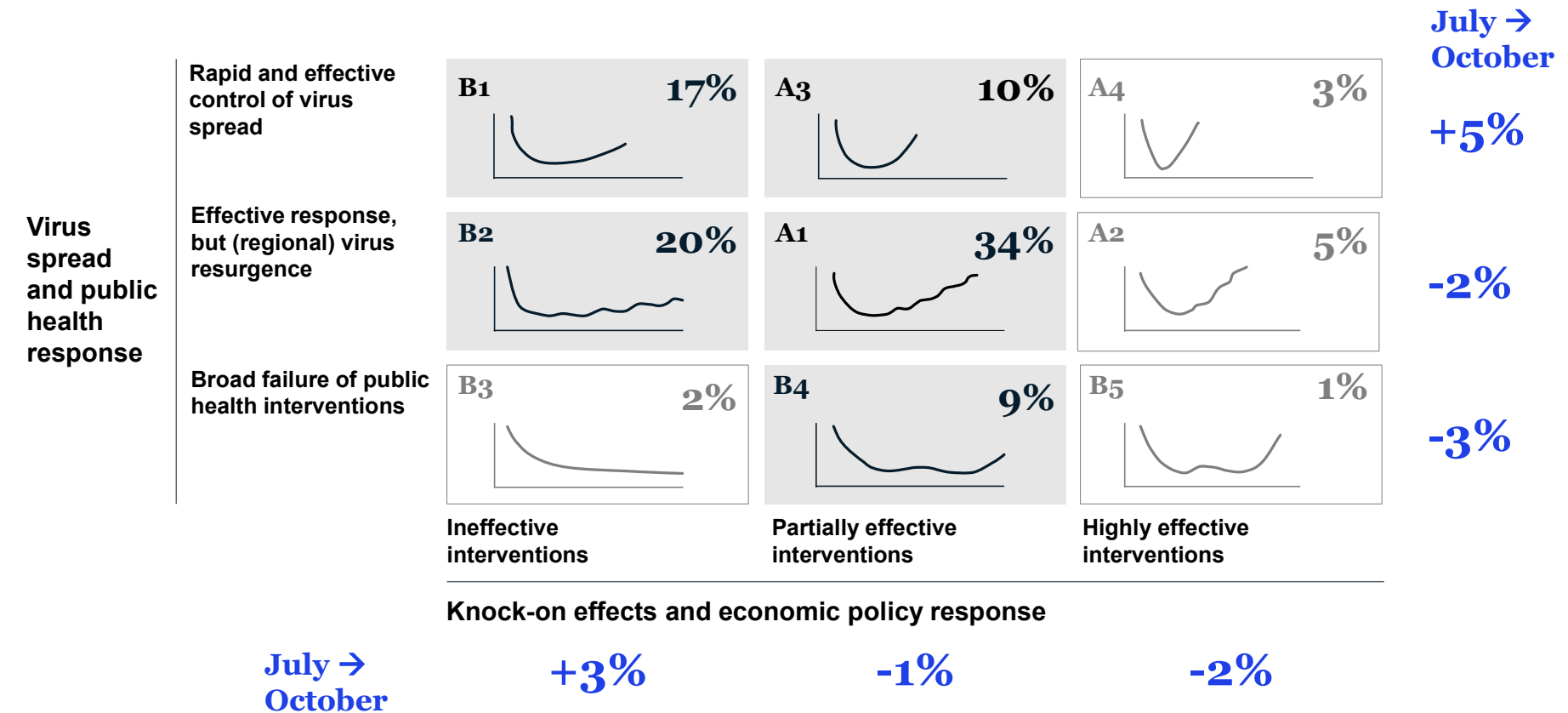
Strong policy responses prevent structural damage; recovery to pre-crisis fundamentals and momentum

## Knock-on Effects & Economic Policy Response

Speed and strength of recovery depends on whether policy moves can mitigate self-reinforcing recessionary dynamics (e.g., corporate defaults, credit crunch)

# Global executives' sentiment about potential virus health impacts improved by early October

Results from survey of ~2,000 global executives about "most likely scenario"



1. Survey question: Thinking globally, please rank the following scenarios in order of how likely you think they are to occur over the course of the next year.(choice of 9 scenarios)

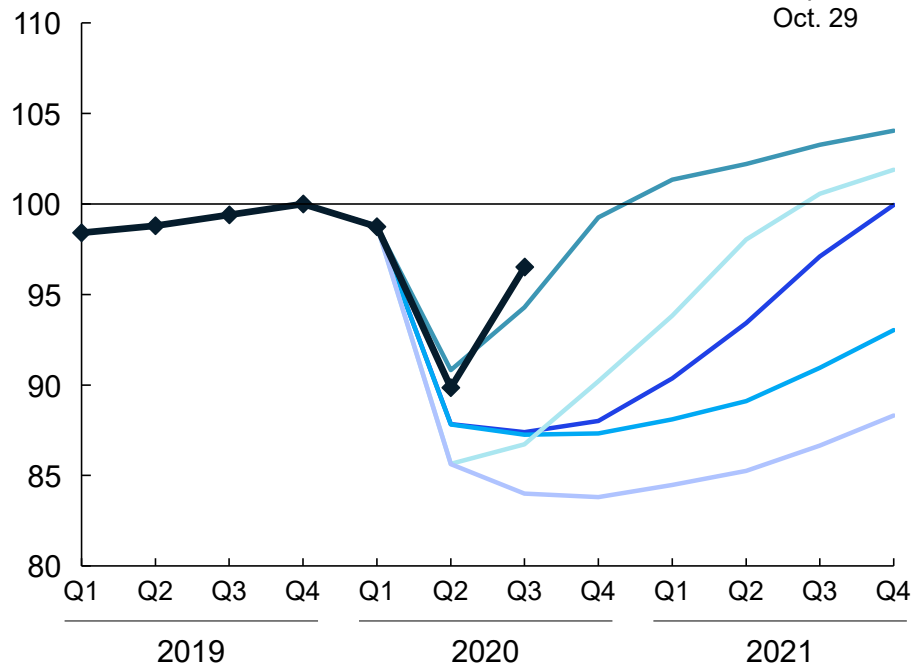
# United States

## COVID-19 scenarios, March/June 2020

### Real GDP, indexed

Local Currency Units, 2019 Q4=100

— A3    — B1  
— A2    — B2  
— A1    ◆ Reported  
◆ Oct. 29



Source: McKinsey analysis, in partnership with Oxford Economics

	Real GDP Drop 2019Q4-2020Q2 % Change	2020 GDP Growth % Change	Return to Pre- Crisis Level Quarter (+/- 1Q)
A3	<b>-9.2%</b>	<b>-3.5%</b>	<b>2021 Q1</b>
Reported Oct. 29	<b>-10.1%</b>		
A2	<b>-12.2%</b>	<b>-8.8%</b>	<b>2022 Q1</b>
A1	<b>-12.2%</b>	<b>-9.0%</b>	<b>2023 Q2</b>
B1	<b>-14.4%</b>	<b>-9.0%</b>	<b>2021 Q3</b>
B2	<b>-14.4%</b>	<b>-11.3%</b>	<b>2025+</b>

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US Economic Impact Analysis

**MN Economic Impact Analysis**

Restaurant and Hospitality Analysis



# MN Economic Impact Executive Summary

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- MN is expected to experience **large GDP declines**, but it will **recover faster than comparable states**
- **Jobs at smaller firms are most at risk in vulnerable industries.** Industries such as accommodation and Food Service contribute closer to 50%
- **Low income workers are disproportionately affected;**  
~67% of job losses will affect workers earning below 40k/yr
- **The majority of MN industries are expected to recover by 2021,** however, accommodation and Food service is expected to **recover slower than other industries in Minnesota** (expected to be -2% in Q4 2021 vs. Q4 2019)

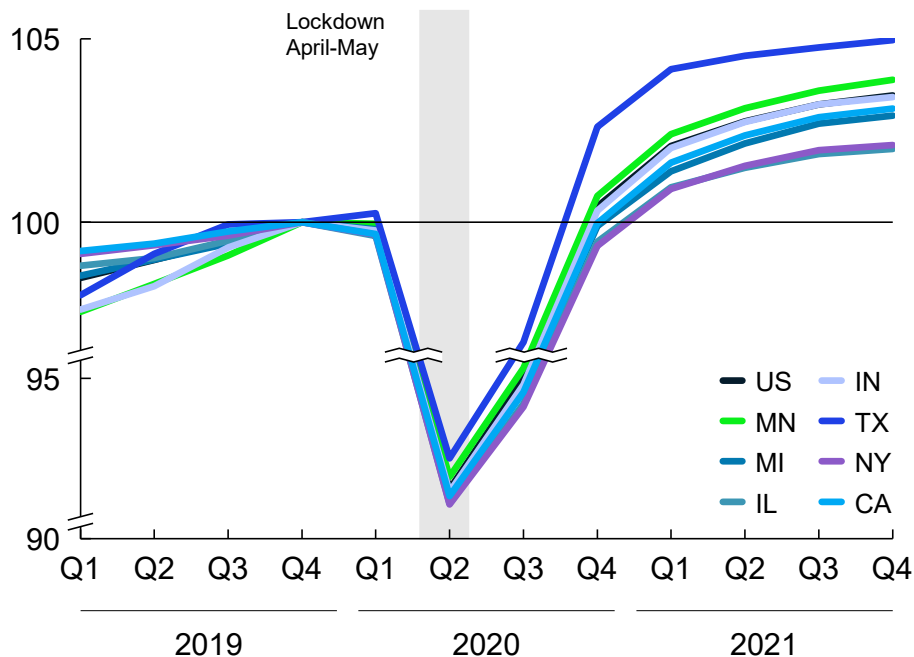
# A3: If the virus is contained, MN's expected recovery is by Q4 2020

AS OF 28 APRIL 2020

Real GDP, Indexed

## Real GDP Growth – COVID-19 Crisis

Indexed, 2019 Q4=100



1. Seasonally adjusted by Oxford Economics

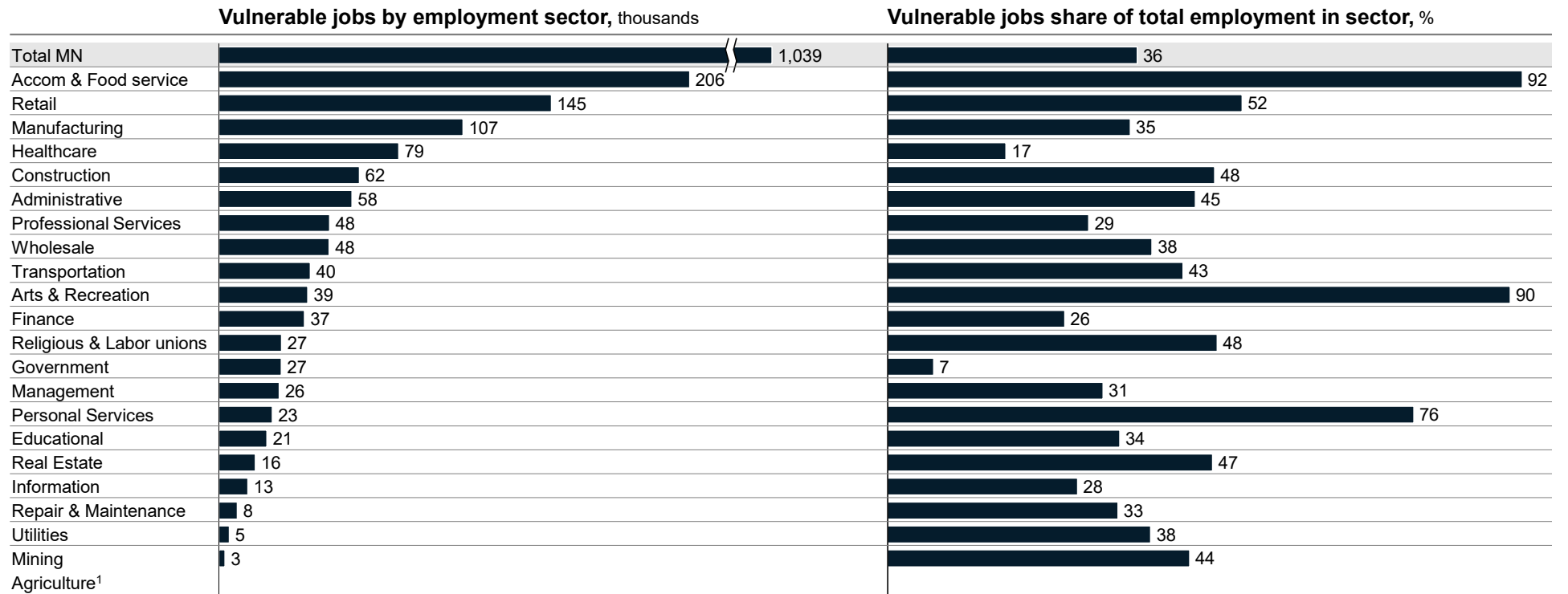
Source: McKinsey analysis, in partnership with Oxford Economics

	Real GDP Drop 2019Q4-2020Q2 % Change	2020 GDP Growth % Change	Time to Return to Pre-Crisis Quarter
USA	-8.0%	-2.4%	2020 Q4
Texas	-7.2%	-1.2%	2020 Q4
Minnesota	-7.7%	-1.7%	2020 Q4
Indiana	-8.1%	-2.1%	2020 Q4
Michigan	-8.1%	-2.7%	2021 Q1
California	-8.2%	-3.1%	2020 Q4
Illinois	-8.4%	-3.1%	2021 Q1
New York	-8.4%	-3.4%	2021 Q1

# The sectors with highest share of jobs at risk are accommodation and food service, retail, and manufacturing

AS OF 28 APRIL 2020

Total MN



1. MGI data does not include on-farm jobs. As a result, agriculture in this analysis is not representative of all of the jobs in agriculture in MN.

Note: Analysis determines jobs at risk as related to social distancing policies and their immediate knock-on economic consequences – assumes maximum social distancing (defined by shelter-in-place policy)

# The “virus contained” scenario shows the majority of industries recovering by 2021, after declines through much of 2020 (A3 scenario)

Real GDP change, %

AS OF 28 APRIL 2020

Top 5 MN GDP contributor ■ x < -10% ■ -10% < x < -5% ■ -5% < x < 0% ■ 0% < x < 5% ■ 5% < x < 10% ■ 10% < x ▬ Q4 2019 to Q4 2020 GDP change ▬ Q4 2019 to Q4 2021 GDP change

Industry	% of total GDP <sup>1</sup>	Minnesota	California	New York	Texas	Michigan	Illinois	Indiana	United States
Manufacturing	18.3	0%	3%	0%	4%	0%	3%	0%	4%
Real estate	11.9	1%	3%	0%	4%	0%	3%	0%	4%
Health care	8.9	5%	6%	5%	6%	5%	5%	5%	6%
Professional services	8.4	1%	3%	2%	4%	1%	3%	2%	4%
State and local government	8.3	1%	1%	1%	2%	1%	1%	1%	2%
Retail trade	6.8	0%	4%	0%	4%	1%	4%	0%	5%
Wholesale trade	6.7	0%	4%	-1%	5%	0%	4%	-1%	6%
Finance and insurance	4.6	0%	3%	-1%	2%	-2%	2%	0%	4%
Construction	3.4	1%	2%	1%	3%	2%	3%	2%	3%
Administrative services	3.3	-2%	3%	-2%	3%	-3%	2%	-2%	4%
Information	3.2	2%	6%	4%	10%	3%	8%	3%	7%
Accommodation & food services	2.7	-8%	-2%	-9%	-1%	-9%	-1%	-7%	-1%
Management	2.6	-1%	3%	0%	4%	0%	3%	1%	6%
Transportation & warehousing	2.4	-1%	4%	-1%	5%	-1%	3%	-1%	5%
Other services	2.1	-5%	-3%	-6%	-3%	-3%	-1%	-4%	-1%
Utilities	2.0	-1%	5%	-1%	5%	0%	4%	-1%	4%
Federal government	1.8	1%	0%	1%	1%	1%	0%	1%	1%
Ag, forestry, fishing, hunting	0.9	-1%	1%	0%	2%	-2%	0%	-2%	0%
Educational services	0.8	-2%	-2%	-1%	0%	-1%	-1%	-1%	0%
Arts, entertainment, and recreation	0.7	-9%	-7%	-10%	-6%	-9%	-5%	-9%	-4%
Mining	0.5	-10%	-13%	-7%	-8%	-7%	-9%	-8%	-7%

## Key takeaways:

2021 GDP levels for the majority of industries surpass 2019 levels after losses in 2020 compared to 2019 level

Sectors with the biggest GDP declines are Accommodation and food services; Arts, entertainment, and recreation; Mining; and Other services

Sectors that remain strong are among the largest in the country, with the best performer being Healthcare

1. Based on MN Q4 2019 real GDP

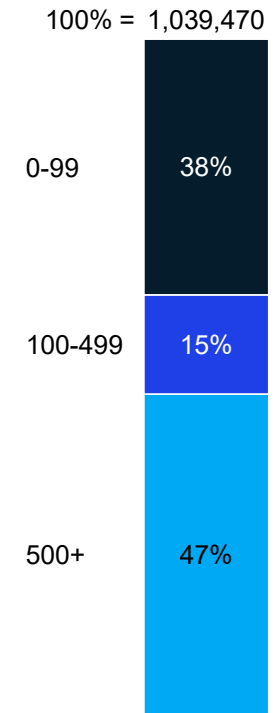
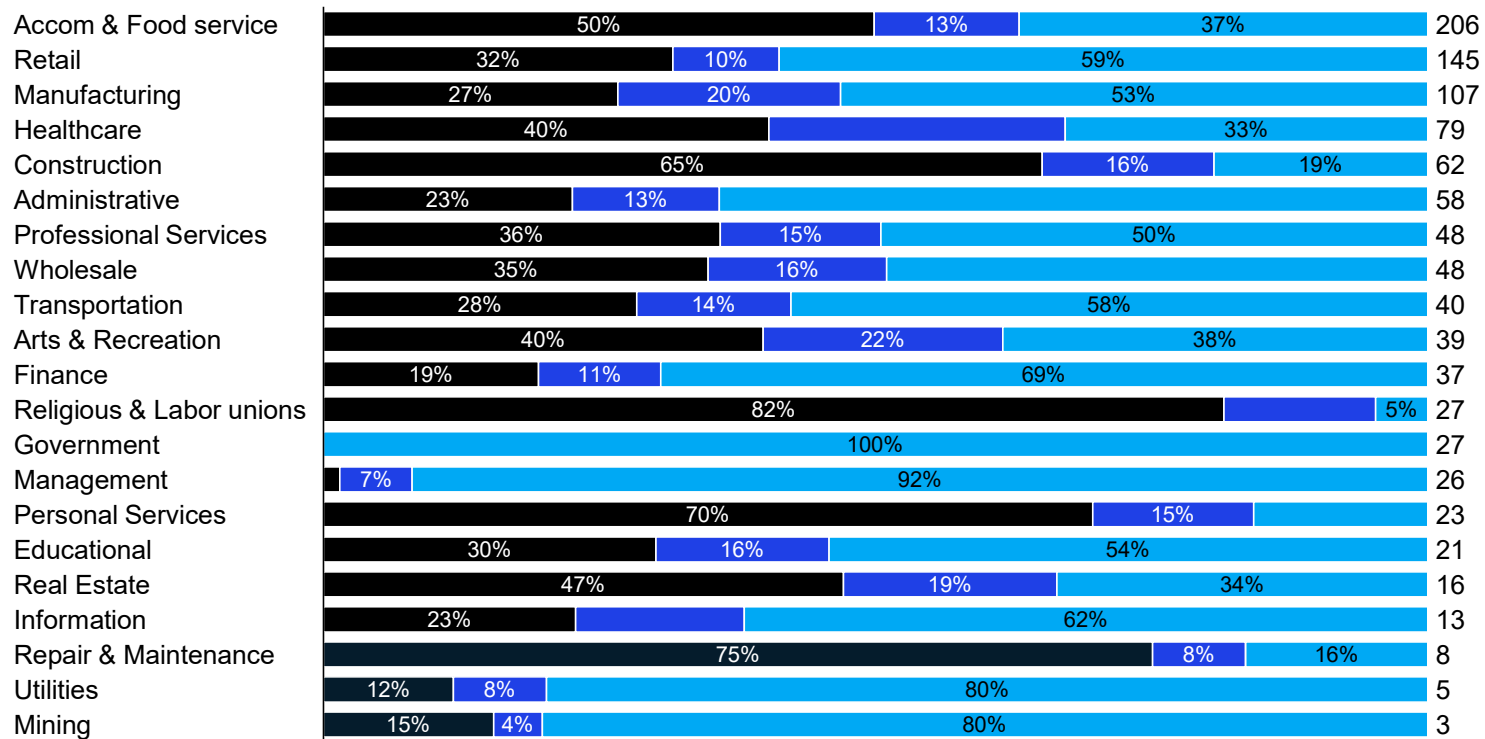
# Jobs at smaller firms are most at risk in vulnerable industries

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Private Industry jobs at risk by company size, %, thousands vulnerable jobs

0-99 employees 100-499 employees 500+ employees

Total private sector jobs impacted, %



Note: Analysis determines jobs at risk as related to social distancing policies and their immediate knock-on economic consequences – assumes moderate social distancing (defined by shelter-in-place policy)

Source: LaborCUBE, BLS Occupational Employment Statistics, Moody's Analytics, McKinsey Global Institute analysis

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US Economic Impact Analysis

MN Economic Impact Analysis

**MSP Metro: Hospitality Analysis**

# MSP Metro: Hospitality Analysis Executive Summary

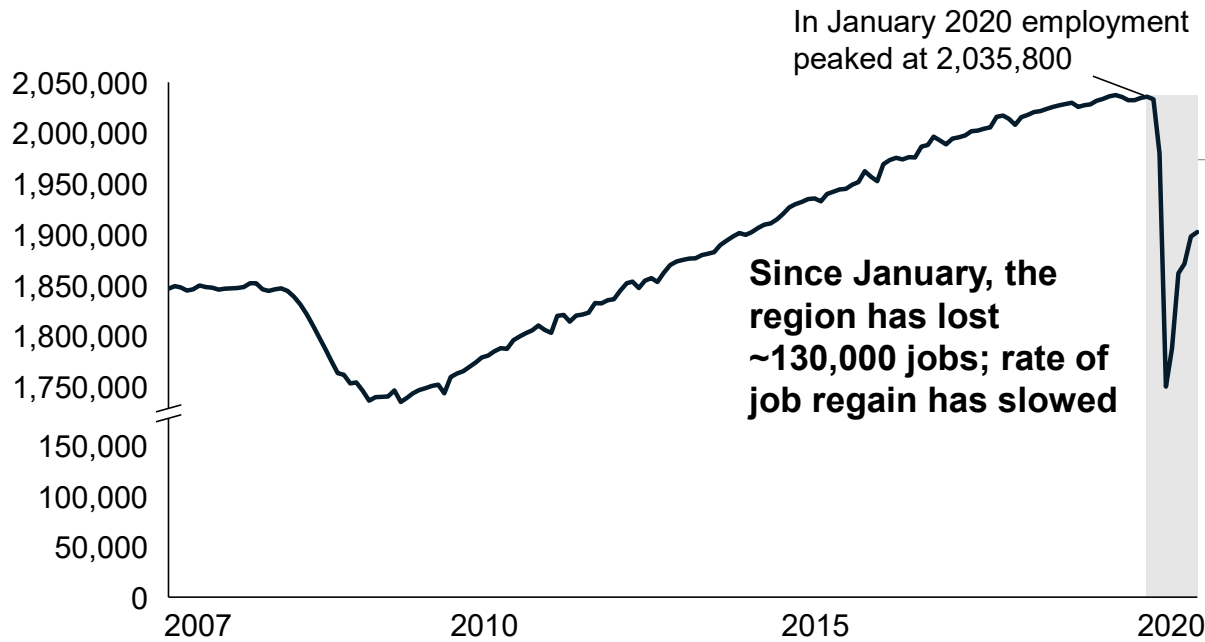
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- Leisure and Hospitality accounts for **~5% of the Metro employment** and **30% of the jobs lost** through the beginning of the pandemic
- The **Leisure & Hospitality super sector** has the **lowest average weekly wages in Minnesota**
- Between March and August, **41% of all Food and Beverage serving workers in Minnesota applied for UI Relief**

# The MSP region lost years of job growth in just a few months

## Total non-farm employment in MSP region (MSA)

Employees



Includes September jobs data; Updated October 27<sup>th</sup>

## Job loss by industry

Employees

Education & Health Services	133,600
Government	22,900
Leisure & Hospitality	20,800
Manufacturing	41,700
Prof. & Business Services	10,200
Trade, Transp. & Utilities	10,300
All other	13,700
<b>Job loss</b>	<b>133,600</b>



# UI claims show job and wage losses in the region have affected less educated, younger, workers of color the most

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**572,300**

initial UI claims filed since between weeks ending March 21 through October 17<sup>1</sup>

**Lower wage, service jobs** have been the most affected

- Top three impacted occupations are (% of workers filing UI)<sup>2</sup>
  - Food and beverage serving workers (40.6%)
  - Retail sales workers (37.3%)
  - Construction trade workers (24.4%)
- Other occupations in the top ten include truck drivers and several healthcare support positions

**Workers affected are...**

- **Young:** 39% are between 20 and 34
- **Less educated:** 61% have no post-secondary credential
- **Female:** 52% are female

**Workers of color are over-represented:**

- 15% are Black
- 8% are Asian
- 6% are Hispanic

1. Data from MN DEED for 7-county Twin Cities planning region, initial unemployment insurance (UI) claims for weeks ending March 20 through August 27. A person may file UI for reduced hours as well as job loss.  
2. percentages affected come from RealTime Talent analysis of UI claims from weeks ending March 21-August 27th, 2020

# Job losses and UI claims have been highly concentrated in food and retail sectors

Unemployment Insurance Applicants and Employment in Top 20 Occupations Requesting Insurance in the MSP Metro from March 16, 2020 - August 27, 2020

Occupations, March 16 - August 27, 2020	Total UI Applicants in MSP Metro	% of Total Applicants in MSP Metro*	2020Q1 Empl in MSP Metro	% of Total Empl in MSP Metro	% of Total Workforce Applying for UI Relief**
Food and Beverage Serving Workers	35913	7.5%	88,488	4.7%	40.6%
Retail Sales Workers	32968	6.9%	93,844	5.0%	37.3%
Construction Trades Workers	21575	4.5%	54,988	2.9%	24.4%
Information and Record Clerks	18782	3.9%	80,146	4.3%	21.2%
Motor Vehicle Operators	18683	3.9%	50,922	2.7%	21.1%
Other Healthcare Support Occupations	18108	3.8%	17,013	0.9%	20.5%
Health Diagnosing and Treating Practitioners	17091	3.6%	70,868	3.8%	19.3%
Cooks and Food Preparation Workers	16335	3.4%	32,646	1.7%	18.5%
Other Production Occupations	13931	2.9%	33,583	1.8%	15.7%
Other Food Preparation and Serving Related Workers	13827	2.9%	13,699	0.7%	15.6%
Personal Appearance Workers	13374	2.8%	11,992	0.6%	15.1%
Other Office and Administrative Support Workers	11179	2.3%	47,911	2.6%	12.6%
Health Technologists and Technicians	10923	2.3%	32,569	1.7%	12.3%
Other Management Occupations	10639	2.2%	43,931	2.3%	12.0%
Computer Occupations	9473	2.0%	72,066	3.9%	10.7%
Nursing, Psychiatric, and Home Health Aides	8932	1.9%	73,134	3.9%	10.1%
Other Personal Care and Service Workers	8679	1.8%	25,875	1.4%	9.8%
Other Education, Training, and Library Occupations	8407	1.8%	23,484	1.3%	9.5%
Sales Representatives, Services	8189	1.7%	31,991	1.7%	9.3%
Other Sales and Related Workers	8037	1.7%	9,709	0.5%	9.1%
<b>Grand Total - All Occupations</b>	<b>477,519</b>	<b>100.0%</b>	<b>1,869,526</b>	<b>100.0%</b>	<b>25.5%</b>

\*Fields marked in orange have a higher than anticipated concentration of UI applicants relative to the size of the existing workforce in that occupation, or higher than the overall ratio of unemployment insurance applicants to total workforce (\*\*)

Between March and August, **over a quarter of the workforce** filed for UI, including

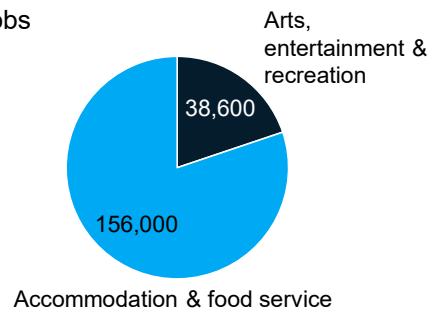
- **41% of food service workers**
- 37% of retail workers
- 24% of construction workers
- 21% of information clerks
- 21% of motor vehicle operators

# Leisure and hospitality workers have lower wages and a younger profile than other sectors being significantly impacted

The three most affected super-sectors (by %) have different profiles

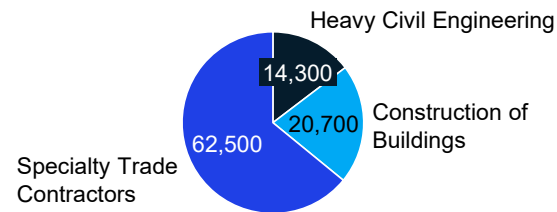
## Leisure & Hospitality sector composition

Total jobs



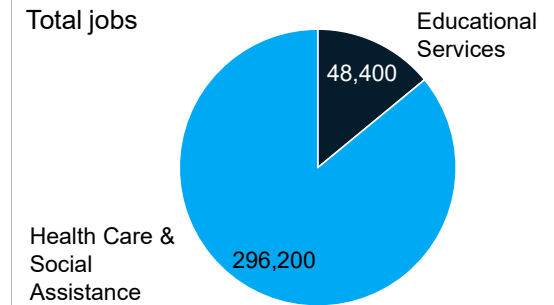
## Construction sector composition

Total jobs



## Education & Health sector composition

Total jobs



**Total employment** (% of jobs in MSP)<sup>1</sup>

194,600 (9.5%)

**Median hourly wage**<sup>2</sup>

\$15.91

**% workers under 45**<sup>2</sup>

79%

**% female workers**<sup>2</sup>

53%

**% white**<sup>3</sup>

85%

97,500 (4.8%)

\$34.40

61%

16%

94%

344,600 (16.9%)

\$22.60

64%

74%

85%

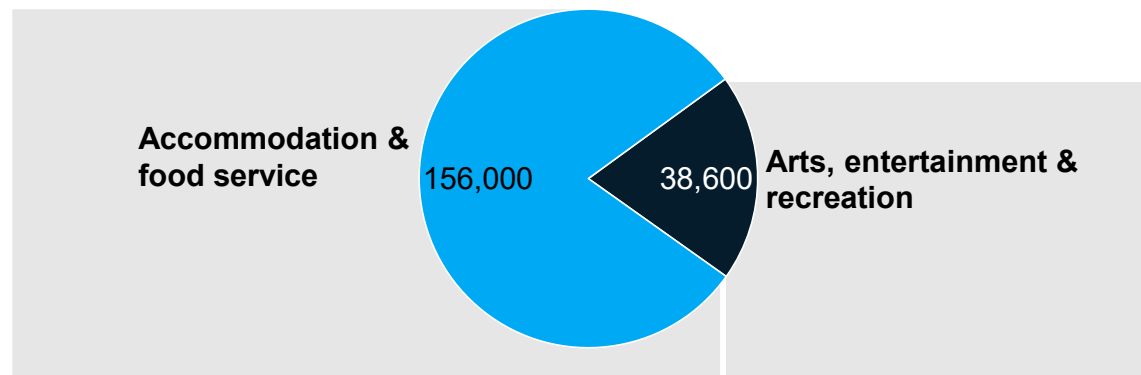
1. MSP MSA
2. 7-county metro area
3. State data

*Additional details follow*

# Accommodation and food service accounts for 80% of jobs in the Leisure & Hospitality super sector

## Composition of Leisure & Hospitality sector

Total jobs



Sample occupations in Accommodation & food service

- Waiters and waitresses
- Maids and housekeeping cleaners
- Hotel, motel and resort front desk clerks
- Food service preparation workers
- Cooks

Sample occupations in Arts & entertainment

- Promoter of performing arts, sports and similar events
- Independent artists, writers
- Museum curator
- Casino workers

## Features of the Leisure & Hospitality super- sector

- Marked **seasonal variation** in employment (~10%)
- As of September 2019, it made up just under **10% of the employment** in the MSP MSA
- Of the 20 economic sub-sectors defined by the BLS, the two in the Leisure & Hospitality super sector had the **lowest average weekly wages** in Minnesota
  - Arts, entertainment & recreation: \$404
  - **Accommodation & food service: \$299**
- Nationally, 3.5% of workers in these sectors are represented by unions

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# Appendix

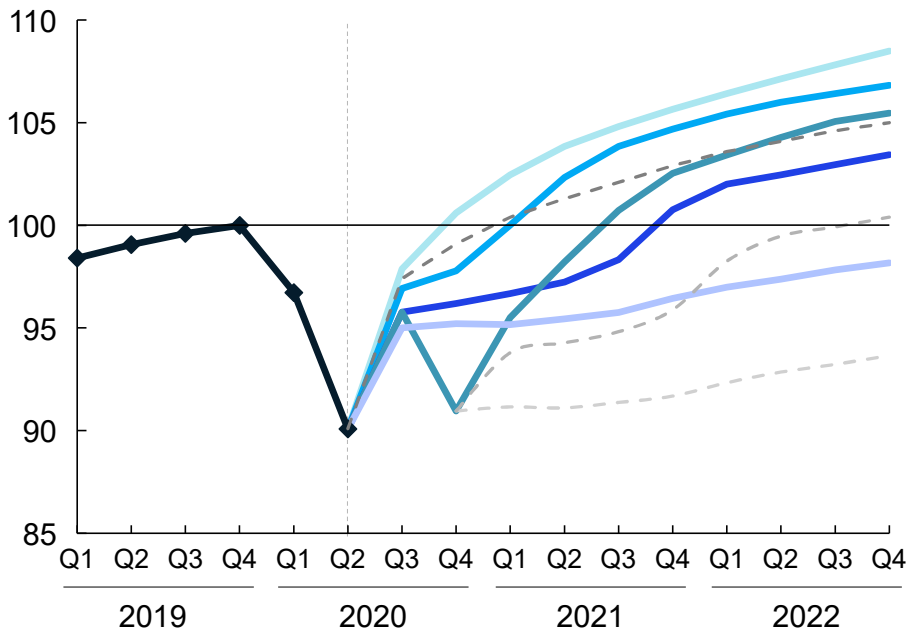
# COVID-19 scenario pathways, October 2020

   Most likely scenarios

PRELIMINARY – CURRENT AS OF 6 NOVEMBER 2020

**World real GDP, indexed**  
Constant prices and US\$  
exchange rates, 2019 Q4=100

— A3' — B5' - - B1'  
— A2' — B2' - - B3'  
— A1' — Reported - - B4'



- A3'** Effective control of virus health impacts is achieved across most large economies. Jump in Q3 growth signals strong economic momentum that naturally continues
- A2'** Recurring adverse health impacts largely controlled by end-2020 with public health measures. Renewed fiscal stimulus in Q1 2021 supports consumers and lifts activity
- A1'** Recurring adverse health impacts largely controlled by mid-2021 with public health measures and/or vaccine. Growth returns as consumers and business revert to pre-pandemic activity
- B5'** 2020 Q4 sees escalation of virus health impacts and decline in GDP. Aggressive new health and fiscal programs are launched, which sets economies on sustained recovery
- B2'** Structural damage has been done as business failures, personal bankruptcies and long-term unemployment take hold even as virus health impacts are largely controlled

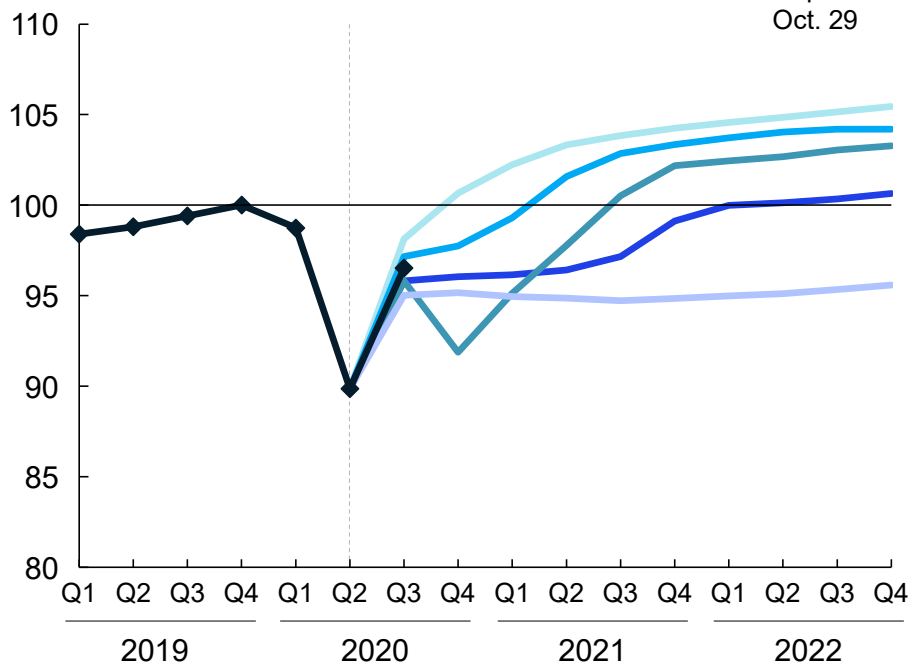
# United States

## COVID-19 scenario pathways, October 2020

### Real GDP, indexed

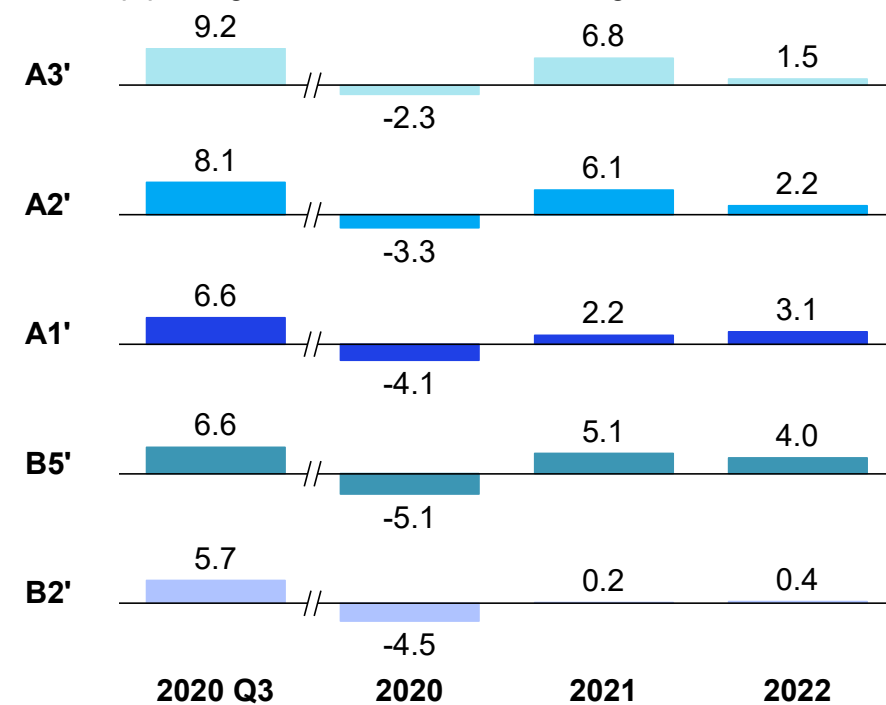
Local Currency Units, 2019 Q4=100

- A3' B5'
- A2' B2'
- A1' Reported Oct. 29



### Real GDP growth

%, Q3 q/q change; 2020-2022, annual change



# MN is expected to experience large GDP declines, but it will recover faster than comparable states

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## A3 scenario – virus contained

This scenario assumes the virus is mostly contained and a stronger public health response drives case load reduction

MN GDP is projected to decline 7.7% from Q4 2019 to Q2 2020. In this scenario, MN could return to pre-crisis GDP levels by Q4 2020 with 2020 GDP -1.7%, on par with the US and better than peer states

Manufacturing, real estate, health care, professional services and government, the five largest GDP contributors in MN, could see minimal impact, flat to +5% vs. Q4 2019, through 2020 and return to growth in 2021, +1-6% vs Q4 2019

“Accommodation and food services” as well as “Arts, entertainment, and recreation”, the two industries with the largest percentage of vulnerable jobs within their sector, are projected to see largest declines in GDP contribution

## A1 scenario – Muted recovery

This scenario assumes there is a virus resurgence and a muted recovery through 2022 globally

Assuming a more muted recovery, MN’s expected recovery back to pre-crisis will extend to Q1 2023 with Q4 2019 to Q4 2020 GDP decline estimated 7.4%

The largest industries in MN see declines through 2021, -1 to -20% vs. Q4 2019, with the exception of healthcare, which remains closer to flat vs Q4 2019

Accommodation and arts and recreation see double-digit declines through 2021



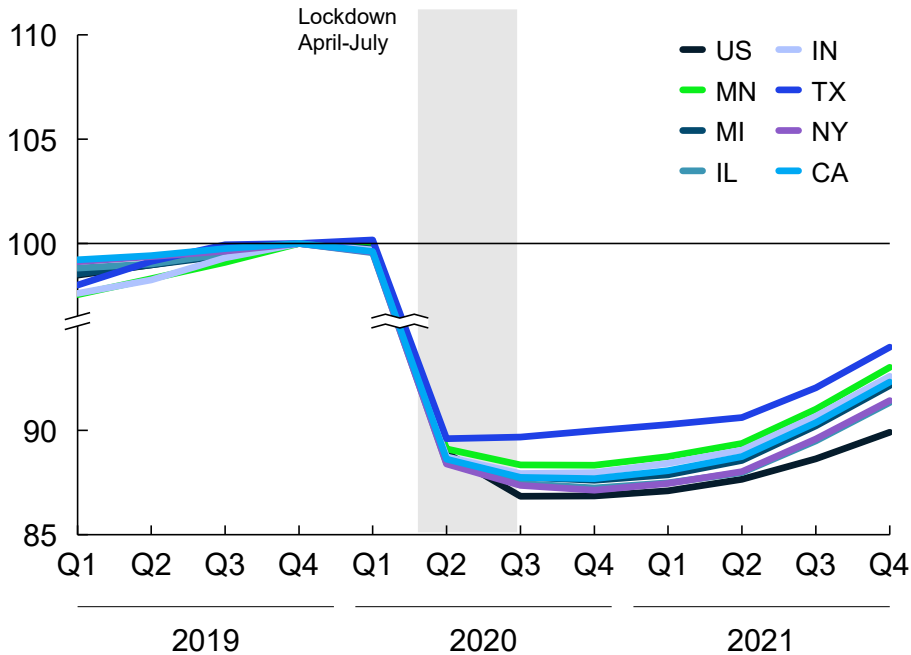
# A1: In a muted recovery, MN's expected recovery back to pre-crisis will extend to Q1 2023

AS OF 28 APRIL 2020

Real GDP, Indexed

## Real GDP Growth – COVID-19 Crisis

Indexed, 2019 Q4=100



1. Seasonally adjusted by Oxford Economics

Source: McKinsey analysis, in partnership with Oxford Economics

	Real GDP Drop 2019Q4-2020Q2 % Change	2020 GDP Growth % Change	Time to Return to Pre-Crisis Quarter
USA	<b>-11.2%</b>	<b>-8.1%</b>	<b>2023 Q1</b>
Texas	<b>-10.4%</b>	<b>-7.0%</b>	<b>2020 Q4</b>
Minnesota	<b>-10.9%</b>	<b>-7.4%</b>	<b>2023 Q1</b>
Indiana	<b>-11.3%</b>	<b>-7.8%</b>	<b>2023 Q2</b>
Michigan	<b>-11.3%</b>	<b>-8.3%</b>	<b>2023 Q3</b>
California	<b>-11.4%</b>	<b>-8.7%</b>	<b>2023 Q2</b>
Illinois	<b>-11.6%</b>	<b>-8.7%</b>	<b>2024 Q1</b>
New York	<b>-11.6%</b>	<b>-8.9%</b>	<b>2023 Q4</b>

# The “muted recovery” scenario shows continued declines into 2021 and beyond for nearly all industries (A1 scenario)

Real GDP change, %

AS OF 28 APRIL 2020

Top 5 MN GDP contributor ■ x < -10% ■ -10% < x < -5% ■ -5% < x < 0% ■ 0% < x < 5% ■ 5% < x < 10% ■ 10% < x ▬ Q4 2019 to Q4 2020 GDP change ▬ Q4 2019 to Q4 2021 GDP change

Industry	% of total GDP <sup>1</sup>	Minnesota	California	New York	Texas	Michigan	Illinois	Indiana	United States								
Manufacturing	18.3	-18%	-13%	-18%	-12%	-18%	-12%	-20%	-16%	-22%	-17%	-20%	-15%	-21%	-16%	-19%	-14%
Real estate	11.9	-12%	-5%	-13%	-8%	-13%	-7%	-12%	-6%	-11%	-5%	-11%	-5%	-11%	-3%	-12%	-6%
Health care	8.9	1%	2%	0%	1%	0%	0%	0%	1%	-1%	-1%	0%	0%	0%	1%	0%	0%
Professional services	8.4	-9%	-3%	-10%	-4%	-10%	-5%	-10%	-4%	-8%	-2%	-10%	-5%	-9%	-3%	-9%	-4%
State and local government	8.3	-2%	-3%	-2%	-3%	-1%	-2%	-2%	-2%	-3%	-4%	-2%	-2%	-1%	-3%	-2%	-2%
Retail trade	6.8	-15%	-6%	-15%	-6%	-12%	-4%	-13%	-5%	-12%	-5%	-12%	-5%	-12%	-5%	-14%	-5%
Wholesale trade	6.7	-14%	-8%	-15%	-10%	-14%	-9%	-16%	-11%	-15%	-10%	-14%	-9%	-15%	-10%	-15%	-10%
Finance and insurance	4.6	-13%	-7%	-15%	-10%	-16%	-11%	-12%	-6%	-15%	-12%	-14%	-9%	-14%	-8%	-13%	-8%
Construction	3.4	-11%	-7%	-12%	-8%	-8%	-3%	-8%	-2%	-12%	-7%	-8%	-3%	-11%	-8%	-10%	-6%
Administrative services	3.3	-22%	-13%	-23%	-14%	-28%	-18%	-22%	-13%	-23%	-15%	-26%	-16%	-25%	-16%	-23%	-14%
Information	3.2	-8%	-2%	-7%	0%	-5%	2%	-7%	-1%	-8%	-3%	-8%	-2%	-7%	-2%	-7%	-1%
<b>Accommodation &amp; food services</b>	2.7	-27%	-17%	-30%	-19%	-32%	-20%	-25%	-15%	-25%	-16%	-26%	-16%	-24%	-15%	-28%	-17%
Management	2.6	-11%	-9%	-10%	-8%	-8%	-4%	-7%	-3%	-10%	-6%	-11%	-10%	-9%	-6%	-9%	-5%
Transportation & warehousing	2.4	-23%	-17%	-26%	-20%	-23%	-17%	-25%	-19%	-24%	-18%	-27%	-21%	-26%	-20%	-24%	-18%
Other services	2.1	-25%	-22%	-31%	-27%	-18%	-15%	-24%	-20%	-21%	-18%	-25%	-22%	-25%	-22%	-25%	-21%
Utilities	2.0	-14%	-8%	-18%	-11%	-12%	-7%	-12%	-7%	-14%	-8%	-15%	-10%	-16%	-10%	-14%	-9%
Federal government	1.8	-2%	-2%	-2%	-3%	-2%	-3%	-2%	-3%	-2%	-2%	-3%	-4%	-2%	-3%	-2%	-3%
Ag, forestry, fishing, hunting	0.9	-8%	-2%	-5%	1%	-7%	-2%	-7%	-2%	-5%	0%	-5%	1%	-5%	1%	-6%	-1%
Educational services	0.8	-18%	-17%	-16%	-14%	-17%	-15%	-16%	-14%	-15%	-13%	-16%	-14%	-15%	-12%	-16%	-15%
Arts, entertainment, and recreation	0.7	-26%	-22%	-24%	-19%	-22%	-16%	-22%	-16%	-25%	-20%	-25%	-20%	-27%	-23%	-24%	-19%
Mining	0.5	-13%	-17%	-10%	-9%	-9%	-10%	-12%	-11%	-10%	-11%	-12%	-15%	-13%	-15%	-11%	-9%

## Key takeaways:

2021 GDP levels for the majority of industries do not recover to 2019 levels, with exceptions including

- Information in CA and NY
- Ag, forestry, fishing and hunting in CA, MI, IL and IN

Scenario assumes there is a virus resurgence and a muted recovery through 2022 globally

1. Based on MN Q4 2019 real GDP

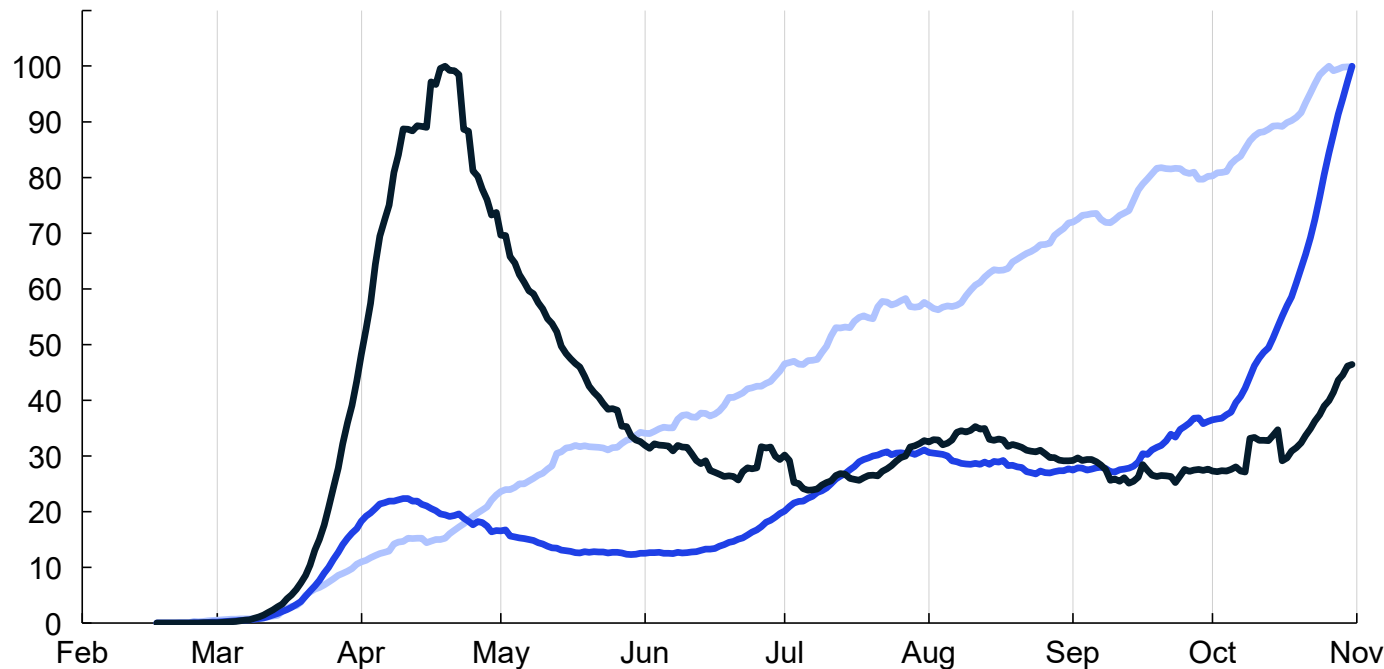
# Renewed headwinds from new wave of COVID-19 health impacts?

Mortality rates increased 60% from October 16th-October 31st

## OECD countries

Pre-COVID level of activity = 0, Post-COVID peak/trough = +/-100, through October 31<sup>st</sup>

— New tests  
— New cases  
— New deaths



Source: <https://github.com/owid>, McKinsey analysis

## 4.5 X

Current high of ~305,000 daily new cases vs. number recorded in April “first peak”

## 3.0 M

Current high of daily new tests

## +60 %

Current ~3,000 daily average deaths vs. mid-October

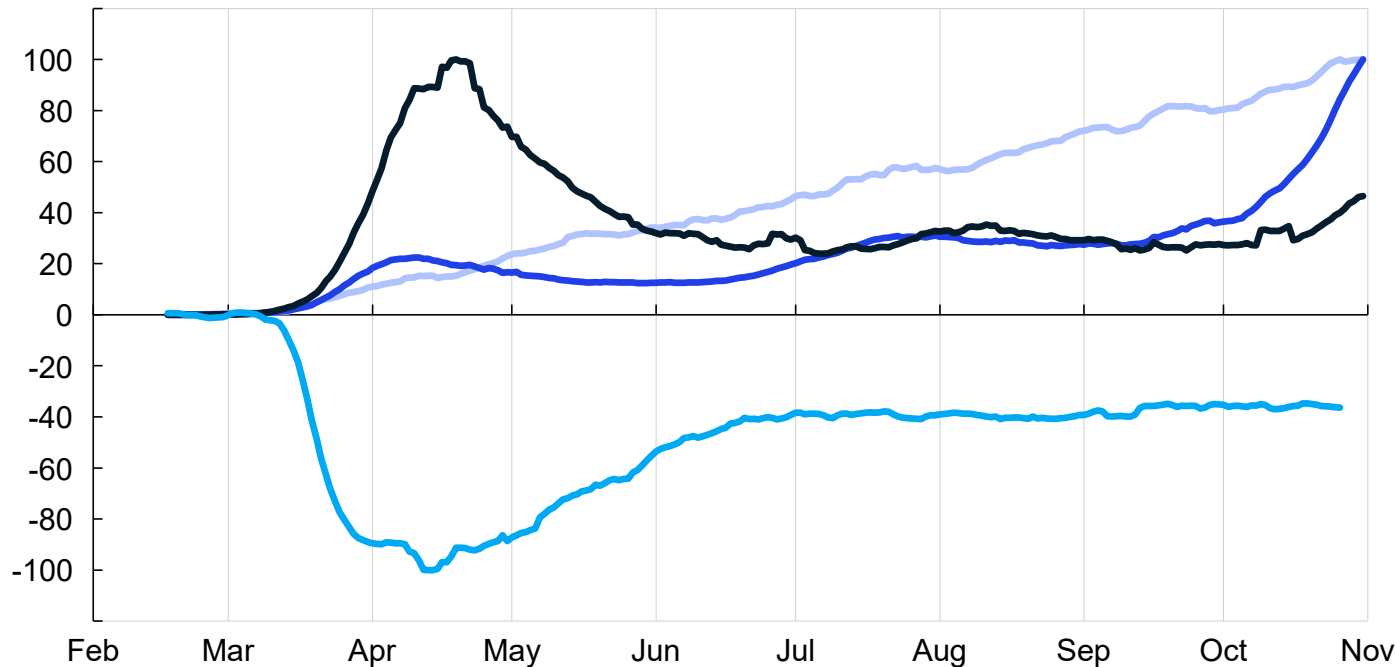
# Commercial activity tracking mortality rates

Downside risk if recent up-tick in mortality reduces discretionary mobility

## OECD countries

Pre-COVID level of activity = 0, Post-COVID peak/trough = +/-100, through October 31<sup>st</sup>

— New tests — New deaths  
— New cases — Discretionary mobility

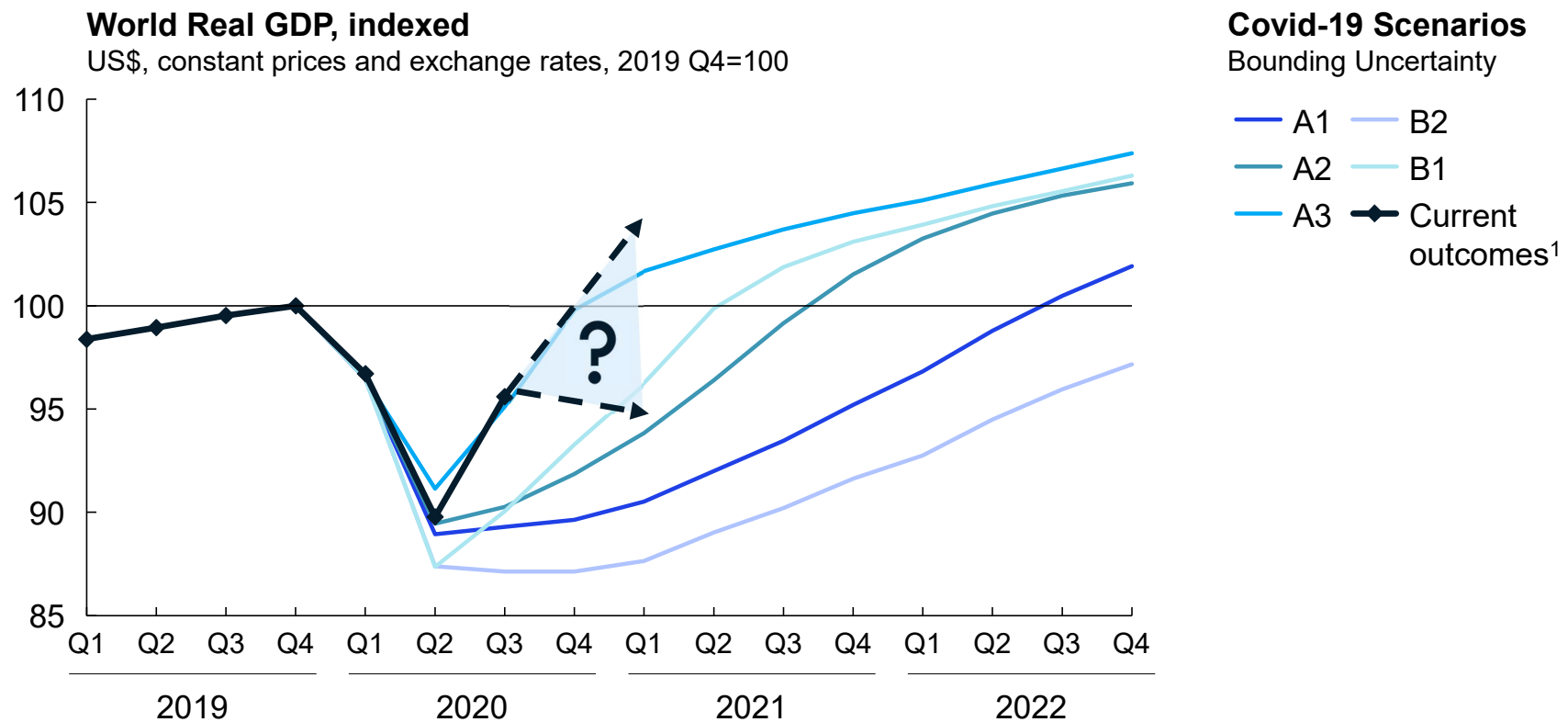


Discretionary mobility captures consumer activity around retail & entertainment, groceries & pharmacies, transit stations and workplaces

Discretionary mobility remains ~40% below pre-pandemic levels—commercial activity has yet to be restored for the OECD as a whole

# Global Economy tracking towards “A3 Outcome” in Q3

Will the positive tailwind continue or is COVID-19 going to create further headwinds?



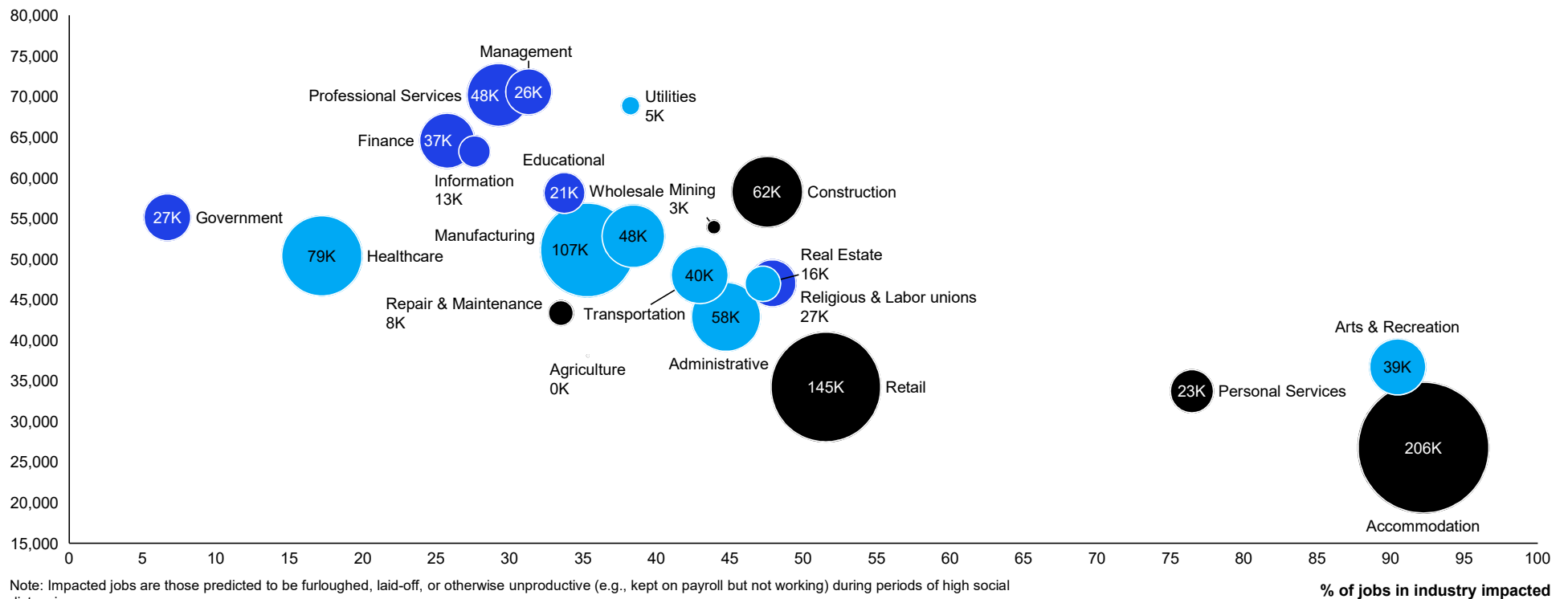
1. Reported data through Q2, Oxford Economics estimate for Q3

# Industries in Minnesota with the lowest wages and the lowest educational attainment may be impacted the most

As of 28 April

% of jobs in industry requiring a bachelors degree: ■ >40% ■ 20-40% ■ <20%  
 Number of jobs impacted: ● 1.03M

Median wages in industry



Note: Impacted jobs are those predicted to be furloughed, laid-off, or otherwise unproductive (e.g., kept on payroll but not working) during periods of high social distancing

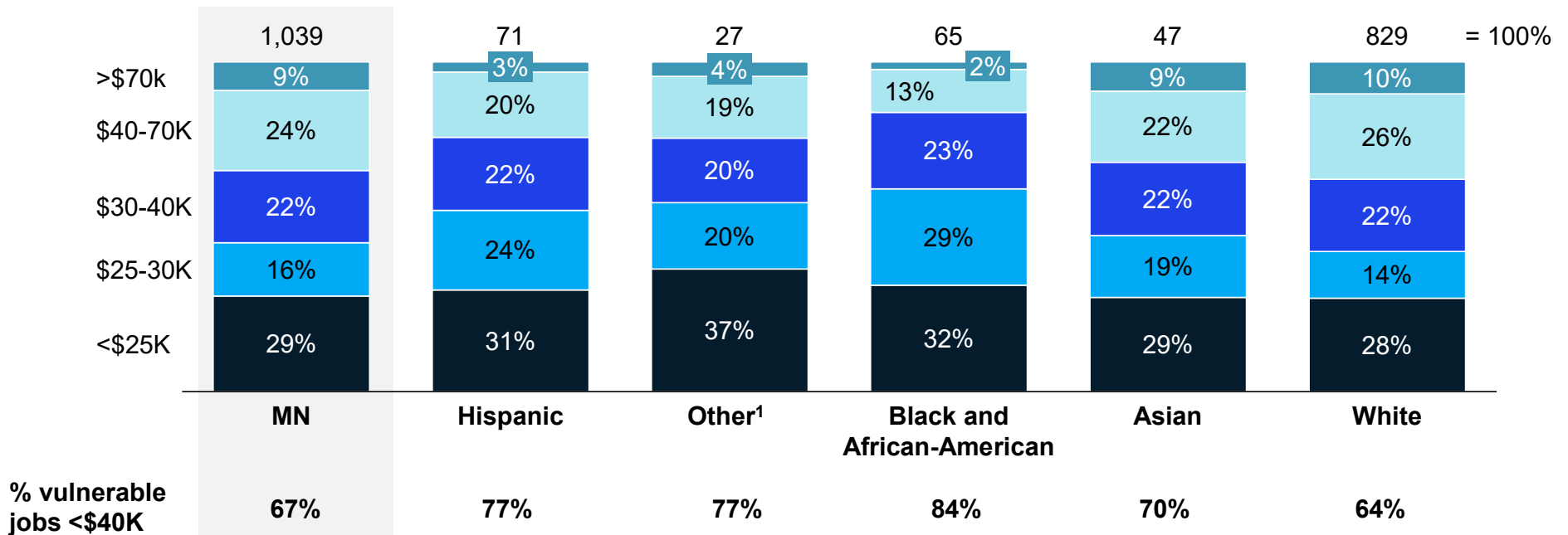
MGI data does not include on-farm jobs. As a result, agriculture in this analysis is not representative of all of the jobs in agriculture in MN.

Source: LaborCUBE, BLS Occupational Employment Statistics, Moody's Analytics, McKinsey Global Institute analysis

# POCs may have a higher proportion of low income vulnerable jobs than the MN average, especially Hispanic, Other, and Black and African-Americans

As of 28 April

Job vulnerability, by income band, by race, thousands



1. Other races include Native American, Native Hawaiian, and Native Alaskan as determined by the US Census Bureau  
 Note: Analysis determines jobs at risk as related to social distancing policies and their immediate knock-on economic consequences – assumes maximum social distancing (defined by shelter-in-place policy)