Research Seminar in Quantitative Economics
High-Frequency Economic Indicators
Consumer Sentiment Through April 2020 (Preliminary)

- University of Michigan Consumer Sentiment
- Conference Board Consumer Confidence
weekly initial unemployment insurance claims
Retail Sales

Percent change, Year-over-Year

- Johnson Redbook Retail Sales Index
- Department Stores
- Discount Stores

RSQE: April 2020
Seated Diners at OpenTable.com Restaurants

Percent change, versus the Same Day in 2019

Source: OpenTable
SafeGraph Foot Traffic by Industry

Source: SafeGraph
SafeGraph Foot Traffic for Select Major Brand

- Costco
- Home Depot
- McDonalds
- Starbucks
- Target
- Walmart

Source: SafeGraph

RSQE: April 2020
Hotel Occupancy and Revenue

Occupancy (Percent) vs. Revenue per Room (Dollars)

Source: STR

RSQE: April 2020
TSA Total Traveler Throughput

Percent change, Year-Over-Year

Change in TSA Total Traveler Throughput

RSQE: April 2020
Homebase Small Business Trends (U.S.)

Percent change, Compared to January

Source: Homebase
Current State of COVID-19 and Projections

Source: Institute for Health Metrics and Evaluation (IHME) at the University of Washington
U.S. Economic Outlook
Outlook for Economic Reopening

- Economy begins reopening in late May/early June
- Epidemiological models show wide range of variation
  - University of Washington IHME: pandemic has already peaked in Michigan
  - Covid ActNow: pandemic will peak in mid- to late-May
- American Enterprise Institute “triggers to reopening”
  - Sustained reduction in cases for at least 14 days
  - Hospital capacity without crisis standards of care
  - Ability to test all people with COVID-19 symptoms
  - Ability to conduct active monitoring of confirmed cases and contacts
Treasury and agency mortgage-backed security purchases

Fresh alphabet soup of programs:

- Commercial Paper Funding Facility, Primary Dealer Credit Facility, Money Market Mutual Fund Liquidity Facility, Primary Market Corporate Credit Facility, Secondary Market Corporate Credit Facility, Term Asset-Backed Securities Loan Facility, Paycheck Protection Program Liquidity Facility

Added just last week:

- Main Street Lending Program
- Municipal liquidity facility
  - No Michigan Cities/Counties currently qualify
CARES Act passed March 27

- About $300 bln in personal tax rebates. Over $200 bln of business tax breaks
- About $300 bln for UI eligibility expansion, extra $600/week benefits until July
- About $360 bln for Paycheck Protection Program
- $150bn aid to states to cover COVID-19 related expenses. Not for lost revenue
- Employer payroll tax deferral
- Over $100 bln for industry and farm subsidies
- Over $200 bln in aid to hospitals, expanded SNAP
- Over $400 bln of funds for Treasury to backstop Fed’s risky lending

Fiscal Policy – Quick Action, But Not Enough
Paycheck Protection Program needs to be larger
  • Treasury is requesting additional $200 bln. Will have to be appropriated

State and Local governments urgently need substantial help
  • Several hundred billion dollars likely needed to make up revenue loss
  • New fiscal years start soon in some states
  • State balanced budgets laws will force steep employment and service cuts without major federal help
  • Revenue sharing likely to be slashed, affecting local budgets

Unemployment benefits will need to be extended at least for 2021
Quarterly U.S. Unemployment Rate

- 2020q2 average: 14%
- Monthly peak of 16% in May
- We are projecting many job losers will be counted as out of the labor force rather than unemployed
- If not, unemployment rate could rise above 20%
Consumer Price Inflation (CPI-U)

<table>
<thead>
<tr>
<th>Year</th>
<th>Core</th>
<th>All Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>2.15</td>
<td>2.44</td>
</tr>
<tr>
<td>2019</td>
<td>2.19</td>
<td>1.81</td>
</tr>
<tr>
<td>2020</td>
<td>1.81</td>
<td>-0.46</td>
</tr>
<tr>
<td>2021</td>
<td>1.41</td>
<td>1.57</td>
</tr>
<tr>
<td>2022</td>
<td>1.84</td>
<td>2.22</td>
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</table>

RSQE: April 2020
Michigan Economic Outlook
U.S. Light Vehicle Sales, 1990–2022
U.S. Light Vehicle Sales
Total vs. Detroit Three, 2018–2022

RSQE: April 2020
Approximately 49% of Michigan workers are essential (federal guidance and Governor’s “Stay Home, Stay Safe” order)

Approximately 33% of Michigan workers can perform jobs remotely (Dingel and Neiman 2020)

Accounting for overlap with essential workers, about 65.6% of workers currently able to do their jobs

Additional 500,000 workers out of work because of decline in demand (“second round effects”)

Approximately 740,000 workers not working but continue to be paid

• Using sick or vacation leave, covered by Paycheck Protection Program, large firms avoiding layoffs

Second quarter payroll employment declines by 1,160,000 jobs (26 percent)

• Reflects improvement beginning in June
Michigan Payroll Employment, 2005q1–2022q4

2020q2: declines by 26%
Michigan Unemployment Rate, 2005q1–2022q4

- 2020q2 average: 23%
- Higher than national rate because of:
  - Michigan’s more cyclical economy;
  - The sharp decline in light vehicle sales;
  - Michigan’s relatively heavy burden of the disease; and
  - A smaller drop in the labor force participation rate.
The CARES Act contains multiple provisions to shield incomes from the downturn in employment:

- Economic impact payments ("$1,200 checks")
  - Estimate just over $8 billion to Michigan residents

- Pandemic Unemployment Assistance
  - Flat $600 benefit in addition to normal UI benefits
  - Maximum weekly benefit now $962 in Michigan (normally $362 per week)
  - Up to four months

- Access to UI benefits expanded
  - Maximum duration increased by 13 weeks
  - Job search requirements waived
  - Eligibility extended to self-employed and independent contractors

RSQE: April 2020
Estimated Distribution of Weekly Earnings & Potential UI Benefits in Michigan, 2019 Average

- Includes part-time, unemployed, and self-employed workers

RSQE analysis of Current Population Survey microdata using usual weekly earnings. Weekly earnings are topcoded at $2,884.61. Dashed line represents maximum weekly unemployment insurance benefit under Pandemic Unemployment Assistance and Compensation of $962 per week.
Estimated Distribution of Weekly Earnings & Potential UI Benefits in Michigan, 2020q2

- We assume 75% of eligible workers will get benefits in 2020q2.

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**Est. avg. total weekly wages and salaries decline**
by $1.09 billion relative to 2019.

**Est. avg. total unemployment benefits increase**
by $1.03 billion relative to 2019.

**Estimated weekly total earnings and benefits**
**in 2020q2 come to 98.7% of 2019 avg.**
**IF all qualified workers apply and collect benefits.**

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RSQE analysis of Current Population Survey microdata provided by IPUMS using usual weekly earnings. Weekly earnings are topcoded at $2,884.61. Dashed line represents maximum weekly unemployment insurance benefit under Pandemic Unemployment Assistance and Compensation of $962 per week.
Michigan Personal Income, 2005q1–2022q4

Forecast

Millions of dollars, SAAR

RSQE: April 2020
## RSQE Forecast – State Revenues by Fiscal Year
(Millions of Dollars)

<table>
<thead>
<tr>
<th></th>
<th>Actual 2019</th>
<th>Forecast 2020</th>
<th>Forecast 2021</th>
<th>Forecast 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GFGP revenue</strong></td>
<td>11,126</td>
<td>9,361</td>
<td>9,505</td>
<td>10,484</td>
</tr>
<tr>
<td>(% change)</td>
<td>(1.6)</td>
<td>(-15.9)</td>
<td>(1.5)</td>
<td>(10.3)</td>
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<tr>
<td><strong>Earmarked state</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>SAF revenue</strong></td>
<td>13,561</td>
<td>13,014</td>
<td>13,160</td>
<td>14,024</td>
</tr>
<tr>
<td>(% change)</td>
<td>(1.7)</td>
<td>(-4.0)</td>
<td>(1.1)</td>
<td>(6.6)</td>
</tr>
<tr>
<td><strong>Combined change</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>from Feb’20 forecast</td>
<td>0</td>
<td>-2,624</td>
<td>-3,167</td>
<td>-2,165</td>
</tr>
<tr>
<td>(% change)</td>
<td>(0.0)</td>
<td>(-10.5)</td>
<td>(-12.3)</td>
<td>(-8.1)</td>
</tr>
</tbody>
</table>
SEMCOG Economic Outlook
Estimated payroll reduction includes idled workers by both executive order and due to demand reduction and whose employers are unable to maintain payroll costs.

- **SEMCOG region estimates:**
  - Livingston: 32%
  - Macomb: 32%
  - Monroe: 28%
  - Oakland: 30%
  - St. Clair: 30%
  - Washtenaw: 20%
  - Wayne: 28%

**State of Michigan Total:** 29%
## Michigan vs. SEMCOG Employment Outlook

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019*</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SEMCOG Payroll Employment</strong></td>
<td>2,151,831</td>
<td>2,176,947</td>
<td>1,982,543</td>
<td>2,137,712</td>
<td>2,182,461</td>
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<tr>
<td><em>Percent Change</em></td>
<td>1.2%</td>
<td>-8.9%</td>
<td>7.8%</td>
<td>2.1%</td>
<td></td>
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<tr>
<td><strong>Government</strong></td>
<td>259,594</td>
<td>263,616</td>
<td>266,735</td>
<td>265,828</td>
<td>265,548</td>
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<tr>
<td><strong>Private</strong></td>
<td>1,892,236</td>
<td>1,913,331</td>
<td>1,715,808</td>
<td>1,871,884</td>
<td>1,916,913</td>
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<tr>
<td><strong>Goods-Producing</strong></td>
<td>349,723</td>
<td>351,127</td>
<td>302,629</td>
<td>336,913</td>
<td>353,439</td>
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<tr>
<td><strong>Service-Providing</strong></td>
<td>1,542,513</td>
<td>1,562,204</td>
<td>1,413,179</td>
<td>1,534,971</td>
<td>1,563,474</td>
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<tr>
<td><strong>Michigan Payroll Employment</strong></td>
<td>4,417,850</td>
<td>4,433,742</td>
<td>4,040,041</td>
<td>4,342,084</td>
<td>4,424,436</td>
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<tr>
<td><em>Percent Change</em></td>
<td>0.4%</td>
<td>-8.9%</td>
<td>7.5%</td>
<td>1.9%</td>
<td></td>
</tr>
</tbody>
</table>

*Estimated data for the SEMCOG region, but complete history for the state of Michigan*
Washtenaw County Payroll Employment

Payroll Jobs, SA

05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22

RSQE: April 2020
Wayne County Payroll Employment

Payroll Jobs, SA

Forecast

RSQE: April 2020