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The latest wave of COVID-19 has peaked

US COVID-19 cases, 7-day moving average

Source: Johns Hopkins University

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Key high-frequency indicators of consumer spending have flattened

- Credit card spending led the way, but all data are now showing near convergence to pre-pandemic levels.

- Surge in spending linked to stimulus checks.

**TSA checkpoint travel numbers**
Percent of January 2020 average, 7-day average, SA

**Seated diners at US restaurants**
Percent change from comparable day, 2019, 7-day average

Notes: Seated diners at restaurants on the OpenTable network.
Notes: Total traveler throughput.
Source: IHS Markit, Transportation Security Administration
Source: OpenTable

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IHS Markit’s Monthly GDP Index

Monthly GDP

Billions of chained 2012 dollars, SAAR

Source: IHS Markit

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Disappointing September jobs reports reflects slowing recovery and seasonal distortions in education

Source: BLS
Leisure & hospitality has the most ground to recover

Payroll employment compared to the pre-pandemic peak, thousands (September 2021)

- Transport & warehousing
- Federal government
- Utilities
- Financial services
- Mining & logging
- Information
- Wholesale trade
- Education
- Construction
- Retail trade
- Other services
- State government
- Manufacturing
- Prof. & business services
- Local government
- Health & social services
- Leisure & hospitality

Source: BLS
Unemployment rate
Labor market much improved, but “still a long way to go” for full recovery

- Re-opening in 2020 quickly brought back restaurant workers for carry-out, curbside & delivery – “low hanging fruit”
- Recovery in the labor force was also initially very sharp, but then slowed sharply
- We assume return to pre-pandemic labor force trend by mid 2023
- As vaccinations have allowed re-opening of schools and daycares, more parents will come back into the labor force. Maybe not the full story
- Role of extra $300/week unemp. benefit???
- End of PUA and PEUC September 5 ???
- Acceleration in employment in H2 before slowing
- Labor market tightness/wages a new concern
Unprecedented mismatch in labor supply and demand result in job openings and unemployment rates that are both elevated

Job Openings and Labor Turnover Survey

Source: BLS

Unemployed persons (Household survey) Number of job openings
A record number of workers quit their jobs in August
IHS Markit PMIs® indicate the recovery in services activity has slowed sharply

Purchasing Managers’ Index® data

Source: IHS Markit

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Consumer card-based spending has yet to hit the brakes

Average consumer credit and debit card spending

Source: Opportunity Insight Economic Tracker, Affinity Solutions
During the pandemic, the bottom fell out of credit card borrowing

Nonmortgage consumer credit outstanding, SA

Source: Federal Reserve

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Core inflation is nearly keeping pace with energy price increases

![Graph showing Consumer Price Indexes](chart)

**Consumer Price Indexes**

- Year-over-year % change
- **2000** | **2004** | **2008** | **2012** | **2016** | **2020** | **2024**

**Note:** CPI all-urban, seasonally adjusted. 1982-84=1.00

**Source:** IHS Markit

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Red-hot pace of price increases for used cars and trucks cools

**Consumer Price Index, used cars and trucks**

- **Note:** CPI all-urban, seasonally adjusted, 1982-84=1.00
- **Source:** BLS

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Rent price growth remains firm

Consumer Price Index, rent of primary residence

Note: CPI all-urban, seasonally adjusted, 1982-84=1.00
Source: BLS

© 2021 IHS Markit
The US is currently importing inflation

Consumer good import prices excluding autos

Index, 2000 = 1.00

Source: BLS

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Pump prices have surpassed pre-pandemic level

Retail gasoline price, self-service including taxes, DOE all-grades

Source: DOE

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The forecast includes 7 COVID relief measures, including the IIJA

Premature to include evolving reconciliation bill the size, scope, timing - even fate - of which remain highly uncertain

- COVID relief measures
  - Coronavirus Preparedness & Response Supplemental Appropriations Act
  - Families First Coronavirus Response Act
  - Coronavirus Aid, Recovery & Economic Security (CARES) Act
  - Payroll Protection & Healthcare Enhancement Act
  - Coronavirus Response & Relief Supplemental Appropriations Act
  - American Rescue Plan Act (ARP)
  - Infrastructure Investment & Jobs Act (IIJA)
Peak IIJA outlays are just 0.3% of GDP in 2026, growth effects modest

Modest GDP growth effects change sign mid-decade as spending wanes; level of GDP is 0.2% higher in 2031

Impact of IIJA on federal outlays

Impact of IIJA on year / year real GDP growth

Source: IHS Markit © 2021 IHS Markit

Source: IHS Markit © 2021 IHS Markit
IIJA: peak employment effect ~ 7500K in 2025-26, little inflation threat

Employment gains are temporary without an increase in full-employment labor force.

Impact of IIJA on establishment employment

Impact of IIJA on year/year GDP inflation

Source: IHS Markit

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Thousands

Percentage points
Policy assumptions

- Monetary policy
  - The Fed continues its Large Scale Asset Purchases through October at the recent pace before “tapering” them to zero over 12 months
  - “Lift off” of funds rate in advanced from September to March of 2023, faster ascent
  - Unchanged terminal funds rate (2.5-2.75%) reached in 2028

- Fiscal policy
  - All COVID relief measures through the American Rescue Plan – impacts diminishing rapidly
  - Infrastructure Investment & Jobs Act
  - Permanent 27% increase in Supplemental Nutrition Assistance Program (SNAP) benefits in October
  - Debt ceiling increased without incident; shutdown avoided in December
  - Large reconciliation bill (“Build Back Better”) still evolving, not included.
Key forecast assumptions:

- Widespread vaccinations slowed spread--Opens the way to “sustained” upturn in consumer spending, but there remains residual caution

- Oil prices (Brent) to average $70/bbl over second half 2020, ease to $65.53 in 2022

- Broad non-oil commodity prices have peaked

- Trade-weighted US dollar to remain fairly flat; risks tilted to the upside

- Inflation expectations remain anchored near 2%; help contain rise despite lower unemployment
## Pace of growth – balancing headwinds and tailwinds

### Headwinds
- Delta variant drives rising hospitalizations and deaths and …
- … additional caution from consumers
- Supply constraints, including shipping bottlenecks
- Waning fiscal support
- Housing has peaked
- Labor market scarring?
- Still huge uncertainty

### Tailwinds
- Widespread and rising vaccination rates
- Release of pent-up consumer demand for socially dense spending; surge in wealth
- Very accommodative monetary policy: low rates and ample liquidity
- Very generous broad-based fiscal support
- Inventory shortfalls mean re-stocking will keep factories humming
- Commodity prices turning lower
After a bulge this year, core PCE inflation is expected to return to about 2% in mid-2022
Goods inflation shoots past services

US consumer price indexes excluding food and energy

Note: CPI all-urban, seasonally adjusted, 1982-84=1.00
Source: IHS Markit

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# US economic growth by sector

<table>
<thead>
<tr>
<th>Percent change</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real GDP</td>
<td>-3.4</td>
<td>5.4</td>
<td>4.3</td>
<td>2.8</td>
</tr>
<tr>
<td>Final sales</td>
<td>-2.9</td>
<td>5.4</td>
<td>3.3</td>
<td>2.6</td>
</tr>
<tr>
<td>Consumption</td>
<td>-3.8</td>
<td>7.8</td>
<td>3.4</td>
<td>2.4</td>
</tr>
<tr>
<td>Light vehicle sales (Millions)</td>
<td>14.5</td>
<td>15.1</td>
<td>15.5</td>
<td>17.1</td>
</tr>
<tr>
<td>Residential fixed investment</td>
<td>6.8</td>
<td>8.2</td>
<td>-5.4</td>
<td>-2.6</td>
</tr>
<tr>
<td>Housing starts (Millions)</td>
<td>1.40</td>
<td>1.58</td>
<td>1.43</td>
<td>1.33</td>
</tr>
<tr>
<td>Business fixed investment</td>
<td>-5.3</td>
<td>7.5</td>
<td>6.1</td>
<td>4.8</td>
</tr>
<tr>
<td>Federal government</td>
<td>5.0</td>
<td>1.4</td>
<td>-0.1</td>
<td>-0.1</td>
</tr>
<tr>
<td>Exports</td>
<td>-13.6</td>
<td>4.3</td>
<td>7.3</td>
<td>7.5</td>
</tr>
<tr>
<td>Imports</td>
<td>-8.9</td>
<td>13.0</td>
<td>5.2</td>
<td>4.7</td>
</tr>
</tbody>
</table>

Source: IHS Markit
# US economic growth by sector

## Real GDP and its components

<table>
<thead>
<tr>
<th>Percent change, annual rate</th>
<th>2021Q2</th>
<th>2021Q3</th>
<th>2021Q4</th>
<th>2022Q1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real GDP</td>
<td>6.7</td>
<td>1.4</td>
<td>5.1</td>
<td>4.9</td>
</tr>
<tr>
<td>Consumption</td>
<td>12.0</td>
<td>0.4</td>
<td>4.8</td>
<td>3.0</td>
</tr>
<tr>
<td>Residential investment</td>
<td>-11.9</td>
<td>-9.8</td>
<td>-8.8</td>
<td>-2.4</td>
</tr>
<tr>
<td>Business fixed investment</td>
<td>9.2</td>
<td>0.6</td>
<td>6.4</td>
<td>7.4</td>
</tr>
<tr>
<td>Federal government</td>
<td>-5.3</td>
<td>-0.1</td>
<td>-1.5</td>
<td>2.6</td>
</tr>
<tr>
<td>State &amp; local government</td>
<td>0.2</td>
<td>4.4</td>
<td>3.2</td>
<td>3.6</td>
</tr>
<tr>
<td>Exports</td>
<td>7.6</td>
<td>-0.3</td>
<td>7.2</td>
<td>9.2</td>
</tr>
<tr>
<td>Imports</td>
<td>7.1</td>
<td>5.2</td>
<td>1.9</td>
<td>6.1</td>
</tr>
</tbody>
</table>

Source: IHS Markit

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# Other key US indicators

<table>
<thead>
<tr>
<th>Key indicators</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial production</td>
<td>-7.2</td>
<td>5.7</td>
<td>4.8</td>
<td>3.1</td>
</tr>
<tr>
<td>Payroll employment</td>
<td>-5.7</td>
<td>2.6</td>
<td>3.6</td>
<td>1.9</td>
</tr>
<tr>
<td>Consumer Price Index</td>
<td>1.2</td>
<td>4.3</td>
<td>3.0</td>
<td>2.1</td>
</tr>
<tr>
<td>Core CPI</td>
<td>1.7</td>
<td>3.4</td>
<td>3.4</td>
<td>2.5</td>
</tr>
<tr>
<td>Brent crude oil price (USD/barrel)</td>
<td>41.8</td>
<td>69.8</td>
<td>69.0</td>
<td>66.5</td>
</tr>
<tr>
<td>Federal funds rate (%)</td>
<td>0.38</td>
<td>0.08</td>
<td>0.10</td>
<td>0.37</td>
</tr>
<tr>
<td>10-year Treasury yield (%)</td>
<td>0.89</td>
<td>1.43</td>
<td>1.83</td>
<td>2.28</td>
</tr>
</tbody>
</table>

Source: IHS Markit
The Federal Reserve now expected to raise the federal funds rate in 2023; term yields have risen
Fiscal response to the pandemic produced a record federal deficit

Federal budget deficit

Billions of dollars, fiscal years

Unified budget deficit (Left scale)
Deficit as % of GDP (Right scale)

Source: IHS Markit
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Federal government debt saw an unprecedented rise

Publicly held federal debt

Source: IHS Markit
Single-family housing starts and home sales

Source: IHS Markit
Durable goods orders exceed the pre-pandemic trend

Nondefense capital goods excluding aircraft

Source: Census Bureau

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Crude oil prices to peak in the fourth quarter
US oil drilling lags recovery in crude oil prices

Weekly oil rig count and West Texas Intermediate crude oil price

Source: Baker Hughes, EIA

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During the pandemic, the bottom fell out of credit card borrowing
Hallmarks of the IHS Markit US forecast

- Expectation of falling COVID cases and hospitalizations
- Solid but slowing growth of output, as fiscal support wanes
- Continued gradual improvement in the labor market as employment and labor force rise
- Declining inflation as output growth slows, commodity prices turn and supply issues resolve
- Slowly rising term interest rates
- Eventual Fed tightening. Taper to begin soon; rates to increase in 2023
- Rougher sledding ahead for equities, but an uneven upward trend projected
- Still huge uncertainty all around