The Darkest Hour is Just Before Dawn: Challenges remain before vaccinations can save the day

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KPMG Economics

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• **Economics**
  - The virus is dictating the economic outcomes.
  - While cases are rising, backsliding on economic progress is becoming more widespread.
  - It is possible December could see a decline in jobs as increasing COVID cases cause a decline in economic activity.
  - The strength of the post-vaccine economy will depend on the quality of the economic firewall that exists between now and then.
  - Looking past the pandemic, low interest rates will be maintained until the recovery is broad based.
  - If the firewall can be fortified, the post-vaccine recovery holds high promise due to a number of unique factors such as a strong monetary and fiscal responses, high household savings, increased digital literacy of both consumers and businesses.

• **Politics**
  - The 2020 election delivered the narrowest majority in the House of Representatives in 20 years.
  - The Senate majority will not be known until two runoff elections are held in Georgia in January 2021. Possible majority outcomes range from the status quo to a new majority that could be more helpful to a Biden Administration agenda.
  - A fully staffed Federal government will be helpful in combating the pandemic and will be central to other Biden Administration initiatives as well.
COVID-19 still dictating economic outcomes

New COVID-19 Cases
7D moving avg

- EU
- US
- LATAM
- Asia Pacific, excluding South Asia
- South Asia: India, Pakistan, Bangladesh, Sri Lanka

Source: KPMG Economics, Johns Hopkins University (December 15, 2020), Bloomberg
GDP growth stalls in the face of the virus

Due to China’s reliance on fixed asset investment it has been able to get GDP growth above pre-pandemic levels. Household consumption, however, remains below pre-pandemic levels.

The U.S. is expected to be one of the best performing developed market economies due in no small part to significant fiscal and monetary stimulus.

The U.K. is expected to be one of the worst performing developed markets due to rising infections and lockdowns.

India continues to face challenges battling the virus. The expected GDP growth rate for Q4 appears to be overly optimistic at this point relative to the others.

Source: KPMG Economics, Respective Countries’ National Statistics Office (Q3 2020), Bloomberg Average Forecast, Haver Analytics
Retail rebound challenged by the surge in cases

Global Retail Sales
Indexed to 2019 Average

- U.S.
- U.K.
- Japan
- China
- Euro Area

Japan increases consumption tax from 8% to 10%
China is the first country with a COVID-19 outbreak

Source: KPMG Economics, National Sources (November 2020), Haver Analytics
The virus has reasserted its grip on Europe’s economy

Europe: Change in Visits to Retail & Recreational Areas
Change Relative to Jan 5 - Feb 6 Baseline, 5-Day Moving Average

Source: KPMG Economics, Google Community Mobility Trends (December 11, 2020), Haver Analytics
U.S. States face different magnitudes of impact from COVID

COVID-19 State Virus Indicators, Top 3 states for each of the three criteria

Note: Three highest readings of the three criteria noted above, cases per capita, 7-day average cases, 14-day % change
Source: KPMG Economics, Johns Hopkins University (December 15, 2020), Haver Analytics
Anticipated fiscal relief to spur economy into higher gear in 2021

Real GDP
Bil. 2012 $

$17,250 $17,750 $18,250 $18,750 $19,250 $19,750

Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
2019 2020 2021

Forecast
Recession Fiscal/Monetary Assistance Pre-Vaccine Rollercoaster Recovery Pre-pandemic level reached in Q3-2021 Post-Vaccine Recovery

Upside: Larger fiscal package; greater assistance on unemployment benefits, extended to 70 wks or more

Baseline: Fiscal relief, unemployment benefits of $300/wk at start of 2021

Note: Forecasts are inherently time sensitive and projections are dated as of December 8, 2020.
Source: KPMG Economics, BEA (Q3 2020), Haver Analytics, Moody’s
Jobs unlikely to recover to pre-pandemic levels until 2022

Payroll Employment
Millions

<table>
<thead>
<tr>
<th></th>
<th>Q4</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q1</th>
<th>Q2</th>
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<td></td>
<td>130</td>
<td>135</td>
<td>140</td>
<td>145</td>
<td>150</td>
<td>155</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>2019</td>
<td>2020</td>
<td>2021</td>
<td>2022</td>
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</tbody>
</table>

Forecast

- **Upside:** Larger fiscal package; greater assistance on unemployment benefits, extended to 70 wks or more
- **Baseline:** Fiscal relief, unemployment benefits of $300/wk at start of 2021

Pre-pandemic level reached in Q2-2022

Note: Forecasts are inherently time sensitive and projections are dated as of December 8, 2020.
Source: KPMG Economics, BLS (Q3 2020), Haver Analytics

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Forecast of economic events and likely vaccine deployment

**Pace of services recovery slows as does jobs growth**

- Nov 2020: Daily cases rise above 100,000/day
- Dec: Daily cases rise above 170,000/day
- Jan 2021: Extension of unemployment benefits runs out for more than 12 million people; state and local governments continue to lay off workers, slowing the recovery.
- Feb: First vaccines administered to the 20.7 million healthcare workers and 3.8 million education employees in the U.S.
- Mar: Health care jobs fully return; other jobs also begin to come back. Fed uses tools to keep long-term rates low to spur continued recovery.

**Forecast**

- Feb: Daily cases likely abate but risk remains for resurgence until vaccine can be sufficiently distributed.
- Mar: Vaccines continue to be administered to those who cannot work from home.
- April: Vaccines are more widely available to the U.S. population but fewer than 1/3 of the population is vaccinated.

**Economic Impact**

- Dec-Jan 2021: Extension of unemployment benefits runs out for more than 12 million people; state and local governments continue to lay off workers, slowing the recovery.
- Feb: Firms begin increasing investment in anticipation of virus being controlled. Fed will do what is necessary to keep long-term interest rates at a stimulative level.
- Mar: Health care jobs fully return; other jobs also begin to come back. Fed uses tools to keep long-term rates low to spur continued recovery.

**Daily cases likely abate but risk remains for resurgence until vaccine can be sufficiently distributed.**

**Vaccines continue to be administered to those who cannot work from home.**

**Vaccines are more widely available to the U.S. population but fewer than 1/3 of the population is vaccinated.**

**Leisure and hospitality continue to return slowly, picking up pace into H2 2021.**

**Source:** KPMG Economics, The Good Judgment Project, November 23, 2020

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Most scientists suggest >70% vaccine distribution needed

<table>
<thead>
<tr>
<th>Research Team</th>
<th>% of Population Vaccinated to Achieve Herd Immunity</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michigan University Health</td>
<td>60-70%</td>
<td>• Currently 3% immunity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 200 million vaccinated = 60% of the population</td>
</tr>
<tr>
<td>Dr. Brian Garibaldi, medical director at Johns Hopkins’s Biocontainment Unit</td>
<td>65-70%</td>
<td>• High effectiveness of first two vaccines, Pfizer and Moderna, means fewer people overall will need to be vaccinated.</td>
</tr>
<tr>
<td>CitiBank Analysts</td>
<td>≥70%</td>
<td>• Don’t think herd immunity will be achieved until late 2021</td>
</tr>
<tr>
<td>Ali Mokdad, professor of global health at the Institute for Health metrics and Evaluation (IHME) at the University of Washington</td>
<td>≥70%</td>
<td>• Number of individuals that need to be vaccinated to achieve herd immunity depends on infection rate of given disease; COVID-19 currently has an $R_0$ of 2.5.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Measles ($R_0 = 15$) herd immunity required 95% vaccination rate, Polio ($R_0 = 6$) closer to 80%.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sweet spot for herd immunity to COVID-19 will likely exceed 70%.</td>
</tr>
<tr>
<td>Amesh Adalja, scholar for Johns Hopkins Center for Health Security</td>
<td>≥70%</td>
<td>• European Centre for Disease Prevention and Control uses herd immunity threshold of 67% for its models; World Health Organization experts suggest 65-70% vaccine coverage rate to reach population immunity through vaccination for most diseases.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Good target for COVID-19 vaccination is 70%, assuming very effective vaccine.</td>
</tr>
<tr>
<td>Tom Britton, Frank Ball, Pieter Trapman</td>
<td>≥43%</td>
<td>• Researchers created mathematical model to measure disease transmission in an age-structured community with mixing rates fitted to social activity (assume $R_0 = 2.5$).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Found that disease-induced herd immunity level could be around 43%, which is substantially lower than medical assessments and empirical immunity levels of 60% obtained through homogeneous immunization of the population.</td>
</tr>
</tbody>
</table>

While vaccine distribution could start before the end of 2020, widespread distribution that achieves herd immunity and makes all activity safe is likely to take at least until the end of Q2 2021.

Source: KPMG Economics, Scientists and Researchers listed above
Firewall still needed around the COVID-19 impacted economy

Three Components of Fire

- Fuel
- Oxygen
- Heat

Fire Triangle

Three Components of Recession

- Income Loss
- Business Exit
- Financial Intermediation Impairment

Recession Triangle
COVID-19 Pandemic Causes Largest Real GDP Drop in History
U.S. Recession Cycles Indexed to Start of Recession

- The economic firewall created by the CARES Act assumed COVID-19 would be under control by Q3 2020.
- With COVID-19 cases rising in the U.S. and globally, a firewall to prevent larger economic fallout from the parts of the services economy still impacted is needed to prevent spillovers to services where workers can work from home as well as the goods economy.
- Based on current data, the swoosh shape recovery is the best case scenario.

Source: KPMG Economics, Bureau of Economic Analysis (Q3 2020), Haver Analytics

Long path to pre-pandemic levels of GDP
Unprecedented decline in service sector due to COVID-19

COVID-19 Unusual Shock to Services
U.S. Real Services Consumption Indexed to Start of Recession

— Normally in recessions, the growth of services consumption slows but it does not decline below pre-recession levels.
— This is because demand for many services, such as utilities and healthcare, is maintained even if unemployment is high, largely due to a broad social safety net.
— During the pandemic, health care services consumption has dropped along with the consumption of many other services such as restaurants and in-person entertainment.
— Much of this consumption will only return if we get a handle on the virus.

Source: KPMG Economics, Bureau of Economic Analysis (Q3 2020), Haver Analytics
Virus surge will increase FOGO tendencies

Do you personally know anyone in the U.S. who has...

- Has tested positive for the coronavirus
- Had died due to the coronavirus

— Balance between fear of missing out (FOMO) and fear of going out (FOGO) dictates the extent of aversion behavior.

— A high level of aversion behavior leads to a reduction in economic activity.

— As more of the population personally knows others impacted by COVID, the level of aversion behavior, or FOGO, increases.

— Heightened level of FOGO has most severe impact on the services sector as many services are contact or high-contact activities.

Source: KPMG Economics, IPSOS (November 20, 2020)

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FOGO causes fall in restaurant dining in high COVID case states

OpenTable Seated Diners at Restaurants
Y/Y%, 7-Day Moving Average

- North Dakota (3rd highest cases per capita)
- California (highest weekly new cases)
- Vermont (3rd highest 14-day % change)

Note: States with highest cases per capita (Ohio), 7-day average new cases (California), and 14-day % change (Vermont)
Source: KPMG Economics, OpenTable (December 13, 2020)
FOGO increases as cases rise, causing a fall in mobility

Source: KPMG Economics, Moovit, Bloomberg (December 13, 2020)
Note: baseline comparison with week of Jan 15, 2020
COVID-19 shock caused dramatic shift to goods consumption

Positive Shock to Goods Consumption
U.S. Real Goods Consumption Indexed to Start of Recession

- Multiple factors contributed to the increase in consumption of goods.
  - Pandemic assistance boosted spending power which contributed to the rebound in autos.
  - More time at home, FOGO, boosted demand for goods that improved the quality of home life.
  - Increased churn in the housing market boosted demand for furniture and other home goods.
- Demand is not expected to be sustained at this pace.

Source: KPMG Economics, Census Bureau (Q3 2020), Haver Analytics

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FOGO drives increased need for housing utility

Weekly mortgage applications for new loans (not refinancings) are a good way to forecast future housing investment.

Housing is normally a leading indicator, turning down before a recession starts, as one can see in 2018.

After the Fed lowered rates in 2019, housing began to rebound, interrupted by the shock of COVID-19.

Further Fed rate cuts reduced the mortgage rate by over 100 basis points, making housing more affordable in the face of higher demand due to FOGO.

Source: KPMG Economics, Mortgage Bankers Association (November 27, 2020), Bureau of Economic Analysis (Q3 2020), Haver Analytics
Retail sales slow to 4.1% y/y, amid shifting composition

Retail Sales by Industry

<table>
<thead>
<tr>
<th>Retail Industry</th>
<th>12-Month % Change</th>
<th>1-Month % Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aug</td>
<td>Sep</td>
</tr>
<tr>
<td>Total Retail Sales</td>
<td>3.6%</td>
<td>6.1%</td>
</tr>
<tr>
<td>Clothing &amp; Accessory Stores</td>
<td>-20%</td>
<td>-8%</td>
</tr>
<tr>
<td>Food Services &amp; Drinking Places</td>
<td>-16%</td>
<td>-14%</td>
</tr>
<tr>
<td>Gasoline Stations</td>
<td>-15%</td>
<td>-13%</td>
</tr>
<tr>
<td>Electronics &amp; Appliance Stores</td>
<td>-4%</td>
<td>-7%</td>
</tr>
<tr>
<td>Miscellaneous Stores Retailers</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>Furniture &amp; Home Furnishing Stores</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Health &amp; Personal Care Stores</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>Motor Vehicle &amp; Parts Dealers</td>
<td>5%</td>
<td>11%</td>
</tr>
<tr>
<td>General Merchandise Stores</td>
<td>2%</td>
<td>6%</td>
</tr>
<tr>
<td>Sporting Goods, Hobby, Book &amp; Music Stores</td>
<td>10%</td>
<td>17%</td>
</tr>
<tr>
<td>Food &amp; Beverage Stores</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>Building Materials, Garden Equipment &amp; Supply Dealers</td>
<td>17%</td>
<td>19%</td>
</tr>
<tr>
<td>Nonstore Retailers (Online Sales)</td>
<td>28%</td>
<td>26%</td>
</tr>
</tbody>
</table>

Source: KPMG Economics, Census Bureau (November 2020), Haver Analytics
COVID-19 purchases hint a limit for online sales

E-Commerce as a Share of Retail Sales

Electronic & Mail Order Sales as a % of Non-gasoline Store Retail Sales

Source: KPMG Economics, Census Bureau (October 2020), Haver Analytics

— Aversion behavior and lockdown procedures forced many stores to close during the early stages of the pandemic.
— Consumers responded by cutting their spending at brick and mortar stores and significantly increasing their online purchases.
— The online share of retail sales peaked at 19% in April from 12.5% prior to the pandemic.
— Note: We exclude gasoline store sales because these sales must occur in person at the gas pump.
Step-change in e-commerce demand due to wider adoption

E-commerce Share of Retail Sales

- As consumption is now above pre-pandemic levels we can see on-line consumption settling at around 15% of non-gasoline store sales.
- We expect on-line demand to continue outpacing brick and mortar, but perhaps at a slower pace of 10% per year versus the 12% experienced prior to the pandemic. In this case it would take until 2026 to reach the peak of 19%.
- A return to brick and mortar stores in Q3 indicates there are limits to the retail apocalypse.

Source: KPMG Economics, Census Bureau (October 2020), Haver Analytics
Brick and mortar regains ground in the third quarter

Online Sales as a % of Industry Retail Sales

Source: KPMG Economics, Census Bureau (Q3 2020), Haver Analytics
COVID-19 impacts different sectors than the ‘08-’09 crisis

Total Change in Employment by Industry
% Change during Recession Period

Leisure & Hospitality
Mining and Logging
Health Care & Social Assistance
Utilities
Professional & Technical Services
Finance & Insurance Services
Real Estate
Retail Trade
Manufacturing
Administrative & Waste Services
Construction

COVID-19 Pandemic
Global Financial Crisis

Pandemic worse than GFC
GFC worse than Pandemic

Source: KPMG Economics, Bureau of Labor Statistics (November 2020), Haver Analytics
Looking Past the Pandemic
Short-term slowdown until vaccinations can lift growth outlook

Recovery Shape of Economist Forecasts
WSJ December 2020 Economist Survey, KPMG Shape Classification

Source: KPMG Economics, WSJ December 2020 Survey
The rubber meets the road with jobs forecasts

Nonfarm Payroll Growth
Average of the Monthly Change for the Four Quarters

<table>
<thead>
<tr>
<th>Top 5 Average</th>
<th>KPMG</th>
<th>Average</th>
<th>Bottom 5 Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>764,000</td>
<td>573,371</td>
<td>395,297</td>
<td>212,450</td>
</tr>
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</table>

Source: KPMG Economics, Macroeconomic Advisors by IHS, WSJ Economist Survey December 2020

— The recovery path of labor markets is highly dependent on the path of the virus and government policies to control the spread.

— With COVID cases presently rising rapidly throughout the U.S., we forecast economic activity to slow in the winter months as lockdowns increase and FOGO (fear of going out) leads to greater aversion behavior.

— Additionally, government stimulus that preserves incomes and spending is key to the economic outcome.

— Our concern around lack of stimulus and growing COVID cases is reflected in our below consensus payroll forecast.
Anatomy of a K – the growth rate does not tell the story

• Can Work From Home – **3.9%** Unemployment Rate
• Bachelor’s Degree or Higher – **$72,000** Median Income
• Total Assets (51st to 90th Percentile) – **$740,000**
• Home Ownership Rate (Above Median Income) – **80.5%**

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• Work at Employer – **8.3%** Unemployment Rate
• Less than Bachelor’s Degree – **$39,000** Median Income
• Total Assets (0 to 50th Percentile) – **$94,000**
• Home Ownership Rate (Below Median Income) – **55.2%**

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Economists have termed the uneven impact of the pandemic a K shaped recovery, meaning it is a recovery for the top leg of the K and not for the bottom leg.

Unemployment is highest in the services industry where workers tend to need less than a bachelor’s degree.

The average leisure and hospitality worker earns below $36,000/year, putting them below the national median income and in the bottom portion of the K.

Source: KPMG Economics, Bureau of Labor Statistics, Census Bureau, Federal Reserve Board, Haver Analytics
Virus resurgence creates renewed concerns about income

Expected Loss of Employment Income in the Next Four Weeks
Percent, Self or Household Member

Source: KPMG Economics, U.S. Census Bureau, Haver Analytics
Massive savings increase finances the fiscal deficit

Personal Savings
Annualized, Trillions of Dollars

- Savings have risen for several reasons:
  - consumers are consuming less high-contact services such as recreation, dining out, and health care.
  - consumers are engaging in precautionary savings as future visibility on the economy is limited.
  - Once the virus is tamed, savings will likely be a catalyst for renewed economic activity provided further economic deterioration can be forestalled until then.

Source: KPMG Economics, Bureau of Economic Analysis (October 2020), Haver Analytics
Employment recovery lagging other economic factors

Source: KPMG Economics, Macroeconomic Advisors by IHS Markit, BEA, BLS, Haver
Note: Data are logged and indexed. Data are seasonally adjusted. Total sales is Real Manufacturing & Trade Sales for All Industries

— Key economic indicators followed by the National Bureau of Economic Research (NBER) to conduct business cycle dating reveal the sharp drop in economic activity due to the shock of the pandemic.

— The NBER Business Cycle Dating Committee declared that the current recession began in February 2020.

— As has been the case in all of the recessions so far in this century, jobs take longer to return to pre-recession levels than other indicators. This can cause long-term scarring and reduce future potential GDP.
CARES Act boosted incomes significantly to aid consumption

Source: KPMG Economics, Macroeconomic Advisors by IHS Markit, BEA, BLS, Haver
Note: Data are logged and indexed. Data are seasonally adjusted. Total sales is Real Manufacturing & Trade Sales for All Industries

— One of the indicators used by the Dating Committee is real personal income excluding transfers; this excludes federal and state unemployment benefits, and any other benefits to households such as social security or disability payments.

— Due to the significant drop in employment from COVID, the government provided significant fiscal stimulus to prevent income loss, thereby building a firewall around the COVID impacted parts of the economy.

— Jobs growth has stalled in the wake of increased virus cases and could take more than two years to reach pre-pandemic levels.
The Federal Reserve Leads the Way on Monetary Policy

Money Supply: M2

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The Federal Reserve acted swiftly to provide liquidity and increase money supply, going well beyond what was supplied during the global financial crisis.

China was the world’s monetary engine post-global financial crisis. During COVID-19, the U.S. is the world’s monetary engine.

The Federal Reserve is acting in its role as lender of last resort in two key ways: direct purchases of fixed income securities (Treasuries, Agencies MBS, Municipal Bonds, Corporate Fixed Income) and creating lending facilities for corporations. This is shoring up the firewall by preventing financial intermediation impairment.

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Source: KPMG Economics, BOJ, FRB, ECB, People’s Bank of China, Haver Analytics
Global rates likely to remain low well into 2021

10-Year Government Bond Yield

Federal Reserve action reduced cost of capital for large firms

U.S. Corporate Bond Credit Spreads

- Mar 18: Fed announces CPFF
- Mar 23: Fed announces PMCCF, SMCCF
- Apr 9: Fed expands PMCCF, SMCCF to include corporate debt rated IG as of Mar 22 but subsequently downgraded

Note: CPFF: Commercial Paper Funding Facility, PMCCF: Primary Market Corporate Credit Facility, SMCCF: Secondary Market Corporate Credit Facility

Source: KPMG Economics, Bloomberg (December 15, 2020)
Highly leveraged firms able to access credit unlike 2008-09

Net Issuance of Risky Business Debt

— In Q2, when many firms needed a bridge to the other side of the pandemic, bond issuance soared, especially for high-yield firms.

— This is a different outcome than the global financial crisis of 2008-09, as at that time firms were shut out of the capital markets as bond purchasers feared a long recession with significant scarring.

— COVID may turn out to have greater scarring than what was assumed in Q2, which could present issues for high-yield investors as the recession ages.

Source: KPMG Economics, Federal Reserve Board (November 2020), Mergent, Fixed Income Securities Database; S&P Global, Leveraged Commentary & Data
Amid broad improvement, most sectors under less duress

High Yield Credit Spreads vs. Corporate Leverage

Note: Bubble size represents total outstanding high yield debt by market value.
Source: KPMG Economics, Bloomberg (December 1, 2020)
Bankruptcies rhyming but not repeating 2009 crisis

— The pace of corporate bankruptcy filings has slowed for large companies in recent months. November 2020 totaled 11, down from 17 in both October and September 2020, respectively.

— This compares to a peak of 32 filings in July 2020, which nearly matched the GFC high of 33 (March 2009).

— Comparing 2020 to the peak year during the GFC in 2009, bankruptcies are running at 80% of the 2009 pace.

— Another significant difference is that Chapter 11 filings, those that indicate reorganizations, have risen to 6,081 filings to date (through October 2020) versus 5,519 filings for the comparable period in 2019. Chapter 7 filings total 16,434 for 2020 to-date, down from 22,834 in 2019.
Do low real rates run risk of sustaining zombie firms?

Zombie Companies in the United States
Percent in Russell 3000

— Zombie firms are often on their last legs but still in operation, a corporate version of the walking dead.

— Zombie banks are particularly problematic because they usually hold large quantities of bad loans on their books and are therefore unlikely to lend, slowing the money multiplier and impeding financial intermediation.

— Often low interest rates following a recession gives way to zombie firms proliferating.

Note: Bank of International Settlements defines zombie firms as firms with interest coverage ratio less than one for more than three years; excludes financials and real estate, 4Q moving average
Source: KPMG Economics, Bloomberg (Q3 2020)
It is not always the same zombies

Pre-tech Bubble Zombie Firms by Sector
(Dec 31, 1999)

Pre-GFC Zombie Firms by Sector
(June 30, 2007)

Note: Russell 3000 companies with interest coverage ratio less than one for more than three years; excludes financials and real estate
Source: KPMG Economics, Bloomberg
Is all zombification bad or does it just mean a long R&D cycle?

Note: Russell 3000 companies with interest coverage ratio less than one for more than three years; excludes financials and real estate
Source: KPMG Economics, Bloomberg (Q3 2020)
Low rate environment should help support M&A transactions

US M&A Volume/S&P500 Market Cap
(3mma)

M&A incl. minority investment, joint ventures, buybacks
Source: KPMG Economics, Bloomberg (November 2020)
2020 M&A activity led by healthcare ($296bn/$1.8tn)

U.S. M&A Value (2020)

- $272bn Technology (15%)
- $310bn Financial (17%)
- $28bn Basic Materials (2%)
- $108bn Industrial (6%)
- $175bn Consumer Cyclical (10%)
- $151bn Utilities (8%)
- $181bn Communications (10%)
- $28bn Basic Materials (2%)
- $445bn Consumer Noncyclical (25%)

- Biotechnology
- Commercial Svcs., Bldg Main
- Pharmaceuticals
- Healthcare-Products
- Food
- Healthcare-Services
- Beverages
- Cosmetics/Personal Care
- Agriculture
- Household Products

U.S. M&A Value (2019)

- $240bn Communications (11%)
- $268bn Technology (12%)
- $208bn Utilities (9%)
- $199bn Consumer Cyclical (9%)
- $81bn Energy (4%)
- $23bn Basic Materials (1%)
- $445bn Consumer Noncyclical (29%)
- $659bn Consumer Noncyclical (29%)

Source: KPMG Economics, Bloomberg (Nov 2020 YTD), Total = $1.788tn

Source: KPMG Economics, Bloomberg (Nov 2019 YTD), Total = $2.254tn
Business formation rebound funded by savings and low rates

Change in Cumulative New Business Applications
Likely Employers - YoY Change in Cumulative Total

- 2019 to 2020
- 2017-2019 Average
- 2008-2009 Average

Source: KPMG Economics, U.S. Census Bureau
Impact of pandemic lingers, especially for small businesses

Three-quarters of SMEs Still Experiencing Negative Shock
Pandemic Effect on Business, % of Firms

Source: KPMG Economics, U.S. Census Bureau, Haver Analytics

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Jobs growth is the backbone of consumption

— Jobs growth is a key determinant of consumption growth.
— Consumption growth is a key determinant of inflation growth.
— So long as there is a demand gap, it is less likely that inflation pressures will increase to levels deemed worrisome by the Fed.
— Further, tight labor markets are usually a prerequisite for wage growth which is also an essential element of sustained price pressure.
— We anticipate that it will take until the 2nd half of 2022 to return to employment levels seen prior to the pandemic.

Falling demand outweighs supply induced price increases

Demand, Supply Contributions to Inflation
Percentage Point Contribution

- Economists at the San Francisco Federal Reserve Bank have analyzed the components of the PCE inflation basket.
- Dividing the underlying price data according to spending category reveals that a majority of the drop in core personal consumption expenditures inflation comes from a large decline in consumer demand.
- This demand effect far outweighs upward price pressure from COVID-related supply constraints.
- The recent slowdown in jobs growth is expected to cause demand to fall again, slowing price pressure in the near-term.

Source: KPMG Economics, FRBSF Economic Letter: Shapiro (2020), Bureau of Economic Analysis
Market participants expect low inflation to remain the norm.
The key to yields is potential Fed yield curve control

Economists’ interest rate forecasts depend in large part on their assumptions regarding additional stimulus and the impact on jobs and inflation.

KPMG assumes that the Fed will act to keep long rates accommodative so long as there is an output gap and until jobs are close to or above their pre-pandemic levels.

Further, low rates globally, a slowing potential GDP globally, and a demand deficit is likely to mean demand for U.S. treasuries as the highest yielding AAA fixed income asset will keep a lid on rates.

10-Year U.S. Treasury Bond Yield

- Top 5 Average
- Average
- Bottom 5 Average
- KPMG

Source: KPMG Economics, Macroeconomic Advisors by IHS, WSJ Economist Survey December 2020
Debt has increased significantly due to stimulus

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Debt levels rose significantly after the global financial crisis and again when rescuing the economy from the impact of the pandemic.

Economists have softened their stance on the deleterious impact of rising government debt as decades of rising debt levels in Japan have caused neither inflation nor currency collapse.

Some economists believe that so long as interest rates are below the rate of growth, in times of crisis, taking on debt to finance GDP-enhancing spending can be done without crowding out private consumption.

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Have We Crossed the Rubicon
Trillions of Dollars

- Gov. Debt Outstanding
- Nominal GDP

Source: KPMG Economics, BEA, Federal Reserve Board, Haver Analytics, Olivier Blanchard, Adam Tooze, Stephanie Kelton

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Higher tax receipts at the end of expansions helps debt levels

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**Government Receipts Exhibit Procyclicality**

- **Federal Receipts as a Percentage of GDP (FY, %)**

- **Source:** KPMG Economics, Office of Management and Budget, Haver Analytics

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- Tax receipts as a percent of GDP tend to grow as an expansion ages.
- This is often due to several factors:
  - Tax breaks to help an economy out of recession expire
  - Capital gains taxes on market assets and homes tend to rise along with a growing economy and rising asset prices
  - Greater consumption expands the tax base
  - The Tax Cuts and Jobs Act resulted in lower revenues and higher deficits leading to an increase in debt levels ahead of the pandemic.
Increasing health care costs add to government debt levels

Government Funded Programs Dominated by Health Care Costs

Percent of GDP

- Two significant areas of increased costs are interest on the debt and medical costs.
- Drilling down into medical costs it is possible to separate those costs due to rising health care inflation and those costs due to a growing aging population.
- If the inflation component of healthcare can be slowed or even reversed due to advances in technology and productivity, this would greatly improve the fiscal health of the nation.

Source: KPMG Economics, CBO (September 2020)
## Major Economic Indicators

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
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<tbody>
<tr>
<td><strong>GDP and related</strong></td>
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<tr>
<td>Real GDP</td>
<td>2.2</td>
<td>-3.5</td>
<td>4.4</td>
<td>3.5</td>
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<tr>
<td>Personal consumption expenditures</td>
<td>2.4</td>
<td>-3.7</td>
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<tr>
<td>Business Investment</td>
<td>2.9</td>
<td>-4.6</td>
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<tr>
<td>Residential Investment</td>
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<tr>
<td>Exports</td>
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<tr>
<td>Imports</td>
<td>1.1</td>
<td>-9.9</td>
<td>12.8</td>
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<tr>
<td>Government</td>
<td>2.3</td>
<td>0.9</td>
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<tr>
<td>Real disposable personal income</td>
<td>2.2</td>
<td>5.9</td>
<td>-1.6</td>
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<tr>
<td>Final sales to domestic purchasers</td>
<td>2.3</td>
<td>-2.7</td>
<td>4.3</td>
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<td><strong>Prices</strong></td>
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<tr>
<td>CPI</td>
<td>1.8</td>
<td>1.2</td>
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<tr>
<td>CPI excluding food &amp; energy</td>
<td>2.2</td>
<td>1.7</td>
<td>2.0</td>
<td>2.2</td>
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<tr>
<td>PCE</td>
<td>1.5</td>
<td>1.2</td>
<td>1.7</td>
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<tr>
<td>PCE excluding food &amp; energy</td>
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<td><strong>Interest Rates</strong></td>
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<td>Federal funds rate</td>
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<td>0.38</td>
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<td>3-month T-bill yield</td>
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<td>5-year T-note yield</td>
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<td>10-year T-note yield</td>
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<td>Baa corporate bond yield</td>
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<td>30-year mortgage rate</td>
<td>3.94</td>
<td>3.10</td>
<td>3.04</td>
<td>3.17</td>
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</table>

*Note: 2019 actual, 2020 and later are forecasts*

**Note:** Forecasts are inherently time sensitive and projections are dated as of December 8, 2020.

Source: KPMG Economics, BEA, BLS, Federal Reserve (Q3 2020), Haver Analytics, Moody’s
Concluding Thoughts

- The pandemic is both a supply shock and a demand shock, with the demand shock dominating economic activity.
- The demand shock has adversely impacted services consumption as FOGO inhibits the demand for in-person activities while positively impacting the demand for goods.
- The demand for goods is unlikely to be sustained into 2021 while the demand for services is at risk in the U.S. and Europe as the number of virus cases and deaths continue to rise.
- The pandemic is in many ways a unique recession in that savings has increased significantly while aggregate income is still above pre-pandemic levels.
- An additional fiscal stimulus is needed to shore up the firewall around the COVID impacted parts of the economy; otherwise, the economy is likely to see long-term scarring effects that will impede job growth.
- The Fed is expected to maintain loose monetary policy until inflation is sustained above 2 percent, something that will likely not occur until the output gap is closed and jobs have been fully regained.
- While the Fed is endeavoring to engineer a reflation of growth and prices, and will tolerate somewhat higher inflation, it will not tolerate run away inflation. The 5-year – 5-year forward market suggests markets believe the Fed can walk this tight rope of monetary policy.
Thank you

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