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America's Post-Pandemic Economic Prospects

BMO Capital Markets Economic Research

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U.S. Economic Outlook

Overview

Douglas Porter, CFA, Chief Economist

After dealing with the steepest, deepest, and fastest recession in history, there are clear indications that the U.S. economy has begun the first stages of recovery. As workplaces have gradually started to reopen, consumer spending, construction, and manufacturing are beginning to revive. However, with some restrictions still in place, and many Americans understandably reluctant to venture out, a full recovery will likely take an extended period of time. In particular, there are a variety of sectors that could face an extremely rocky road over the next year, and may never fully return to pre-pandemic levels. As well, the hit to confidence, wealth, and employment prospects from the swift downturn will keep some households and businesses cautious in their spending plans.

While policymakers, markets, and businesses are all still dealing with the effect and extent of the deep economic downturn, attention is turning to what the economy will look like after the storm. Some encouraging early indications from the initial reopening included a partial rebound in jobs, auto and home sales, and overall retail sales in May. Even so, we still believe that the U.S. economy will contract by more than 5% in 2020, by far the deepest annual decline in GDP in the post-war era. Yet, as we have consistently maintained since the shutdowns began, growth is expected to rebound to roughly 5% next year, helping bring down the jobless rate markedly. Even with a forceful recovery, the challenge will be to get the economy back to full health.

In this report, we delve deeper into the prospects for economic recovery in the months and years ahead, including what sectors will lead, and which will be constrained. Some industries will naturally rebound quickly as distancing measures lighten, and others could even see accelerated growth in the new circumstances. One overarching theme is that the crisis may accelerate and accentuate some trends that were developing in any event. However, it may also lock in some adjustments that may not have happened otherwise. We also consider some of the roadblocks to a swifter recovery, and what are some potential opportunities amid those obstacles.

Our overriding message is that, while there are serious challenges ahead for the economy, there are also important reasons to remain positive on the medium-term outlook. There is no doubt that some sectors will face persistent challenges as a result of the shutdowns and distancing measures, as well as some potentially fundamental changes in consumer behavior and psychology (in the absence of an effective vaccine). But at the same time, in classic creative destruction fashion, there will be some sectors that strengthen and step into the gap. The main conclusion is that economies are resilient, and people and businesses can be incredibly resourceful in the face of challenges—don't underestimate the ability to recover from this tough period.

A Long and Winding Recovery Road

Michael Gregory, CFA, Deputy Chief Economist

On June 8, the National Bureau of Economic Research (NBER)—the arbiter of business cycle dating in America—announced that the peak of the past cycle was February, on a monthly basis, and 2019 Q4, on a quarterly basis. Among the previous 33 cycle tops the NBER has dated back to 1857, the peak month has always occurred in, or within one month of, the peak quarter. The latest two-month deviation is unprecedented, and reflects the pandemic-related plummet in March economic activity that pulled Q1 outcomes significantly below their Q4 results. In turn, March and 2020 Q1 become the first full periods of recession.

Payroll employment is one of the critical monthly indicators used by the NBER to identify business cycle turning points, and the May report on the employment situation was released just three days before the NBER's announcement. Payrolls jumped by 2.5 million in May after plummeting by 20.7 million in April and 1.4 million in March. With May's positive employment change being mirrored in other important indicators such as real personal income less transfers, April should mark the cycle trough, with May becoming the first full month of recovery [1]. Even allowing for strong May and June rebounds, the arithmetic impact of an extremely weak March-April should ensure that Q2 outcomes fall well below their Q1 results. This will make 2020 Q2 the trough and 2020 Q3 the first full quarter of recovery.

The 2020 recession will have lasted for just two months, making it the shortest contraction in U.S. economic history. Up until this year, the shortest recession had been six months in 1980 followed by a seven-month downturn in 1918-19. The latter reflected not only the end of World War I but also the outbreak of the Spanish flu.

In addition to being the shortest in history, the 2020 downturn is shaping up to be the deepest since before WWII and, thus, since the Great Depression—a title previously held by the 2008-09 Great Recession. Payroll employment plummeted by 14.5% in March-April, more than double the Great Recession's cumulative 6.3% decline (*Table 1*) [2]. Real GDP already contracted 1.3% in 2020 Q1 (not annualized) with Q2 poised to pile on enough weight to more than double the Great

Table 1

Post-WWII Recessions and Employment

United States

Business Cycle Peak	Trough	Length (mnths)	Payroll Employment Peak	Trough	(mnths)	Contraction (% chg)	Recovery (mnths)
Nov 48	Oct 49	11	Sep 48	Oct 49	13	-5.2	9
Jul 53	May 54	10	Jul 53	Aug 54	13	-3.4	10
Aug 57	Apr 58	8	Apr 57	May 58	13	-4.4	11
Apr 60	Feb 61	10	Apr 60	Feb 61	10	-2.3	10
Dec 69	Nov 70	11	Mar 70	Nov 70	8	-1.5	10
Nov 73	Mar 75	16	Jul 74	Apr 75	9	-2.8	10
Jan 80	Jul 80	6	Mar 80	Jul 80	4	-1.3	6
Jul 81	Nov 82	16	Jul 81	Dec 82	17	-3.1	11
Jul 90	Mar 91	8	Jun 90	May 91	11	-1.5	21
Mar 01	Nov 01	8	Feb 01	Aug 03	30	-2.0	18
Dec 07	Jun 09	18	Jan 08	Feb 10	25	-6.3	51
Feb 20			Feb 20	Apr 20	2	-14.5	
	Minimum	6			4	-6.3	6
	Maximum	18			30	-1.3	51
	Mean	11.1			13.9	-3.1	15.2
	Median	10.0			12.0	-2.8	10.0

Sources: BMO Economics, NBER, BLS

Table 2

Post-WWII Recessions and GDP

United States

Business Cycle Peak	Trough	Length (qtrs)	Real GDP Peak	Trough	(qtrs)	Contraction (% chg)	Recovery (qtrs)
48:Q4	49:Q4	4	48:Q4	49:Q4	3	-1.5	1
53:Q2	54:Q2	4	53:Q2	54:Q1	3	-2.5	3
57:Q3	58:Q2	3	57:Q3	58:Q1	2	-3.6	3
60:Q2	61:Q1	3	60:Q1	60:Q4	3	-1.3	2
69:Q4	70:Q4	4	69:Q3	70:Q4	5	-0.7	1
73:Q4	75:Q1	5	73:Q4	75:Q1	5	-3.1	3
80:Q1	80:Q3	2	80:Q1	80:Q3	2	-2.2	2
81:Q3	82:Q4	5	81:Q3	82:Q3	4	-2.6	3
90:Q3	91:Q1	2	90:Q3	91:Q1	2	-1.4	3
01:Q1	01:Q4	3	01:Q2	01:Q3	1	-0.4	2
07:Q4	09:Q2	6	07:Q4	09:Q2	6	-4.0	8
19:Q4			19:Q4				
	Minimum	2			1	-4.0	1
	Maximum	6			6	-0.4	8
	Mean	3.7			3.3	-2.1	2.8
	Median	4.0			3.0	-2.2	3.0

Sources: BMO Economics, NBER, BEA

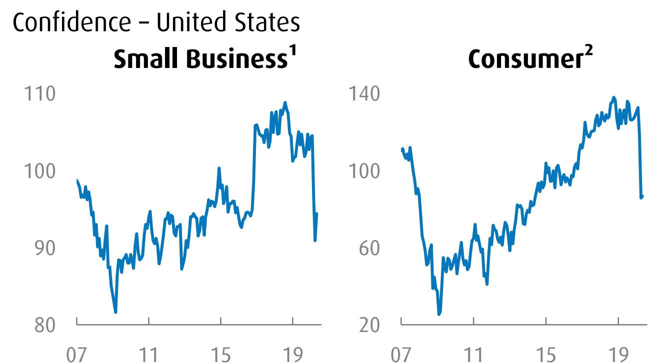
Recession's 4.0% cumulative decline (*Table 2*) [3]. Although the data to properly size this recession are still pending (e.g., the advance GDP estimate for Q2 is due at the end of July), with the economy now in the recovery phase, attention turns to what kind of recovery this is likely to be.

A key characteristic of this recovery will be stellar hiring and sales growth rates at the outset. We saw payrolls expand by 1.9% in May alone, the most since 1946, as just over 11% of March-April job losses were gained back. Retail sales rose a record 17.7% in May alone. Basically, a business going from 20% to 60% of pre-pandemic activity in a given period will register sales growth of 200%. In subsequent periods, the sequential growth rates will slow, but still remain strong, as greater shares of pre-COVID activity are achieved (e.g., if it were 80% in the next period and 90% in the one after that, the growth rates would be 33.3% and 12.5%, respectively). In terms of real GDP growth, 2020 Q3 is poised to be as strong as Q2 will be weak.

But, how long will it take to get back to where GDP was in 2019 Q4, and where employment was in February 2020? Although the 2020 recession will greatly overtake the previous downturn as the worst in the post-WWII period, the Great Recession also exhibited the longest recuperation period in this history. It took two years for GDP to recover completely and 4¼ years to get back all the jobs lost, more than double the durations it took all other downturns [4].

Our Douglas Porter characterizes the recovery from the 2020 recession as a slow stair climb up after a fast elevator ride down. These "stairs" are fabricated from the various factors delaying full recovery for some businesses and industries, while denying it altogether for others. However, helping us up these stairs are the massive amounts of fiscal and monetary policy support. With more fiscal measures still being crafted, the federal government is already providing up to $3.6 trillion of support [5]. Meanwhile, with policy interest rates at the zero lower bound, the combination of quantitative easing, liquidity support measures, along with the various facilities supporting the flow of household and business credit, is ballooning the Fed's balance sheet. Since March 12, and through June 24, it has grown by $2.8 trillion to $7.1 trillion, and it appears poised to test $10 trillion in the quarters ahead [6].

Chart 1
Confidence Constraint



[1] NFIB Small Business Optimism Index (1986 = 100)
[2] Conference Board Consumer Confidence (1985 = 100)
Sources: BMO Economics, Haver Analytics

As such, we judge the current recovery is unlikely to take the Great Recession's title away. There are major risks that it could, but this will likely be the second longest recovery for GDP and jobs in the post-war period. The causal factors are listed below, in no particular order.

Lack of confidence: Given the risks of a second national wave of COVID-19 or local outbreaks, business and consumer confidence are unlikely to recover completely until

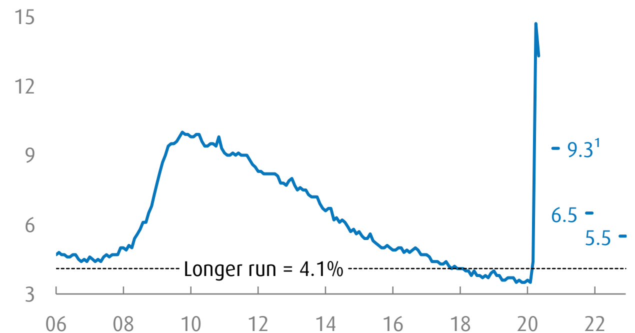
there is a vaccine, an effective treatment or herd immunity. The lack of a full rebound presents an economic headwind, particularly for capex and big-ticket consumer purchases (*Chart 1*). Even if allowed to, surveys suggest that some consumers will simply opt to avoid crowds until a vaccine is available, restraining recovery among affected businesses and industries.

Persistent unemployment: Not everyone who was laid-off or furloughed will get their jobs back, creating a spending restraint and applying another damper on consumer confidence. Even the FOMC expects the jobless rate to run a couple percentage points above its pre-pandemic level past 2022 (*Chart 2*). Apart from some firms going out of business and an inadequate rebound in business confidence (mentioned above), post-recession hiring could be dampened by some firms permanently paring personnel to drive cost savings and efficiencies. Meanwhile, many industries will be facing operating constraints (such as physical distancing rules) and, thus, hiring constraints.

Chart 2
Lingering Joblessness

United States (percent)

Unemployment Rate and FOMC Median Projections



Sources: BMO Economics, Haver Analytics [1] *Q4 FOMC projections*

Higher saving rate: The combination of lack of confidence and persistent unemployment points to households having higher precautionary savings. Before the pandemic, the personal saving rate averaged around 7.9%. Although it spiked to 33% in April as government support measures lifted incomes but lockdowns restricted spending, after it dives back down, we suspect it will settle well into the 8% range at the expense of fewer outlays.

Physical distancing/public health protocols: Across jurisdictions and industries, the transition from lockdowns and shutdowns to "business as usual" varies, mostly because of lingering physical distancing rules and other public health protocols. Consider the example of a restaurant with an indoor dining room: more spaced-out tables (less customers per period) and more stringent sanitation protocols (slower table turnover) will probably prevent recovery back to pre-pandemic activity levels. In addition to food services and drinking places, other industries facing similar full-recovery challenges include: transportation (particularly airlines, transit and cruise lines), accommodation, along with arts, entertainment and recreation.

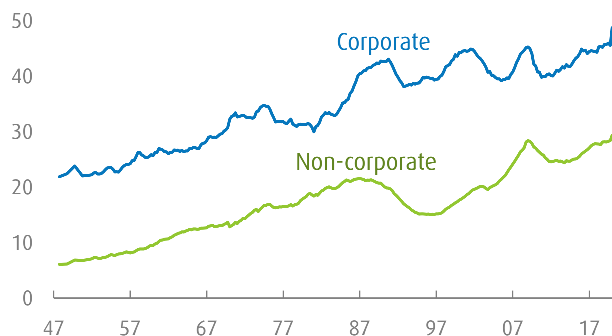
Private-sector debt burdens: With many of the federal government's measures to counter the pandemic involving a loan, most of which should be forgiven, but all of the Fed's measures involving asset purchases to facilitate the credit creation process, the legacy of the recession is destined to be larger debt burdens among businesses both big and small. At a minimum, increased debt service payments, even assuming interest rates remain very low, should act as a mild constraint on business outlays—both hiring and capex. In 2020 Q1, as non-financial businesses tapped their credit lines,

debt already hit a record 78.1% of GDP, with all-time highs on both the corporate and non-corporate sides (*Chart 3*).

Insolvencies and bankruptcies: Whether it's the depth of the recession, the sluggishness of the recovery, or the burden of additional debt, some businesses are bound to succumb to insolvency and bankruptcy. As some of these firms subsequently close permanently, economic growth capacity will be clipped. Even corporations restructuring under bankruptcy protection are likely to curb their outlays on hiring and capex.

Chart 3
Filled to the Brim

United States (% of GDP)
Non-financial Business Sector Debt

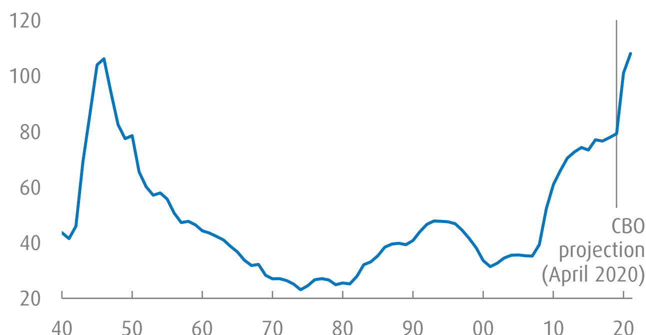


Sources: BMO Economics, Haver Analytics

Fiscal consolidation: Government budget deficits surged massively, as measures were quickly introduced to address the health and economic crises caused by the pandemic. With businesses reopening and workers getting rehired, many of these measures are scheduled to end while others will be modified to better target their benefits. After the first four fiscal support packages, the Congressional Budget Office (CBO) estimated the 2020 federal deficit at $3.7 trillion (a post-war high 17.9% of GDP) and a still-large $2.1 trillion in 2021 (9.8%), compared to just under $1 trillion in 2019 (4.6% of GDP). The deficit surge is causing federal debt held by the public to swell. It should top 100% of GDP this year before rising to 108% next year, a record high (*Chart 4*).

Chart 4
Federal Debt Surges

United States (% of GDP : fiscal years)
Debt Held by the Public



Sources: BMO Economics, Haver Analytics, Congressional Budget Office

Looking ahead, at the federal level, with higher run rates for budget deficits and much larger public debt burdens, there's the potential for at least modest efforts at fiscal consolidation occurring next year—after the election—with state and local governments forced to act more ardently because of balanced budget requirements. After a $120 billion combined state budget shortfall for fiscal 2020, which ends this month for 46 states, the Center on Budget and Policy Priorities estimates next fiscal year's combined deficit will total $315 billion (which is why extra funding for states is expected to be part of the next federal package). Some state and local governments are already talking budget cutbacks. Compounding the problem, unfunded pension liabilities were already a pressing issue for many jurisdictions before the pandemic.

Commercial real estate woes: Apart from the temporary impact of rents not being paid, tenant insolvencies and bankruptcies could have a more lasting negative impact on commercial landlords. Even before the pandemic, the retail segment was on a weakening trend owing to online shopping. However, the more dispersed adoption of digital distributive technologies because of the lockdowns and shutdowns should

worsen this trend. The persistence of a sizeable work-from-home cohort is going to pressure the office segment. We doubt many development dollars will be flowing into these segments along with restaurants, bars and hotels. However, this should be partly offset by perked-up activity in warehouses, data centres and grocery stores.

No takeoff for aircraft: As airlines around the world grapple with reduced passenger volumes, dampened global demand for new aircraft will weigh on Boeing and other firms in the aircraft and parts manufacturing industry. This sector was already reeling from the suspension of 737 MAX production, a suspension that had been expected to be lifted soon and boost industry output this year.

U.S./China trade war: Before the pandemic, with a Phase One trade deal signed, and Phase Two talks beginning, the economic drag from the U.S./China trade war was diminishing with the U.S. poised to get a growth boost from the extra exports. Currently, with the Administration blaming China for the pandemic's economic devastation, and trade tensions intensifying, the trade war looks to continue acting as a drag on growth.

Lower crude oil prices: Although prices have rebounded from their lows (in the futures market, the price of a soon-expiring contract actually turned negative at one point), a significant imbalance between global supply and demand lingers. Supply was initially jacked up as Russia and Saudi Arabia fought a price war, but they, along with the rest of the OPEC+ group, eventually agreed to production cuts. Meanwhile, the pandemic and corresponding hit to global economic growth dampened demand. It could be well past next year before prices return to pre-pandemic (>$50/barrel) levels with an interim commensurate constraint on U.S. oil sector activity.

Slower global economic growth: The World Bank, OECD and IMF recently released their latest global economic outlooks. The World Bank forecast global GDP to decrease 5.2% this year and increase 4.2% next year. The OECD forecast "two equally probable scenarios", depending on whether there's another COVID-19 global outbreak. If no, world GDP would shrink 6.0% in 2020 and bounce back 5.2% in 2021. If yes, the global economy would contract 7.6% this year and rebound only 2.8% next year. Note that for both organizations, full global economic recovery is a 2022 story at the earliest. The IMF is calling for a 4.9% contraction this year and a 5.4% rebound next year, which is barely enough to fully offset the downturn, and solely due to emerging markets and developing economies. The major advanced economies are not expected to completely recover until 2022 (at the earliest). A slower growing world economy is a headwind by dampening U.S. export growth and depressing important commodity prices such as crude oil.

Above, we listed many factors that will likely lean on the robustness of the economic recovery, not only for GDP but also for jobs. We reckon the net risks lie on the side of an even weaker recuperation profile. However, given underlying potential growth in the 1¾%-to-2% range, even achieving a full recovery a couple years out will still leave a significant disinflationary output gap for policymakers to deal with. This suggests that any major Fed policy shift toward monetary restraint (like rate hikes) is unlikely something households, businesses and governments will have to worry about for a long while (2023 at the earliest according to the latest FOMC "dot plot").

Endnotes:

[1] Other indicators deemed important for business cycle dating by the NBER include real personal consumption expenditures, industrial production, initial claims for unemployment insurance, real wholesale-retail sales and household employment. GDP and gross domestic income (GNI) are the critical quarterly indicators, complemented by the averages of the monthly indicators. [^]

[2] Because several indicators go into their determination, business cycle turning points and the cyclical peaks and troughs in payroll employment rarely match; it has happened only once among the 11 post-WWII recessions (1960-61). [^]

[3] The cyclical tops and bottoms in real GDP align a bit better with business cycle turning points; it lined up four times (1973-75, 1980, 1990-91 and 2007-09). For the record, during the Great Depression, real GDP contracted more than 32% during the three years ended 1932 Q3. [^]

[4] For the record, after the Great Depression, it took 4¼ years for GDP to recover completely. Annual average civilian employment did not return to its 1929 peak until after the outbreak of WWII in 1940, more than a decade after the fact. [^]

[5] According to the Committee for a Responsible Federal Budget. A fifth package is working its way through Congress. Last month, the House of Representatives passed the Health and Economic Recovery Omnibus Emergency Solutions Act (HEROES) Act and its $3.4 trillion deficit boost (according to the Congressional Budget Office). The Senate will take up the issue next month, and President Trump has already endorsed the idea of more stimulus checks (which is in the House bill). [^]

[6] The current QE purchase pace is a bit above $120 billion per month. Treasury has given the Fed a total of $494 billion to cover any losses in its lending facilities, which is being deployed at a 10% average ratio. This could support up to $4.9 trillion of credit, although the ratios could be increased. As at June 24, there were $115 billion of assets in the various facilities. [^]

Based on the June 12, 2020 Focus article, "A Long and Winding U.S. Recovery Road".

The Leading and Lagging Industries

Prepared by BMO Capital Markets Economic Research

In the previous section, we listed many factors that are acting as headwinds holding back how quickly the economy recoups the GDP lost during the recession. While the massive amounts of fiscal and monetary policy support are fueling powerful tailwinds, the headwinds suggest that it could be past the end of next year before the broad economy recovers completely. Meanwhile, the headwinds will be impacting individual industries to different degrees, some hit much harder than others. This should prevent a complete recovery in the most impacted industries, even past the point when the broader economy starts trekking net new GDP ground.

Below, we look at the major sectors of the economy and some key subsectors to subjectively assess the scope of industry recoveries. Eying early 2022 when real GDP is largely expected to return to pre-pandemic levels, we classify industries into three broad categories: those likely to continue operating below pre-virus levels, those that stand a good chance of returning to normal levels of activity, and those that may well benefit from the pandemic and outperform other industries.

Industries likely to operate below pre-virus levels even by early 2022 include *(see also Table 3)* **[1]:**

Air transportation: International travel will be particularly impacted without widespread inoculation. Travel restrictions are likely to remain in place for the foreseeable future. If customs lines in Asian countries that have started to reopen are any indication, it will take much longer to fly than in the world before the crisis. Video-conferencing will displace some business travel. In the near-term, government support programs will help keep carriers aloft. But, consumer demand will be critical for sustaining the airline industry and it will take a long time before it returns to normal.

Table 3

Industry Performance By Early 2022

Real GDP by Industry (2012 $ blns)

	Level (2019:Q4)	Share (%)	Recovery ratio (%)
Underperformers			
Air transportation	124.6	0.65	70
Accommodation	145.7	0.76	70
Arts, entertainment and recreation	198.9	1.04	70
Food services	379.7	1.98	70
Oil and gas extraction	501.3	2.61	85
Mining and quarrying	45.2	0.24	90
Pipelines	37.3	0.19	95
Transit and other ground	43.3	0.23	95
General merchandise stores	152.6	0.79	95
Motor vehicle and parts dealers	260.6	1.36	95
Other retailers	615.6	3.20	95
Durable manufacturing	1,241.5	6.46	95
Real estate and rental and leasing	2,420.0	12.59	95
Business as usual			
Truck transportation	135.7	0.71	100
Other transportation	143.4	0.75	100
Agriculture, forestry, fishing & hunting	244.9	1.27	100
Utilities	297.8	1.55	100
Other services (ex. public admin.)	368.7	1.92	100
Mgmt. of companies & enterprises	442.8	2.30	100
Administrative & support, waste mgmt. & remediation services	585.7	3.05	100
Construction	653.8	3.40	100
Nondurable manufacturing	943.0	4.91	100
Educational services	1,022.1	5.32	100
Finance and insurance	1,208.4	6.29	100
Public administration	1,425.6	7.42	100
Outperformers			
Wholesale trade	1,136.1	5.91	105
Professional, scientific & tech. services	1,543.1	8.03	105
Warehousing and storage	76.9	0.40	110
Food and beverage stores	129.3	0.67	115
Information and cultural industries	1,228.5	6.39	115
Health care and social assistance	1,462.3	7.61	115
Total	19,214.4	100.00	100

Sources: BMO Economics, Haver Analytics

Accommodation: COVID-19 has led to a dramatic decline in the demand for hotel accommodations. In the U.S., though occupancy rates have moderated to 45% of 2019 levels by early June, revenue per available room was still down 65% y/y. As business travel partly returns, hotels in major centers will see their occupancy rates recover, but international guests will likely be absent for some time. We may see more domestic travel over the next year, which could make up for some lost revenue sources. However, most large gatherings that contribute to accommodation demand

(think concerts, conferences, and festivals) have been pushed off until next year, which will create headaches for the sector.

Arts, entertainment and recreation: Gyms have reopened in many states, but will clients return? Fitness facilities, concerts, and sporting events all rely on consumers being comfortable in crowds. Barring a vaccine, large gatherings might not draw the crowds needed to see a full rebound in the sector. This new reality is already playing out as several big-box gyms recently filed for bankruptcy. Major professional sports appear to be headed toward a summer restart. But, without ticket sales and related spending, only television and merchandising will be available for revenue. While there have been a number of creative new initiatives in the last few months by artists providing concerts over social media or fitness studios offering virtual classes, revenue is unlikely to match in-person sales.

Food services: With more than 30% of food spending in the U.S. dedicated to food away from home, the near shuttering of the restaurant industry over the first phase of the pandemic has led to a dramatic shift in spending. Employment in the sector, as of the May jobs report, was only at 62% of its February level. Returning to normal will be a challenge for the sector. Thin margins mean that the business model often involves cramming as many people into a small space as possible. With health-imposed capacity constraints of around 50% likely to stay in place for some time, it will be hard to sustain a full complement of staff in the restaurant industry. Patio offerings could cushion some staff reductions. Business closures are a heightened risk in the sector. Reinforcing that view, the Census Small Business Pulse Survey confirms that food service firms expect to be the most affected by the outbreak. In the first wave of the survey, 57% of food service and accommodation firms reported their business wouldn't return to previous activity levels for more than 6 months or at all. In the most recent wave, these responses now comprise 71% of these firms. By comparison, the proportion rose from 38% in the first wave to 51% across all sectors [2]. The Paycheck Protection Program (PPP) appears to have reached many single-location independent businesses with 83% of surveyed food and accommodation firms reporting they requested aid and 80% received a loan. With better access to financing, restaurant chains are likely to do better than independent shops that will struggle with reduced capacity. Takeout orders will not compensate for in-person dining losses and will limit employment from fully recovering.

Oil and gas extraction: Despite a partial recovery in crude prices, the still-low price of both oil and natural gas, along with a slow recovery in transportation and travel activity, will restrain energy output for some time. U.S. shale oil, in particular, is likely to experience the sharpest contraction as companies are forced to shut-in production or are bankrupted by the pandemic. This is already being reflected by a 43% decline in electricity demand in the Permian Basin from pre-virus levels by the end of May [3].

Mining: While most virus-related restrictions will likely be lifted by the summer, lingering logistical bottlenecks and low market prices for metals may continue to weigh on mining production even past next year. The collapse in demand has worsened oversupply concerns in certain markets, and some producers will opt

to place mines on prolonged maintenance and curtail expansion plans until prices improve.

Pipelines: Weaker transportation and travel activity will directly impact the volume of energy consumed, particularly for crude oil and petroleum-based products. In contrast, pipelines dedicated to transporting natural gas should hold up relatively better than those reserved for crude oil. Note that gas-related pipelines account for nearly 90% of total pipeline mileage.

Transit and other ground transportation: Even with the use of personal protective equipment, the use of public transportation such as taxis, buses and subways has been slow to improve. Usage will likely remain well below normal levels as long as people are worried about the virus. A possible shift toward remote working will also reduce commuting.

General merchandise stores / Other retailers: As more retail shops reopen, consumers are spending again. Still, many people will buy less than before the pandemic, due to job concerns, and many will opt to buy online to avoid the hassle of protective measures. It's also clear that many retail stores will not survive the pandemic. Even as new stores replace old ones, the physical retail footprint will likely be smaller than before the virus.

Motor vehicle and parts dealers: Auto sales posted a partial rebound in May and will benefit from the release of pent-up demand in coming months. Changes in consumer habits might also support sales, as people will be reluctant to take public transit, and may instead opt for personal vehicles. If auto sales in China are a guide, there is reason for optimism, as sales returned to pre-virus levels in April after plunging 83% in February. Still, North American sales will be restrained by elevated jobless rates and fragile consumer confidence for some time.

Durable manufacturing: As the global economy reopens and business investment improves, manufacturers will see a recovery in demand, especially if there is some shift toward reshoring. Due to extensive automation, many factories should be able to operate with proper distancing measures in place to protect workers. The recovery, though, will be very industry specific. Producers of airplanes, automobiles, appliances and business machinery will likely take longer to bounce back, compared with makers of household non-durable items. Weakness in pockets of the global economy that experience a flare-up in the virus could weigh on U.S. exports of durable goods.

Real estate, and rental and leasing: Home buyers will be wary of making the biggest financial decision of their lives until jobless rates have fallen sharply and concern about a possible second wave of the virus has dissipated. So, while home sales are likely to rebound amid low mortgage rates, the level of demand could remain shy of pre-virus norms. In addition, immigration, notably of nonpermanent residents, could decline if travel restrictions are extended. In the U.S., a temporary 60-day immigration suspension could be extended if the jobless rate stays high. The weakest population growth since the Spanish flu of 1918 will also undermine housing demand.

Industries likely to see business-as-usual by early 2022 include:

Truck transportation / Other transportation: With the pandemic accelerating the shift toward online commerce, the demand for parcel delivery will only increase. And, as the economy regains its footing, demand for trucking should improve. However, one (small) area of transportation that could lag is cruise ships.

Agriculture: Although people need to eat and farming is a relatively solitary business, processor-level disruptions have weighed heavily on farm prices and income. Meatpacking facilities have proven vulnerable to outbreaks of the virus, resulting in temporary closures. In the dairy space, processors have struggled to quickly retool toward retail-friendly packaging amid the closure of the food services industry, which has created a glut of raw milk. And crop producers are struggling with a sharp decline in ethanol production and challenges related to the availability of migrant workers. But, looking ahead, industry strain should ease significantly by early 2022 as food processors adopt more stringent social distancing measures and repurpose toward retail products, and as food service demand gradually improves. Travel restrictions should also be relaxed over time, which will improve the availability of migrant workers.

Utilities: Demand for heating and electricity has taken a big hit from the closure of offices, factories and businesses, with U.S. electricity production down 4.5% in May from February. However, utility usage should gradually improve as the lockdowns are relaxed and businesses turn on the lights.

Management of companies and enterprises: Business managers will be required to shepherd companies through both the downturn and upturn of this historic economic event. Coordinating back-to-work logistics and enhancing productivity will be at the top of their to-do list.

Administrative and support, waste management and remediation services / Other non-government services: The economic recovery should support this broad sector, allowing it to return to pre-pandemic levels by early 2022.

Construction: The construction industry was deemed an essential business in most states and avoided widespread shutdowns. If there's one thing everyone needs, it's a roof over their heads, and prolonged delays in residential construction could cause shortages that erode affordability. Meantime, industrial construction could get a lift from government infrastructure spending to hasten the recovery. Demand for office space, however, will be restrained by increased telework, even if some companies that return to full staffing may require more space to accommodate physical distancing.

Nondurable manufacturing: Demand for food products and essential household items, as well as for petroleum products, should normalize alongside the economy by early 2022.

Educational services: School's out for the season (not forever). The pandemic has given virtual education a boost, and post-secondary establishments without a robust online platform could lag behind their peers, as students may want greater choice between the two methods of delivering instruction. University enrollment could take time to return to pre-virus levels if travel restrictions reduce the number

of international students. In-classroom instruction won't be going the way of the dinosaur, however, as the current forced experiment with online teaching revealed shortcomings and an ongoing need for face-to-face instruction.

Finance and insurance: The financial industry will benefit from increased demand for lower-cost online and mobile transactions, as well as increased underwriting of government debt securities. However, an increase in nonperforming loans could restrain personal and business credit for some time.

Public administration: Governments are playing a larger role in supporting the economic recovery. However, state and local governments, constrained by balanced-budget mandates, have been forced to shed staff due to the closure of public facilities and the loss of business tax revenue. Longer term, even the federal government will need to address its massive budget shortfall, which will constrain program spending.

Industries likely to outperform in a post-pandemic world include:

Wholesale trade: Since they do not have face-to-face contact with consumers, wholesale dealers will be less impacted than retailers by the pandemic.

Professional, scientific and technical services: Professional services, such as legal and accounting, which do not require close physical contact and can be delivered online, should recover relatively quickly when demand improves. High-tech companies are leading the automation and e-commerce revolutions, and will thrive as demand for advanced technology will only gain pace with the ongoing need to maintain some distancing. To boot, most high-tech workers can readily work remotely.

Warehousing and storage: The increased need to store online goods for fast last-mile delivery should lead to greater warehousing needs.

Food and beverage stores: Grocery stores have thrived amid restaurant closures, and should continue to perform well as fewer people will be eating out until a vaccine is found. Besides, many wannabe chefs have had time to brush up on their culinary skills. Some people have been won over by the convenience of online grocery delivery. A wider product offering beyond groceries is another attraction of some food stores (one-stop shopping saves time) amid continued physical distancing.

Information and cultural industries (telecom): The pandemic-related boost from telecommuting and streaming is unlikely to fade. Telecom will likely thrive long after the pandemic, as the U.S. Congress is considering an expansion of broadband, high-speed Internet service to more remote regions. Only 73% of adult Americans currently have broadband access in their homes, and this ratio falls to 63% in rural areas [4]. While film production may still be restricted by distancing rules in early 2022, radio broadcasting is likely to operate close to normal.

Health care and social assistance: Until a vaccine emerges, the health care system will need to remain on guard for new infections, resulting in the need for excess capacity. A large backlog of delayed surgeries and elective procedures will also take time to clear, one reason for the snapback in dental care employment in May. While physicians faced a sharp drop in billings in the initial outbreak, only limited patients are

likely to continue refraining from regular check-ups in 2022. And, in some cases, health care providers are offering online consultations.

Bottom Line: Industries with the greatest chance of exceeding pre-pandemic levels of activity by early 2022 are digital technology, grocery stores, health care, professional/ technical services, wholesalers and warehousing. Those facing the longest headwinds include airlines, entertainment, hotels and restaurants.

Endnotes:

[1] We separate the economy into its 20 major industrial sectors (2-digit NAICS) and further separate some of these industries into their major subsectors (e.g., manufacturing into durables and nondurables) to generate 31 individual sectors. We adjusted the figures to account for the fact that state and local education services are part of public administration and not educational services. The sectors are ranked, first, according to their operating range (lowest to highest), and, second, according to their average economic share (lowest to highest). [^]

[2] https://portal.census.gov/pulse/data/ [^]

[3] https://epic.uchicago.edu/area-of-focus/covid-19/ [^]

[4] https://www.wsj.com/articles/pandemic-builds-momentum-for-broadband-infrastructure-upgrade-11587461400 [^]

Based on the April 24, 2020 Focus article, "Industry Prospects a Year after the Pandemic", by Michael Gregory, Sal Guatieri and Erik Johnson, with files from Aaron Goertzen, Sarah Howcroft and Art Woo.

The New Normal Underpinnings

Prepared by BMO Capital Markets Economic Research

The economy began recovering from the recession in May. As we note in the previous two sections, this recovery is probably going to be drawn out, owing to numerous headwinds. However, because of the massive amounts of fiscal and monetary policy support, it shouldn't take as long as the Great Recession's recuperation period for the broad economy to recover completely. Meanwhile, some industries will keep pace with the overall economy, while others will do better and others will fare worse. Importantly, even for those sectors that fully recover, business may never fully return to "normal". The pandemic has forced many firms and industries to fundamentally change how they do business, and plan to do so in the future. That these re-thinks occurred amid the fastest recession in history only heightened the sense of urgency. Even in our business, people are talking about operational changes made during the pandemic that took days or hours which, in "normal" times, may have taken months or years.

We turn below to some sectors that may be fundamentally changed by broad developments that could unfold as a result of this unique episode, and discuss some potential opportunities in the years ahead. One overarching theme is that the crisis may accelerate and accentuate some trends that were developing in any event. However, it may also lead to some adjustments that may not have happened otherwise:

1

Supply-Chain Dynamics

Ultimately, firms will still look to minimize costs and produce and source as efficiently as possible. Accordingly, one must be somewhat skeptical over just how permanent changes in buying behavior may become. However, there is the strong possibility that regulatory changes and government procurement adjustments could prompt more domestic production of medical supplies, drugs, and some resource products.

From a business perspective, there will at the very least be an extensive re-examination of supply chains, and the possible shortening of such—to the benefit of manufacturing activity in North America. As well, given the vulnerability exposed by this year’s events, firms could invest in building some redundancy into systems. This type of outlay may support targeted capital spending, even though capex aimed at expanding capacity is likely a long way off for the broader economy. In addition, while we are not here to ring the death knell on just-in-time inventories, many firms may look at maintaining greater stockpiles of raw and intermediate materials in the future, giving at least a temporary boost to inventory accumulation. The review of both supply chains and inventory stockpiles was already under intense scrutiny in the wake of recent trade wars—the pandemic has likely accelerated and intensified those reviews.

The jarring shifts in consumer demand associated with the outbreak have also exposed weaknesses in retailers' logistics systems. The crisis may highlight the need for firms to adopt data analytics to improve their ability to handle sudden changes in demand. Large companies have actively been pursuing these strategies for a while now. Walmart, for instance, is now using a shared ledger with its food suppliers to identify

changes in demand from their point-of-sale technology, which has made their logistic systems more efficient. The integration of real-time purchase data into a firm's supply chain strategies has significant scope to allow the retail sector to realize efficiencies in both logistics and to better provide customer engagement through dynamic responses to changes in demand. The scope for further technology investments in the retail and logistics sectors could not come at a more critical juncture, especially to meet requirements for the rapidly growing e-commerce demand and realize cost efficiencies.

2

Remote Working

They say necessity is the mother of invention. With many employees forced to work remotely to flatten the outbreak curve, companies have been compelled to expand telecommuting capabilities so that millions of workers have access to corporate networks. With effective remote-working capabilities now in place, many companies could discover that it's simply cheaper to maintain a significant portion of staff at home, with possibly little attendant loss in productivity. This could eventually serve up savings from forgone office space, travel expenses and overhead. About one-third of employees can work remotely at least for some time, and this ratio is closer to three-quarters for employees in professional, technical and financial services. According to Global Workplace Analytics (GWA), remote working in the U.S. has been growing about 10% per year for a decade, while the Federal Reserve estimates the share of the labor force working remotely has tripled in the past 15 years. GWA estimates the average company saves about US$11,000 for each employee that works remotely for half the year due to better productivity, less absenteeism and lower real-estate costs. It also estimates that employees working remotely for half the time can save from $2,500 to $4,000 annually on commuting and food expenses. Still, the jury is out on whether telecommuting will actually work for most companies. Productivity, and possibly worker morale, may suffer if employees feel isolated for long periods of time. Some employees simply prefer the camaraderie and rapid information flow of an office environment. Nonetheless, more firms may need to consider transforming their workplace along remote lines to stay competitive.

The pandemic has forced a rethink of many roles that were never thought suitable for telecommuting. At the very least, this enforced "work-from-home" policy has introduced options that were never thought possible. Operating from home has drummed up demand for specialized office equipment and furniture. This includes home office supplies, desks, chairs, printers, laptops, tablets, and cellphones. Demand has surged for services such as VOIP connections and greater bandwidth. Technology is critical for effective telecommuting. We've seen a huge increase in web conferences and group chat sessions to keep conversations and discussions flowing, using a variety of now-familiar applications. As time goes on, we'll realize the limitations of some of these applications, while security will remain an issue—no one wants an uninvited guest crashing their virtual meeting.

If there is one silver lining in this global pandemic, it's that people have been forced out of their comfort zones and into realizing that they are capable of changing old

habits and learning new technologies that can enhance productivity and save money for both employees and companies.

3

E-commerce and Mobile Banking

To most retailers, the abrupt downturn in the economy feels like a depression, but not for those with a strong on-line offering, who are hiring staff and boosting wages to manage the surge. Long before COVID-19, bricks-and-mortar stores were challenged by mushrooming e-commerce. U.S. on-line retail sales grew at an average annual rate of 15% between 2012 and 2019, accounting for 11% of all retail spending last year. Fewer commoditized products are thriving offline, even clothing, especially with the increased ease of returning items and faster delivery times for e-commerce. More malls are repurposing to survive the online threat. Many small business owners have moved their operations online during the pandemic, including fitness instructors providing remote exercise lessons and doctors diagnosing illnesses. Some may opt to continue operating in the lower-cost online world long after the pandemic passes, potentially saving on rent and overhead. Self-quarantining has driven more shoppers to download online shopping apps, which could drive a more permanent shift in consumer behavior, notably among seniors. Apart from grocery stores, pharmacies and specialized service providers, many retailers will need to depend on online sales to survive the pandemic. Longer term, they will need to provide a robust online experience to meet the demands of a more technically savvy shopper.

In the banking sector, customers who were previously somewhat reluctant to transact online likely appreciate more of the benefits of doing so now, in terms of convenience and savings in time and money. As more transactions migrate online, financial institutions may restrain their physical footprints without sacrificing customer service, even as in-branch banking remains a vital method for conducting complex transactions and establishing close relationships with clients.

4

Robotics and AI

The enforced social distancing of millions of workers has highlighted important opportunities for further adoption of robotics and AI in the workplace. As Amazon's aggressive hiring during the pandemic has demonstrated, technology is still an imperfect substitute for human workers, even in workplaces where robotics and AI play a key role. However, technology is increasingly used to *complement* labor. At Amazon, robots now move packages between workers, increasing productivity.

Some of these adoptions will represent an acceleration of trends that were already underway. In the retail sector, the use of self-serve kiosks for ordering is not new, but the desire to limit human contact could shift consumer preferences toward shopping and eating at venues offering these features. Having robotics take over human tasks can reduce a firm's wage bill in settings where margins are tight and labor is a major component of costs, or where labor shortages have been a persistent issue.

COVID-19 will also have implications for the use of technology and robotics in public health. Robotic and communication technologies have the potential to significantly reduce contact between patients and medical practitioners, which has been an important mode of transmission during the current outbreak. Technologies that enable

telemedicine and automate patient monitoring, sample collection, and testing could go a long way toward keeping front-line health care practitioners safe. Remote technologies would also enable distant medical personnel to assist those in infection hotspots, which would improve the ability of the health care system to respond effectively during the early stages of an outbreak.

Robotic technologies could also be deployed as part of efforts to monitor and contain future outbreaks. On the monitoring front, automated systems could be used to monitor individuals' body temperatures in public areas and at border crossings, giving authorities valuable real-time information about the spread of infection. Robotic systems could also be well-suited to sterilizing public areas and hospitals, which would help to reduce the spread via surface contact without putting additional personnel at risk.

5

Commercial and Residential Real Estate

The unprecedented broad-based shutting of economic activity poses an enormous challenge for the commercial real estate sector. Many tenants are scrambling to make rent payments or work out arrangements with landlords, especially in segments such as Main Street commercial/retail, where foot traffic and services have been all but reduced to zero. Longer term, the sector could be reshaped by some of the aforementioned trends, creating challenges in some segments, but opportunities in others.

In the office segment, more widespread adoption of remote working, even on a rotating basis, will open up more vacancies than otherwise would be the case. While this represents a cost-cutting opportunity for some firms, landlords and office-oriented REITs could see rents pressured. In major markets where longer-term economic shifts have driven demand for such real estate—think technology and professional services in major markets—the pressure might be less noticeable, at least in prime areas, as space is quickly absorbed. But, in markets that were already struggling this will pose an additional challenge.

On the flip side, increased online shopping will continue to drive demand for industrial and warehouse space. Retail cap rates will continue to be pressured upward. Indeed, this shock could very well accelerate this longer-term trend that was already unfolding in the commercial real estate market. As an illustration, employment in wholesale trade, transportation and warehousing has grown at twice the rate of that in traditional retail over the past decade leading up to the COVID outbreak.

In residential real estate, longer-term shifts could be more subtle. We continue to believe that the biggest urban centers will remain well-supported by demographic and employment-driven demand. But, real estate in more rural locations could draw increased interest for a few reasons. First, if the move toward remote work indeed increases as expected, it could open up an affordability valve by allowing households to settle beyond what are typical commuter-friendly (and increasingly expensive) locations. Also, densification has been the norm in many regions over the past decade (partly policy-driven), but the ongoing social-distancing practice runs counter to that trend. The current experience could alter preferences, causing households to place

more value on large lots and rural settings, and could even bolster investment demand for workable farmland.

6

Real-time Data

The evolution of the information age has created a vast amount of data on the behaviors and activities of people, places and things. Indeed, millions of gigabytes of data are reportedly generated every day, creating an opportunity for "big data" analysis. Given the quantity of information, this looks to be an area where the power of artificial intelligence could be further harnessed. The current crisis clearly shows the potential value of real-time data…from how the pandemic is progressing, the potential for contact tracing, the first order impact on the economy, etc.

Furthermore, real-time data such as hotel occupancy rates, restaurant bookings and mobility tracking have now been made publicly available to capture signs of economic life following the nationwide shutdown. The data are there, it's just a question of harnessing them and ensuring that appropriate privacy and legal issues are accounted for. Firms that can harness and analyze these "big data" will likely have increased opportunities in a post-pandemic world, where real-time information has an even greater value.

7

E-learning

Education reinvented? With global learning institutions essentially shut down, faculties have been forced to move online, kick-starting an unprecedented educational "test". Even after the pandemic is over and the dust settles, the use of e-learning is unlikely to revert to the status quo ante. The virus should accelerate the disruption and could trigger a revolution in how education is delivered and received. In the end, the change could provide greater access and convenience for students (including those in remote locations) at lower costs for governments and private schools. With education technology having its watershed moment, there are plenty of opportunities. First, learning management system (LMS) software is a $182 billion industry according to reportlinker.com and is only poised to catapult from here. Used to deploy and track online learning, end users are not limited to just educational institutions. Businesses, too, will increasingly turn to LMS to offer employee training and skills improvement programs. Second, mobile learning software enables learners to access digital content on the go. Game-like language learning apps are likely to be at the forefront of this realm having spent years improving the personalized and gamified experience of self-paced study. Lastly, analytics software will become more vital and prevalent as the need to measure learning effectiveness increases. Although the traditional classroom model won't disappear anytime soon, blended learning approaches that encompass e-learning should become the new norm. As the entire globe experiments with a new style of instruction, e-learning is bound to revolutionize education.

8

Tourism and Travel

This is a sector that clearly faces a long work-out and potentially severe adjustments. Consumer behavior and psychology are extremely tough to model, but note that U.S. air travel took four years to return to pre-9/11 levels after that traumatic event. While some individuals are likely willing to quickly return to prior behavior, for many others this will take years. Moreover, there is the reality that we can't know when some or all of the cross-border travel restrictions will be eased. The potential result of this could be more local, domestic travel—and more driving vacations, especially with reduced gas prices, fueling demand for related products and services. Beneficiaries could include motels and eating spots in smaller locations, service centers, and even RV dealers and manufacturers (normally highly cyclical industries).

9

AI Vehicles

While this is more of a distant prospect, the need for distancing amid the pandemic may accelerate the demand and urgency for self-driving delivery vehicles. The demand for autonomous vehicles by businesses, and acceptance by consumers, will likely surge once life returns to normal. The Mayo Clinic has been using self-driving shuttles to move COVID-19 tests around their Jacksonville campus. The ability to limit human exposure to hazardous material and free up staff to focus on more important tasks shows the potential value of autonomous vehicle adoption. However, to have a real impact, such technology would need to operate without a human driver trailing the shuttles and be able to expand beyond a contained physical environment devoid of pedestrians and other vehicles.

The rising use of delivery services for food and groceries over the past months has underscored the importance of limiting human-to-human contact. Rather than gig economy workers having to worry about their own health and safety (and their customers'), food and household supplies could show up at your door via drone. At the moment, most companies testing these concepts remain in the pilot phase in controlled outdoor environments (e.g., university campuses). But with the potential for physical distancing being required until a vaccine is available, the need for wider deployment could put pressure on one major hurdle to adoption—regulation. In another space, Rwanda has been using drones to deliver medicine to rural parts of the country since 2016.

10

Preparedness by Businesses and Consumers

As business closures and stay-at-home orders proliferated alongside the spread of COVID-19, the panic buying that emptied store shelves and the shortages of personal protective equipment that put healthcare workers and others at risk became harsh reminders of the importance of preparedness for governments, businesses and households. And, it's not just about preparing for the next pandemic. Before the faces of exasperated healthcare workers flooded the media, there were the faces of exasperated firefighters battling Australian bushfires, which also reminded about the need for preparedness owing to extreme weather events caused by climate change. We judge that outlays and activities related to preparedness will become a permanent fixture on the economic landscape.

For households, this involves establishing, replenishing and maintaining emergency pantries and precautionary savings. Emergency pantries would include non-perishable food and other essential household items, and, without increased household budgets, these purchases would likely supplant outlays on non-essential goods and services.

The rule of thumb about maintaining emergency savings to cover at least three months' worth of living expenses could increasingly become more common. However, in an environment of extremely low interest rates, consumers will be looking for higher-yielding, but still-safe options such as money market funds that invest only in short-term government securities or repos fully collateralized by government securities. As household funds are diverted to saving, this could compound with outlays on emergency pantries to act as a more persistent drag on non-essential outlays. At the very least, the crisis and sudden income losses may reinforce the need for precautionary savings among households.

Based on the April 17, 2020 Special Report, "Post-Pandemic Economy: Building a Bridge", by Douglas Porter with files from Aaron Goertzen, Michael Gregory, Sal Guatieri, Erik Johnson, Robert Kavcic, Jennifer Lee, Benjamin Reitzes and Priscilla Thiagamoorthy.

U.S. Economic Outlook

BMO Capital Markets Economic Department forecasts as of June 26, 2020

		2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2021 Q3	2021 Q4	2019	2020	2021
Production												
Real GDP (chain-weighted)		-5.0	-40.0	36.0	7.0	5.9	5.2	4.1	3.2	2.3	-5.5	5.0
Final Sales		-3.5	-38.2	29.7	6.9	5.6	5.1	4.1	3.3	2.2	-5.0	4.5
Final Domestic Demand		-4.6	-35.5	30.0	6.9	5.5	5.0	4.1	3.3	2.3	-4.7	4.8
Consumer Spending		-6.8	-40.0	41.2	7.9	6.0	5.7	4.7	3.6	2.6	-5.3	5.9
Durables		-13.8	-45.0	50.0	8.0	7.0	5.0	4.0	3.0	4.8	-6.7	6.1
Nondurables		8.0	-30.0	35.0	7.0	6.0	5.0	4.0	3.0	3.2	0.2	5.9
Services		-9.8	-42.2	41.5	8.1	5.8	6.0	5.0	4.0	2.1	-6.8	5.8
Government Spending		1.1	-1.8	3.1	2.8	3.1	3.1	2.6	2.4	2.3	1.5	2.6
Business Investment		-6.4	-41.0	18.1	7.0	5.4	4.2	3.4	2.4	2.1	-9.3	2.6
Non-residential Construction		2.6	-60.0	20.0	7.0	5.0	3.0	3.0	2.0	-4.3	-15.6	-0.3
Equipment		-16.6	-40.0	20.0	7.0	5.0	4.0	3.0	2.0	1.3	-11.8	2.7
Intellectual Property		1.3	-30.0	15.0	7.0	6.0	5.0	4.0	3.0	7.5	-2.8	3.9
Residential Construction		18.2	-60.0	30.0	9.0	7.0	5.0	4.0	3.0	-1.5	-7.0	2.1
Exports		-9.0	-67.3	20.1	6.5	4.0	3.0	2.5	2.2	0.0	-18.1	-2.1
Imports		-15.7	-48.6	25.0	6.7	3.9	2.9	3.0	2.5	1.0	-13.8	1.7
Inventory Change	2012$ blns : a.r.	-74.8	-192.0	10.0	18.0	33.0	37.0	38.0	38.0	64.2	-59.5	36.5
Contrib. to GDP Growth	ppts : a.r.	-1.6	-2.4	4.9	0.2	0.3	0.1	0.0	0.0	0.1	-0.6	0.5
Net Exports	2012$ blns : a.r.	-816.6	-915.9	-988.0	-1005.2	-1014.0	-1020.4	-1030.3	-1038.2	-953.9	-931.4	-1025.7
Contrib. to GDP Growth	ppts : a.r.	1.3	-2.1	-1.7	-0.4	-0.2	-0.1	-0.2	-0.2	-0.2	0.1	-0.5
Nominal GDP	$ blns : a.r.	21,540	18,907	20,522	20,958	21,342	21,690	21,987	22,253	21,428	20,482	21,818
Growth	q/q % chng : a.r.	-3.4	-40.6	38.8	8.8	7.5	6.7	5.6	4.9	4.1	-4.4	6.5
Real GDP	y/y % chng	0.3	-12.2	-5.7	-4.5	-1.9	12.8	5.6	4.6			
Inflation												
GDP Price Index		1.4	-0.8	2.1	1.6	1.6	1.4	1.4	1.6	1.8	1.2	1.4
Core PCE Deflator		1.7	-1.2	0.6	1.1	1.4	1.1	1.0	1.4	1.6	1.0	1.0
CPI All Items		1.2	-3.5	2.9	1.9	1.8	1.5	1.5	1.7	1.8	1.0	1.5
Ex. Food and Energy		2.0	-1.8	0.6	1.4	1.7	1.3	1.2	1.6	2.2	1.2	1.1
Food Prices		2.9	10.0	2.8	2.0	2.0	2.0	2.0	2.0	1.9	3.6	2.6
Energy Prices		-10.2	-43.7	28.2	6.6	3.0	2.4	2.4	2.4	-2.1	-8.1	2.2
Services		2.8	-1.1	1.7	2.0	2.0	2.0	2.0	2.0	2.7	1.9	1.8
CPI All Items	y/y % chng	2.1	0.5	0.7	0.6	0.8	2.0	1.7	1.6			
Ex. Food and Energy	y/y % chng	2.2	1.2	0.7	0.5	0.5	1.3	1.4	1.5			
Core PCE Deflator	y/y % chng	1.7	1.0	0.6	0.5	0.5	1.1	1.2	1.2			
Fed Funds Rate	% : qtr. avg.	1.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	2.13	0.38	0.13
90-Day T-Bill	% : qtr. avg.	1.13	0.15	0.15	0.15	0.15	0.15	0.15	0.15	2.10	0.40	0.15
3-Month Libor	% : qtr. avg.	1.53	0.65	0.30	0.30	0.30	0.30	0.30	0.30	2.34	0.70	0.30
10-Year Bond Yield	% : qtr. avg.	1.38	0.70	0.80	0.95	1.05	1.10	1.15	1.25	2.14	0.95	1.15
10-Yr BBB Corp Spread	ppts : qtr. avg.	2.16	2.85	2.45	2.40	2.35	2.35	2.35	2.35	1.81	2.47	2.35
Foreign Trade												
Current Account Balance		-417	-558	-593	-612	-624	-630	-639	-647	-480	-545	-635
Share of GDP		-1.9	-3.0	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.2	-2.7	-2.9
Merchandise Balance		-769	-792	-838	-858	-871	-882	-894	-905	-864	-814	-888
Non-Merchandise Balance		353	234	244	246	247	252	255	258	384	269	253
Yen	¥/US$: qtr. avg.	109	108	108	110	111	112	113	115	109	109	113
Euro	US$/€ : qtr. avg.	1.10	1.10	1.14	1.15	1.15	1.15	1.16	1.16	1.12	1.12	1.16
Pound	US$/£ : qtr. avg.	1.28	1.24	1.26	1.25	1.26	1.27	1.28	1.30	1.28	1.26	1.28
Trade-Wt. Dollar (broad)	Jan '97=100	117.8	122.7	120.7	119.7	119.0	118.4	117.8	117.1	115.7	120.2	118.1
WTI Spot	US$/bbl : qtr. avg.	45.8	26.7	37.5	40.0	42.5	42.5	45.0	50.0	57.0	37.5	45.0
Henry Hub Spot	US$/mmbtu : qtr. avg.	1.9	1.8	2.0	2.3	2.3	2.1	2.2	2.4	2.6	2.0	2.2
Incomes												
Pre-Tax Profits with IVA and CCA		-6.9	-24.0	-20.3	-20.4	-7.5	10.9	7.4	6.2	0.0	-18.0	3.8
Personal Income		3.2	6.8	3.4	3.0	3.2	-0.4	3.2	3.7	4.4	4.1	2.4
Real Disposable Income		1.7	6.4	2.3	1.9	2.0	-2.2	1.8	2.3	2.9	3.0	0.9
Savings Rate	% : quarterly avg.	9.6	23.7	14.5	13.0	12.1	11.5	11.1	10.8	7.9	15.3	11.3
Other Indicators												
Unemployment Rate	percent	3.8	13.0	9.8	9.0	8.1	7.3	6.6	6.2	3.7	8.9	7.0
Housing Starts	mlns	1.48	1.00	1.25	1.31	1.28	1.29	1.29	1.30	1.30	1.26	1.29
Existing Home Sales	mlns	5.48	4.11	4.93	5.25	5.28	5.29	5.30	5.31	5.33	4.95	5.29
Home Prices (Case-Shiller)	y/y % chng	3.5	1.0	0.3	-0.2	-0.8	1.5	2.7	2.7	2.4	1.1	1.5
Motor Vehicle Sales	mlns	15.2	11.3	14.7	15.6	15.0	14.9	15.4	15.6	17.0	14.2	15.2
Civilian Employment	q/q % chng : a.r.	-2.2	-41.4	30.1	7.6	5.3	4.5	3.5	2.6	1.1	-5.8	4.0
Industrial Production	q/q % chng : a.r.	-6.9	-43.4	41.4	13.6	4.9	4.5	3.7	2.6	0.9	-6.9	5.8
CBO Budget Deficit	% of GDP									-4.6	-16.0	-8.0

Shaded values represent forecasts

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