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GLOBAL Insight

Wealth Management

Perspectives from the Global Portfolio Advisory Committee

September 2021

Food for thought

Technology-driven solutions offer the promise of feeding a growing global population while limiting the burden on the environment.

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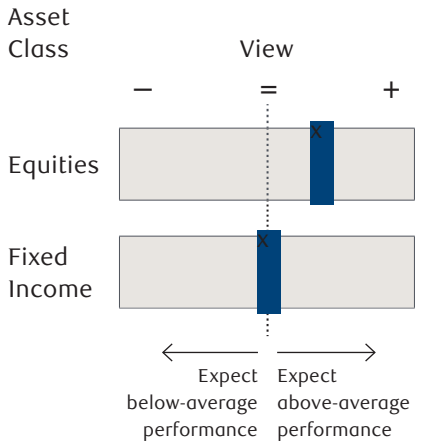

(+/=/–) represents the Global Portfolio Advisory Committee's (GPAC) view over a 12-month investment time horizon.

+ Overweight implies the potential for better-than-average performance for the asset class or for the region relative to other asset classes or regions.

= Market Weight implies the potential for average performance for the asset class or for the region relative to other asset classes or regions.

– Underweight implies the potential for below-average performance for the asset class or for the region relative to other asset classes or regions.

Source - RBC Wealth Management

EQUITIES

- Having enjoyed a rapid bounce in activity thanks to reopenings, most economies are facing a more subdued and uneven growth path. The COVID-19 resurgence and the shortage of computer chips are some of the factors weighing on prospects. This change of pace, and the uncertainty regarding a potential shift in Fed policy, could herald additional short-term volatility.
- Nevertheless, we maintain our modest Overweight suggested position in global equities. The continued availability and affordability of credit as well as the comparatively strong financial positions of households and businesses are some of the key reasons we believe investors should not give up on this bull market just yet.

FIXED INCOME

- Global yields have shown signs of bottoming as concerns over COVID-19 variants and risks to the economic outlook remain elevated, but seemingly still manageable. The Fed continues to take steps toward a formal announcement on asset purchase tapering plans at upcoming meetings, but we think, regardless of timing, it has been fully priced by markets. Global central banks are, for the most part, likely to stay on track to dial back policy accommodation over coming quarters, but should remain in risk management mode and supportive of respective economies and markets.
- We favor shorter maturities in government debt as we continue to position for modestly higher yields into the end of the year. In credit markets, valuations have pulled back slightly from historically rich levels, but corporate bond yields remain low in sympathy with low government bond yields, though we still expect credit to outperform government debt through the end of the year.
- We maintain our Market Weight in global fixed income, but continue to reduce interest rate risk exposure as global yields are still expected to rise modestly on a continued repricing of a strong economic recovery. We maintain a modest Overweight to corporate credit, primarily via preferred shares and leveraged loans.

MONTHLY
Focus

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Food for thought

Today's realities and tomorrow's challenges are calling for new, technology-driven food production and distribution solutions spanning a range of activities from farm to table. In the fifth article in the SusTech series, we look at technologies that offer the promise of feeding a growing global population while limiting the burden on the environment.

One of the biggest challenges of the coming decades is how to feed a growing world population despite limited scope to expand agricultural land and reduced labor supply due to urbanization. And all of this is coming against the backdrop of unpredictable and extreme weather patterns arising from climate change.

It is a task of herculean proportions. A University of Washington study forecasts that the world population, currently at 7.8 billion, could peak at 9.7 billion in 2064, an addition equivalent to close to six times the U.S.'s current population. To sustain current food consumption patterns, the Food and Agriculture Organization (FAO) of the United Nations predicts food production would have to rise by a whopping 50 percent.

The massive environmental impact makes this scarcely sustainable. Agriculture is the single-largest user of freshwater, accounting for over 90 percent of global annual freshwater consumption, according to our national research correspondent, while single-handedly generating 18 percent of greenhouses gases (GHGs) worldwide (for more, see our article on climate change). Too many harvests can also lead to soil degradation.

Consumers are doing their part. Concerned about the carbon footprint of their food as well as their own health, they are becoming more discerning. Healthy eating is a priority for many, and preferences are undergoing a seismic shift.

To meet the challenges, agriculture and food industries have to adapt, the former by delivering more food from fewer resources, the latter by producing healthier food via methods that are less harmful to the planet. Demand for tools and solutions to increase productivity and boost profits has increased as it is clear that technical innovations are needed.

In this report we look at some of the innovative agricultural methods offered by AgriTech that aim to optimize crop yields and efficiencies, and the FoodTech solutions that seek to satisfy consumers' new demands.

AgriTech

Technical solutions from farm to table that increase crop yields while reducing stress on the environment

We highlight a few key strategies to deliver more with less: increasing yields on agricultural lands; controlled environment farming; and supply chain efficiencies. Many of the innovative solutions driving these strategies are already in use in some parts of the world, but we believe their adoption will become increasingly widespread over the next decade.

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Increase yields on agricultural lands

Precision farming

Tractors, harvesters, and other self-propelled farming vehicles have come equipped with GPS capability for the past couple of decades. More recently, drones equipped with autonomous controls, crash avoidance systems, and an array of sensors are making farming more precise and productive by assessing soil moisture and nutrient deficiencies, as well as crop density and health. This can save valuable work hours and reduce costs while improving farm knowledge through the collection and processing of millions of data points.

Drones can be used to spray powdered insecticide or fertilizer on specific areas to sow seeds, as well as be employed to monitor weeds and pests. Drone-enabled infrared mapping can allow a farmer to assess crop conditions at a cost as low as $5 per acre, according to a 2018 paper from Deloitte. The study argued that the information provided by a drone could permit farmers to boost crop yields by up to 20 percent. As the technology evolves, it noted that farmers will be able to see all the problem areas on a field within minutes, whereas with the traditional method of walking and observing, they would detect a mere 10 percent of them.

Another precision farming solution is smart irrigation, which uses sensors to determine and apply the exact amount of water required by plants. A valuable alternative to flood irrigation, still the most common form of irrigation throughout the world, smart irrigation can enhance yields while

Some AgriTech strategies to deliver more with less

Some innovations are already adopted but will become increasingly widespread

Strategies	Solutions
Increase yields on agricultural lands	• Precision farming – Satellite imaging, drones, sensors – Smart irrigation and soil technologies – Data analytics with artificial intelligence and big data – Internet of Things and connectivity • Gene technology – Disease and pest resistance – Biofortified plants – Plant phenomics and smart phenotyping
Controlled environment farming	• Greenhouse and indoor farming technologies • Vertical farming • LED lighting systems • Aeroponics and hydroponics
Supply chain efficiencies	• Direct farm-to-consumers (meal kit delivery, e-groceries) • Waste reduction technologies – Crop waste reuse – Cooling and storage solutions – Cold chains – Smart packaging

Note: Phenomics measures the phenotypes (physical and biological traits) that can be produced by a plant as it develops and as it responds to its environment

Source - RBC Wealth Management

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dramatically reducing water and electricity consumption. Despite these savings, the upfront costs of installing the technology can be prohibitive, thus making it challenging to be widely accessible.

Further into the future, but perhaps not that much further, Deloitte expects big data analysis will be used to direct robotic systems to spot pests on a plant and blast the appropriate amount of pesticide, or even to recognize ripe fruit and pick it. Thanks to machine learning, robots could be used to harvest a crop, perhaps even predicting harvest periods while anticipating packing and logistics requirements.

In a report issued in 2020, consulting firm McKinsey found that in the U.S., only a quarter of farms have adopted connected equipment, and most of these use the more limiting 2G or 3G networks. With better wireless connectivity, including 5G, it is possible to imagine a world where all the equipment on a farm is synchronized, sharing data to make optimal decisions and implement them from seed to end product. McKinsey posits that advanced connected infrastructure will cover four-fifths of the global agriculture landscape (excluding Africa) over the next decade.

All this change will require substantial reskilling of farmers. Dealers and vendors of farming equipment will likely play an instrumental role in educating and training farmers to the extent that their business success will no longer depend solely on product sales, but equally on how successfully farmers utilize equipment.

Precision farming through digital technologies can improve efficiency, reduce costs, and increase farmers' returns on investments. According to our national research correspondent, precision farming via artificial intelligence, drones, autonomous machinery, and smart irrigation systems could yield productivity increases of up to 70 percent by 2050.

Gene technology

In the past, fertilizers and seed technologies have been the key drivers of increasing yields. Farmers have been cross-breeding to obtain more robust, productive plants for thousands of years. Genetically modified (GM) crops can be higher-yielding, more tolerant of both drought and heavy rain, and display greater resilience to pests and diseases. Despite widespread consumer resistance to GM foods, such products are unlikely to go away given the challenges outlined at the outset of this article. In fact, there very well may be more pressure to use them. In 2016, more than 100 Nobel laureates signed a letter in support of GM crops and foods, pointing out that distrust is misplaced and outlining their advantages in feeding a world population that is increasing while environmental challenges are escalating.

Controlled environment farming

With several major regions that have traditionally supplied much of the world's food now struggling with disasters brought on by climate change, safe and economical food procurement has become front of mind. Canada is a case in point. In the winter months it is highly dependent on California, where crops have been imperiled by droughts and wildfires, to supply fresh fruits and vegetables. Shortages stemming from the COVID-19 pandemic

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have only exacerbated supply disruptions, with the realization that a global crisis can freeze supply chains and force trading partners to withhold exports. Moreover, in most developed countries, urbanization has led to a scarcity of farmland around cities. Transportation and intermediary costs can be more than 50 percent of total food costs, according to our national research correspondent, so a solution to ensure economical food supply security has become a priority.

Controlled environment farming is becoming an increasingly compelling option to combat these challenges. Often located on the outskirts of cities, vertical farms grow produce by vertically stacking large trays containing seeds and plants. Within the vertical farm, critical environmental factors are controlled, including light (with efficient LED technology using only the red and blue light spectrum needed by the plants), humidity, and temperature. Pests are largely eliminated. Vertical farms can optimize yields as, for example, they can produce 20 times more lettuce than agricultural fields.

Vertical farms can make use of a variety of cultivation methods. Aeroponics consists of growing crops in the air and spraying the roots with a nutrient-filled water solution. Our national research correspondent points out that according to vertical farming leader AeroFarms, this method uses 95 percent less water than traditional farming. Alternatively, hydroponics, where plants grow in a nutrient-water solution, can also be used. Our national research correspondent estimated that this method requires 12.5 times less water per kilogram of lettuce per year.

Beyond shielding crops from unfavorable weather conditions and using less water, controlled environment farming has many other advantages: avoiding soil erosion, reducing the distance between farm and market, lowering dependence on climate-threatened imports, and largely eliminating pesticides and herbicides as input costs. But we acknowledge there are drawbacks. For example, should a technological problem arise, it could shutter the entire production process. It is also true that so far the applications have mostly been limited to the production of leafy greens. More innovations, such as a new generation of LED lights and seeds that are optimized for indoor environments, will be needed to make these techniques economically feasible for the production of a broader selection of fruits and vegetables and to lower operating costs.

To be clear, controlled environment farming is not about to replace traditional farming altogether. Challenges such as the availability of low-cost land and prohibitive zoning laws remain significant hurdles and are the main reasons why Canada, for instance, is struggling to keep pace with the leaders in this field, including the Netherlands, Israel, the U.S., and Singapore. But to the extent that controlled environment farming can generate a much higher production yield—without being subject to the vagaries of the weather while consuming only a fraction of the freshwater—these approaches can go a long way towards improving food supply security.

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Supply chain efficiencies

According to the World Wildlife Fund, a whopping third of the food produced globally goes to waste, or enough to feed three billion people. As it rots, this wasted food produces methane, an especially damaging GHG that is 25 times as potent as CO_2 in trapping heat in the atmosphere, according to the U.S. Environmental Protection Agency. Reducing the amount of waste could see more food reach growing populations and also lower GHG emissions. Several solutions, including "cold chains" and smart packaging, can help to optimize various stages along the supply chain.

Techniques to reduce waste

Efficiencies can be gained all along the supply chain

Harvesting	Handling & storage	Processing & packaging	Distribution to wholesale or retail markets	Consumption (home, foodservice)
• Improve harvesting techniques • Convert unmarketable products into process products	• Improve storage techniques • Introduce cold chains	• Improve order management • Improve factory equipment efficiency • Introduce smart packaging • Alter production process	• Improve food date labeling system • Modify cosmetic standards to improve salability of imperfect (blemished) products • Modify promotional strategies	• Reduce package sizes • Promote imperfect products

Source - RBC Wealth Management, national research correspondent

A cold chain is a temperature-controlled supply chain. An unbroken cold chain is an uninterrupted series of refrigerated production, storage, and distribution activities, along with associated equipment and logistics, which maintain quality through stable, low temperatures. This process can help preserve and extend the shelf life of produce, seafood, and other perishable foods.

Improving product traceability for just-in-time delivery can reduce inventories and, to the extent that information such as shelf life, moisture, and freshness is available to a tracking device, enhance supply chain efficiency. One solution is smart packaging, which uses sensors or smart labels to monitor product quality and storage conditions. Some forms of smart packaging can trace tampering within the supply chain or alert a distributor/grocer/consumer to spoiled or contaminated food. Smart packaging is widely used in health care, and is increasingly finding its way into the food supply chain. More widespread use could meaningfully reduce spoilage and extend shelf life.

FoodTech

Technologies that aim to ensure food habits are sustainable, reducing the burden on the environment

The food industry has benefited from many technological innovations in recent years. As an example, Sufresca, an Israeli company, has developed edible coatings that extend the shelf life of fruits and vegetables and reduce the need for plastic packaging.

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Some FoodTech strategies to deliver more with less

Alternative proteins will continue to gain share

Strategies	Solutions
Shelf life enhancement	• Edible coatings
Alternative proteins	• Look-alike – Cell-based or lab-grown meat – Plant-based dairy, meat, fish, eggs • Non-look-alike – Products made from beans, soy, mushrooms, chickpeas – Algae and insects

Source - RBC Wealth Management

However, the most talked about innovations of the past few years are the development of plant-based proteins, which stand out for their much lower environmental impact. RBC Capital Markets explored the potential for plant-based proteins in a recent report titled "Uprooting tradition: What plant-based alternatives mean for the future of protein" from the RBC Imagine™ series. Concerns about the environment, personal health, and, to a lesser extent, animal welfare have escalated in recent years. A 2019 Euromonitor survey found that as much as 46 percent of consumers globally restrict their consumption of animal products. Developments regarding taste, availability, and price are increasingly enabling consumers to align their purchases with their values, and without compromising their lifestyles. For example, oat milk, once a niche product, is surging in popularity. It is now very creamy and able to froth, and is thus taking share from traditional dairy as well as from other plant-based milk, such as rice milk and soy milk.

Plant-based meat substitutes which replicate processed meat products, such as burgers, chicken strips, or sausages, are a particularly interesting innovation. These are often made by altering pea proteins or fermented mycoproteins, also known as fungal proteins, to recreate the texture and appearance of real meat.

Early evidence suggests that such plant-based products have a materially less environmental impact than livestock farming, which is responsible for a significant proportion of methane emissions and water usage (see our SusTech article). A University of Michigan study on Beyond Meat, a U.S.-based producer of plant-based meat substitutes, estimates that the production of one of the company's identical meat substitute burgers uses 99 percent less water and emits 90 percent less GHGs than that of an equal-sized meat burger. Even allowing for the fact that so far the environmental impact data comes only from the manufacturers, it is unlikely, in RBC Capital Markets' view, that plant products could ever have a greater environmental footprint than animal products.

The market share of plant-based meat is currently low, as consumers remain very discerning about taste in this "indulgent" category, according to RBC Capital Markets. Plant-based meat substitutes have only achieved low single-digit penetration, paling in comparison to plant-based milk, which enjoys a market share ranging from 10 percent to 15 percent in developed markets, and as high as 40 percent in Asia given the prevalence of lactose intolerance among people in the region.

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But its market share should increase, in our view. Accelerating investment and innovation are driving marked improvements in taste, availability, price, and convenience (e.g., easy to cook). The category grew by 12 percent annually in the two years to 2019, and given continued advances as well as consumer interest, RBC Capital Markets thinks brisk growth is sustainable, forecasting an annual growth rate of 10 percent until 2030.

Still, our national research correspondent notes that while market penetration should increase, it is unlikely to reach the market share levels that plant-based milk has achieved, at least in the short term. Milk, after all, is mostly a commodity while meat isn't.

Beyond this, cell-based or lab-grown meat has generated a lot of attention since news broke of the first lab-grown burger in 2013. This food product is grown in labs from animal cells but with a very low environmental impact and without requiring the industrial-scale slaughter of animals. Currently on sale only in Singapore, this type of meat is years away from commercialization elsewhere and isn't likely to have a large impact on the market in the short term.

Barriers to wider adoption of these meat "look-alikes" include the difficulty in replicating whole muscle cuts, with visible fat marbling and muscle fiber textures. The category has been successful mostly at replicating ground or processed products. The often substantial price premium that plant-based identical meat commands is another barrier, though costs should come down, in RBC Capital Markets' view, as supply chain capacity increases and producers scale and consolidate. Finally, while plant-based substitutes that look like meat are vegetable-based, they are highly processed, which somewhat tarnishes their "health food" credentials.

Other than these plant-based look-alikes, there are a number of products that are a substitute for meat but are not meant to taste or look like it. These derive from high-protein vegetables, such as beans, soy, mushrooms, and chickpeas, and have gained consumer acceptance in recent years, with the exception of the soy stand-in. An early leader in alternative protein, soy's market share has declined over concerns regarding potential allergenic and estrogenic effects.

Other protein-rich replacements to meat include algae- and insect-based alternatives, sold whole or in flour. But after years of promise, the new plant-based technologies discussed above make these two sources less compelling as a primary animal protein substitute. This is unfortunate as, according to a paper from McKinsey, insect protein is very efficient in converting feed into edible weight, requiring just over two kilograms of low-quality feed to produce one kilogram of live animal weight. By contrast, beef requires significantly more feed and of better quality (close to nine kilograms of feed to produce one kilogram of live animal weight).

In the long term, RBC Capital Markets thinks it's likely that the plate of the future will be a mix of traditional, plant-based, and cell-based meat. Depending on the proportion each achieves, cell-based could eventually pose a threat to the plant-based category, in its view.

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Animal protein will likely continue to dominate for now, however, especially as meat consumption increases in developing nations as standards of living rise. But plant-based proteins are likely to continue to gain market share as technology improves and prices fall.

So as not to be left behind, many food companies are making the required investments in alternative proteins. Those that saw the opportunity and acted on it early will likely benefit from a first-mover advantage with regards to recipe, processing technology, and relationship with distribution channels, be they retailers, food distributors, or even consumer goods companies. For global, multi-brand and multi-product food companies, plant-based alternatives have yet to make a sizable difference to their operating performance, though in RBC Capital Markets' view, as the category expands, it should become more meaningful for sales growth and valuation. It points out that Nestlé's revenues are more than 200 times those of Beyond Meat, a pure play, plant-based alternative meat producer, but its market capitalization is only 50 times larger.

Feed off the changes

Feeding a growing population in the face of shrinking farmland worldwide and all-too common extreme weather events that wreak havoc on food production is an enormous task. Technological advancements in both the agriculture and food industries can help mitigate these problems. These two industries will see important changes over the coming years. We believe companies that innovate and bring their solutions to the mainstream and those that adopt new technologies early should be in a good position to reap the benefits of their forward-looking strategies.

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Focus

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Reassessing the playing field

As the COVID-19 delta variant spreads worldwide and inflation persists in the U.S., we get the thoughts of Eric Lascelles, RBC Global Asset Management Inc.'s chief economist, about how the economy is coping and how long this growth cycle could last.

Relentless COVID

Kelly Bogdanova (KB) – Just when people thought the bulk of the COVID-19 risks had passed, the delta variant asserted itself. How is this impacting economic activity and your expectations of growth?

Eric Lascelles (EL) – The pandemic would be well in hand by now if it wasn't for the arrival of the more contagious delta strain. While only a few countries have significantly locked down in response and some nations even continue to ease restrictions—such as the UK—individuals and companies are behaving somewhat more cautiously as infections again rise. In turn, the economic recovery is decelerating from the enthusiastic clip that marked the first half of 2021.

Many U.S. companies—including large tech firms and banks—have delayed their return-to-office plans to early 2022 from September 2021. Real-time measures of hours worked, office occupancy, and commercial flights have recently edged lower after lengthy advances.

The calculus is a tricky one for governments. The public tolerance for further lockdowns is low and the rollout of vaccines—despite an incomplete uptake—should keep hospitalizations and fatalities from spiking to the same extent as infections. A mix of vaccine passports and vaccine mandates are increasingly being used as a less damaging solution than blunt lockdowns.

China merits some attention in this next context. While it has successfully limited its exposure to the pandemic for well over a year and staged a remarkable recovery in so doing, the country's zero-tolerance approach could prove costly in the face of the highly contagious delta variant. Australia, which has pursued a similar strategy, is now seemingly stuck in an endless cycle of harsh lockdowns. In turn, as pockets of China have recently been locked down, concerns are mounting about the implications for the global economy, commodities, and financial markets.

As we look to the year ahead, robust growth is likely to remain the order of the day. The U.S., eurozone, and Canada are set for nearly 4% growth, and the UK may grow closer to 5% in 2022. However, with a new drag from the delta variant, China potentially slowing, less natural buoyancy as economies approach normality, and the prospect of fading fiscal and monetary support, these forecasts have been downgraded moderately from the prior quarter, they budget for a further economic deceleration, and they are ultimately mildly below the consensus.

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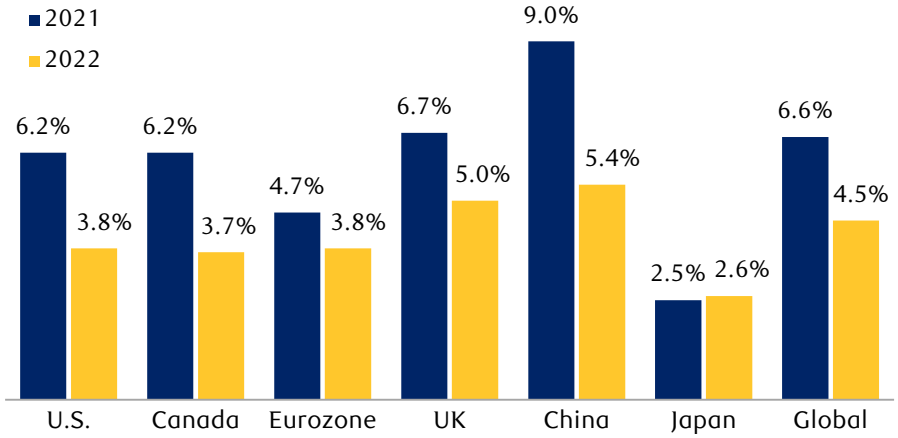
Reassessing the playing field

Growth projections remain strong despite recent softening

RBC Global Asset Management's Real GDP growth forecasts



Source - RBC Global Asset Management; forecasts as of 8/23/21

With growth set to soften, but remain above the long-term trend, one might expect the return on risk assets to remain mostly positive, but to be more muted than over the past year.

Tight *and* loose labour market

KB – We often hear from American and Canadian business owners about challenges they are facing due to ongoing labour shortages. Some are hopeful the situation will improve either when school starts, which could prompt some people to actively start looking for work, or when COVID-19-related support payments are exhausted. What are your thoughts on the labour market?

EL – The labour market is in the highly unusual situation of being extremely tight and extremely loose at the same time. Unemployment rates remain elevated, yet job openings are also high.

This appears to be a function of two things. First, demand has revived almost instantaneously as restrictions on the economy have been removed, but it takes longer for supply to be restored: it can be a lengthy process to hire workers, order inventory, and so on. We think this mismatch will take several quarters to resolve.

Second, the pandemic itself has motivated some workers to exit the workforce due to the fear of getting sick, the option of receiving government support payments, and/or insufficient childcare availability during school closures.

As schools reopen, government supports fade, and vaccines are administered, these concerns are fading and people are returning to the workforce. It is probably unrealistic to expect a large jump in the labour supply when schools start as research suggests that has been a comparatively minor constraint.

But there is little reason to think the labour force participation rate will be permanently depressed by the pandemic, and one might even posit that the labour force participation rate could be permanently increased

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if the flexibility of virtual working allows more people to overcome family responsibilities and geographic constraints.

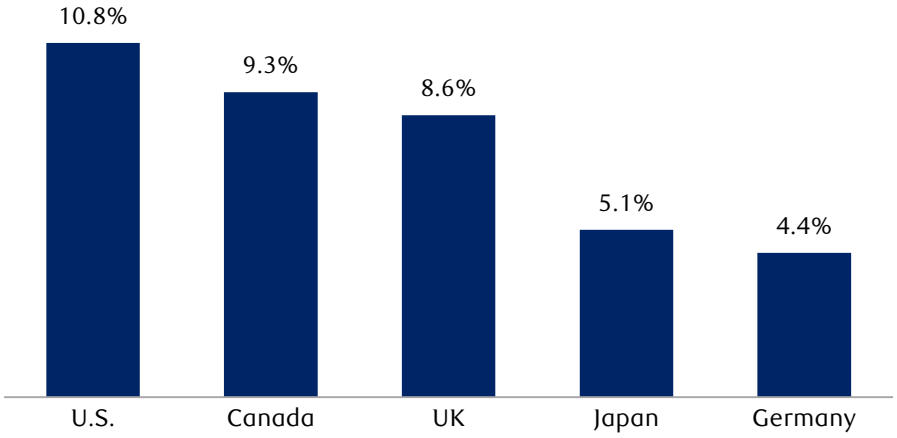
A torrent or a trickle

KB – Let's turn to a topic some forecasters are optimistic about—excess savings. Households are flush with cash due to lower spending levels throughout much of the pandemic and unprecedented, generous cash stimulus payments. Some economists argue that a good portion of this cash will be unleashed into the economic system as the pandemic wanes, supporting growth. Are they being too optimistic?

EL – This is a big debate among forecasters. To what extent will households spend the excess savings they have accumulated during the pandemic? Whether economic growth over the remainder of this year and into 2022 is good versus spectacular will be determined in significant part by the answer. There are quite literally trillions of dollars at stake. That's because excess household savings is very high as a proportion of GDP in many developed countries, particularly in the U.S., Canada, and the UK.

Households have built up considerable excess savings during COVID-19

Excess household savings during pandemic as percentage of GDP



Source - RBC Global Asset Management, Macrobond; data as of March 2021 for all countries, except December 2020 data for Japan

The optimistic interpretation of this is that households will eventually release a torrent of cash, boosting the economic outlook. However, there is also a pessimistic interpretation. Our own view lands somewhere between the two extremes, but with more sympathy for the cautious view.

First, the longer households hold off from deploying their excess savings, even as the economy normalizes and restrictions fade, the more it argues they simply aren't going to spend this money. Along these lines, keep in mind that excess savings aren't just money sitting in a wallet or bank account. They also represent money that has been invested in financial markets or as a down payment on a home. Money deployed in that fashion doesn't count as being "spent" since it remains part of the wealth of the household. But money deployed in these categories isn't as readily available for discretionary purchases.

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Second, historical precedent gives us pause. U.S. households also accrued significant excess household savings during World War II. After the war, families only spent about 20% of those excess savings, and it took a decade for that spending to fully occur. In contrast, some forecasts call for 20% or more of today's excess savings to be spent over the next year. This may be overly optimistic.

Third, even if household savings were unleashed in 2022, much of it would probably be motivated by households filling a financial hole that formed due to the removal of fiscal stimulus. This would merely represent one source of funds making up for the withdrawal of another, so the economy wouldn't necessarily be significantly ahead.

All of this is to say that there probably isn't a multi-trillion dollar consumer spending explosion around the corner. However, households are undeniably in fine form given their extra savings and an extremely low financial obligations ratio. And even if they never spend those savings, the simple process of reverting to a more normal savings rate promises to redirect another 3.5 percentage points of income toward spending over time.

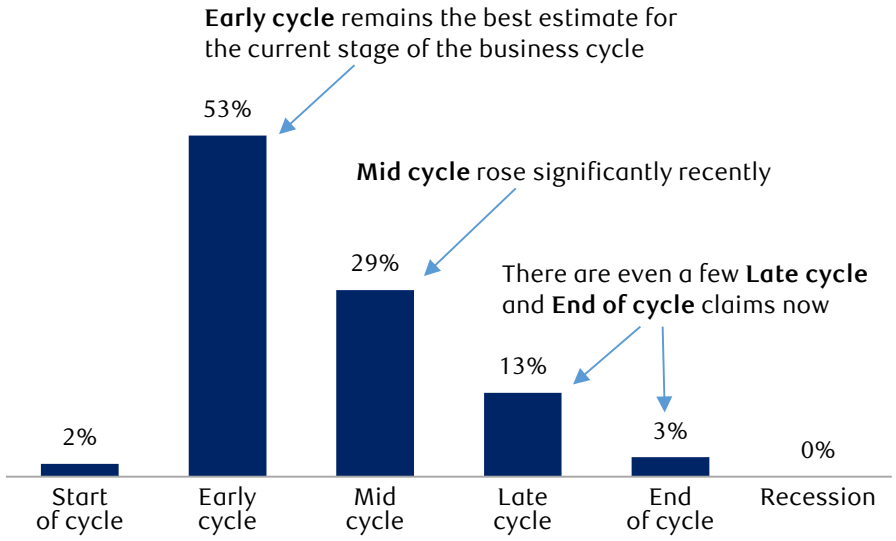
A durable, but shorter cycle

KB – Now that the U.S. economy has roared back from the plunge in activity during the COVID-19 shutdowns and recession last year, and given that the economy seems to be coping with the delta variant, where are things headed in the coming years? How durable is this recovery?

EL – Our best estimate remains that the U.S. economy is still at a relatively early stage of the business cycle. When we view the economic cycle in its six major stages—from the start of the cycle through to a recession—just over half of our indicators are signaling that we are in the early cycle phase.

The business cycle is progressing, but likely has longer to run

Proportion of economic indicators in each of the six phases of the business cycle



Source - RBC Global Asset Management; calculated via scorecard technique; data as of 8/6/21

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Reassessing the playing field

That said, there is clear evidence of some incremental forward movement—or aging—of the business cycle. Compared to last quarter, the proportion of indicators in the start of cycle category has fallen sharply, which is understandable. Meanwhile, the mid cycle and late cycle categories have risen somewhat, though they remain well short of the early cycle claim.

We concede that this particular business cycle may be shorter than the average cycle to the extent that the recovery has occurred very quickly. The duration of this cycle could end up being measured on the order of something like five years rather than the recent norm of approximately 10 years. But even if this shorter time frame plays out, there should still be a number of years to go.

Inflation: Wall Street versus Main Street

KB – Wall Street has been comforted that some U.S. inflation readings have slowed a bit, but for most Americans and many Canadians inflation continues to be a concern. There are higher prices at grocery stores, restaurants, and for gasoline and travel, and big-ticket items such as automobiles. So far, the Federal Reserve is taking all of this in stride, asserting that price pressures will be "transitory." How long do you think this inflation bout will last?

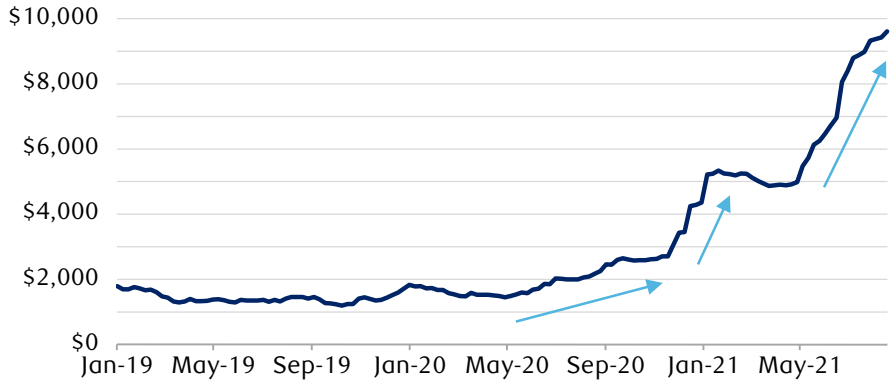
EL – High inflation has been challenging for everyone. We believe the peak is at hand and inflation should cool somewhat into 2022. Several recent developments support this assertion.

The prices of a number of key commodities look like they've peaked recently, and some have begun to notably retreat. Lumber prices are off sharply and oil prices have dropped. The Chinese government continues to do what it can to limit the advance of commodity prices, if mainly by discouraging further speculation. Commodity prices were a key driver of the initial inflation boom, and could be a key source of its end.

Prices of U.S. manufacturing components have finally ebbed, falling from a very high level. In July, they recorded the first significant drop since April 2020.

Shipping costs have soared during the pandemic

Drewry World Container Index (in U.S. dollars per 40-foot shipping container)



Source - RBC Global Asset Management, Drewry Supply Chain Advisors; weekly data ending 8/19/21

MONTHLY FOCUS

Reassessing the playing field

Shipping costs greatly increased during the pandemic. While there is only the hazy outline of a peak visible so far, industry experts believe most of the distortions should be drummed out of the system by mid-2022. This should ease price pressures across a wide range of goods.

It remains notable that U.S. inflation is significantly higher than in other developed countries. Yes, the U.S. has a weaker currency and a stronger economy, but the difference is still extreme and probably unsustainable given the global nature of many of the underlying inflationary forces.

While inflation is set to become less intense, we nevertheless expect it to remain modestly above normal over the next few years. Even as pandemic-era supply constraints ease, central banks have printed a great deal of money, economies may even be overheating slightly by the end of next year, and the Federal Reserve has indicated it will tolerate a slight inflation overshoot. Our official inflation forecasts are somewhat higher than the consensus forecasts.

Eventually, inflation should return to more normal readings, with the risk it even undershoots central bank targets given the deflationary influence of aging populations.

KB – Thanks for sharing your thoughts, Eric.

GLOBAL
Equity

Jim Allworth
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Equity views

Region	Previous	Current
Global	+	+
United States	+	+
Canada	=	=
Continental Europe	+	+
United Kingdom	=	=
Asia (ex Japan)	**+**	**=**
Japan	=	=

+ Overweight; = Market Weight; – Underweight
Source - RBC Wealth Management

Adjusting to the adjustment period

Last month in this space, we offered this thought: "... economic growth will level off to a more sedate pace, sometime in the next few quarters, and confidence will transform into something less optimistically one-sided." We think that period of adjustment for the economy is upon us. And equity markets have taken notice.

The global growth outlook has clouded over in recent weeks. A more sober assessment of near-term prospects has been provoked by several developments:

The rapid spread of the delta variant and the imminent expiry of some benefit programs in the U.S., Canada, and the UK have weakened consumer attitudes. Preliminary August readings of consumer confidence in the U.S. fell sharply while retail sales contracted in July.

Computer chip shortages continue to keep global auto production running well below potential. Most observers believe this won't be fully rectified before Q2 next year.

In the U.S., housing has come off the boil. Single-unit building permits were at a 16-year high early in the year but have since fallen by 17%. The trend in mortgage purchase applications has weakened over the past six months. A measure of builder optimism compiled by the National Association of Home Builders has retreated by 17% from an all-time high posted last November.

Shipping costs and delays have disrupted manufacturing supply chains worldwide. Container shortages have left some Asian ports congested as ships await delayed cargos. This has raised the spectre in North America of goods not arriving in time for the Christmas selling season, potentially adding to the woes of already beleaguered retailers.

The combination of these factors is inducing some forecasters to lower their projections for GDP growth in the second half of this year and for 2022. This includes RBC Global Asset Management Inc.'s Chief Economist Eric Lascelles (see "Reassessing the playing field" on page 12). Expectations are for positive, above-trend growth for both years, albeit not as robustly positive as previously forecast.

Many analysts, buoyed by strong second-quarter earnings and upbeat guidance from management teams, have been raising earnings estimates and share price targets for this year and next. That enthusiasm could wane if the factors noted above linger or grow worse.

Most major equity markets remain in uptrends and have recently set new highs for this cycle, but the slope of the upward advance in share prices has flattened noticeably over the past several months. Small-cap stocks—thought to be more vulnerable to the supply chain disruptions and shipping delays than their large-cap brethren—have left the party, failing to post new index highs since March. The Korean KOSPI Index, regarded by many as a harbinger of things to come in global equity markets generally, has moved into a downtrend in recent weeks.

While all these developments and others on the geopolitical front, as well as uncertainty around shifting central bank policies, should make investors alert to the potential for unsettling market volatility in the coming weeks and months, we believe there are also plenty of reasons why investors should not be in a hurry to give up on this cycle. Foremost

GLOBAL EQUITY

among them are the continued availability and affordability of credit as well as the comparatively strong financial positions of households and businesses.

Over and above "easy" credit conditions, many businesses report that inventories have been run down to levels that are too low and need to be replenished, which should underpin the manufacturing sector at least into next year. We note that many of the things that are currently bedeviling the economy—chip and container shortages, supply chain disruptions, and shipping delays—are all likely to be rectified as we move into 2022. Of course, there are still gains to come from a fuller reopening of most economies as the pandemic burden eases, however bumpily, and as government support shifts from income continuance to infrastructure spending.

The prospects for a greater degree of market volatility than investors became accustomed to over the past 17 months notwithstanding, we think most major equity markets should be able to deliver worthwhile total returns including dividends over the coming 12 months. We recommend a global balanced investment portfolio carry a moderately Overweight exposure to equities.

GLOBAL

Fixed income

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Not so fast?

While the delta variant of COVID-19 has only inflicted limited economic damage thus far, the downside risks posed for the rest of the year are starting to weigh on the upside scenarios as a number of global central banks have moved to tap the brakes on policy plans.

The Reserve Bank of New Zealand put rate hike plans on hold following another national lockdown. Meanwhile, the Reserve Bank of Australia (RBA) is facing pressure to hold off on tapering plans this month, though RBC Capital Markets' base case remains that RBA officials will move ahead on a "slight taper." Finally, the People's Bank of China cut its reserve requirement ratio for banks in order to boost lending and liquidity, underpinning a fading economic recovery.

But as is usually the case, all eyes are on the Federal Reserve's Sept. 21–22 meeting, which has long been expected to provide the backdrop for a formal announcement on the Fed's plans for tapering asset purchases. But here too, time remains on the Fed's side, in our view. Though Fed policymakers have been looking for a string of strong jobs reports, which has occurred, to support tapering plans, the downside risks posed by the virus may force the Fed into risk management mode for the time being and could easily cause the central bank to punt its decision on asset purchases to the November meeting, or perhaps later.

While the Fed is inching closer to tapering, its next challenge, in our view, will be to divorce the tapering timeline from the rate hike timeline. Fed Chair Jerome Powell took steps to achieve that in his speech on Aug. 27 at the Fed's Jackson Hole Economic Symposium, stating that there's no "direct signal regarding the timing of interest rate liftoff" as it relates to tapering asset purchases. But the updated economic projections at the September confab could be at odds with that message, as we expect the median forecasts to signal that the majority of the 18 members of the Federal Open Market Committee expect a rate hike as early as 2022, pulled forward from 2023 as of the June meeting. We believe Powell may have his work cut out for him if he wants to maintain a dovish message for markets.

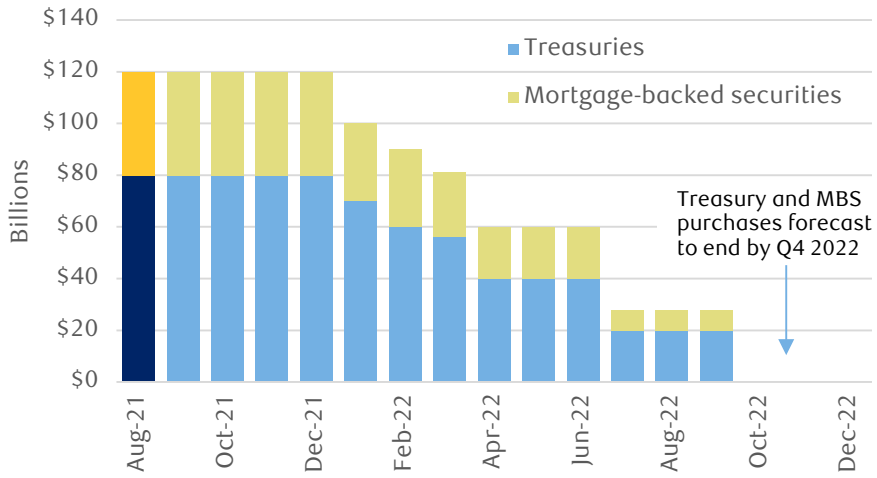
Fixed income views

Region	Gov't bonds	Corp. credit	Duration
Global	=	=	5–7 yr
United States	=	=	5–7 yr
Canada	=	=	5–7 yr
Continental Europe	=	=	5–7 yr
United Kingdom	–	=	3–5 yr

+ Overweight; = Market Weight; – Underweight
Source - RBC Wealth Management

Tapering expectations

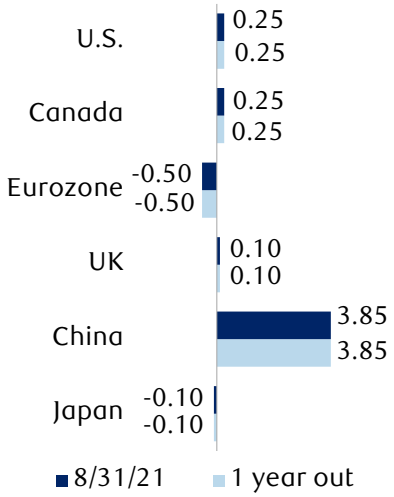
Actual (August 2021) and forecast Fed asset purchases



Source - RBC Wealth Management, Federal Reserve Bank of New York

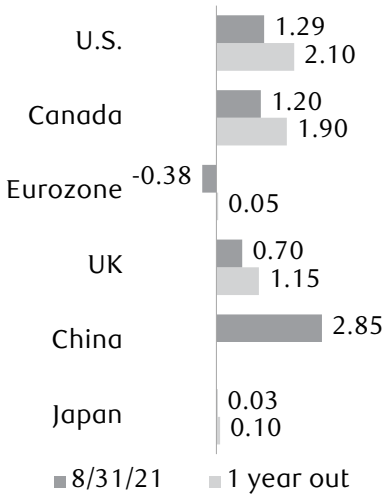
GLOBAL FIXED INCOME

Central bank rate (%)



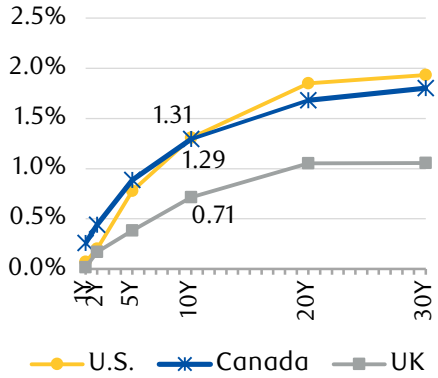
Source - RBC Investment Strategy Committee, RBC Capital Markets forecasts, Global Portfolio Advisory Committee, RBC Global Asset Management

10-year rate (%)



Note: Eurozone utilizes German Bunds.
Source - RBC Investment Strategy Committee, Global Portfolio Advisory Committee, RBC Global Asset Management

Sovereign yield curves

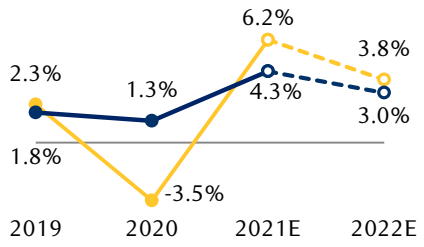


Source - Bloomberg; data through 8/31/21

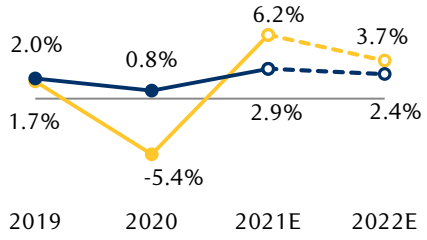
Real GDP growth — Inflation rate

KEY
Forecasts

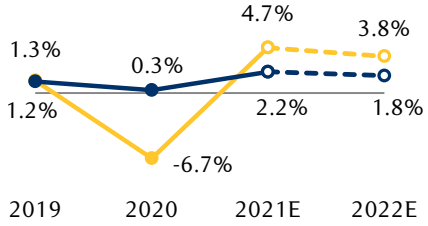
United States: Reopening pause
Q3 started strong, weakened under pressure from delta variant and supply chain/shipping issues. Consumer confidence ebbed amid reopening uncertainties. Housing permits have softened, flagging slower starts ahead. Weekly unemployment claims still falling. Job openings, small business hiring intentions point to more employment gains in coming months. Estimates held gains amid upbeat guidance. Fed tapering late this year/early next.



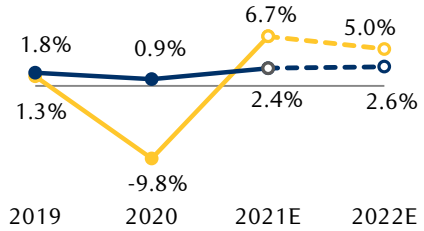
Canada: Variant effects
Spring lockdowns weakened Q2 GDP, and delta variant restrictions will have kept a lid on Q3 with July already weak. Employment growth has been solid. Unfilled jobs are at unprecedented levels. Stronger energy prices and shipments are helping that beleaguered sector. House prices, consumer and business confidence all strong. The BoC is on hold with interest rates after tapering its bond purchases to CA$2 billion per week in July.



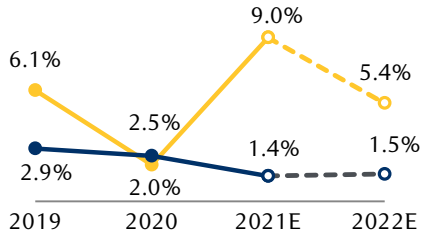
Eurozone: Maintaining momentum
The ECB plans to keep a loose monetary policy in support of the region's economic recovery. Economic output rebounded by 2% in Q2 after two successive quarterly declines. Composite PMIs remained elevated in July and August despite supply chain concerns and delta variant restrictions. Employment has been growing, and the unemployment rate falling. After six months of improvement, consumer confidence has flagged recently, but business confidence remains strong.



UK: Strong job growth
BoE policy remains on hold. Job growth strong and job openings elevated, prompting concern about rising inflation pressures. Q2 GDP growth strong at 4.8% despite weak May. Construction and services leading the way. Auto exports remain weak. Delta variant and supply chain issues have weakened the Q3 outlook. Composite PMI still in expansion territory but down three months in a row.



China: Softer activity in Q3
China composite PMI still barely above 50, but economy continues to labour in response to earlier tightening, shutdowns prompted by the delta variant, and supply chain/shipping disruptions. The services PMI slumped to 54 in July. Manufacturing softened further over summer months as layoffs continued. PBoC cut bank reserve requirements by 50 bps in response to slowing growth; another cut appears likely.



Japan: Chip shortage weighs
Industrial output was strong heading into the Olympics, consumer and business confidence both elevated. Employment solid as job openings elevated. Subsequent lockdowns in major cities likely to take a toll on Q3 GDP. Growth also being constrained by chip shortages (auto production hit hard) and supply chain issues. Slow vaccine rollout a factor. Exports holding up.

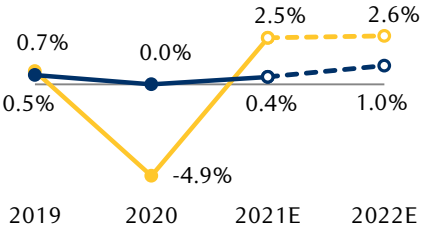


Chart source - RBC Investment Strategy Committee, RBC Capital Markets, Global Portfolio Advisory Committee, RBC Global Asset Management, Bloomberg consensus estimates

MARKET Scorecard

Data as of August 31, 2021

Equities

Global equity indexes mostly rose with the exception of the Russell 2000, Hang Seng, Singapore Straits Times, and Brazil Ibovespa.

Bond yields

Global sovereign debt yields, with the exception of German bunds, rose amid global equity market strength.

Commodities

Commodity prices mostly lost ground with the exception of the natural gas and agriculture indexes that firmed m/m.

Currencies

The U.S. dollar strengthened against most world currencies, gaining most against the Canadian dollar.

Index (local currency)	Level	1 month	YTD	12 month
S&P 500	4,522.68	2.9%	20.4%	29.2%
Dow Industrials (DJIA)	35,360.73	1.2%	15.5%	24.4%
Nasdaq	15,259.24	4.0%	18.4%	29.6%
Russell 2000	2,273.77	2.1%	15.1%	45.6%
S&P/TSX Comp	20,582.94	1.5%	18.1%	24.6%
FTSE All-Share	4,109.96	2.0%	11.9%	23.0%
STOXX Europe 600	470.88	2.0%	18.0%	28.5%
EURO STOXX 50	4,196.41	2.6%	18.1%	28.2%
Hang Seng	25,878.99	-0.3%	-5.0%	2.8%
Shanghai Comp	3,543.94	4.3%	2.0%	4.4%
Nikkei 225	28,089.54	3.0%	2.4%	21.4%
India Sensex	57,552.39	9.4%	20.5%	49.0%
Singapore Straits Times	3,055.05	-3.5%	7.4%	20.6%
Brazil Ibovespa	118,781.00	-2.5%	-0.2%	19.5%
Mexican Bolsa IPC	53,304.74	4.8%	21.0%	44.7%
Bond yields	**8/31/21**	**7/30/21**	**8/31/20**	**12 mo. chg**
U.S. 2-Yr Tsy	0.209%	0.184%	0.131%	0.08%
U.S. 10-Yr Tsy	1.309%	1.222%	0.705%	0.60%
Canada 2-Yr	0.425%	0.450%	0.275%	0.15%
Canada 10-Yr	1.216%	1.203%	0.622%	0.59%
UK 2-Yr	0.219%	0.060%	-0.057%	0.28%
UK 10-Yr	0.714%	0.565%	0.311%	0.40%
Germany 2-Yr	-0.713%	-0.601%	-0.652%	-0.06%
Germany 10-Yr	-0.383%	-0.185%	-0.397%	0.01%
Commodities (USD)	**Price**	**1 month**	**YTD**	**12 month**
Gold (spot $/oz)	1,813.62	0.0%	-4.5%	-7.8%
Silver (spot $/oz)	23.89	-6.3%	-9.5%	-15.1%
Copper ($/metric ton)	9,528.25	-1.8%	23.0%	42.3%
Oil (WTI spot/bbl)	68.50	-7.4%	41.2%	60.8%
Oil (Brent spot/bbl)	72.99	-4.4%	40.9%	61.2%
Natural Gas ($/mmBtu)	4.38	11.8%	72.4%	66.4%
Agriculture Index	412.11	1.1%	12.1%	41.6%
Currencies	**Rate**	**1 month**	**YTD**	**12 month**
U.S. Dollar Index	92.6260	0.5%	3.0%	0.5%
CAD/USD	0.7927	-1.1%	0.9%	3.4%
USD/CAD	1.2616	1.1%	-0.9%	-3.3%
EUR/USD	1.1809	-0.5%	-3.3%	-1.1%
GBP/USD	1.3755	-1.1%	0.6%	2.9%
AUD/USD	0.7316	-0.4%	-4.9%	-0.8%
USD/JPY	110.0200	0.3%	6.6%	3.9%
EUR/JPY	129.9200	-0.2%	3.0%	2.8%
EUR/GBP	0.8585	0.6%	-3.9%	-3.8%
EUR/CHF	1.0808	0.6%	0.0%	0.2%
USD/SGD	1.3449	-0.7%	1.7%	-1.1%
USD/CNY	6.4607	0.0%	-1.0%	-5.7%
USD/MXN	20.0730	1.0%	0.8%	-8.3%
USD/BRL	5.1529	-1.1%	-0.9%	-6.2%

Equity returns do not include dividends, except for the Brazilian Ibovespa. Equity performance and bond yields in local currencies. U.S. Dollar Index measures USD vs. six major currencies. Currency rates reflect market convention (CAD/USD is the exception). Currency returns quoted in terms of the first currency in each pairing.

Examples of how to interpret currency data: CAD/USD 0.79 means 1 Canadian dollar will buy 0.79 U.S. dollar. CAD/USD 3.4% return means the Canadian dollar has risen 3.4% vs. the U.S. dollar during the past 12 months. USD/JPY 110.02 means 1 U.S. dollar will buy 110.02 yen. USD/JPY 3.9% return means the U.S. dollar has risen 3.9% vs. the yen during the past 12 months.

Source - RBC Wealth Management, RBC Capital Markets, Bloomberg; data through 8/31/21

Research resources

This document is produced by the Global Portfolio Advisory Committee within RBC Wealth Management's Portfolio Advisory Group. The RBC Wealth Management Portfolio Advisory Group provides support related to asset allocation and portfolio construction for the firm's investment advisors / financial advisors who are engaged in assembling portfolios incorporating individual marketable securities.

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The RISC consists of senior investment professionals drawn from individual, client-focused business units within RBC, including the Portfolio Advisory Group. The RISC builds a broad global investment outlook and develops specific guidelines that can be used to manage portfolios. The RISC is chaired by Daniel Chornous, CFA, Chief Investment Officer of RBC Global Asset Management Inc.

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An analyst's "sector" is the universe of companies for which the analyst provides research coverage. Accordingly, the rating assigned to a particular stock represents solely the analyst's view of how that stock will perform over the next 12 months relative to the analyst's sector average.

Distribution of ratings – RBC Capital Markets, LLC Equity Research
As of June 30, 2021

			Investment Banking Services Provided During Past 12 Months	
Rating	Count	Percent	Count	Percent
Buy [Outperform]	787	55.70	318	40.41
Hold [Sector Perform]	575	40.69	173	30.09
Sell [Underperform]	51	3.61	4	7.84

Outperform (O): Expected to materially outperform sector average over 12 months. **Sector Perform (SP):** Returns expected to be in line with sector average over 12 months. **Underperform (U):** Returns expected to be materially below sector average over 12 months. **Restricted (R):** RBC policy precludes certain types of communications, including an investment recommendation, when RBC is acting as an advisor in certain merger or other strategic transactions and in certain other circumstances. **Not Rated (NR):** The rating, price targets and estimates have been removed due to applicable legal, regulatory or policy constraints which may include when RBC Capital Markets is acting in an advisory capacity involving the company.

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Risk Rating: The Speculative risk rating reflects a security's lower level of financial or operating predictability, illiquid share trading volumes, high balance sheet leverage, or limited operating history that result in a higher expectation of financial and/or stock price volatility.

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