Global Macroeconomic Outlook September 2019

Global Economic Outlook

Given the slowing manufacturing sector and ongoing trade tensions, the IMF continues to reduce their growth projections.

- The IMF now forecasts global growth to be 3.0% in 2019 and 3.4% in 2020, down 0.2% and 0.1%, respectively, from the July estimates.
- In advanced economies, growth is projected to slow from the 2.3% 2018 level to 1.7% in both 2019 and 2020. Growth in the US is forecasted to slow to 2.4% in 2019 and to 2.1% in 2020 as trade tensions escalate with China and the manufacturing sector slows. Growth in the euro area and Japan are both projected to be lower than the US this year and next.
- Growth projections continue to be revised down for emerging and developing economies due to the global slowdown and trade tensions. Growth is forecasted to be 3.9% in 2019 and 4.6% in 2020; both estimates were revised down from July. China's growth is expected to slow even further given the escalation in trade tensions with the US and overall slower growth globally. Policy support will likely offset only part of the impact of the trade dispute.
- Overall, inflation is projected to decline in 2019 and pickup in 2020, but remain close to long-term averages.

| | Real GDP (%) ¹ | | | Inflation (%) ¹ | | | | |
|------------------------------|---------------------------|----------------------|----------------------|----------------------------|--------------------|----------------------|----------------------|---------------------------|
| | IMF 2018 Actual | IMF 2019 Forecast | IMF 2020 Forecast | Actual 10 Year Average | IMF 2018 Actual | IMF 2019 Forecast | IMF 2020 Forecast | Actual 10 Year Average |
| World | 3.6 | 3.0 | 3.4 | 3.4 | 3.6 | 3.4 | 3.6 | 3.5 |
| US | 2.9 | 2.4 | 2.1 | 1.8 | 2.4 | 1.8 | 2.3 | 1.6 |
| Euro Area | 1.9 | 1.2 | 1.4 | 0.8 | 1.8 | 1.2 | 1.4 | 1.3 |
| Japan | 0.8 | 0.9 | 0.5 | 0.7 | 1.0 | 1.0 | 1.3 | 0.3 |
| China | 6.6 | 6.1 | 5.8 | 7.9 | 2.1 | 2.3 | 2.4 | 2.2 |
| Emerging Markets (ex. China) | 3.2 | 2.5 | 3.8 | 3.7 | 6.4 | 6.4 | 6.4 | 6.5 |

¹ Source: IMF. World Economic Outlook. October 2019 Update. "Actual 10 Year Average" represents data from 2009 to 2018.

Global Economic Outlook (continued)

With global growth slowing compounded by trade tensions, major central banks are pivoting toward more accommodative policies.

- The Federal Reserve cut interest rates twice in the third quarter and again in late October, with the federal funds rate at 1.50% 1.75%. The Fed signaled that they would not be further reducing rates for now as they felt the recent "insurance" cuts were sufficient to support growth.
- The Bank of Japan (BOJ) is showing no signs of pulling back from its unprecedented monetary stimulus, as inflation remains well below target, growth is slowing globally, and the consumption tax increase may further dampen growth. At their September meeting the BOJ made no changes to their stimulative efforts, keeping bank deposit rates negative (-0.1%), and continuing to target a 0% yield on the 10-year government bond.
- The European Central Bank (ECB) reduced their policy rate to -0.5% and restarted quantitative easing as a means of supporting growth. Mario Draghi's final meeting as head of the ECB was in October, with former head of the IMF, Christine Lagarde, now taking over. It is largely expected that she will continue to do "whatever it takes" to support the economic region.
- Fiscal and monetary policy remains supportive in China in an effort to stimulate growth as the trade war with the US weighs on the slowing economy. The People's Bank of China (PBOC) continues to cut bank reserve requirements, bringing them to the lowest levels since the Global Financial Crisis. In addition, tax incentives have been announced to try to increase consumption in an effort to stimulate growth.

Several issues are of primary concern: 1) uncertainty related to the US economy and policies; 2) declining growth in China, along with uncertain fiscal and monetary policies; and 3) political uncertainty in Europe and East Asia, and risks related to the UK's exit from the European Union.



Macroeconomic Risk Matrix



Macroeconomic Risk Overviews

| China Fiscal and Monetary Policy Uncertainty | The process of transitioning from a growth model based on fixed asset investment by the government to a model of consumption-based growth will be difficult. Trade tensions between the US and China could further weigh on the already slowing growth, as the US is the largest destination for China's exports. The management of capital outflows is another key issue in China with officials tightening regulations to stem outflows. The hot property market and the growing mountain of debt in the corporate sector remain other key risks. As China tries to manage a smooth economic transition through fiscal and monetary policies, heightened financial risks exist. |
|--|---|
| Climate Change | The earth's average temperature has been increasing since preindustrial times with the pace accelerating over the last 35 years. Increased levels of greenhouse gases like carbon dioxide have been the main cause of higher temperatures as they trap heat in the atmosphere. Warmer temperatures have led to the melting of glaciers and polar ice and increased precipitation in wet regions and reduced it in dry regions. The economic impacts of climate change are many, including declining crop yields, effects on livestock health, shifts in tourism, damage to infrastructure (rising sea levels and more extreme weather), and higher levels of disease and malnutrition. |
| Demographic Issues | In Japan and Europe, birth rates have declined for decades, resulting in populations becoming older and smaller relative to the rest of the world. In China, their so-called "one child" policy helped to reduce population growth, but has created other issues for the government. As life expectancy increases, the prior policy creates complications with a low working base left to support a relatively large and aging population. These demographic trends will have negative long-term impacts on GDP growth and fiscal budgets, amplifying debt problems. |
| European Imbalances | The crisis is rooted in structural issues in the Eurozone related to the combination of a single currency and monetary authority combined with 17 fiscal authorities. Within the European Union, tensions exist, as highlighted by political changes in Italy and the prior UK referendum, related to policies on immigration, laws, and budgetary issues. Given the size of Italy's bond market and economy within the euro area, a sovereign debt crisis or departure from the euro would have significant consequences. The "Brexit" deadline has been pushed back again, but in the meantime companies continue to leave the area and investment has been delayed, both weighing on growth. A departure of the UK from the European Union without a deal would be particularly impactful to businesses. |

Macroeconomic Risk Overviews (continued)

| Global Economic Slowdown | After a long period of synchronized global growth driven by accommodative global monetary and fiscal policy, a slowdown has started given late cycle dynamics compounded by trade tensions. Recessions are not forecasted in the short-term for most major economies, but the risk remains. The pivot of major central banks to an easing focus in response could support growth and markets in the short-term but could also encourage excessive risk taking by market participants and increase systemic risk. |
|--|---|
| Major Geopolitical Conflicts | The ongoing protests in Hong Kong continue to threaten stability in East Asia. These protests began after Hong Kong's Chief Executive, Carrie Lam, attempted to introduce an extradition bill (the Fugitive Offenders amendment) that would allow mainland China to arrest citizens of Hong Kong. As a result of ongoing protests, Hong Kong's economy shrank by 3.2% in the third quarter of 2019, and Hong Kong officially entered a recession as a result. Continued uncertainty stemming from this conflict will weigh on growth in Hong Kong until Ms. Lam's government resolves the dispute with its citizens and the Chinese government, and could have spillover effects for regional politics and economic growth. The recent attack on Saudi Arabia's oil production facility in Abqaiq increased tensions in the middle east and highlighted how easily a significant portion of global oil production can be taken offline. The US and Saudi Arabia accused Iran of the attack, escalating existing tensions between the countries. Other outstanding issues include the ongoing conflict between Russia and the Ukraine, trade and military tensions in the South China Sea between the US and China, and North Korea's nuclear aspirations. |
| Resource Scarcity | The growing world population, urbanization, and a growing middle class, particularly in emerging economies, could all lead to a scarcity of resources, including food, water, land, energy, and minerals. As natural resource demand continues to grow, rising commodity prices may hurt the living standards of many and increase the risk of geopolitical conflicts. |
| Rising Populist and Antitrade Sentiment | Tariffs started by the US against China and some of its allies, along with elections/votes in the US, Europe, UK, and Mexico highlight the growing populist/antitrade sentiment. The "yellow vest" protests in France were yet another example of unrest related to social inequality and ultimately led to President Macron promising tax reforms. Stagnant wages, growing inequality, and the perception of jobs being lost abroad are key contributors to ongoing unrest. Reducing trade and imposing tariffs will likely lead to higher inflation, reduced efficiencies, and heightened tensions between countries. |

Positive Macroeconomic Trends Matrix



M

Prepared by Meketa Investment Group

Positive Macroeconomic Trends Overviews

| Emergence of "Gig Economy" | The "gig economy" continues to grow with over a third of workers considering themselves working independently. The new structure allows workers flexibility in the jobs they take, their schedules, and offers the ability to work outside of a traditional office. For companies, it has led to lower labor and overhead costs (more employees are working remotely), flexibility in hiring workers temporarily, and lower recruiting and training costs. |
|--|---|
| Global Monetary Stimulus | Given slowing global growth, compounded by trade tensions, major central banks have pivoted to a more dovish tone. The US has cut rates several times, the ECB has maintained a very accommodative stance with low rates, and the BOJ continues its massive monetary support. These policies have been a major boost to the markets and could support continued global growth. The key questions remain whether or not central banks are pivoting to aggressive, accommodative policies too early and if the recent rally in risk assets is short-lived or more sustainable. |
| Global Fiscal Stimulus | Given that global growth remains weak in spite of accommodative monetary policy, there could be an increase in fiscal stimulus. US tax cuts would support growth domestically and abroad, particularly for key trading partners barring any overwhelming headwinds from tariffs. Policymakers in Europe, including officials at the European Central Bank, have indicated that coordinated fiscal spending in the Eurozone could boost economic growth. China has also recently reduced bank reserve requirements and announced fiscal stimulus policies. With interest rates still relatively low, borrowing for infrastructure investments is affordable. Increased fiscal stimulus could support economic growth while reducing the reliance on monetary policy. |
| Growth of Emerging Markets Middle Class | In emerging economies, the middle class is projected to grow significantly over the next twenty years. This growing middle class should increase consumption globally, which in turn will drive GDP growth and create jobs. |
| Improvements in Education/Health Care | Literacy rates and average life spans have increased globally, particularly in emerging economies. Higher literacy rates will drive future growth, helping people learn new skills and improve existing skills. Longer lives increase incentives for long-term investments in education and training, resulting in a more productive work force and ultimately more growth. |
| US Employment | The US unemployment rate has steadily declined since its post Global Financial Crisis peak. Hourly earnings growth has not reached levels that it has in prior recoveries, but has increased from its lows. Improvements in the US labor market, along with the tax cuts, should stimulate consumption and growth for both US and foreign goods. A lower unemployment rate and higher consumption will also lead to higher tax revenue that should partly offset the deficit pressures from tax reforms. |

Global Macroeconomic Outlook



Global Nominal Gross Domestic Product (GDP) Growth¹

- After the recent period of synchronized global economic growth, economic activity has declined due to continued trade tensions, a slowing Europe and uncertainties related to Brexit, and a slowing China.
- Growth is forecasted to slow in 2019, before picking up in 2020, with key risks to the downside including ongoing trade tensions, the UK exiting the European Union without a deal, a slowing manufacturing sector, and disinflationary impacts on debt servicing.

¹ Source: Oxford Economics. Updated October 2019. GDP data after Q4 2018 are estimates.





Global Manufacturing¹

- The manufacturing sector is an important driver of global growth as it creates jobs, supports new technologies, and generates revenues through exports.
- Manufacturing has steadily declined since its 2017 peak as global economic growth has slowed and trade tensions continue to weigh on the sector.
- Concerns remain that the slowdown in the manufacturing sector will spill over into the larger service sector in many economies.

¹ Source: JP Morgan. Data is as of September 30, 2019.





Central Bank Interest Rates¹

- After increasing rates over the last several years from record lows, major central banks are shifting to a more accommodative stance given slowing global growth.
- Of all the central banks, the US has the most room to lower rates, while Japan and Europe are already in negative territory.
- Given the limited ability to reduce rates, there is speculation that we could see a return to other policies like quantitative easing (QE) or increased fiscal support if the global slowdown escalates.

¹ Bloomberg. Data is as of September 30, 2019.



US Dollar versus Major Currencies¹



- The US dollar rose 1.9% in the third quarter, building on a 0.8% rise in the second quarter, as global slowing continues. It finished the quarter at a level above the peak in early 2002.
- Since 2011, the dollar has significantly increased in value, helped by the relative strength of the US economy and higher interest rates compared to the rest of the world.
- Due to frustrations with the strength of the dollar, there is speculation that the US government could intervene in an effort to weaken it. A strong US dollar makes it harder to export for US producers, as US goods are more expensive to foreign buyers, thereby exacerbating the greatly discussed US trade deficit.
- If US growth slows and the trade deficit continues to rise, the dollar could weaken, particularly given its overextended levels.

¹ Source: Federal Reserve Bank of St. Louis. Data is as of September 30, 2019.



Oil Price and Rig Activity¹



- Oil prices finished the quarter at \$54, below the prior quarter end of \$58, but above the 2018 year-end value of \$45.
- Oil prices spiked during the quarter after the attack on the Saudi Arabia oil processing facility in Abqaiq, highlighting how easily a significant portion of world oil production could be taken offline. The return to full production contributed to the quarter-end decline in prices.
- Pledged cuts from OPEC countries, and allies like Russia, along with sanctions on Iran and Venezuela from the US, contributed to the overall trend of price increases in 2019.
- Acting as a counterforce to higher prices are the slowing global economy, continued growth in US shale production (although the rate of shale production growth is now slowing), and the persistently strong US dollar.

¹ Source: Bloomberg. Data is as of September 30, 2019.





- After a spike in volatility in August given the US yield curve inversion and signs of trade tensions weighing on growth, volatility declined and finished the quarter only slightly above where it started.
- The potential for renewed volatility remains given the late cycle dynamics in the US, the long equity market expansion, and the many unresolved political and trade issues globally.

¹ Bloomberg. Represents daily VIX data and is as of September 30, 2019.



US Monetary Policy^{1, 2}



- During the quarter, the Federal Reserve cut interest rates twice, with another cut enacted at the end of October. The Fed also will be expanding its balance sheet in the coming months as a means of supporting the repo market, which experienced stress recently due to low liquidity. They are emphasizing that it is not quantitative easing, but that is up for debate.
- The recent rate cuts were largely driven by slowing growth in the US compounded by trade tensions and weak growth globally, as well as stubbornly low inflation.
- Despite the recent cuts, Federal Reserve Chairman Jerome Powell, signaled that the Fed would hold rates steady for the foreseeable future seeing the recent cuts as sufficient and more of an "insurance" against the risks to the economy.
- The risk remains that cutting interest rates now could lead to borrowers taking on more risk and ultimately deepening the next recession leaving the Fed with limited policy tools.

² Source for Balance Sheet: Oxford Economics.



¹ Source for Monetary Policy: Bloomberg. Data is as of September 30, 2019.



Historical Rate Easing Cycles¹

- In prior periods where the Federal Reserve reduced interest rates to support growth, they cut rates on average by 5% to 6%.
- Given the current level of rates, they do not have that luxury this time, meaning they need to make each rate cut count. Recent rate cuts have been referred to by the Fed as "mid-cycle adjustments," rather than the start of an extended easing cycle.
- Some are speculating given the low level of rates that the Fed will have to resort to quantitative easing again or other policies to support the economy or that fiscal stimulus will play a larger role.
- A key difference in prior easing periods was that inflation and rates were much higher.

¹ Source: Bloomberg. Data is as of September 30, 2019.





US Real Gross Domestic Product (GDP) Growth¹

- The first estimate of GDP for the third quarter in the US came in at an annualized rate of 1.9%, slightly below the 2.0% level of the prior quarter, but ahead of the 1.6% consensus forecast.
- Continued strength in the US consumer, as well as government spending, drove the better than expected growth.
- Business spending declined as trade tensions persist and over concerns of a manufacturing slowdown.

¹ Source: US Bureau of Economic Analysis. Data is as of the third quarter of 2019 and represents the first estimate.





Conference Board Consumer Confidence¹

- Consumer spending comprises roughly two-thirds of US GDP, making the attitudes of consumers an important driver of future economic growth.
- Since the Global Financial Crisis, consumer confidence has steadily increased as economic conditions have improved and unemployment has declined.
- The consumer has been a bright spot in the US economy, but that could change if growth continues to slow.

¹ Source: Bloomberg and Conference Board. Data is as of September 30, 2019.





US Employment & Wages¹

- During the quarter, the unemployment rate continued to decline, finishing the quarter at 3.5%, a level close to 50-year lows.
- The broader measure of unemployment (U6) that includes discouraged and underemployed workers also continued to fall, reaching 6.9% at quarter-end.
- Given the late cycle dynamics, wage growth has improved with the tighter labor markets, supporting an increase in consumer spending.

¹ Source: Bureau of Labor Statistics. Data is as on September 30, 2019.





US Inflation^{1,2}

- Inflation is considered a lagging indicator, representing past economic conditions.
- This leads to economic conditions today being a means of forecasting future inflation levels.
- Real GDP and manufacturing indicators, like the ISM Purchasing Managers Index, have historically been useful indicators of future inflation.
- Recently, manufacturing data and GDP declined from their peaks. Lower economic activity and slowing manufacturing could all lead to a decline in inflation and support the Fed's recent decision to lower rates.

² The last data point for Core CPI represents the September 30, 2019 value compared to 18 months prior for Real GDP and 21 months prior for ISM PMI.



¹ Source: Bloomberg. Data is as of September 30, 2019 for ISM PMI and as of the third quarter (first estimate) for US Real GDP.



Recession Watch in the US

- Coincidental indicators, which provide a strong perspective of the current state of the economy, are signaling that the US is not in a recession.
- Going forward, economic conditions are expected to slow in the US, but the risk of entering a recession in the short-term appears low.

¹ Source: New York Federal Reserve. The NY Fed's model uses the spread between 10-year and 3-month Treasury rates to calculate the probability of a recession in the US twelve months ahead. Data is as of September 30, 2019. ² Source: Conference Board. Consists of employees on nonagricultural payrolls, personal income less transfer payments, industrial production, manufacturing, and trade sales. Data is as of September 30, 2019.





- Rates continued to decrease across maturities in the US in the third quarter, and the front-end of the yield curve is inverted (i.e., yields are higher for shorter-term bonds) out to ten years.
- The yield curve has long been looked to as a barometer of economic strength and one useful potential recession indicator.
- Inversions in the yield curve have historically preceded recessions, with a few exceptions, but the time between the inversion and recession has varied.

¹ Source: Bloomberg. Data is as of September 30, 2019. Numbers represent month-end values.



Government Bond Yield Curves¹



- Rates are higher in the US across the yield curve compared to Germany, Japan, and Italy. Higher rates in the US have contributed to the strength of the US dollar.
- Given concerns over slowing growth, government bonds have attracted capital due to their safe-haven quality leaving large parts of the yield curves in Italy, Japan, and Germany in negative territory.

¹ Source: Bloomberg. Data is as of September 30, 2019. Rate differential data represents the differences in the yield for a US Treasury at each maturity versus the respective similar bond for each country.





European Economic Conditions¹

- Overall growth has declined in Europe given the slowdown in Germany, uncertainties related to Brexit, and trade tensions.
- Growth has been uneven in Europe, with Germany experiencing much stronger growth after the Global Financial Crisis, and lower lows in 2012 and 2013, compared to Italy and Spain.
- High debt burdens have weighed on Italy and Greece's economies given their inability to devalue their currencies and the limits on fiscal expansion.
- Going forward, Italy's populist government's strategy to stimulate growth in the face of the high debt levels will be a key issue and could lead to continued clashes with the European Commission.

¹ Source: Bloomberg. Data for government debt as a percent of GDP is as of December 31, 2018. Eurozone GDP data is as of June 30, 2019.



Brexit¹



- The United Kingdom (UK) received another extension this time to the end of January 2020 to finalize a deal with the European Union (EU) related to the terms of Brexit.
- In an attempt to raise the necessary support for his Brexit proposal, Prime Minister Boris Johnson received permission from Parliament to call for a general election in mid-December.
- A no-deal Brexit would be particularly impactful, weighing most on the UK and Irish economies, but with varied impacts across other countries too.

Japanese Economic Conditions¹



- Inflation in Japan remains well below the central bank's 2% target and has largely moved sideways between 0% and 1% over recent years.
- Unemployment (2.2%) is at its lowest level since October 1992, largely driven by Japan's aging workforce. There is some hope that tight labor markets could translate into sufficient wage growth to spur inflation higher.
- Of all the major economies, Japan's central bank maintains the largest stimulative effort particularly given below target inflation levels.
- The consumption tax in Japan was raised from 8% to 10%, in an effort to finance social programs including pensions, medical, and to care for the aging population. The government is planning to introduce fiscal measures to try to offset some of the impacts the tax will have on spending.

¹ Source: Bloomberg. Data is as of August 31, 2019.





Emerging Market GDP¹

- Growth in emerging economies generally remains higher than developed economies but is uneven, with tariffs, debt levels, and slowing developed economies remaining key risks and more dovish central bank policies providing support.
- Trade tensions with the US added to the pressures of an already slowing China leading to predictions for growth to slow further, while India remains a bright spot with growth forecasted to pick-up to over 7% as Prime Minister Modi starts his second term agenda and the central bank recently pivoted to easing.
- The IMF projects growth from Russia and Brazil, an improvement from the contractions in 2015 and 2016. Forecast for Brazil's 2019 growth were reduced by over 1% given lingering uncertainties about fiscal reforms.

¹ Source: IMF. World Economic Outlook. October update. Estimates start after 2018.





- A large part of the long-term emerging market story is the growth of the middle class.
- In advanced economies like the US, the middle class segment has matured, while in emerging markets it is expected to grow rapidly.
- The expanding middle class, particularly in China and India, is projected to lead to much higher consumption, and should help the global economy.

¹ Source: Brookings Institute.



China^{1, 2, 3}



- In the coming years, China will need to manage the process of transitioning to an economy based more on consumption than investment, while continuing to reduce debt levels and dealing with financial risks. A prolonged trade fight with the US could make this process difficult and further weigh on growth.
- Recently, trade has become sluggish in China due to the slowing economy and escalating trade tensions. Imports (above) declined on lower domestic demand, while exports fell given the US trade tensions.
- A focus on deleveraging has been put on hold given the sluggish economic conditions, with supportive fiscal and monetary policies being introduced to help the slowing economy.
- China's population is projected to decline due to the "one child" policy. This creates further issues going forward as a relatively smaller work force needs to support a large retirement age population.

³ Source for China Debt: Oxford Economics/CEIC data.



¹ Source for China Imports: Bloomberg. Data as of September 30, 2019.

² Source for China Population: United Nations "World Population Prospects 2019."

Summary

Three primary concerns face the global economy: 1) uncertainty related to the US economy and policies; 2) declining growth in China, along with uncertain fiscal and monetary policies; and 3) political uncertainty in Europe and East Asia, and risks related to the UK's exit from the European Union.

- The US has experienced largely stable growth since the end of the financial crisis, but at levels below prior recoveries. The economic expansion has been long and it is inevitable that growth will eventually slow in the US, particularly as the impact of the tax cuts wane. The markets have largely cheered the Fed's recent pivot in monetary policy, but questions remain including whether this will lead to borrowers taking on more risk, is it too early to stop tightening policy, and how long is the rally in risk assets sustainable. Gridlock remains in Washington as seen by the government shutdown last year with uncertainty related to policies on tariffs, immigration, and strategic alliances remaining.
- China continues to manage a repositioning and slowing of its economy, which could have a meaningful impact on countries that depend on its trade. High debt, particularly in the corporate sector, and the escalation of the trade dispute with the US remain key issues. Trade tensions and overall slowing global demand has already started to affect China as seen through recent trade data. The additional policy support could help the economy in the short-term, but may undermine efforts to reduce debt.
- Elections in Italy and recent protests in France show that unrest remains in Europe. Conflict has already
 materialized between Italy and the European Commission over Italy's budget proposal. Given that Italy is
 the world's fourth largest bond market and the third largest economy in Europe, what happens there matters,
 with a debt crisis or departure from the euro having far-reaching effects. The on-going negotiations of the UK
 to leave the EU is another key issue with recently elected Boris Johnson receiving another extension to early
 2020 to finalize a deal with the European Union. Ongoing protests in Hong Kong, stemming from concerns
 regarding an extradition bill introduced by the country's government, have driven Hong Kong's economy into
 recession. The ongoing conflict between the pro-China Hong Kong government and protesters seeking to
 preserve the status quo of the "one country, two systems" relationship between China and Hong Kong
 threatens regional stability.

