Modestly lower growth, stable inflation

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IN BRIEF

- This year's edition of our *Long-Term Capital Market Assumptions* makes only marginal changes to the forecasts for GDP growth and inflation that underlie each asset class outlook.
- Our modestly lower developed market (DM) growth projections stand below the average growth rate of the past 10 years in every region except the euro area. We expect weak labor force growth, though we could see a possible uplift in productivity.
- Emerging market (EM) economies will continue to outgrow their DM counterparts, though we are trimming several EM GDP forecasts this year, most notably China.
- We anticipate fairly steady inflation at the global level, with central banks likely falling short in lifting inflation back to official targets. We leave unchanged our U.S. CPI forecast.

In any annual update to a long-term forecasting project, the first question to ask is, “What has changed?” Almost inevitably, barring some major shock in the prior 12 months, the answer is, “Nothing dramatic,” and this response fairly describes the modifications to our economic forecasts in the 2020 edition of our *Long-Term Capital Market Assumptions*.

The incremental nature of the change in these forecasts, though, should not obscure the important underlying themes that have shaped the numbers in recent years. With regard to economic growth, slow expansion in the working-age population and moderate productivity gains lead to slower GDP gains in the forecast period than has generally been experienced in recent decades. These forecasts are experiencing further downward pressure from the convergence of major emerging market (EM) economies and continued reduction of cyclical slack across the developed world. With respect to inflation, our forecasts take into account some of the long-term structural changes that have depressed global inflation in recent years. We also acknowledge the determination of developed market (DM) central banks to boost inflation. As we argue elsewhere, however, central bank actions, while producing generally very low short-term interest rates, will likely fall short in lifting inflation all the way back to official targets. As a result, we expect the global economy to display low growth, low inflation and low interest rates in the coming 10 to 15 years (**Exhibit 1**).

We note, too, that the increasingly greater salience of environmental, social and governance (ESG) concerns partly reflects their likely influence over time on medium-term macro forecasts (see “The evolving role of ESG issues in macroeconomic analysis”).

DM GROWTH: WEAK LABOR INPUT, WARMING UP TO TFP

As has been the case for some years now, we project fairly low developed market real GDP growth by historical standards. Indeed, the numbers have changed only marginally from last year’s set, although this year our macroeconomic and asset class projections shift to increments of 0.1 percentage point (ppt.), compared with the prior 0.25ppt. steps (see “Our approach to forecasting”). Overall, we expect 1.5% real GDP growth in DM economies, the same as in 2019. In every region except the euro area, growth forecasts stand below the average growth rate of the past 10 years. The starting point a decade

Our 2020 assumptions anticipate slow real GDP growth globally; global growth assumptions are little changed from last year at the aggregate level, with most developed market projections stable

EXHIBIT 1: MACROECONOMIC ASSUMPTIONS (%)

	2020 assumptions		2019 assumptions		Change (percentage points)	
	Real GDP	Inflation	Real GDP	Inflation	Real GDP	Inflation
DEVELOPED MARKETS	**1.50**	**1.60**	**1.50**	**1.75**	**-0.05**	**-0.11**
United States	1.80	2.00	1.75	2.00	0.05	0.00
Euro area	1.20	1.30	1.50	1.50	-0.30	-0.20
United Kingdom	1.20	2.00	1.25	2.00	-0.05	0.00
Japan	0.60	0.80	0.50	1.00	0.10	-0.20
Canada	1.60	1.80	1.50	1.75	0.10	0.05
Australia	2.20	2.30	2.00	2.50	0.20	-0.20
Sweden	1.70	1.60	1.75	1.75	-0.05	-0.15
Switzerland	1.10	0.50	1.25	0.50	-0.15	0.00
EMERGING MARKETS	**3.90**	**3.30**	**4.25**	**3.50**	**-0.33**	**-0.20**
China	4.40	2.50	5.00	2.75	-0.60	-0.25
India	7.00	5.00	7.00	5.00	0.00	0.00
Brazil	2.40	4.50	3.00	4.75	-0.60	-0.25
Russia	1.20	5.50	1.25	5.50	-0.05	0.00
Korea	2.20	2.00	2.25	2.00	-0.05	0.00
Taiwan	1.60	1.10	1.75	1.25	-0.15	-0.15
Mexico	2.20	3.70	3.00	3.50	-0.80	0.20
South Africa	2.20	5.30	2.75	5.25	-0.55	0.05
Turkey	3.00	8.00	3.50	7.50	-0.50	0.50
GLOBAL	**2.30**	**2.20**	**2.50**	**2.25**	**-0.20**	**-0.04**

Source: J.P. Morgan Asset Management; estimates as of September 30, 2019.
* Emerging markets aggregate derived from nine-country sample.

OUR APPROACH TO FORECASTING

For real GDP, we use a production-function approach, focusing on each economy's long-term trend or potential growth rate. We estimate the growth of the labor force, supplemented by changes in human capital and swings in hours worked per person; the pace at which the capital stock expands via investment spending; and the rate at which total factor productivity climbs. The labor force forecast itself comes from population projections combined with assumptions about participation rates. For the most part, we abstract from cyclical considerations. On occasion, we do adjust our growth estimates for economies that we believe are operating far above or below their current potential levels, sufficient to produce significant under- or outperformance in coming years. But given the high degree of uncertainty about output gap estimates, and unstable relationships between changes in, say, unemployment rates and GDP, we do not apply mechanical rules to this process.

We cannot build up inflation projections from components. Instead, we take the central bank inflation target, where it exists, as a significant starting point. That goal, however, does not serve as the sole anchor for the forecast. Many developed market central banks have struggled to meet their inflation targets from below in recent years, while emerging market (EM) monetary authorities more frequently face the opposite problem. We thus take into account each country's inflation history, the shape of its distribution of inflation outcomes over time, revealed preferences of the central bank (such as its degree of willingness to use a broad range of tools in pursuit of its target) and likely long-term structural changes in the economy. In recent years, we have given increasing attention to common forces that may be driving inflation internationally, be they swings in the globalization process or information technology innovations. We take some comfort from inflation's relative stability in the past few decades, particularly in developed markets and the relatively advanced EM economies.

This year brings a presentation change in the macroeconomic assumptions, similar to what is happening to the asset class projections, with a shift to increments of 0.1 percentage point (ppt.) compared with the prior 0.25ppt. steps. That previous quarter-point scale felt increasingly large against the backdrop of low-single digit forecasts for GDP growth and inflation in many economies, as well as for a significant portion of the asset class returns. The change does not imply a narrower confidence interval for the macroeconomic assumptions but instead an attempt to be slightly more precise about the center of the forecast distribution.

ago was near the bottom of the last recession, when unemployment rates were exceptionally high, and most countries' expansions during the decade benefited from increases in labor force participation rates that we expect to prove partly cyclical in nature. While a secular uptrend in participation among senior citizens will likely continue, participation among prime-age individuals seems less likely to rise from currently elevated levels. Meanwhile, populations themselves are increasing sluggishly at best. As a result, we generally expect weak growth in labor forces from here, with no DM economy above 0.8ppt. per year and two (Japan and the euro area) likely to experience declining workforces.

By contrast, we are turning slightly more optimistic about the outlook for total factor productivity (TFP), a residual that captures phenomena like technological change. After a long period of mediocrity, some estimates of TFP growth in the U.S. have picked up recently. Business investment spending on intellectual property products – a category that captures much activity in the tech sector – has boomed. And the combination seen earlier this year of solid global corporate profit growth, accelerating wage growth and stable price inflation pointed to a possible uplift in productivity. We have yet to make wholesale positive revisions to our TFP expectations but see technological change as a source of upside risk to our forecasts.

As we consider the components of each country's growth outlook, we assume that "balanced growth" prevails, as captured by a positive relationship between expansion of the capital stock, on one hand, and labor and TFP growth rates, on the other. The intuition that "every worker needs a machine" has generally been borne out empirically, with capital stocks broadly holding steady as a share of GDP over time. To be sure, income shares have not necessarily held steady in the same way, as workers have captured a smaller portion of national income in most DM economies during the past two decades or so. In terms of growth rates, though, we do expect the relationship to hold in an era of automation and artificial intelligence. In other words, we continue to believe that capital and labor will be complements rather than substitutes. We will maintain an open mind toward evidence that this pattern is changing but have yet to see convincing signs of such a shift.

With an expected 1.8% real GDP growth rate, the U.S. remains near the top of the DM growth ladder, behind only Australia, where we expect the labor force to benefit from ongoing immigration flows. The U.S. enjoys relatively favorable demographics (independent of its own current efforts to limit newcomers) and a track record of leadership in TFP growth, helped by its deep capital markets and world-class universities. This year, we revise downward our projection for the euro area, to 1.2% from a rounded 1.5% in 2019. In each of the previous two years, we included a cyclical bonus in the euro area forecast, reflecting the high unemployment rate, but joblessness has now returned to a more typical level. We also introduce individual forecasts for the euro area's four largest economies, with Spain and France expected to grow a little more rapidly than the region as a whole, and with Germany (where demographics are poor) and especially Italy (with its weak TFP performance) lagging. The other DM projections have not changed, though we note ongoing uncertainty around the 1.2% UK projection. The Brexit process will very likely result in different long-term immigration and trade policies than in the past, and we struggle to estimate their effect ahead of the fact. We revised the UK projection downward two years ago as Brexit began to take shape, and thus far we have seen no reason to reverse that move.

DM INFLATION: A POWERFUL ASYMMETRY

While inflation has not, as an empirical matter, exhibited much cyclicality in recent decades, it is still remarkable that DM economies that are running relatively hot labor markets have not generated any meaningful upward pressure on consumer prices. This observation highlights a generic feature of the business cycle that we have described in recent iterations of our long-term forecasts: The increasingly flat nature of the cycle means that GDP growth, inflation and policy interest rates will all spend more time below levels considered "normal" than above them. The fact that central banks face challenges in stimulating the economy when policy rates are close to zero – a state of affairs known as a liquidity trap – is an integral part of a flatter business cycle. This asymmetry, in turn, was a key motivation last year for our downgrade of U.S. CPI inflation to 2% – a level that translates to something slightly below the Federal Reserve's (Fed's) core PCE inflation target.

Since then, a sequence of downward shocks to inflation has corroborated this line of reasoning and has also galvanized DM central banks to respond to varying degrees. The Fed, at the forefront of this effort, is currently conducting a review of its monetary policy tools and medium-term framework, with formal results of the review expected to be announced in the first half of 2020. Our best guess is that the review leads to the adoption of some variation of a "makeup" strategy, in which the Federal Open Market Committee (FOMC) gives consideration to compensating for past inflation misses as it contemplates appropriate policy settings over the cycle, in addition to targeting maximum employment and price stability. One specific strategy under consideration, average inflation targeting, would enshrine lower-for-longer strategies following recessions and, in effect, a higher inflation target during periods of expansion. For a more in-depth treatment of the challenges facing central banks and their likely responses, see "The failure of monetary stimulus," *2020 Long-Term Capital Market Assumptions*.

In setting our projections for future inflation in DM economies, we thus consider both lived experience with respect to inflation outcomes as well as the willingness and ability of central banks to offset the powerful asymmetry that low levels of rates have created. In the case of the U.S., we feel comfortable with 2% as a central case and reserve judgment on the FOMC's strategy changes pending additional information. To the extent that the changes are more revolutionary than evolutionary, and credibly aggressive in staving off the recent downward drift in inflation expectations, it could warrant an upgrade to inflation at some point in the future. The prospect of coordination between expansionary fiscal and monetary policy would push in this same direction. Headed the opposite way are our inflation forecasts for Europe and Japan, both of which we downgrade by 20 basis points (bps) this year. In the case of the euro area, we anticipate an unhelpful interaction between persistent inflation shortfalls, a high probability of being in a liquidity trap over our forecast horizon and a European Central Bank that has relatively little willingness to indulge inflation above its stated target. In Japan, where central bankers have arguably been grappling with liquidity trap dynamics for some time as even larger inflation misses relative to their 2% target are commonplace, a more aggressive approach to bolstering inflation along the lines of what the Fed is doing does not seem either credible or feasible. Finally, we note a small downgrade to our Australia inflation assumption, reversing an upgrade from last year, as the post-crisis nominal shock to the economy lingers.

EM GROWTH: SLOWER CONVERGENCE

We are trimming several EM GDP forecasts this year, most notably for China but also for Brazil, Mexico, South Africa and Turkey, with marginal reductions to Russia and Taiwan. The China projection has fallen gradually over the past several years as the country's remarkable convergence to higher income living standards has unfolded. With China now reaching the USD 10,000 GDP per capita milestone against a less favorable global backdrop, a separate article examines its ongoing growth transition and implications for capital markets (see "The next phase of China's growth," *2020 Long-Term Capital Market Assumptions*).

The EM forecasts reflect the same components as their DM counterparts – labor, capital stock and TFP – with nuanced differences. Some EM economies appear undercapitalized and will likely experience capital stock growth that exceeds that of the labor force and TFP as part of a catch-up process. And whereas TFP growth in DM economies should move at broadly the same pace, as that group of countries all operate at or close to the global technology frontier, in EM economies TFP partly captures convergence, or movement toward that standard. This year's set of EM downgrades partly reflects a revised historical dataset showing less impressive TFP performance in some countries than previously appeared to be the case.

We have left our India forecast unchanged at 7.0%, making it the fastest-growing economy in our dataset, as has been the case for several years. To some extent, this reflects the low starting level of per capita income, but India should also benefit from strong demographics (the fastest-growing labor force in our global sample), a gradually capitalizing economy and solid gains in TFP. We believe India has liberalized its economy sufficiently to enjoy growth driven by improved allocative efficiency and business practices for the next decade or so.

By contrast, cuts to forecasts for Mexico, Brazil, Turkey and South Africa all reflect policy disappointments of one kind or another. In Mexico's case, we expect a tilt toward populist policies under the current administration to worsen the growth/inflation trade-off, a pattern observed many times before in Latin America. As an example, the government's distaste for the previously approved energy sector reforms and its desire to use the state-owned oil company as a national champion seem likely to lower productivity and encourage rent-seeking behavior in that sector. Brazil is struggling to emerge from an extended recession and in theory is operating with a large output gap, but business confidence has displayed persistent weakness amid large public sector imbalances. Turkey is pursuing a policy mix somewhat similar to Mexico's, with the government attempting to enlist the central bank in a pro-growth campaign that instead seems likely to entrench high inflation. And South Africa is wrestling with a range of problems that include rent-seeking, somewhat offset by well-developed capital markets and ongoing improvements in human capital. While lower than before, our projections for these economies do not seem unduly pessimistic; indeed, those for Brazil and South Africa stand above their own 10-year averages, and Mexico is close to its own, while Turkey is the third-highest EM projection after India and China.

Korea and Taiwan represent special cases in the EM universe, given their relatively high income status. Their growth projections, 2.2% and 1.6%, respectively, look like DM forecasts, but their structure is different. Both suffer from rapidly aging populations, and their workforces are expected to shrink fairly rapidly in coming years. But each specializes in high tech manufacturing, where productivity gains can be sustained at a high level, and both have consistently generated solid TFP growth. Korea and Taiwan therefore will likely continue to experience steady increases in per capita income as their successful convergence to DM status continues.

EM INFLATION: LOOSE ANCHORS

We cast a wider net in assessing the underlying drivers of EM inflation relative to their DM counterparts, a reflection of the fact that EM inflation anchors are generally looser and more prone to influence by political shocks, currency volatility and trends in global goods prices. This diverse set of drivers leads to various revisions in our EM inflation forecasts. As a complement to the policy disappointments in Mexico and Turkey and their corresponding growth downgrades, we revise up our inflation projections by 20bps and 50bps, respectively. While this pattern of revisions indicates a much less favorable balance of growth and inflation in those economies and, to be sure, a somewhat downbeat view, our inflation outlook is actually on the optimistic end of the spectrum of lived experience. Average inflation in Mexico and Turkey over the past one-, five-, 10- and 20-year periods is higher than what we have penciled in.

For China, recent inflation dynamics have also influenced our expectations for the future, and we take aboard the persistent tendency to undershoot the People's Bank of China's 3% inflation target. Pockets of domestic excess capacity in combination with weak global goods pricing and an expectation that the yuan will appreciate over the long term suggest that inflation will remain modest, and thus we cut our forecast by 25bps. While proximity to China might suggest similar downdrafts for Korea and Taiwan, given that we cut our Korea projection last year we are comfortable with the low levels of inflation already embedded in our outlook. One intriguing possibility is that the recent deceleration of globalization, in particular the U.S. pushback against China's integration, mitigates China's future ability to export its excess capacity, weakening the associated headwinds to global inflation. We note one success story vis-à-vis inflation: Brazil. While political change has created its share of obstacles to real growth, central bank credibility has kept inflation expectations in check. We now expect inflation to average 4.5% over our forecast horizon, well within the tolerance range set by policymakers.

THE EVOLVING ROLE OF ESG ISSUES IN MACROECONOMIC ANALYSIS

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Considering environmental, social and governance (ESG) issues in macroeconomic analysis is nothing new. For example, ESG analysis is used in estimating the variables that impact capital input, hours worked per person, the growth of a labor force and total factor productivity (TFP). The degree of a country's reliance on energy imports and how well it manages its own natural resources, workers' education and health, the openness and accountability of governmental agencies, political stability – all these are ESG factors that macroeconomic forecasts already take into account.

So what is new about ESG? Two emerging trends in ESG analysis will, we believe, shape the way we analyze and predict real economic activity over the next decade. First, a growing body of research is exploring the impact of ESG issues on economic and financial returns. The assumption or perception that ESG considerations come at a cost is no longer a valid argument – this research provides evidence that information on ESG issues should be understood not as good or bad but merely as a reflection of facts and context. We note, too, that ESG should not be treated as a single category, given that E, S and G issues can be quite distinct from one another – although it is important to understand the relationships among them. Because of these distinctions, we don't believe there is a one-size-fits-all solution, even as many attempts exist to create country-level definitions of ESG. We think the opportunity lies in identifying a country's exposure and management of different E, S and G issues at the sectoral level and in estimating the impact on real economic activity.

Second, we believe that a more systematic and explicit consideration of the E, S and G risks and opportunities will play a much more significant role in macroeconomic analysis over our 10- to 15-year forecast horizon. Themes such as climate change, data privacy, technology disruption, social inequality and the circular economy (an economy that aims to eliminate waste and regenerate resources) are not stand-alone E, S or G issues. Rather, they are interconnected forces that affect the pace and variability of economic growth through their impacts on labor supply, productivity growth and production output. Each of these themes presents specific environmental, social or governance effects on different sectors and regions. Climate change, for example, impacts societies and economies through two main channels: the physical aspects of climate change as well as the implications of the ongoing transition to a low carbon economy. They each present E, S and G risks and opportunities.

Changes in the physical climate system have contributed to an estimated USD 4.2 trillion of global economic losses by natural disasters since 2000,[*] of which the uninsured losses have been increasing at a faster rate than the insured portion in recent years.[†] Faced with rising atmospheric and ocean temperatures, increasing and irregular precipitation levels, local sea-level rise and the collapse of ecosystems, policymakers and market participants are engaged in a broad discussion about the impacts of climate change on public health and labor productivity. In effect, these seeming "environmental" problems have become new "social" issues. For example, agriculture is expected to be the sector most affected by climate change, as water stresses render certain regions infertile, leading to population migration and worker displacement.

Transition impacts occur when countries and companies begin moving toward a less polluting, greener, low carbon economy. Such transitions may well trigger shifts in asset values for some industries or raise the cost of doing business while they reduce greenhouse gas (GHG) emissions and improve energy efficiency. Among the forces spurring these changes, some of which are already in effect: new regulatory policies; the introduction of carbon taxes or other market incentives, such as subsidies; advances in technological solutions; and shifts in market demand. Determining how E, S and G risks and opportunities might impact real economic activity will not be a simple exercise, but we believe that these impacts will be unavoidable, especially over the next five years.[‡]

One challenge of performing ESG analysis is clear: a persistently high level of uncertainty about the timing and potential magnitude of the ESG issues' impacts – many of which are unprecedented. Because these issues are multi-faceted and interconnected, they are unlikely to be captured by a single equation or econometric estimate. We see an opportunity to start building new economic models as more data becomes available and we gain a better understanding of how environmental, social and governance factors might shape the global economy over time.

[*] Weather, Climate & Catastrophe Insights, AON, 2018.
[†] Quarterly Bulletin, Bank of England, 2017.
[‡] The United Nations Principles of Responsible Investment (2019), The Inevitable Policy Response: Policy Forecasts.

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