CALAMOS GLOBAL EQUITY TEAM: 1Q 2021 OUTLOOK

Global Tailwinds Strengthen

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4Q and 2020 Global Equity Market Review

The fourth quarter of 2020 continued to be strong for global equity markets. The MSCI ACWI returned 14.8% for the quarter, contributing to a 16.8% return for the year. Along the way, the markets swung dramatically, enduring a drawdown in February and March of nearly 34%, followed by a rally of nearly 70% in the nine months following the bottom.

While U.S. and Chinese equities, particularly those from the “growth” style cohort, led the way for the first nine months of 2020, the fourth quarter saw shifting leadership with cyclical and “value” style cohorts outperforming. Covid-19 recovery names that had been punished most severely when the pandemic began experienced significant rebounds following a string of encouraging vaccine announcements that began in November. Other beneficiaries of this leadership shift included commodities and businesses in the materials, industrials, and energy sectors with commodity exposure; interest rate- and growth-sensitive financials, and select consumer-levered businesses.

Importantly, although returns were strong in absolute terms, U.S. equities underperformed those across the rest of the world, and the U.S. dollar experienced declines of between 2% and 10% against G-10 currencies and even more against emerging market currencies. This could be a preview of what markets could look like if a weaker dollar regime continues. In this scenario, we would expect non-U.S. developed markets and emerging market indexes to better their U.S. counterparts, with cyclical sectors such as energy, materials, industrials, and financials sustaining outperformance over the course of the next year.

Past performance is no guarantee of future results. Source: Morningstar and Bloomberg. MSCI Index data shown for Europe, Japan, Emerging Markets, World ex U.S. and All Country World (ACWI). Currency indexes for the euro, British pound and Japanese yen are shown per USD. High Yield is represented by the ICE BofA HY Index. 20+ Year Treasury represented by the ICE BofA Treasury 20+ Bond Index. The U.S. Dollar Index, represented by the DXY Index, measures the value of the U.S. dollar relative to a basket of foreign currencies, including Euro Area, Canada, Japan, United Kingdom, Switzerland, Australia, and Sweden. Oil is represented by for Brent crude, CRY is the Thomson Reuters/Core Commodity CRB Commodity Index. Please see end notes for additional index disclosures.
Outlook: New Leadership in 2021

“Everybody has a plan until they get punched in the mouth.”
—MIKE TYSON

“It’s not whether you’re right or wrong that’s important, but how much money you make when you’re right and how much you lose when you’re wrong.”
—STANLEY DRUCKENMILLER

As we positioned portfolios a year ago for what the world might look like in 2020, we could not have imagined the onset of the Covid-19 pandemic, the forced closing of global economies, the historic response by central banks and governments around most of the world, and the wild volatility in financial markets. We entered 2020 with a constructive view on global growth and markets. But to build on Stanley Druckenmiller’s point, quickly adapting to changing conditions and focusing on risk/return asymmetry can be more important than being right with a forecast. Despite being off the mark in our original assessment for how the year might play out, we were able to recognize and adapt to a changing landscape, focusing on downside protection during the first quarter and maximizing upside during the rest of the year. This helped our portfolios navigate the turbulence and generate attractive returns for our clients.

But, that doesn’t mean outlooks and forecasts aren’t worth a try. As we look ahead to 2021, we maintain a favorable view on global equity markets based on a backdrop of tremendous monetary and fiscal support and our expectation that the health crisis is nearing an end. When economies are allowed to reopen, a wave of pent-up consumer and business demand will fuel an acceleration in growth and likely inflation. We anticipate that these conditions would drive a change in market leadership across several gradients, including sector, region, and style factor. Most notably, more cyclically oriented businesses with higher operating leverage should see an acceleration in revenue and earnings as global GDP and inflation accelerate. Given the extent to which these companies have lagged over the past several years and relative valuations, we expect returns to be attractive in these areas. (See our post, “Perspectives on Growth and Inflation Expectations for a Post-Covid World” for more on this topic). Within this view, we see a sustained period of U.S. dollar weakness, a theme we have focused on throughout much of 2020 (including in our post, “Outlook for the U.S. Dollar”). As such, we continue to believe a more balanced approach is prudent, including increased exposure to cyclical businesses and those most exposed to economic reopening, as well as to international markets. In the sections that follow, we detail on our outlook for specific regions.

UNITED STATES

During the fourth quarter, U.S. equities powered higher through the headlines of U.S. elections, increasing Covid-19 cases, and restrictions on mobility, with the S&P 500 returning 12.1%. However, in a notable shift from the first three quarters of 2020, the move higher was not led by the cohort of large-cap “growth” stocks but instead by more cyclical companies and the virus-disrupted businesses that stand to benefit most from a reopening. (See our post, “Airlines: Positioned for Take Off?” for a closer look at this theme.) The major development of the quarter—and the catalyst for this initial rotation in leadership—was a series of favorable vaccine developments. These announcements boosted investor sentiment and pushed markets higher, despite a deterioration in several near-term economic data points during the quarter. As we have discussed in previous updates, we have been anticipating and positioning for this type of rotation in the U.S. and globally, so we did not need to make material changes to the portfolios over the fourth quarter.

In our fourth quarter 2020 outlook, “Sustained Tailwinds for Global Risk Assets,” we discussed how successful vaccine developments could improve investor clarity and confidence around a return to “normal” economic activity, particularly given the amount of monetary and fiscal policy support that was put in place during the year. We recognized the risks surrounding the November U.S. elections, but viewed those as transitory given the outcome was unlikely to meaningfully change the path of monetary or fiscal policy. The elections have passed, and Democrats will take control of the White House and Congress, albeit with a very thin majority. More importantly, the positive vaccine developments came through in spades as the Pfizer/BioNTech and Moderna vaccines demonstrated strong efficacy and were approved by the FDA for rollout in December in the U.S.
Returning to the results of the November 2020 and January 2021 elections, there are certainly risks that need to be watched carefully, particularly around regulatory and tax policy, which stand to become less business- and investor-friendly. But given how thin the Democratic majority is in Congress, it will be difficult for the most disruptive policy proposals to pass. There also are likely to be tailwinds from looser fiscal policy, including greater infrastructure spending. As we noted this past quarter, there will be winners and losers from a change in government, but it is unlikely that this change will drive a meaningful or sustained exodus from risk assets over the next several quarters.

We are then left with an improving outlook for reopening as vaccines are distributed, on top of massive pent-up demand from households flush with cash (Figures 2 and 3) and a monetary policy backdrop that is clearly biased to letting things run hot. On the consumer front, while the household savings rate has come down from a record level above 30% during the height of the pandemic, current levels are still among the highest of the post-WWII era. Additionally, household balance sheets have improved over the past year, which is abnormal for a recessionary period. When this capacity to spend is unleashed, we believe it has the potential to drive real GDP growth in the U.S. well beyond the roughly 4% levels expected by consensus. There is a risk that when the Fed sees just how strongly economic activity rebounds—potentially taking inflation well-above its target in the near-term—it will switch gears toward tightening monetary conditions. But, we see this tightening scenario as unlikely given the recent shift in the Fed’s policy framework and a clear communication of its desire to see a sustained economic recovery.

A reflacionary environment without a typical tightening response by the Fed should continue to put downward pressure on the U.S. dollar and disrupt the market regime that has been in place for most of the past decade. Figure 4 (on the following page) illustrates the extent to which the “growth” factor within the U.S. equity market has outperformed the “value” factor over the past five years and particularly over the past 12 months. Not surprisingly given the substantial representation of high-growth companies in the U.S. markets, this has coincided with a similar degree of outperformance by the U.S. market compared to the rest of the world. As noted, this trend began to stall in the fourth quarter and for the reasons cited above, we believe this may persist in 2021.

### FIGURE 2. U.S. SAVINGS RATE

<table>
<thead>
<tr>
<th>Year</th>
<th>U.S. Savings Rate</th>
<th>Long Term Median</th>
<th>Recession</th>
</tr>
</thead>
<tbody>
<tr>
<td>1959</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>1964</td>
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<td></td>
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<td>1969</td>
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<td></td>
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<tr>
<td>1974</td>
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<tr>
<td>1979</td>
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<tr>
<td>1984</td>
<td></td>
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<td></td>
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<tr>
<td>1989</td>
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<td>1994</td>
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<td>1999</td>
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<td>2004</td>
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<tr>
<td>2009</td>
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<td></td>
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<tr>
<td>2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td></td>
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</tr>
</tbody>
</table>

Source: Evercore ISI Portfolio Strategy & Quantitative Research, Dennis DeBusschere; using data from Bloomberg.

### FIGURE 3. DISPOSABLE INCOME: 2020 VS 2019

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
<th>CHANGE</th>
<th>DISPOSABLE INCOME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compensation &amp; Other Income</td>
<td>$40,250</td>
<td>$40,126</td>
<td>-$124</td>
<td>75%</td>
</tr>
<tr>
<td>Government Transfer Payments</td>
<td>$9,513</td>
<td>$13,060</td>
<td>$3,548</td>
<td>25%</td>
</tr>
<tr>
<td><strong>Disposable Income</strong></td>
<td><strong>$49,763</strong></td>
<td><strong>$53,186</strong></td>
<td><strong>$3,424</strong></td>
<td><strong>100%</strong></td>
</tr>
<tr>
<td>Expenditures</td>
<td>-$46,015</td>
<td>-$44,319</td>
<td>$1,696</td>
<td>83%</td>
</tr>
<tr>
<td><strong>Savings</strong></td>
<td><strong>$3,748</strong></td>
<td><strong>$8,867</strong></td>
<td><strong>$5,119</strong></td>
<td><strong>17%</strong></td>
</tr>
</tbody>
</table>

Source: BEA, the Bloomberg Professional service, and Credit Suisse. Note: Average 2020 less Average 2019; All measured on an annualized per capita basis.
We continue to invest in high-quality growth businesses where we believe prices remain reasonable and leave upside to the level of intrinsic value creation we see over the next several years. But it’s important to maintain a balance of more cyclical exposure, including to companies expected to benefit disproportionately by an economic reopening. And while there are many great opportunities within the U.S., conditions are in place for markets outside the U.S. to generate higher relative returns this year (Figure 4).

**EUROPE**

The MSCI Europe Index returned 15.7% (USD) during the fourth quarter, ahead of the U.S. equity market but slightly behind the overall equity universe outside of the United States. One might have expected worse given a fourth quarter surge in new Covid-19 cases and deaths, and the imposition of activity and movement restrictions comparable to those of spring last year. But as in the U.S., positive vaccine developments were the market’s key focus and investors looked beyond near-term disruptions and toward an acceleration in growth once more normal economic activity resumes.

The renewed and prolonged restrictions across Europe will delay recovery until at least late in the first quarter of 2021, but growth headwinds should be less severe than during the second quarter of 2020, given consumers and businesses have learned to adapt to the Covid environment. Beyond that, we see the same significant pent-up consumer demand in Europe as in the U.S. and most of the rest of the world. Similar to the U.S., household savings rates have gone into historic territory, leaving a tremendous capacity for consumers to splurge on goods and services once they can get out of their homes and cities again (Figure 5).

Another similarity between Europe and the U.S. is the significant degree of monetary and fiscal support, a frequent focal point in our previous outlooks. With expansions announced in December, the European Central Bank is expected to take its balance sheet as a percentage of GDP to nearly 75%, below only Japan among the largest global central banks (Figure 6). Aggressive fiscal support has been put in place as well.
One difference between Europe and the U.S. is the degree to which equity markets are composed of high-quality secular growth companies versus more cyclical companies with higher operating leverage. This has been very apparent in the relative equity market performance of Europe compared to the U.S. in recent years. This difference has also resulted in a relative valuation dynamic where Europe in general looks more reasonably valued today, along with being more levered to the improvement in regional and global growth outlooks that we expect. That is not to say Europe is void of longer-duration growth stories. Indeed, there are still very attractive opportunities in Europe exposed to the buildout of renewable energy and digital infrastructure (see our post “The Big Opportunity in European Ecommerce”), and to a rebound in global consumption, particularly in emerging economies.

Another difference we see in Europe and the U.S. relates to relative political risk. For many years, Europe was near the top of the list of various election risks and populist movements. Today, these risks seem less severe in Europe as compared to U.S., where risks are rising. This convergence of political risk could be another tailwind to capital flows out of the U.S. and toward Europe, which we can see in the appreciation of the euro in recent months. On that note, the degree of ECB tolerance for euro strength is a concern that’s often cited in a weaker-dollar view. Against other trading partners, the euro has been more stable, and we believe the ECB is unlikely to view the fairly isolated appreciation of the euro versus the dollar to be a significant threat to competitiveness. (Figure 7).

FIGURE 7. PERIPHERAL SPREADS AS A BAROMETER FOR EUROPEAN POLITICAL STABILITY
Greek and Italian 10 Yr government bond spreads over 10-year German bund yield


EMERGING MARKETS
During the fourth quarter, emerging market equities outperformed all other major geographic markets, with the MSCI Emerging Markets Index returning 19.8% (USD) for the quarter. Leading the way were technology companies that continued to benefit from trends we have identified in previous commentaries. (see our post, “Accelerated Disruption Fuels Growth Opportunities”). But, similar to other major geographies, another driver of returns came from more cyclically oriented sectors, such as materials, financials, and industrials.

Foreign exchange is a critical vector for determining the stability, liquidity, and return opportunity in global investment portfolios, and in particular emerging markets. Taking a step back, most emerging markets are dependent on developed markets to fund their growth and development, with the two largest sources being foreign direct investment (FDI) and portfolio flows. These capital allocation decisions are largely driven by expected real returns on capital in an investor’s home market as compared to a particular emerging market and by the corresponding expectations for foreign exchange appreciation or depreciation play an important part of this. The U.S. dollar, as the world’s reserve currency, plays a disproportionate role in this assessment. When the dollar is strengthening, it puts pressure on emerging markets to fund growth. When the dollar is weakening, the opposite typically holds true.

Throughout 2020, we made the case for a weak U.S. dollar. Over the fourth quarter, we indeed saw the dollar break lower versus most global currencies. This weakness has already provided incrementally easier liquidity conditions in emerging markets. This benefit should continue given expectations that the Federal Reserve will tolerate greater growth and inflation accelerations before any tightening of financial conditions, versus its approach over the past several years. As one might expect, investment flows to emerging markets clearly inflected higher during the fourth quarter, providing a liquidity boost to local companies and a technical tailwind for local markets.

Similar to Europe and Japan and in contrast to the U.S., emerging markets are positioned to disproportionately benefit from a global recovery given increased weightings to cyclically sensitive businesses. Additionally, vaccine developments from around the world are accelerating a recovery in Asia that was already further along, due to the region’s first-in, first-out experience of the pandemic, along with better response management. Inventory levels remain depleted, which should continue to bode well for a pickup in manufacturing activity across emerging markets.
Throughout 2020, we increased exposure to more cyclically oriented and Covid-recovery-driven areas within emerging and developed markets. We also focused specifically on identifying behavior changes that we believe can endure and build momentum in a post-Covid world. (See our post, “China’s Consumer Recovery: Lessons from the Tortoise and the Hare?” for more). Similar to other geographies, though, we believe emerging markets offer many attractive opportunities in innovative and disruptive secular growth companies. A number of these opportunities are tied to industries in earlier stages of development as compared to developed markets. (Our post “China’s Cloud Software Industry: Long Runway Supports Secular Growth Potential” takes a closer look at one such example.)

The advent of the electric vehicle (EV) market in emerging markets is a theme that has been building momentum on the back of supportive policy developments. Companies with exposure to this theme may not enjoy the same global recognition as developed market counterparts, but the growth opportunity is just as attractive, in our view. These include auto manufacturers and EV component suppliers around the globe, but particularly those in the Asia Pacific region. In China, orders for EVs were very strong during the recent Golden Week celebration, providing incremental validation of demand. Longer term, China’s carbon reduction targets imply a clear path for continued expansion of this market.

### FIGURE 8. ANNUAL CUMULATIVE EM EQUITY FLOWS ($ BILLIONS)

![Graph showing annual cumulative EM equity flows from 2016 to 2020.](image)


### FIGURE 9. CHINA LED MANUFACTURING OUTPUT PMIS

![Graph showing China manufacturing output PMI from January 2019 to July 2020.](image)


### FIGURE 10. EM GDP GROWTH RELATIVE TO DM, REAL GDP (Y/Y%)

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</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>2.5%</td>
<td>3.1%</td>
<td>1.7%</td>
<td>2.3%</td>
<td>3.0%</td>
<td>2.2%</td>
<td>-3.5%</td>
<td>3.9%</td>
</tr>
<tr>
<td>EM</td>
<td>4.7%</td>
<td>4.5%</td>
<td>4.5%</td>
<td>5.1%</td>
<td>4.8%</td>
<td>4.0%</td>
<td>-2.1%</td>
<td>6.8%</td>
</tr>
<tr>
<td>EM-U.S.</td>
<td>2.2%</td>
<td>1.4%</td>
<td>2.8%</td>
<td>2.8%</td>
<td>1.8%</td>
<td>1.4%</td>
<td>1.4%</td>
<td>2.9%</td>
</tr>
</tbody>
</table>

ESG has become a buzzword globally over the past few years and within emerging markets, ESG considerations are providing particularly meaningful tailwinds, as reflected in investor flows and fundamentals. China’s announcement of its carbon neutral target by 2060 is one clear crystallization of the theme of policy as a driver of corporate investment decisions (Figures 11 and 12). And compared with Japan, Europe or the U.S., emerging market equity funds saw the greatest percentage of equity flows into ESG funds in 2020 (Figure 13).

Emerging markets have been viewed as a tactical allocation by many investors, but we believe this is an outdated construct. There is an understandable reluctance, particularly on the part of U.S. investors, to shift capital to parts of the world that have historically exhibited greater volatility. This has been particularly true in recent years, when the global growth engine upon which many emerging markets are dependent has been idling, while the secular growth-intensive U.S. market has flourished. We believe an allocation to emerging markets should be a part of a strategic asset allocation. By focusing on strong bottom-up selection and understanding the macroeconomic landscape, that our process can mitigate some of the volatility, helping investors to maintain exposure.

History tells us that when we enter an environment of improving global growth and reflation and when the world’s reserve currency is entering a period of weakness—as we believe is the case today—the opportunity cost of developed market “home country” bias can be particularly painful. Positive investor flows and strong relative performance in the emerging markets indicate that others are increasingly aligned with our constructive outlook for this space. But it’s important to note that flows to emerging markets over the past several months have only taken us back to where 2020 began. We think the relative opportunity ahead continues to be quite attractive.

**JAPAN**

The MSCI Japan Index returned 15.3% (USD) during the fourth quarter, slightly ahead of the global equity universe but trailing the universe outside of the United States. Japanese equities have benefited from a more limited impact of Covid-19 restrictions on Japan’s domestic economy relative to Western sources.

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**FIGURE 11. ROADMAP TO CARBON NEUTRALITY BY 2060**

Mn tonne of CO2 equivalent

<table>
<thead>
<tr>
<th>Year</th>
<th>NON FOSSIL FUELS</th>
<th>NATURAL GAS</th>
<th>OIL</th>
<th>COAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>14</td>
<td>59</td>
<td>57</td>
<td>51</td>
</tr>
<tr>
<td>2020E</td>
<td>16</td>
<td>57</td>
<td>51</td>
<td>20</td>
</tr>
<tr>
<td>2025E</td>
<td>20</td>
<td>51</td>
<td>45</td>
<td>25</td>
</tr>
<tr>
<td>2030E</td>
<td>25</td>
<td>45</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>2040E</td>
<td>48</td>
<td>30</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>2050E</td>
<td>73</td>
<td>10</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2060E</td>
<td>84</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

(1) Reduction based on current policies.
(2) Change in energy mix.
(3) Upgrade equipment and current industrial process.
(4) Increase in efficiency.
(5) Carbon capture and storage.


**FIGURE 12. FORECASTED CHANGE IN CHINA’S ENERGY STRUCTURE**


**FIGURE 13. EQUITY FLOWS INTO ESG FUNDS VS. BROADER MARKET**

YTD inflows, as % of starting AUM

Source: Barclays; using data from EPFR and Barclays Research. % of AUM flows based on Barclays methodology.
counterparts, as well as from Japan’s exposure to the Chinese economy. Additionally, the transition of power from Prime Minster Abe to Prime Minister Suga increased confidence in the continuation of economic reforms, and a new focus on the digitalization of the Japanese economy has furthered optimism. (For more, see our webcast, “Calamos Perspective on International Markets.”) As we look toward 2021, Japan appears uniquely positioned to continue to benefit from these tailwinds.

Japan is also well positioned to benefit from a strengthening global recovery. Historically referred to as the “world’s workshop,” Japan is home to many high-quality industrial, technology, and manufacturing companies. As a result, the Japanese equity market has historically been highly levered to the global growth environment. Because we’ve been in a regime of low growth globally for several years, Japanese equity market returns overall have been lackluster. In addition, for a variety of structural reasons including demographics and the long-lasting effects of the bursting of the Japanese asset bubble of the late 1980s, Japan has battled persistent deflation independent of the global cyclical backdrop. A consequence of this has been a consistent preference on the part of domestic Japanese investors for Japanese government bonds over equities.

Given our outlook for a more reflationary environment as the global economy reopens and as monetary and fiscal stimulus reach new heights, we believe Japan can experience a significant inflection in domestic and global investor positioning. The fundamental inflection in Japanese corporate profits as a result of accelerating global growth, along with signs of accelerating inflation, could catalyze an increase in equity flows to Japan by global and domestic investors alike. Given the degree to which Japanese equities have been ignored in recent years, this could drive a significant re-rating. We are seeing early signs of this inflection. We expect the improvement in relative strength will continue as global growth accelerates in 2021 and beyond.

For additional commentary from the Calamos Global Equity team and information about our global and international capabilities, please visit our global resource center at calamos.com/globalmarkets.

GLOBAL EQUITY TEAM CONTRIBUTORS

Nick Niziolek, CFA, Co-CIO, Head of International and Global Strategies, Senior Co-Portfolio Manager

As a Co-Chief Investment Officer, Nick Niziolek is responsible for oversight of investment team resources, investment processes, performance and risk. As Head of International and Global Strategies, he manages investment team members and has portfolio management responsibilities for international, global and emerging market strategies. He is also a member of the Calamos Investment Committee, which is charged with providing a top-down framework, maintaining oversight of risk and performance metrics, and evaluating investment process. Nick joined the firm in 2005 and has 18 years of industry experience, including tenures at ABN AMRO and Bank One. He received a B.S. in Finance and an M.B.A. from DePaul University.

Dennis Cogan, CFA, Senior Vice President, Co-Portfolio Manager

Dennis Cogan is responsible for portfolio management and investment research for the firm's global, international, and emerging market equity strategies. He joined Calamos in 2005 and has 20 years of industry experience. Previously, Dennis worked for Accenture in Strategic Planning and Analysis. He received a B.S. in Finance from Northern Illinois University.

Paul Ryndak, CFA, Senior Vice President, Head of International Research

Paul Ryndak is responsible for developing, enhancing, and maintaining our research processes and resources, working in partnership with senior members of our investment organization. He has oversight over the fundamental research efforts of our global equity research team and research associates. Paul has been with the firm for 17 years and has 20 years of industry experience. His previous experience includes roles at Fitch Ratings and GE Capital. Paul received a B.S. in Finance from Eastern Illinois University, and an M.S. in Finance from DePaul University.

Kyle Ruge, CFA, Associate Vice President, Senior Strategy Analyst

Kyle Ruge is a member of the international and global investment team and is responsible for fundamental research as well as for assisting in the portfolio management of the firm's global, international, and emerging market equity strategies. He joined the firm in 2006 and has 16 years of industry experience. Kyle began his career with Broadview Advisors and McCarthy, Grittinger and Weil Financial Group. Kyle graduated magna cum laude from Marquette University with a B.S. in Finance.
Calamos Global and International Strategies: A Robust Global Investment Process

**TOP-DOWN THEMATIC VIEWS**
» Expressed via active bets to key secular growth themes

**TOP-DOWN CYCLICAL VIEWS**
» Expressed via active bets to countries, currencies, sectors, etc.

**BOTTOM-UP QUANTITATIVE TOOLS**
» Calamos Timeliness Tools
» 3rd Party Quantitative Tools
» MSCI BARRA Factor Analysis
» MSCI ESG Ratings

**BOTTOM-UP FUNDAMENTAL RESEARCH**
» Analyze business model and growth drivers, competitive landscape, near-term catalysts, key risks and ESG considerations, business valuation, and capital structure opportunities

Themes Provide a Tailwind for Sustainable Growth

**WE IDENTIFY AND PURSUE THEMES WE EXPECT TO DRIVE GROWTH AND CREATE INVESTMENT OPPORTUNITIES**

**Secular Themes:** Long-term trends that drive growth for years/decades to come in a particular sector or industry. We believe that these themes provide a tailwind for select companies.

» Mobility and connectivity (cloud computing/SaaS, e-commerce, mass digitalization, online services, payments)
» Shifts in consumer preferences (global middle class, experiences vs. things, healthier lifestyles, aging demographics)
» Artificial intelligence and automation (productivity gains, autonomous machines/vehicles)
» Green energy solutions (renewable energy generation, storage, EVs)
» Advances in nanotech, biotech, and genetics (bioprocessing, precision medicine, next generation diagnostics/treatment/monitoring)
» Globalization reversing (rising nationalism and trade/geopolitical tensions, localizing supply chains)

**Cyclical Themes:** Themes tied to the general business cycle. These themes are shorter in duration but can provide shorter-term opportunities.

» Global central bank monetary policies
» Regional government fiscal policies /election cycles /reform initiatives
Opinions, estimates, forecasts, and statements of financial market trends that are based on current market conditions constitute our judgment and are subject to change without notice. The views and strategies described may not be appropriate for all investors. References to specific securities, asset classes and financial markets are for illustrative purposes only and are not intended to be, and should not be interpreted as, recommendations.

As a result of political or economic instability in foreign countries, there can be special risks associated with investing in foreign securities, including fluctuations in currency exchange rates, increased price volatility and difficulty obtaining information. In addition, emerging markets may present additional risk due to the potential for greater economic and political instability.

Indexes are unmanaged, do not include fees or expenses and are not available for direct investment. The S&P 500 Index measures the performance of large-cap U.S. equities. The MSCI Emerging Markets Index is a free float-adjusted market capitalization index that is designed to measure equity market performance of emerging markets. The MSCI World ex U.S. Index measures developed market equities, excluding the U.S. The MSCI ACWI Index is a measure of the global stock market performance, including developed and emerging markets. The MSCI ACWI Growth Index and MSCI ACWI Value Index measure global growth and value equities, respectively. The MSCI US Index is designed to measure the performance of the large and mid cap segments of the U.S. market. The MSCI USA Value Index captures large and mid cap U.S. securities exhibiting overall value style characteristics. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield. The MSCI USA Growth Index captures large and mid cap securities exhibiting overall growth style characteristics in the US. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend. The ICE BofA U.S. High Yield Index is an unmanaged index of U.S. high yield debt securities. The ICE BofA Treasury 20+ Bond Index is market value weighted and designed to measure the performance of the U.S. dollar denominated, fixed rate 20+ Year U.S. Treasury market.

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