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INVESTMENT PUBLICATIONS HIGHLIGHTS

As we enter the 2020s, the first quarter edition of IPH features four articles on trends that have the potential to shape investor returns in the coming decades:

- the first article predicts that demographic trends will have a minimal impact on future returns given the high probability that several mitigating factors offset their effects;
- the second considers the benefits of investing in a "climate change strategy" and provides
 potential implementation options for investors wondering how such a strategy might best fit
 into their overall portfolio;
- the third examines the ongoing tug-of-war between globalization and nationalism and delivers several policy prescriptions for navigating this environment going forward; and
- the last article suggests that value investing is not dead; rather, value could be on the verge of regaining its market leadership over growth if the current technological revolution is indeed nearing a turning point.

MEGATRENDS: THE ECONOMICS OF A GRAYING WORLD

Roger A. Aliaga-Diaz, Ph.D. et al., Vanguard Research, 2019.

Falling fertility rates and longer life expectancies will shift the composition of the global population toward a higher proportion of elderly individuals. The authors predict that while demographic trends may have a neutral to negative direct impact on future GDP growth and investment returns, there is still a high probability that several mitigating factors offset these effects. Their recommended best course of action for investors to address changing demographics is to maintain globally diversified portfolios.

Lower fertility rates and longer life expectancies will contribute to an unprecedented increase in the percentage of those aged 65 and older in the global population. This shift in demographics toward a higher concentration of elderly persons will likely contribute to rising dependency ratios—calculated as the number of young (less than 25 years of age) and old (greater than 64 years of age) relative to the number of working-age adults—in the years ahead. Evidence suggests that rising dependency ratios might have both direct and indirect effects on future economic growth and investment returns.

To study how expected demographic changes may impact future economic growth, the authors examine the relationship between population trends and the three primary components of GDP growth: population growth, labor force participation, and labor productivity. They find that falling fertility rates and rising dependency ratios will have



a direct negative impact on population growth rates and labor force participation rates. The effect of falling fertility rates on population growth is straightforward; in addition, labor force participation is expected to decrease because there will be fewer young workers entering the workforce than there are retirees exiting the workforce. Although both these forces are likely to directly detract from GDP growth, labor productivity has been the primary contributor to GDP growth historically; the relationship between demographics and productivity is nuanced.

The authors find no direct impact between demographics and productivity, but an increase in the share of elderly persons in the population may increase productivity indirectly. Contrary to common perceptions, consumer spending remains largely constant as individuals transition from their prime working-age years into retirement. The authors reason that if economy-wide consumption remains stable amid declining labor force participation rates, wages and inflation could rise as firms compete for a shrinking pool of working-age individuals. Higher input costs, in turn, could incentivize businesses to boost capital expenditures in order to increase labor productivity. On balance, the authors conclude that demographic shifts will have a marginally negative impact on GDP growth as lower population growth and labor force participation are somewhat offset by improvements in productivity.

Demographics impact investment returns via two main "channels:" economic growth and savings/investment preferences. Any negative impact to economic growth from changes in demographics should put downward pressure on real risk-free interest rates due to the established link between these two variables. All else equal, a lower risk-free interest rate would imply lower asset returns. It is less clear how demographic trends impact savings and investment decisions. Existing literature differs on whether dependency ratios affect savings rates, and Vanguard's research has yet to find a statistically significant relationship between the two variables. These findings lead the authors to conclude that demographic trends are most likely to affect investment returns through their associated implications for economic growth.

Yet, investors must keep in mind that it is difficult to predict future economic conditions, and demographic forces are just one factor with the potential to shape the future macroeconomic environment; additional factors include institutional and technological changes. Therefore, the authors recommend that investors construct a globally diversified portfolio that minimizes the potential risks of any one country's demographic conditions.

THINKING OUTSIDE THE BOX: HOW AND WHY TO INVEST IN A CLIMATE CHANGE STRATEGY

Lucas White and Jeremy Grantham, GMO, April 2019.

With the effects of climate change rapidly becoming more noticeable, the day is approaching when the world will need to act aggressively to overcome decades of inaction. For return-oriented investors, a climate change strategy has the potential not only to deliver strong returns in this environment but also to potentially offer other significant benefits. The authors believe that a better understanding of these potential benefits will allow investors to think about how a climate change strategy might fit into a broader portfolio.

The impact of climate change is increasingly influencing the economy and our daily lives. To overcome decades of inaction on this front, the authors believe the world will need to allocate a vast amount of resources and investment toward overhauling the global energy infrastructure to transition to clean energy. The climate change sector—companies focused on mitigating greenhouse gas emissions or helping the world adapt to the effects of climate change—stands to benefit from decades of secular growth tailwinds and has the potential to generate strong returns in this environment. Additionally, the authors believe the climate change sector will remain relatively inefficient for some time, creating a few winners at the expense of many losers and increasing the alpha generation opportunities for those investors that can correctly identify the winners. These forces—secular growth tailwinds and sector inefficiencies—suggest a "climate change strategy" (a strategy investing in the climate change sector) has the potential to deliver strong returns for the foreseeable future.

In addition to strong returns, the authors expect climate change strategies to provide other additional benefits, such as diversification, protection from climate risk, and inflation protection.

- Diversification: The authors expect a climate change strategy will provide equitylike returns in a manner quite different from the broad equity markets. The main drivers of return for a climate change strategy will not be broad economic profitability and GDP growth but rather the clean energy transition and efforts to decarbonize.
- Protection from climate risks: If climate change is a drag on the broad economy
 as many expect it to be, then a strategy that invests in companies focused on
 mitigating these effects should benefit relative to broad equities. Additionally, the
 climate change sector is less exposed to the regulatory risks that will likely accompany the transition to clean energy.
- Inflation protection: The climate change sector should perform well in an inflationary environment because clean energy solutions that compete with fossil fuels are indirectly exposed to fossil fuel prices (i.e., when fossil fuel prices rise, clean energy solutions become more competitive, and the increased demand lifts their prices) and directly exposed to the prices of materials (e.g., copper, lithium, nickel, etc.) used in their production.

Understanding the many advantages of a climate change strategy can help investors better determine how such an approach fits into a broader portfolio. The authors identify four potential "portfolio fits" for a climate change strategy: (1) as a global alpha equity play with diversification benefits; (2) as part of an allocation to real assets as a source of inflation protection; (3) as part of an allocation to ESG (environment, social, and governance), impact, and sustainable investments; or (4) as portfolio insurance against climate risk. It is up to investors to figure out how a climate change strategy could fit into their particular investment process, but the authors believe that it will be worth the effort.

THE END OF SOVEREIGNTY? GLOBALIZATION, NATIONALISM AND THE IMPLICATIONS FOR INSTITUTIONAL INVESTORS

David Hunt and Taimur Hyat, PGIM, Spring 2018.

Individual sovereign states face challenges that transcend legal boundaries due to global forces, such as climate change, the regulation of multinationals, terrorism, and pandemics. Voters in developed nations increasingly see the drive toward globalization as a benefit of the so-called elites of their countries, which has contributed to a rising tide of nationalism. The authors believe efforts by sovereign states to wrest back control in the face of some of these global forces will in part define the coming decades, and they deliver policy prescriptions for investors accordingly.

The rising tide of nationalism may have garnered more headlines of late, but the authors believe the demise of globalization has been greatly exaggerated. The flows that drive globalization, namely those of financial, human, and digital capital, remain as potent as ever. Indeed, the speed at which capital and information flows across borders is accelerating, with innovations, such as social media and cryptocurrencies, presenting entirely new sets of risks, including the growth of malign activities like cybercrime and foreign government interference. Meanwhile, foreign labor doesn't need to migrate to make its presence felt in the domestic jobs market, as it is deeply embedded in complex global supply chains. Multinational companies take advantage of this global integration and exploit disparate regulatory environments to such an extent that the largest among them have essentially rendered themselves stateless for most purposes.

This technology-aided growth of international firms has caused a striking dichotomy: While some of these globalizing forces have contributed to the decline of inequality between countries in recent decades, inequality within several developed markets has increased over the same period. A populist backlash has resulted, with ensuing policies including the imposition of tariffs, departure from trade blocks, and curbs on capital flows. Meanwhile, efforts are ongoing to create a framework that will tackle tax avoidance schemes and help establish "home" tax jurisdictions. We are also seeing a growing wave of regulation surrounding social and digital media. In developed markets, this has included protecting users' data and mitigating the spread of harmful disinformation. In some emerging markets, however, we have seen governments weaponize regulation by blocking apps and imposing data localization rules to restrict private access to certain information.

It is the authors' view that the tug of war between the pro- and anti-globalization forces will have a marked impact on global economies and markets for the foreseeable future. They therefore advise that long-term institutional investors will need to adjust their investment approach to adapt to this new environment and recommend several behaviors to modify:

- Decrease reliance on top-down country-level factors as inputs due to their diminishing role in driving individual asset returns. Increase focus on international sectoral themes, as well as supra-national and intra-country governance regimes. Examples include the importance of decisions made in Brussels and Frankfurt to European peripheral debt, as well as city-level factors in driving real estate returns.
- Apply a global framework to investment policy, as the domestic/international/ emerging markets classification is inadequate to capture overall portfolio exposures in a more globalized world. For example, more than 50% of MSCI Europe Index sales come from outside the Eurozone.
- Account for developed markets political risk in in-house and third-party manager investment decisions in a manner similar to emerging markets. Examples include retaining political risk analysis firms and engaging in foreign relations forums.
- Position portfolios for greater volatility and political uncertainty. Don't overemphasize traditional risk measures, which are backward looking and prone to underestimating low-probability, high-risk outcomes. Investors should onsider the use of tail-risk hedging strategies.
- Prepare to be viewed as a potential agent of change, with public stances on issues
 of global and regional importance, as societal stakeholders increasingly call on
 large asset owners to leverage their global reach to demonstrate active leadership.
 Engagement could include signing up for the Investor Stewardship group and incorporating ESG goals into the investment process.

VALUE IS DEAD, LONG LIVE VALUE

Chris Meredith, O'Shaughnessy Asset Management, July 2019.

Technological revolutions, or long periods of economic upheaval caused by the introduction of new technologies, are one framework for analyzing history. They can provide useful insights into market trends, such as shifts in market leadership between growth and value stocks. Since 2007, value has experienced one of its longest and most severe periods of underperformance relative to growth, leading investors to wonder whether value investing is dead. The author attempts to answer this question by examining the relationship between value and growth stocks through the lens of the long-term economic cycle of technological revolutions. Based on this framework, he concludes that value stocks will eventually regain market leadership over growth stocks as the current technological revolution progresses.

Value investing, buying cheap stocks over expensive growth stocks, has a proven track record over the long run. However, it is currently experiencing one of its longest and most severe periods of underperformance on record; growth has substantially outgained value since 2007. While this is not the norm, there have been other periods

throughout history when growth stocks dominated value stocks. The last such period took place from 1926 to 1941. The author points to striking similarities between the last and the current growth regimes and argues that both these periods can be better understood through the lens of the long-term economic cycle of technological revolutions.

Economist Carlota Perez laid out a general framework for understanding technological revolutions. Perez identified five main technological revolutions, starting with the Industrial Revolution (1770s–1820s) and ending with the Age of Information and Telecommunications (1971–present). Each of these technological revolutions span several decades and follow a similar cycle; they begin with an Installation phase, which involves the establishment of new technologies and the process of readying them for mass consumption, and they end with a Deployment phase, which encompasses the refinement, mass adoption, and maturity of these new technologies across the whole economy. The author of this paper posits that it is the Turning Point phase, a transition period between the Installation and Deployment phases, when value is most prone to lag growth.

According to Perez, the Turning Point begins when new technological norms begin to scale, and the winners of the new technological trend establish themselves as market leaders. Value usually underperforms growth during this period because growth tends to be heavily concentrated within the few industries most closely associated with the new technological trend, whereas value has limited exposure to these high-growth industries. Eventually, the success of these industries leads to a frenzied inflow of financial capital that contributes to valuation bubbles and a subsequent crash, which can lead to public outrage and tighter regulations. This typically marks the beginning of the Deployment phase, when growth becomes more broad-based as the rest of the economy begins to benefit from the widespread adoption of the new technological innovations. The author argues that it is during this period when value regains its dominance over growth.

The author identifies several stark similarities between the environment today and the Turning Point of the last technological revolution (1926–1941); the stock market is highly concentrated in the sector at the center of the technological trend (manufacturing then versus information technology today); growth stocks are heavily exposed to these industries; and there are indications of financial excesses and valuation bubbles. These similarities are an indication that we could be in the midst of this technological revolution's Turning Point, which would help explain the growth regime since 2007. If this is the case, then we could be on the verge of value regaining market leadership over growth. There is no prescription for timing precisely when that will happen, but the author does suggest that investors watch out for pitfalls as the current "Age of Technology" plays out, including legal developments of privacy rights that could create structural issues for tech companies, as well as the potential for anti-trust action against near-monopolistic winners. \blacksquare

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