Secular outlook for global growth: The next 20 years

Slower economic growth is expected to result in less of a tailwind for equities

KEY TAKEAWAYS

• The Fidelity Asset Allocation Research team’s secular gross domestic product (GDP) growth framework is a proprietary, dynamic approach, serving as a foundation for developing long-term capital market assumptions for asset class returns.

• Global growth is expected to be 2.1% over the next 20 years, down from 2.8% for the previous 20 years, with the United States averaging 1.8% annually and developing economies likely to register the highest GDP growth rates.

• Due to AI and other secular trends boosting capex and public investment, we believe there may be potential upside to our base-case productivity estimates in some countries.

• Asset allocation strategies that can be selective across a broad, global opportunity set may have the greatest potential to take advantage of future growth prospects.

GDP forecasts: A foundation for long-term capital market assumptions

Economic growth provides the backdrop for asset markets, influencing corporate earnings and interest rates, among other factors. We believe, therefore, that long-term GDP growth forecasts form the foundation for long-term capital market assumptions (CMAs) for equity, fixed income, and alternative asset classes. We publish our secular CMAs annually. Our CMAs help inform strategic asset allocation and portfolio planning considerations. Overall, in our view, slow growth and high equity valuations will generate a headwind for asset returns over the next 20 years, compared with the previous two decades of unusually favorable performance for equities versus fixed income.
Modern financial markets have a relatively short history, particularly outside the United States and a handful of other developed countries, limiting the availability of data for growth and asset assumptions. Most approaches use a framework centered on the U.S. and other advanced economies; further, many are backward-looking and rely on mean reversion to historical averages.

The global economic landscape likely will look quite different over the next 20 years versus the past century, we believe a forward-looking, global approach to developing CMAs should not be centered on the past 75 years of U.S. dynamism. Our CMAs seek to provide a less biased outlook in a dynamic environment of rising geopolitical risks and deglobalization trends.

Generating a long-term global GDP forecast is the first step in the CMA process. At a high level, economic growth can be separated into two components: population growth, or the increase in the number of workers, and productivity growth, or the increase in output per worker (Exhibit 1).

**EXHIBIT 1: Labor force growth and productivity growth are key determinants of economic growth.**

Key drivers of GDP growth

```
<table>
<thead>
<tr>
<th>Population Growth</th>
<th>+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working-Age Population</td>
<td>Participation Rate</td>
</tr>
<tr>
<td>People Catch-Up</td>
<td>Structure Other</td>
</tr>
</tbody>
</table>
```

**EXHIBIT 2: The technological transformations of the 19th and 20th centuries led to major expansion in per-capita income.**

Average world GDP per capita

<table>
<thead>
<tr>
<th>Annualized change in world GDP per capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0%</td>
</tr>
</tbody>
</table>

Real GDP per capita (U.S. dollars)

- $12,000
- $10,000
- $8,000
- $6,000
- $4,000
- $2,000
- $0

The date scale on the X-axis (bottom of the chart) is truncated for illustrative purposes. Source: Angus Maddison, Groningen Growth and Development Centre, World Bank, Haver Analytics, Fidelity Investments (AART), as of 12/31/23.

Post-Industrial Revolution growth: Blip or new baseline?

During much of the world’s history, productivity grew very slowly. Economies generally expanded in line with their population growth. As of 1820, the largest economies coincided with the largest populations by country, with China and India topping the list.¹

Since the onset of the Industrial Revolution in Great Britain more than 200 years ago, bursts of technological transformation have powered rapid productivity gains. Throughout the world, innovation brought fundamental change—from steamships, railroads, indoor plumbing, electrification, and telephones in the 19th century to automobiles, airlines, antibiotics, and radio, television, and the internet in the 20th century. Starting in the late 1800s—and for the first time in history—income per capita rose exponentially, especially in the United States and the more advanced European economies (Exhibit 2). By 1900, the United States had become the world’s largest economy, despite having a population only one-fifth the size of China’s.
Extrapolating history

Two schools of thought prevail among forecasters attempting to project global growth rates further into the 21st century. One assumes the United States possesses an inherent dynamism that will perpetuate the high U.S. average productivity experienced over the past 100 years, perhaps boosted by artificial intelligence, robotics, and other cutting-edge technologies. Data limitations prevent large, developing economies from being incorporated into the historical average productivity rate, but the general presumption is that their rapid expansion may keep global growth solid for years to come.

Another perspective is that the two-century burst of productivity growth may be ending. Per capita income in the United States and many other developed economies has stagnated, and technological breakthroughs seem less transformative than before. Many recent advances—mobile connectivity, for example—have resulted disproportionately in consumer luxuries such as new smartphone apps, rather than revolutionary innovations. Implicit in this view are slower growth rates for the United States and other Western economies relative to less-developed countries in South America and Southeast Asia.

Our view is that both analytical frameworks fall short. Extrapolating productivity trends based on a brief period of world history may optimistically assume that such rapid expansion can continue, even though the global economy is now growing from a much larger base. Conversely, extrapolating slowing productivity growth by comparing inventions from different eras may pessimistically assume a trend from a small sample of technological advances, which are by nature largely unpredictable. In our view, both perspectives suffer from a narrow focus on the United States, whose current outlook may not fully reflect a global economy in which emerging countries account for more than one-third of output.

Our forward-looking, global approach to growth forecasts

The objective of our forecasting framework is to address these shortcomings by emphasizing a forward-looking approach that does not depend on historical averages. Our methodology also has a global focus that we think is more reflective of the worldwide opportunity set for growth, enabling us to model long-run growth potential based on fundamental drivers.

We use historical data not as static assumptions but to (1) understand the underlying determinants of economic growth over time and (2) find measurable factors that have been predictive of economic growth in the past. We employ a multidimensional panel data model that compares common data sets across economies within a common framework. This approach helps us make direct comparisons while also capturing the different characteristics that make an economy unique.

Together, these traits root our analysis in historical realities and measurable drivers of economic growth. At the same time, our methodology provides a dynamic framework determined by model-driven predictions rather than historical averages or overly qualitative hypotheses about the nature of technological progress.
Population growth: less positive than in the past

Of the two primary determinants of GDP growth, we find population increases easier to forecast, as demographic trends tend to vary less over time than trends in other economic data sets. Growth in a country’s labor force directly affects GDP growth the most.

A country’s labor force is determined by a combination of the overall size of its working-age population and the percentage of people within that cohort who are either working or seeking employment (i.e., its labor force participation rate). In advanced economies, aging populations tend to result in lower labor force participation over time, adding to the concurrent demographic challenge of weaker growth in working-age populations.

Although labor-force growth has risen rapidly for several decades, we estimate that all major countries will receive less of a direct demographic benefit over the next 20 years (Exhibit 3). It’s important to note that any changes to immigration policies could have a notable impact on these forecasts, particularly for Europe, where an influx of a relatively younger population could help mollify the region’s demographic challenges. Of course, the opposite effect could occur if more-restrictive policies were enacted to combat migration.

In general, labor-force growth should be faster in the developing world—Latin America, the Middle East, Africa, and parts of Emerging Asia. Conversely, labor-force growth is set to decline among several large, developed economies, including Japan and parts of western Europe, as well as some emerging markets, including South Korea and China.

Productivity growth: still positive

Compared with population growth, productivity growth is often more difficult to predict, given the multiple forces whose relative importance varies according to the characteristics of different economies. While many factors influence rates of productivity growth, we focus our analysis on three main categories of economic conditions that we have identified empirically as key drivers of productivity:

1. People. The characteristics of a country’s population can affect productivity in several ways, perhaps most notably: the greater the human capital, the more productive the economy. According to our

EXHIBIT 3: The contribution of labor-force growth to economic growth should decrease over the next 20 years.

<table>
<thead>
<tr>
<th>Labor-force growth</th>
<th>Annualized change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2024–2043 (estimate)</td>
</tr>
<tr>
<td>Italy</td>
<td>-1.0</td>
</tr>
<tr>
<td>Spain</td>
<td>-0.5</td>
</tr>
<tr>
<td>Japan</td>
<td>0.0</td>
</tr>
<tr>
<td>South Korea</td>
<td>0.5</td>
</tr>
<tr>
<td>Germany</td>
<td>1.0</td>
</tr>
<tr>
<td>China</td>
<td>1.5</td>
</tr>
<tr>
<td>France</td>
<td>2.0</td>
</tr>
<tr>
<td>Brazil</td>
<td>1.0</td>
</tr>
<tr>
<td>UK</td>
<td>0.5</td>
</tr>
<tr>
<td>U.S.</td>
<td>0.0</td>
</tr>
<tr>
<td>Canada</td>
<td>-0.5</td>
</tr>
<tr>
<td>Australia</td>
<td>1.0</td>
</tr>
<tr>
<td>Mexico</td>
<td>1.5</td>
</tr>
<tr>
<td>Indonesia</td>
<td>2.0</td>
</tr>
<tr>
<td>India</td>
<td>1.5</td>
</tr>
<tr>
<td>South Africa</td>
<td>2.0</td>
</tr>
<tr>
<td>Philippines</td>
<td>2.5</td>
</tr>
</tbody>
</table>

proprietary Human Capital Index, which incorporates measures of educational and scientific achievement as key drivers of future innovation and the adoption of new technologies, the accumulation of human capital over the past two decades should boost global growth in the next two decades.

2. Structure. Complex economies tend to be more competitive, use technology more effectively, and foster a better business climate and more nurturing institutions. As a result, greater complexity typically means greater productivity. Greater variety and more sophisticated products in a country’s output signal a more complex economic structure.

3. Catch-up potential. In theory, less advanced economies should grow faster than their more mature counterparts, thanks partly to their starting from a smaller base, their ability to adopt existing technologies, and their potential to catch up to the higher incomes of developed countries. In practice, however, this convergence does not occur automatically; it depends on other factors, such as the people and structure of an economy.

Once we account for these other growth determinants, catch-up potential has been—and will remain—a contributor to global GDP growth on an absolute basis.

Shifting sources of productivity growth
The fast pace of change in some developing economies the past 20 years has changed the mix of sources for future productivity growth. On the negative side, the rapid industrialization and growth in per-capita incomes in recent times has left less catch-up potential for the years ahead, a maturation process that tends to reduce the rate of productivity growth. The silver lining, though, is that dramatic improvement in structural complexity and human capital realized over the past 20 years provides some counterbalance by boosting potential productivity.

Significant regional differences remain, with Emerging Asia providing a vivid illustration. South Korea, for example, has advanced to a developed-economy standard of living, implying its future productivity could be derived almost exclusively from its human capital and high complexity (Exhibit 4).

EXHIBIT 4: Emerging markets have a more favorable productivity backdrop due to catch-up potential.
Productivity growth forecasts, 2024–2043

Portion from catch-up potential
Other productivity

Source: Fidelity Investments (AART), as of 5/31/24.
Poorer countries—such as India and Indonesia—have made relatively less progress and thus retain considerable catch-up potential.

In between, China and Malaysia will confront the challenges of middle-income countries but will do so with more sophisticated human capital and greater structural complexity than many others.

**Model results.** The methodology detailed above has been successful at explaining about two thirds of GDP growth in our sample of about 80 countries over the past 40 years. As with any projections, our forecasts include some degree of uncertainty. We continue to search for additional factors to further refine our forecasts and improve our results.

**GDP forecasts**

Using projections for all the countries within the MSCI All Country World Index, we expect global GDP growth of 2.1% annually over the next 20 years, compared with 2.8% growth, on average, the past two decades. We estimate most of these countries will experience slower growth, including about 85% of developed economies (Exhibit 5).

**EXHIBIT 5: The world economy will grow more slowly in coming years, with the highest GDP growth rates likely to be found among developing economies.**

Real GDP 20-year growth: Forecasts versus history, 2024–2043

- **Developed markets**
- **Emerging markets**
- **Last 20 years**

Annualized rate (%)

<table>
<thead>
<tr>
<th>Global real GDP growth</th>
<th>Last 20 years</th>
<th>20-year forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.8%</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

Bars indicate predicted 20-year annualized GDP growth rates. Source: Fidelity Investments (AART), as of 5/31/24.
In general, we expect worsening demographics around the world to take the greatest toll on the global forecast relative to historical experience, as almost all economies confront a demographic outlook inferior to that of two decades ago. In addition, the rapid gains made by many developing economies may leave less room for industrialization and catch-up potential going forward.

Nevertheless, our forecasts indicate that global growth will remain positive. The United States should average roughly 1.8% annualized growth, which might come in higher depending on the rate of productivity growth (see page 8). Improved human capital and increased economic complexity could benefit productivity growth in many developing countries. Those with faster growth rates likely will account for a greater share of global growth moving forward.

We estimate that in 20 years, the U.S. and China will remain the largest economies in the world, with relatively favorable demographics helping the U.S. maintain its top position (Exhibit 6). Our forecasts indicate that India will grow from the fifth-largest economy today to the third-largest by 2043, with Mexico, and Indonesia moving into the top 10.

**EXHIBIT 6: We forecast several emerging markets ranking among the largest global economies by 2043.**

World’s largest economies by 2043

<table>
<thead>
<tr>
<th>GDP in 2023</th>
<th>Projected GDP growth next 20 years</th>
</tr>
</thead>
</table>
| United States | ![Graph showing GDP growth](chart)
| China | ![Graph showing GDP growth](chart)
| India | ![Graph showing GDP growth](chart)
| Germany | ![Graph showing GDP growth](chart)
| Japan | ![Graph showing GDP growth](chart)
| UK | ![Graph showing GDP growth](chart)
| France | ![Graph showing GDP growth](chart)
| Brazil | ![Graph showing GDP growth](chart)
| Mexico | ![Graph showing GDP growth](chart)
| Indonesia | ![Graph showing GDP growth](chart)

GDP is in constant dollars. Sources: Haver Analytics, Fidelity Investments (AART), as of 5/31/24.
AI and other potential upside surprises for productivity gains

Several secular trends could lead some regions and countries to exceed our secular economic growth estimates over the next two decades.

These trends include changes in interest rates and labor costs, as well as reshoring, onshoring, and near-shoring initiatives and efforts to address climate change. We believe that, as a result, public investment and capex could rise from depressed levels and catalyze productivity. See our research paper, “A Strategic Allocator’s Guide to Productivity and Profits.”

Alongside these forces, breakthroughs in AI could be a source of future productivity gains.

Productivity is typically measured as output per hour worked. This measure reflects labor productivity, which is a function of labor composition (the quality of human capital), capital intensity (how much capital workers use to produce goods and services), and multifactor productivity (the overall efficiency with which labor and capital are used together).

AI holds promise for accelerating overall productivity and multifactor productivity (ultimately the core driver of long-term growth). It may do so directly by making labor and capital more efficient, and indirectly by facilitating further innovation.

We frame the opportunity for AI as an investment theme and the potential productivity upside in a paper titled, “Artificial intelligence: An X-factor in a new investment regime.”

Exhibit 7 summarizes the experience of prior technologies in terms of their adoption and the associated productivity impact, and projects the potential productivity gains from AI. It’s important to note that while these assessments offer a useful historical context for AI, they are uncertain.

### EXHIBIT 7: Implications of adoption rates and productivity gains of past technologies

<table>
<thead>
<tr>
<th>Technology</th>
<th>AI subjective similarity score</th>
<th>5% to 50% adoption period (years)</th>
<th>Additional productivity: 10 years after reaching 5% adoption</th>
<th>Additional productivity: 10 years before reaching 50% adoption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Railways</td>
<td>5%</td>
<td>18</td>
<td>-1.4%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Telephones</td>
<td>5%</td>
<td>18</td>
<td>-0.5%</td>
<td>-2.0%</td>
</tr>
<tr>
<td>Automobiles</td>
<td>5%</td>
<td>10</td>
<td>0.6%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Radio*</td>
<td>5%</td>
<td>6</td>
<td>-2.8%</td>
<td>-3.0%</td>
</tr>
<tr>
<td>Aviation</td>
<td>5%</td>
<td>21</td>
<td>0.0%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Television*</td>
<td>5%</td>
<td>4</td>
<td>0.4%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Steel</td>
<td>10%</td>
<td>23</td>
<td>1.4%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Cell phones</td>
<td>10%</td>
<td>10</td>
<td>0.9%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Internet*</td>
<td>10%</td>
<td>7</td>
<td>1.3%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Electricity</td>
<td>15%</td>
<td>21</td>
<td>-0.7%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Computers</td>
<td>25%</td>
<td>18</td>
<td>1.1%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Robots</td>
<td>30%</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>AI**</td>
<td>100%</td>
<td>15.5</td>
<td>0.3%</td>
<td>0.9%</td>
</tr>
</tbody>
</table>

* Additional productivity boosts are calculated over 5- rather than 10-year periods to reflect the speedy adoption of these technologies.

** For AI, estimates of the adoption period and additional productivities combine experiences of prior technologies with AI similarity scores (excluding robots due to incomplete data). For the other technologies, estimates are detailed in “Artificial intelligence: An X-factor in a new investment regime.” For all technologies, additional productivities are calculated relative to productivities in the 10 years before reaching 5% adoption rates.
To draw parallels with AI, we assign “AI similarity” scores to past innovations that reflect our qualitative views. We examine the rise in adoption rates from 5%—close to where AI technologies stand today—to 50%. We then proceed to evaluate the impacts on productivity in two decades: first, after the adoption rate passed 5% and, second, before it reached 50%.

- Weighing historical experiences by their similarity with AI leads to roughly 15 years as a plausible runway to widespread use.

- As was the case with many technologies of the past, the productivity gain for AI is expected to be modest after reaching the 5% adoption rate (now), but it could pick up closer to the 50% adoption mark.

- Our AI similarity-weighted estimates suggest that productivity may exceed the baseline by 0.3% over the next decade and by 0.9% in the decade leading up to widespread adoption.

- This conclusion is based on a wide range of past outcomes. It is important to note that while these assessments offer a useful historical context for AI, they are uncertain.
Conclusion

- Slower global growth should generate less of a tailwind for equity returns over the next 20 years relative to the post-World War II era.
- Geographic opportunities will likely favor emerging economies, although with a significant dispersion of expected growth around the world.
- Asset allocation strategies that can be selective across a broad, global opportunity set may have the greatest potential to take advantage of future growth prospects.

References


Endnotes

1 Angus Maddison (Groningen Growth and Development Centre).
2 See especially Gordon, also Cowen and Jones.
3 Multidimensional panel data includes numerous observations of three or more macroeconomic variables, e.g., across multiple individuals, companies, or countries (one dimension); in multiple series (a second dimension); across multiple time periods (a third dimension); and for multiple time horizons (a fourth dimension).
4 See Barro and Sala-i-Martin; also, more recently, Kremer, Willis, and You.
5 See Barro and Lee.
Information presented herein is for discussion and illustrative purposes only and is not a recommendation or an offer or a solicitation to buy or sell any securities. Views expressed are as of 5/31/24, are based on the information available at that time, and may change based on market and other conditions. Unless otherwise noted, the opinions provided are those of the authors and not necessarily those of Fidelity Investments or its affiliates. Fidelity does not assume any duty to update any of the information.

Information provided in, and presentation of, this document are for informational and educational purposes only and are not a recommendation to take any particular action, or any action at all, nor an offer or solicitation to buy or sell any securities or services presented. It is not investment advice. Fidelity does not provide legal or tax advice.

Before making any investment decisions, you should consult with your own professional advisers and take into account all of the particular facts and circumstances of your individual situation. Fidelity and its representatives may have a conflict of interest in the products or services mentioned in these materials because they have a financial interest in them, and receive compensation, directly or indirectly, in connection with the management, distribution, and/or servicing of these products or services, including Fidelity funds, certain third-party funds and products, and certain investment services.

Investment decisions should be based on an individual’s own goals, time horizon, and tolerance for risk. Nothing in this content should be considered legal or tax advice, and you are encouraged to consult your own lawyer, accountant, or other advisor before making any financial decision. These materials are provided for informational purposes only and should not be used or construed as a recommendation of any security, sector, or investment strategy.

In general, the bond market is volatile, and fixed income securities carry interest rate risk. (As interest rates rise, bond prices usually fall, and vice versa. This effect is usually more pronounced for longer-term securities.)

Fixed income securities carry inflation, credit, and default risks for both issuers and counterparties.

Investing involves risk, including risk of loss.

Past performance is no guarantee of future results.

Diversification and asset allocation do not ensure a profit or guarantee against loss.

All indices are unmanaged. You cannot invest directly in an index.

Index definitions

The MSCI ACWI (All Country World Index) is a market capitalization-weighted index that is designed to measure the investable equity market performance for global investors of developed and emerging markets.

The Human Capital Index is a proprietary indicator incorporating measures of educational and scientific achievement as key drivers of future innovation and adoption of new technologies.

The Demographic Index is a proprietary indicator incorporating detailed demographic measures that capture the mixed indirect effects of aging on productivity rates.

The International dollar, also known as the Geary-Khamis dollar, is a hypothetical unit of currency with the same purchasing power that the U.S. dollar had in the United States at a stipulated time, commonly the year 1990 or 2000. The International dollar facilitates standard-of-living and GDP comparisons across countries and through time.

Third-party marks are the property of their respective owners; all other marks are the property of FMR LLC.

The Chartered Financial Analyst (CFA) designation is offered by the CFA Institute. To obtain the CFA charter, candidates must pass three exams demonstrating their competence, integrity, and extensive knowledge in accounting, ethical and professional standards, economics, portfolio management, and security analysis, and must also have at least 4,000 hours of qualifying work experience completed in a minimum of 36 months, among other requirements. CFA® is a trademark owned by CFA Institute.

Fidelity Investments® provides investment products through Fidelity Distributors Company LLC, clearing, custody, or other brokerage services through National Financial Services LLC or Fidelity Brokerage Services LLC (Members NYSE, SIPC).

Personal and workplace investment products are provided by Fidelity Brokerage Services LLC, Member NYSE, SIPC.

Institutional asset management is provided by FIAM LLC and Fidelity Institutional Asset Management Trust Company.

© 2024 FMR LLC. All rights reserved.