As counterintuitive as it might seem, data suggest that high growth rates do not necessarily correlate with the highest long-term stock market returns. Nevertheless, major stock market movements, he says, may contain valuable information for economic forecasters.

“If you spend 13 minutes a year trying to predict the economy, you have wasted 10 minutes.”
— Peter Lynch, legendary fund manager and stock guru

“The stock market has called nine out of the last five recessions!”
— Paul A. Samuelson, winner of the Nobel Memorial Prize in Economic Sciences in 1970

Does the Economy Drive the Stock Market, …
We can certainly argue that the economy impacts corporate earnings in terms of revenue and costs. Stock prices generally reflect investor expectations for future corporate earnings and consequently for future economic growth. As a result, sound economic forecasts should help investors make equity market decisions. If, for example, an economic recovery is predicted — preferably with some degree of reliability — then this could signal an appropriate time for investing in stocks.

... or Do Stock Markets Simply Reflect Expectations About the Economy?
Stock pickers like Peter Lynch, whom we have quoted above, think investors are wasting their time with economic analyses and forecasts, since they believe that the stock market has already priced in expectations for the economy. Those who
invest based on economic forecasts would therefore always be late to the game. Seen from this perspective, the stock market provides useful information about the future development of the economy, not the other way around.

There is a broad consensus that stock market performance impacts the economy and that this influence has increased over the years. “Confidence effects” constitute one of these influencing factors. Persistent stock market declines can be interpreted as the harbinger of economic slowdown, lowering consumer confidence and the business outlook which, in turn, typically leads to lower consumption and investment spending. The “financing effect” in the corporate sector is another factor. The more companies rely on the stock market for financing, the more they are held back by bear markets.

The “wealth effect” on private consumption has been the most intensively researched. Rising (falling) stock prices can increase (diminish) the sense of financial wealth among private households. Changes in net worth can have an impact on consumption. A bull market can boost and a bear market can depress private consumption — and with it the economy as a whole. As a rule of thumb, a 100 euro decline in the value of stock holdings decreases the private consumption in Germany by 1 to 2 euros.¹ The elasticity of consumption with respect to wealth is higher in countries like the U.S., where stocks figure more prominently in investor asset allocation and where stock ownership is also spread broadly across income classes.

The equity markets have long played a role in economic forecasting. The Conference Board Leading Economic Index (LEI) looks at ten indicators, one of which is the S&P 500, albeit with a small weighting. The OECD’s leading indicators for the U.S., the UK, Sweden, Switzerland and Spain include equity indexes; while those for Germany, Italy and Austria do not, as some national stock markets have proven less valuable for forecasting economic turning points than others.

**Let the Numbers Speak for Themselves**

So does the economy run ahead of the stock market, or does the stock market anticipate economic developments? Both outcomes are conceivable; the question can only be clarified empirically based on data and facts. Let us therefore start by looking at a number of charts.

Over longer time periods, the statistical correlation between the quarterly change of real U.S. GDP and the S&P 500 is virtually zero (Exhibit 1). The correlations between the Euro Stoxx 50 and eurozone GDP since 1999, on the one hand, and between the DAX and German GDP since 1991, on the other, are similarly small.²

---

² WestLB Mellon Asset Management calculations.
Since stock market performance is driven mainly by expectations, you might suspect that changes in market performance are more closely related to future GDP growth. In fact, stock market movements in a given quarter are somewhat more correlated with GDP developments in the following quarter, but even this relationship is slight. Still, when looking only at the years 2007 to 2012, we find a correlation of 0.28 for the U.S., 0.33 for the eurozone (Exhibit 2) and 0.34 for Germany.3

Medium- to long-term investors, however, must look beyond quarterly correlations to multiyear trends and cycles.

3 WestLB Mellon Asset Management calculations.
Since the mid-1990s, there hasn’t been a single prolonged period in the U.S. during which consumer confidence and the S&P 500 have moved in opposite directions. In other words, without positive consumer confidence, there can be no rising market in the world’s leading stock exchange.4 There is no evidence that one factor is systematically running ahead of the other (Exhibit 3).

Exhibit 3 – U.S. Equity Market and Consumer Confidence in Tandem

For Germany, the most important leading economic indicator is the Ifo Business Climate Index, which tracks current conditions as well as expectations. At economic inflection points, expectations typically lead current conditions by approximately three months.

Exhibit 4 shows that the DAX does not normally climb when Ifo expectations are falling.5 There have been two exceptions to this rule since the mid-1990s, during which expectations fell over 15 and 7 months, respectively, while the DAX continued to climb. These periods are highlighted in grey in Exhibit 4.

While Ifo expectations have not consistently led the DAX (or vice versa) over the entire period covered in Exhibit 4, they have been doing so since 2007. The stock market plunge that began in early 2008 was preceded by a decline in Ifo expectations, which had fallen by six points since May 2007. When the stock market trended higher in March 2009, this movement had already been anticipated in the Ifo expectations numbers from January 2009 (even though it wasn’t clear at the time that the small increase in Ifo expectations after a 30-point setback was really the turning point). At the same time, the decline in Ifo expectations starting in March 2011 heralded the decline of the DAX during the following summer.

4 The relationship between the widely followed ISM Manufacturing Index and the S&P 500 is less close. Our research shows there have been five longer spells since the mid-1990s during which the indexes moved in opposite directions.

5 The picture does not change in any meaningful way when we look at the Ifo Business Climate Index itself, which includes both expectations and current conditions.
According to an IMF study\(^6\) from 2002, two thirds of all recessions remain undetected by consensus forecasts until April of the year in which they actually occur.

**Wanted: A Reliable and Early Indicator of Recessions**

Economic forecasters have always lacked good leading indicators for a recession. On average, forecasters identify recessions too late and inaccurately estimate their dimensions, as was the case during the Great Recession of 2008/09. According to an IMF study\(^6\) from 2002, two-thirds of all recessions remain undetected by consensus forecasts until April of the year in which they actually occur. Economic pundits would therefore clearly benefit if they were able to extract useful information from stock market movements.

The severe market decline in 2008 has rekindled research on this topic. When Paul Samuelson jeered about the forecasting “qualifications” of stock markets as an indicator for recessions in 1966 (see our quote above), he referred to the fact that the financial markets tend to overstate rather than accurately reflect (expectations about) the economic cycle. Not every severe sell-off forecasts a recession, not every bull market a recovery. Still, the relationship is probably closer today than it was back in the 1960s. A broad-based study\(^7\) by U.S. economist Robert Barro produced interesting results: the likelihood of a depression (defined as a decline of real GDP by at least 10%) increases by 20% in a stock market crash (defined as an index decline of at least 25%). A depression is highly unlikely in the absence of a stock market crash. The sample consisted of 209 stock market crashes and 59 depressions during peace times. The good news: 80% of all stock market crashes are not followed by a depression. We witnessed the most recent example of this in 2008/09 when the economy fell only into a recession, albeit a deep one in most industrialized countries. The massive monetary and fiscal policy easing in numerous industrial countries, which dragged the world economy back from the brink of depression, was likely the most important factor.

---


We believe investors should not invest in stocks purely based on economic cycles, not least because economic forecasts can be wrong. If valuations are attractive, it makes sense to invest in the equity markets of slowly growing economies.

“Growth vs. Value” on the Macroeconomic Level

Economic growth is important for corporate earnings and earnings expectations drive stock prices. A “follow the growth” approach, i.e., investing in stock markets where economic growth is strong, seems the obvious choice for investors. A study of 83 countries that looked at stock market performance and GDP growth between 1900 and 2009 as well as during shorter stretches showed that investments in “high-growth economies” can disappoint. Researchers found that investments in the stock markets of strongly growing countries yield the same or even lower returns than exposures in countries with medium or slow growth. Moreover, the volatility of returns is highest in those countries showing the strongest and weakest growth.

“Buying growth markets fails to outperform because markets anticipate economic growth,” the authors of the study concluded. Investors have achieved higher long-term returns by investing in countries that recently exhibited slow growth. One could argue this is because they avoid investing into bubbles and the drawdowns that can result when the bubbles burst.

Conclusion

Equity investors are helped by sound macroeconomic forecasts because fundamental stock market trends are influenced by growth trends and related cycles. However, most so-called “leading” indicators do not run ahead of stock markets; rather, they move in tandem with or lag stock markets. Macroeconomic news flow can still be negative when stock markets have already reversed and are trending higher. Economic researchers should include massive moves of major equity indexes in their economic forecasts; they can be especially useful in forecasting recessions.

Past economic growth is not a reliable indicator of future stock gains. Accurately forecasting future economic growth might help but those forecasts are difficult to get right. We believe investors should not invest in stocks purely based on economic cycles, not least because economic forecasts can be wrong. If valuations are attractive, it makes sense to invest in the equity markets of slowly growing economies.

Index Definitions

S&P 500 Index is a free-float capitalization-weighted index based on the common stock prices of 500 American companies. It is one of the most commonly followed equity indices and many consider it the best representation of the market and a bellwether for the U.S. economy.

The ISM Manufacturing Index is based on surveys of more than 300 manufacturing firms by the Institute of Supply Management. The ISM Manufacturing Index monitors employment, production inventories, new orders and supplier deliveries. A composite diffusion index is created that monitors conditions in national manufacturing based on the data from these surveys.

The Conference Board Leading Economic Index (LEI) is an American economic leading indicator intended to forecast future economic activity. It is calculated by The Conference Board, a non-governmental organization, which determines the value of the index from the values of ten key variables. These variables have historically turned downward before a recession and upward before an expansion. The single index value composed from these ten variables has generally proved capable of predicting recessions over the past 50 years, but in most cases it has been known to falsely predict recessions which did not occur.

EuroStoxx 50 is Europe's leading blue-chip index for the eurozone, providing a blue-chip representation of supersector leaders in the eurozone. The index covers 50 stocks from 12 eurozone countries: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain.

DAX is a stock index that represents 30 of the largest and most liquid German companies that trade on the Frankfurt Exchange.

Ifo Business Climate Index is a closely followed leading indicator for economic activity in Germany prepared by the Ifo Institute for Economic Research in Munich.

The indexes are trademarks of the foregoing licensors and are used herein solely for comparative purposes. The foregoing index licensors do not sponsor, endorse, sell or promote the investment strategies or products mentioned in this paper, and they make no representation regarding the advisability of investing in the products or strategies described herein.
Past performance is not a guide to future performance. The value of investments and the income from them is not guaranteed and can fall as well as rise due to stock market and currency movements. When you sell your investment you may get back less than you originally invested. • While the information in this document is not intended to be investment advice, it may be deemed a financial promotion in non-U.S. jurisdictions. Accordingly, where this document is used or distributed in any non-U.S. jurisdiction, the information provided is for use by professional and wholesale investors only and not for onward distribution to, or to be relied upon by, retail investors. • Products or services described in this document are affiliates or related companies and may be provided in various countries by one or more of these companies where authorized and regulated as required within each jurisdiction. This document is not intended for distribution to, or use by, any person or entity in any jurisdiction or country in which such distribution or use would be contrary to local law or regulation. This document may not be distributed or used for the purpose of offers or solicitations in any jurisdiction or in any circumstances in which such offers or solicitations are unlawful or not authorized, or where there would be, by virtue of such distribution, new or additional registration requirements. Persons into whose possession this document comes are required to inform themselves about and the distribution of this document in their jurisdiction. The investment products and services mentioned here are not insured by the FDIC (or any other state or federal agency), are not deposits of or guaranteed by any bank, and may lose value. • This document should not be published in hard copy, electronic form, via the web or in any other medium accessible to the public, unless authorized by BNY Mellon Asset Management International Limited.

In Australia, this document is issued by BNY Mellon Asset Management Australia Limited (ABN 56 102 482 815, AFS License No.227865) located at Level 6, 7 Macquarie Place, Sydney, NSW 2000. Authorized and regulated by the Australian Securities & Investments Commission. • In Brazil, this document is issued by BNY Mellon Servicos Financeiros DTVM S.A., Av. Presidente Wilson, 231, 17th floor, Rio de Janeiro, RJ, Brazil, CEP 20030-905. BNY Mellon Servicos Financeiros DTVM S.A. is a Financial Institution, duly authorized by the Brazilian Central Bank to provide securities distribution and by the Brazilian Securities and Exchange Commission (CVM) to provide securities portfolio managing services under Declaratory Act No. 4.620, issued on December 19, 1997. • Investment vehicles may be offered and sold in Canada through BNY Mellon Asset Management Canada Ltd., a Portfolio Manager. Exempt Market Dealer and Investment Fund Manager. • In Dubai, United Arab Emirates, this document is issued by the Dubai branch of The Bank of New York Mellon, which is regulated by the Dubai Financial Services Authority. • In Germany, this document is issued by WestLB Mellon Asset Management Kapitalanlagegesellschaft mbH, which is regulated by the Finanzaufsicht WestLB Mellon Asset Management Holdings Limited is a 50:50 joint venture between BNY Mellon and WestLB AG. WestLB Mellon Asset Management Kapitalanlagegesellschaft mbH is a wholly owned subsidiary of this joint venture. • If this document is used or distributed in Hong Kong, it is issued by BNY Mellon Asset Management Hong Kong Limited, whose business address is Suite 1201-5, level 12, Three Pacific Place, 1 Queen's Road East, Hong Kong. BNY Mellon Asset Management Hong Kong Limited is regulated by the Hong Kong Securities and Futures Commission and is registered office is at 6th floor, Alexandra House, 18 Chater Road, Central, Hong Kong. • In Japan, this document is issued by BNY Mellon Asset Management Japan Limited, 8 Manzuno, Chita-ku, Tokyo 100-0005, Japan. BNY Mellon Asset Management Japan Limited is a Financial Instruments Business Operator with license no 406 (Kinsho) at the Commissioner of Kanto Local Finance Bureau and is a Member of the Investment Trusts Association, Japan and Japan Securities Investment Advisers Association. • In Korea, this document is issued by BNY Mellon AM Korea Limited for presentation to professional investors. BNY Mellon AM Korea Limited, 29F One IFC, 10 Gukjegeumyung-ro, Yeongdeungpo-gu, Seoul, 150-945, Korea. Regulated by the Financial Supervisory Service. • In Singapore, this document is issued by The Bank of New York Mellon, Singapore Branch for presentation to professional investors. The Bank of New York Mellon, 100 Nivison Street, Singapore 188882. • In South Africa, this document is issued by BNY Mellon AM South Africa Limited, 2000, Registered in South Africa. • In Australia, this document is issued by BNY Mellon AM Australia Limited, 160 Queen Victoria Street, London EC4V 4LA. Authorized and regulated by the Australian Securities & Investments Commission. • In the United States, this document is issued by BNY Mellon Asset Management, New York, New York.

BNY Mellon holds over 90% of the parent holding company of The Alcentra Group. The Group refers to these affiliated companies: Alcentra, Ltd and ARX, the brand used to describe the Brazilian investment capabilities of BNY Mellon ARX Investments Ltda. • BNY Mellon WestMC, Insight Investment and WestLB Mellon Asset Management do not offer services in the U.S. This presentation does not constitute an offer to sell, or a solicitation of an offer to purchase, any of the firms’ services or funds to any U.S. investor, or where otherwise unlawful, • BNY Mellon holds 90% of The Boston Company Asset Management, LLC and the remainder is owned by employees of the firm. • BNY Mellon holds a 20% interest in Siguler Guff & Company, LP and certain related entities (including Siguler Guff Advisers LLC). • BNY Mellon of C42 Investment Strategies. • BNY Mellon Western Fund Management Company Limited is a joint venture between BNY Mellon (49%) and China based Western Securities Company Ltd. (51%). The firm does not offer services outside of the People’s Republic of China. • BNY Mellon owns a 19.9% minority interest in The Hamon Investment Group Pte Limited, the parent company of Blackfriars Asset Management Limited (“Blackfriars”), Hamon Asset Management Limited and Hamon Asian Advisors Limited (“HAAL”). Only Blackfriars and HAAL offer investment services in the U.S. • The Newton Group refers to the following group of companies: Newton Investment Management Limited, Newton Capital Management Limited, Newton International Investment Management, Newton Fund Managers (CI) Limited. Except for Newton Capital Management LLC and Newton Capital Management, none of the other Newton companies offers services in the U.S. • BNY Mellon Asset Management International Limited and any other BNY Mellon entity mentioned above are all ultimately owned by BNY Mellon.