What Matters More for Emerging Markets Investors: Economic Growth or EPS Growth?

May, 2022

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A slightly modified version of this article has been published in the July 2022 issue of the Journal of Portfolio Management and can be accessed by subscribers at https://jpm.pm-research.com/content/early/2022/06/02/jpm.2022.1.368

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Abstract

Investors often allocate to emerging markets equities with the expectation that higher rates of GDP growth typical of developing economies will translate to better stock market returns. Adherents to this conventional wisdom have historically been disappointed, as numerous studies of emerging and developed markets have shown GDP growth to be unreliable in predicting country-level stock returns. Using data from 15 emerging and 21 developed equity markets over samples ranging from 32 to 120 years, we confirm the failure of GDP growth as a cross-sectional predictor. What truly matters to investors is not an overall increase in economic output, but rather the growth in listed companies' earnings per share (EPS) and dividends per share (DPS), which ultimately flows to shareholders. We confirm that, unlike changes in GDP, growth in EPS and DPS exhibit a strong positive correlation with country-level equity returns, offering emerging markets investors a more effective tool for thinking about allocation decisions.

Keywords: Emerging Markets; Economic Growth; Earnings Growth; Asset Allocation; Stock Returns; Predictability

JEL Classification: E44; F30; G15; N10; O16; O40

Three Key Takeaways:

1. The authors analyze 15 emerging markets and 21 developed markets, over long samples of 32 and 120 years, respectively, to test the common intuition that markets with higher GDP growth will consequently deliver better stock market performance.

2. They confirm previous work by Ritter (2005, 2012) documenting the absence of a reliable link between GDP growth and stock returns, providing a theoretical explanation as to why one should not expect to find such a relationship.

3. The authors propose two highly intuitive alternative measures for predicting country-level stock returns in the cross section of emerging markets—growth in earnings and dividends per share—and demonstrate their historical effectiveness.

In *Triumph of the Optimists*, Dimson, Marsh, and Staunton (2002) documented a surprising pattern: for the 101-year period 1900-2000, there was a negative correlation between per capita economic growth in a country and that country's stock returns, with both of these variables adjusted for inflation. Subsequent research by these authors has expanded the number of countries and added data through 2019. A negative correlation, although not statistically significant, continues to exist. Other authors have analyzed the relation for a shorter time period for a sample of emerging markets and have also found no reliable cross-sectional relation between changes in per capita GDP and stock returns.

Indeed, the finding that higher growth need not lead to greater stock returns is particularly worrying for investors in emerging markets equities. For emerging markets investors, the rapid growth characteristic of developing economies is often the principal reason they consent to bear the higher volatility that also naturally attends an allocation to countries whose less mature institutions and relatively unstable economic and political conditions impose additional investment risks. Absent the link between GDP growth and the performance of listed equities, investors will find it harder to justify the added hazards of portfolio exposure to emerging stock markets solely on the basis of emerging economies' greater growth. Of course, changes in GDP are one simple ways of tracking economic expansion, leaving open the possibility that alternative measures of growth in developing economies might correlate more closely with emerging markets returns.

In this article, we begin by documenting the patterns described above and provide an explanation for the lack of a positive relation between GDP growth and stock returns, updating the work of one of the authors (Ritter, 2005 and 2012). Recognizing the growth that truly matters to equity investors is growth in listed companies' earnings and the dividends they pay to shareholders, we proceed to add information on earnings per share (EPS) and dividends per share (DPS) growth

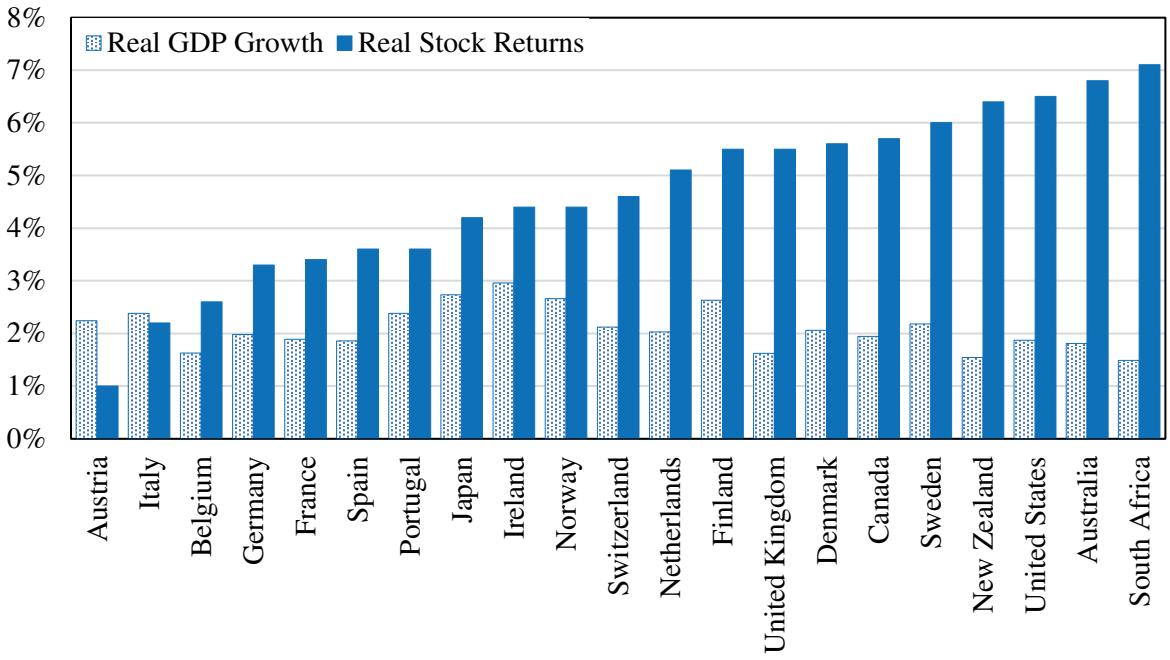
to our original analysis. In contrast to the observations regarding GDP growth, we find that there is a reliable positive relation between real stock returns and real EPS and DPS growth. These results suggest that, for predicting future stock returns, a focus on GDP growth is misguided. Rather than emphasize broad economic growth as measured by changes in GDP—the benefits of which may offer a boost to workers and consumers but need not accrue to stockholders—emerging markets equity investors should track corporate earnings growth and dividend growth, which intuition suggests, and history shows, are more reliable determinants of stock returns.

ESTABLISHING A DISCONNECT BETWEEN GDP GROWTH AND STOCK RETURNS

Developed Markets with 120 Years of Data

While the focus of this article is on emerging markets, we begin with an analysis in developed markets, for which we have a longer history of data—and thus greater statistical power with which to reject the hypothesized lack of correlation between GDP growth and stock returns. To that end, for the 21 countries for which Dimson, Marsh, and Staunton (2020) provide compounded annual real stock returns from 1900-2019, we have also compiled inflation-adjusted (real) per capita GDP annual growth rates. We list the countries considered in Exhibit 1, which shows the annual real returns in local currency terms and the growth rate of per capita GDP. The figure lists the countries in order of the (pre-tax) real stock returns, with Austria being the lowest, at 1.0% per year, and South Africa being the highest, at 7.1% per year.

Exhibit 1. Real GDP Growth and Stock Returns in 21 Developed Markets, 1900-2019



Notes: The figure plots geometric average annual per capita GDP growth and stock returns from 1900-2019 for 21 developed markets. For 1900-2011, data on real per capita GDP come from the Maddison Project's *cgdppc* series, and for 2012-2019, from the IMF and the Population Reference Bureau. Stock returns are from Dimson, Marsh, and Staunton (2020), expressed in local currency terms. The cross-sectional correlation of stock return and per capita GDP growth is statistically insignificant, at -0.31 (*p*-value=0.17).

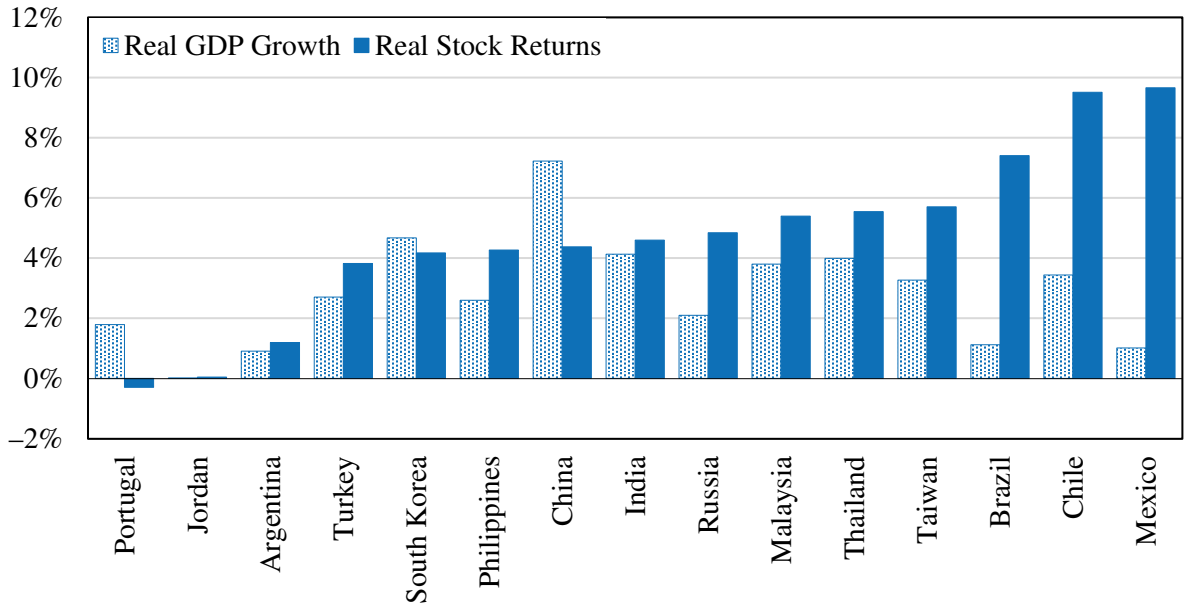
What is noteworthy is the lack of a relation between stock returns and economic growth. The correlation is -0.31, with a *p*-value of 0.17, assuming independence. In fact, the independence assumption is unlikely to be valid, in that the economic growth of, for example, Belgium and the Netherlands, over the past 120 years is correlated. As such, the true statistical significance of this correlation is undoubtedly even lower—i.e., the p-value is higher—than what we report. Over a long history, covering a broad cross-section of developed markets, we find there is no statistical relationship between GDP growth and stock market performance. Can the same be said for emerging markets?

Emerging Markets with 32 Years of Data

In Exhibit 2, we plot the average compounded annual real (inflation-adjusted) per capita

GDP growth and the compounded annual real stock returns for 15 countries typically included in the emerging markets category. As in Exhibit 1, the countries are ordered by the average stock return, with Portugal the lowest and Mexico the highest. The cross-sectional correlation between annual real (inflation-adjusted) per capita GDP growth and stock returns is a statistically insignificant 0.19 (*p*-value of 0.50, assuming independence). That is, essentially zero. In particular, many people are surprised at how poorly China's mainland-listed A-shares have performed, given the high growth rate of the Chinese economy.

Exhibit 2. Real GDP Growth and Stock Returns in 15 Emerging Markets, 1988-2019



Notes: The figure plots geometric average annual per capita GDP growth and stock returns from 1988-2019 for 15 emerging markets (Brazil, China, and India start in 1993, Russia starts in 1995). Data on real per capita GDP come from the World Bank for all countries except Taiwan, for which IMF data are used. Stock returns are from MSCI and Wind, expressed in local currency terms. The cross-sectional correlation of stock return and per capita GDP growth is statistically insignificant, at 0.19 (*p*-value=0.50).

It is worth noting that the most significant difference between this analysis and that reported in Ritter (2012) concerns the average return on Chinese stocks. Instead of the 1988 starting date that we use for most other emerging markets, we use returns starting in 1993, due to the lack of a Chinese stock market before 1990. In Ritter (2012), the average annual return on

Chinese stocks is negative, whereas we use the positive 4.4% per year based on A-share returns. Ritter had used the MSCI China returns. In the 1990s, and even to some degree today, it is difficult for non-Chinese citizens to buy Chinese A-shares. Reflecting this, the MSCI China series is composed primarily of Hong Kong-listed companies (H shares) and Chinese ADRs in the 1990s and, to a lesser extent, later years. These shares had, on average, lower returns than A-shares in China. The returns that we use here thus reflect what a Chinese investor would have earned, rather than what a foreign investor buying the stocks of Chinese companies traded elsewhere would have earned. Because China has had very high per capita real GDP growth during the 1993-2019 period, using the low returns on the MSCI China series would result in a statistically insignificant negative correlation. Finally, we note that just as in Exhibit 1, we report inflation-adjusted returns in Exhibit 2 in local currency terms for all countries. Thus, the numbers reflect what a local investor could have earned, rather than the hypothetical return that a U.S. based investor could have earned.

UNPACKING THE THEORETICAL RELATIONSHIP BETWEEN STOCK RETURNS AND ECONOMIC GROWTH

Stock returns can be decomposed into two parts: an expected return, and an unexpected return caused primarily by the arrival of unanticipated good or bad news. In the short run, the unexpected component dominates. Or alternatively stated, actual stock returns are largely unpredictable, with the expected component being only a small part of actual returns in the short run. Dimson, Marsh, and Staunton (2014) show that past economic growth does not predict future equity returns. They show, however, that stock returns this year do predict economic growth next year. The longer the horizon, however, the greater is the importance of expected returns. Thus, it is not surprising that in the short run high returns this year are associated with higher-than-average economic growth in the near future. Still, it is surprising to most people that in the long run, there is no reliable relation

between stock returns and per capita economic growth.[1]

What determines stock returns?

For stock returns, several things matter: 1) the price-to-earnings (PE) ratio at the beginning and ending of the time period under consideration; 2) earnings per share (EPS) and dividends per share (DPS) growth; and 3) dividends per share paid. In the short run, changes in PE ratios are a major determinant of stock returns. But in the long run, changes in PE ratios become less important. A company, or country, can produce high returns for investors if PE ratios don't change and there is a high dividend yield, or if there is high EPS growth. A high dividend yield is more likely if a stock is selling at a low PE ratio or, flipping the ratio, a high earnings yield. A high dividend yield is a major reason as to why South African equities have produced high returns.

It is important to note that it is EPS growth, rather than earnings growth, that matters. A company that grows its earnings but issues an equivalent number of new shares will see its market cap increase, but not the per share price. At the country level, this logic is even more relevant. A country's market cap can grow if more companies go public, even if the market cap of the existing companies does not grow. If public companies acquire private companies in stock-financed deals, market cap also grows. Along the same lines, stock returns can be high even if market cap is shrinking if firms pay out cash through any combination of dividends and share repurchases.

What determines the economic growth of a country?

GDP grows due to increased capital, increased labor, and improved technology, resulting

[1] The empirical relation between stock returns and GDP growth is stronger than between stock returns and per capita GDP growth. Partly, the difference is due to one country: South Africa, which has low per capita GDP growth and high stock returns, but has had a huge population increase since 1900, resulting in a larger economy. In 1900, both South Africa and Sweden had about 5 million people. Today, South Africa has about 58 million people and Sweden has about 10 million. See Appendix Table 1 in Ritter (2012).

in higher output. Research by Alwyn Young (1995) on East Asia's economic miracle shows that, in fact, there is no miracle. The rapid growth of East Asia's economies over the last seventy years can be largely explained by the rapid movement of people from subsistence agriculture and raising large families into the organized manufacturing and the service economy (increased labor), and capital investment from high savings rates (increased capital). Young refers to these increases in the factors of production as factor accumulation. The contribution from more productive technology—much of which is initially transferred from more advanced economies—is similar to that of many other countries.

Must growth and stock returns be related?

Readers of this article have benefitted from the economic growth accumulated from the technological advances of the past few centuries. We consumers enjoy a high standard of living with cheap and reliable lighting, air conditioning, and heating; a wide variety of safe and cheap food choices; instantaneous worldwide communication; fast and inexpensive international travel; and a world that is largely free of smallpox, polio, tuberculosis, and other infectious diseases which, until less than a century ago, killed millions of people every year, frequently in their youth. The discoveries and inventions that have resulted in our high standards of living, relative to historical levels, however, have mainly benefitted consumers, rather than the owners of capital.

In general, competition between companies results in many of the technological advances and productivity improvements being incorporated into higher real wages and lower real product prices for consumers, rather than into high returns on capital. Indeed, technological advances make some existing capital prematurely obsolete. Thus, higher GDP growth does not necessarily translate into higher profits.

EPS GROWTH, DPS GROWTH, AND STOCK RETURNS

Given the lack of an intuitive reason to *expect* countries with high GDP growth to also exhibit high stock returns, and the evidence we document against such a relationship, empirically, we now search for evidence that some other measure of country-level growth might correlate with equity performance. Considering the discussion above as to the theoretical determinants of stock returns, we focus our attention on two measures that do seem predictive of stock market performance: growth in earnings and dividends per share.

In Exhibit 3, we report real stock returns, real per capita GDP growth, real EPS growth, and real DPS growth for the same 15 emerging markets. Because EPS numbers are unavailable for many emerging markets before 1995, we use a shorter sample period than in the previous analysis: 1996-2019 for EPS and DPS growth rates (1995 levels are required to compute a growth rate for 1996). For China and Russia, our sample periods are even shorter, beginning in, respectively, 2000 and 1997 for the growth rates. For a few countries in a few years, average EPS is negative, creating a problem in measuring growth rates. We address this problem by "Winsorizing" the growth rates, assigning floor and ceiling values of -50% to +50% to annual real growth rates for each country. We then calculate the compounded growth rate (geometric mean) of EPS and DPS.[2]

[2] An alternative procedure of computing geometric mean growth rates using the beginning and ending values of EPS and DPS runs into the problem that stock splits artificially lower the ending values, biasing the growth rates down.

Exhibit 3. Emerging Markets Stock Returns vs. Growth in GDP, EPS, and DPS

			Real Growth in:		
Country	Years	Real Stock Returns	Per Capita GDP	EPS	DPS
Argentina	1996-2019	-1.5%	1.0%	-20.3%	-6.0%
Brazil	1996-2019	9.9%	1.1%	-7.2%	-0.5%
Chile	1996-2019	3.4%	2.7%	-3.8%	-2.4%
China	2000-2019	5.5%	8.4%	7.9%	8.0%
India	1996-2019	5.6%	5.0%	2.0%	2.9%
Jordan	1996-2019	-1.2%	0.8%	-8.7%	-3.4%
Malaysia	1996-2019	2.2%	2.9%	-3.2%	2.6%
Mexico	1996-2019	5.8%	1.2%	-1.4%	1.3%
Philippines	1996-2019	0.7%	3.2%	-3.5%	-0.2%
Portugal	1996-2019	2.7%	1.3%	-6.0%	1.1%
Russia	1997-2019	7.2%	3.3%	1.7%	5.3%
South Korea	1996-2019	5.0%	3.6%	-6.0%	2.8%
Taiwan	1996-2019	5.1%	2.5%	2.2%	4.5%
Thailand	1996-2019	0.8%	2.6%	-3.7%	5.2%
Turkey	1996-2019	4.0%	3.0%	-3.7%	-1.4%
Correlation with Real Stock Returns		1.00	0.27	0.54	0.47
p-value		-	0.34	0.04	0.08

Notes: The table reports average annual stock returns, per capita GDP growth, and growth in earnings per share (EPS) and dividends per share (DPS) for 15 emerging markets, beginning in the first year for which all data are available in a given country. Data on real per capita GDP come from the World Bank for all countries except Taiwan, for which IMF data are used. Stock returns are from MSCI and Wind, expressed in local currency terms. EPS and DPS data are from Bloomberg. To address outliers, growth rates are Winsorized at ±50%. The table also reports correlations between stock returns and GDP growth, EPS growth, and DPS growth, along with *p*-values calculated assuming independence.

The cross-sectional correlation of real stock returns and real per capita GDP growth rates is 0.27 (*p*-value=0.34) for this shorter sample period—in other words, still insignificant. Even on the basis of this more recent history, it would be difficult for emerging markets investors to justify

an allocation according to the developing countries' faster growth. By contrast, and in line with the comments above on drivers of equity returns, we find that the correlation of real stock returns with real EPS growth and real DPS growth is considerably stronger: 0.54 (*p*-value=0.04) and 0.47 (*p*-value=0.08), respectively. These results suggest that rather than focusing on a nation's overall economic growth, investors considering exposure to emerging markets—including those actively selecting from among a broad set of emerging markets with quite heterogeneous characteristics—would have done well placing more weight in their assessment on the pace at which those nations' listed equities are growing earnings and dividends per share.

CONCLUSIONS

Although a high stock return this year predicts a high level of economic growth next year, we have shown that there is no reliable relation between real per capita GDP growth and future real stock returns, either in the short run or the long run. Empirically, a ranking of countries based upon their long-run compounded real stock returns shows no reliable relation with their growth rates of real per capita GDP. These results suggest that those investing in emerging markets with the hope of taking advantage of comparatively high rates of economic growth are setting themselves up for disappointment. In fact, there is no theoretical basis for expecting a positive correlation between a country's stock returns and per capita income growth.

The reason is that stock returns are based on dividend yields and dividends per share growth, and there is no reason why dividends per share growth and a country's long-run per capita income growth should be related, except in unusual circumstances. These circumstances might include a prolonged bout of bad government that both lowers standards of living and confiscates wealth. But under normal conditions, a country can grow due to more people in the labor force, more capital per worker, and technological change. An increase in market cap due to more

companies going public does not boost earnings per share. The history of technological change is that most of the benefits accrue to workers and consumers.

While this is bad news for emerging markets investors chasing GDP growth, the intuitive and direct relationship between growth in earnings and dividends per share and stock returns suggests these latter measures could serve as simple alternatives to GDP growth in predicting country-level differences in stock market performance. Based on a sample of 15 emerging markets covering over three decades, we demonstrate a stronger and more significant relationship between real stock returns, on the one hand, and real EPS and real DPS growth, on the other. According to this view, emerging markets investors would do well to focus less on broad measures of economic growth, and place more attention on countries with higher corporate earnings growth and a history of returning that growth to equity investors through increasingly generous dividends.

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