T. ROWE PRICE INSIGHTS

ON GLOBAL EQUITIES



How Innovative Companies Gain a Powerful Edge on Rivals

As technology unlocks capacity, identifying the market's winners brings new challenges.

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KEY INSIGHTS

- Fueled by credit and reenforced by new technologies, an accelerated range of disruptive trends have continued to transform industries and economies.
- Amid the current era of low growth, these trends act to concentrate gains for successful companies and impact returns for investors.
- This demands an active approach to investing that seeks to identify those companies on the right side of change.



David Eiswert

Portfolio Manager, Global Focused
Growth Equity Strategy

e live in a world where the pace of change is rapid. Disruption is omnipresent, accelerated by low interest rates and easy credit. Often, it has a "winner takes all" dynamic, with early movers grabbing the lion's share of the spoils. It can also be explosively fast, particularly where innovation combines with enthusiastic consumer demand to pave the way for blockbuster products that transform an existing market. Old business models can be blown out of the water by new entrants that can compete better on cost and quality. Meanwhile, the time needed to develop a nascent idea into an established business has narrowed sharply, making it difficult for incumbents to react and adapt.

For investors, understanding the economic and market impact of these changes is imperative. At the individual stock level, it is even more crucial as the return differential for stocks on the right

and wrong sides of these dynamics has been, and will continue to be, substantial.

Innovation And Natural Monopolies Create Divergent Outcomes

The dynamics of disruption create divergent outcomes across a range of industries and come at the expense of many incumbent competitors. Among them, slow-moving brick-and-mortar retailers, traditional media companies reliant on dwindling users and advertising revenue, as well as consumer companies whose products are losing long-established brand monopoly advantages.

Even simple products like toothpaste have struggled to adapt and compete. Incumbent providers of these commoditized goods have suffered as the model that governed how they were once marketed and purchased has fundamentally changed. While e-commerce has infinite shelf space, traditional distribution methods have

Technology is successfully unlocking capacity.

David Eiswert
 Portfolio Manager, Global Focused
 Growth Equity Strategy

(Fig. 1) The Remarkable Impact On Stock Returns Of New Consumer Spending

December 31, 2015-December 31, 2018

S&P 500 Consumer Discretionary Returns +104% +3% +26% S&P 500 Internet and Apparel Consumer Direct and Discretionary Marketing Luxury Sector Retail Goods

Past performance cannot guarantee future results.

Source: FactSet (see Additional Disclosures).

E-commerce and social media have reduced advertising barriers to entry and fueled unpredictable changes in consumer taste.

David Eiswert
 Portfolio Manager, Global Focused
 Growth Equity Strategy

more limited scope on supermarket shelves. Advertising and consumer engagement patterns have also changed. Established television and print advertising techniques are losing out to modern promotional activity on Instagram or YouTube, which also enable instant purchase responses and next-day delivery.

Meanwhile, innovation in streaming and Web delivery of home entertainment has enabled on-demand services to challenge traditional cable TV companies in both the delivery and production of entertainment content. Web-based broadcasters have achieved global scale and attained unprecedented access to viewer analytics to identify the needs of audiences. By contrast, traditional cable providers and content producers reliant on bundled channels for much of their revenue have suffered. Crucially, the winners from disruption have been winning big, while the losers have suffered badly (Figure 1).

All this has been exacerbated by the amount of liquidity and excess credit available in this low-growth and low interest rate world. Investors have been taking excess credit and, in their search for yield, have poured even more money into these disruptive and innovative companies.

Significant Regional Disparities Have Emerged

Regional factors are also at play. Public policy, monetary conditions, and industry dynamics have worked to concentrate many of the winners of the tech revolution in the United States and China at the expense of slow movers in regions like Europe.

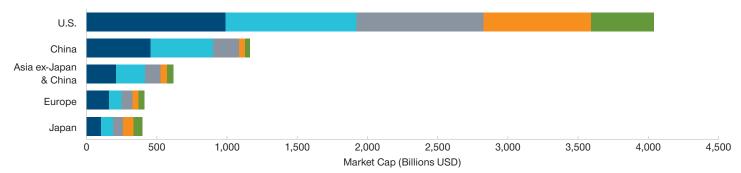
Figure 2 illustrates just how far Europe has lagged, a reflection of the lack of participation in the development of "national/regional" champions in new technology sectors. Why has this disparity emerged? Because many innovations have had the effect of favoring first movers, which build competitive advantages that create monopolies that attain a global reach and significant financial and economic power.

Many game-changing innovations have been concentrated in specific areas of the United States and China. Silicon Valley (and Seattle) helped to spawn over USD 4,000bn of market cap via just five technology/platform companies—Microsoft, Amazon, Apple, Alphabet, and Facebook. This incredible growth has been achieved due to the companies' global reach and investment in innovation.

(Fig. 2) First Mover Advantage Has Seen The U.S. And China Dominate

Technology has created global natural monopolies.

Market Cap of the top 5 technology stocks by region, as of May 16, 2019



T. Rowe Price calculations using data from FactSet Research Systems Inc. All rights reserved.

Shows the market capitalization of the largest companies within the information technology and communications services sectors and the internet and direct marketing retail industry portion of the consumer discretionary sector within each region as represented by the MSCI USA Index, MSCI China Index, MSCI All Country World Index ex-Japan (with Chinese companies excluded), MSCI Europe Index, and MSCI Japan Index. Source: MSCI (see Additional Disclosures). The following companies are represented within each region, in order of market capitalization: U.S.—Microsoft, Amazon, Apple, Alphabet, Facebook; China—Alibaba, Tencent, China Mobile, Baidu, JD.com; Asia ex-JP & CN—Samsung Electronics, Taiwan Semiconductor, Tata Consultancy, Infosys, SK Hynix; Europe—SAP, ASML, Deutsche Telekom, Vodafone, Telefonica; Japan—SoftBank, Nippon, NTT DoCoMo, Keyence, KDDI.

China has also benefited enormously from this phenomenon, led by homegrown champion disruptors. The country's decision to exclude foreign Web platforms (Google search was blocked in China in 2010) has aided the growth of local disruptors. (Chinese authorities have also achieved their goal of maintaining control over regulation, tax base, and internet security within the sector.)

But these internet champions have also grabbed the opportunity to leapfrog the evolutionary path of some of their U.S. counterparts, adopting the best elements of the technology revolution and taking it to new levels. Alibaba, the most successful provider in China, has become an amalgam of many key Web-based innovations. It is effectively PayPal, Amazon, Amazon AWS, Facebook, YouTube, Instagram, and Google, all in one company. This reach gives it extraordinary insights into its customer user base—and has enabled it to capture revenues and and has enabled from an audience that, in turn, likes the services and utility it provides.

Europe on the other hand has had to deal with fractured policymaking, open regulation of the internet, the absence of private equity funding, and a lack of domestic innovation. This has left it short on domestic technology champions, highlighted by Europe's current weight in "disruptive technology" that hovers around 5% of the MSCI Europe Index (Figure 3). This compares with China at nearly 40% of the index and the U.S. at around 33%.¹

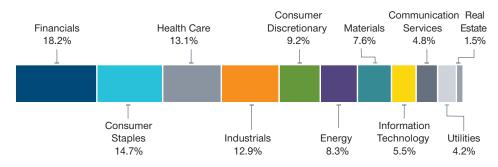
Of course, for those seeking financials (18%), consumer staples (15%), health care (13%), or commodities (16%), Europe has exposure in abundance. However, many of the region's domestic champions in these sectors have been challenged by the low growth, low pricing power, and post-China industrialization era. While policymakers have focused on fiscal and monetary stimulus to find growth and inflation catalysts, rapid technological change has created what we call "deflationary progress." The unlocking of capacity in everything from oil and gas supply to financial services and electric vehicles

¹ As of March 31, 2019.

(Fig. 3) Europe Has Been Left Behind In This New World

Europe—long disruption and short disruptors, as of March 31, 2019

MSCI Europe Index—Sector Exposure



Exposure to "Disruptive Tech"



Source: MSCI (see Additional Disclosures).

To be on the right side of these changes, investors need deeper insights into the nuanced impacts of the technology

David Eiswert
 Portfolio Manager, Global Focused
 Growth Equity Strategy

revolution.

has meant that inflationary pressures have been suppressed. The increased capacity has stagnated or lowered prices for goods or services and led to market share losses for large-cap incumbents as industries change.

"Value" Stocks Are Often On The Wrong Side Of Change

Value stocks have performed poorly versus growth stocks for much of the last decade. Does this indicate that the time has arrived to switch to value, or are other forces at play?

We believe many growth stocks remain reasonable in valuation terms compared with the broader market and historical levels. Even so, the valuation discourse must acknowledge that cheap stocks levered to growth and inflation alone have typically been on the wrong side

of change as are cheap, disrupted stocks in sectors such as the consumer and media. There are certain value companies experiencing attrition at an accelerated pace. The key is to identify the nuanced influence of rapid technological change on the longer-term potential of companies.

Staying Alert To The Changes Of Tomorrow

Understanding the factors driving change, identifying the winners and losers, recognizing when to take sizable positions, and determining when the risks outweigh the potential benefits are complex challenges. However, insights about change and a degree of imagination about what it may mean for a company or industry is where the art of stock picking comes to the fore.

Being on the right side of these changes is more important than ever, particularly given the dispersion of outcomes between winners and losers.

Disruption has no respect for borders, so having a global perspective is best. Valuation entry points are important, so investors need a degree of courage to add to their best ideas when market conditions may be volatile. Difficult choices are sometimes needed, but that is where skill, experience, and deep insights into the return opportunities of the future come into play.

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