



Goldilocks and the Bears: A Virtuous Cycle of Innovation and Disruption

Being on the right side of change is arguably more important than ever.

May 2019

The low-growth, low-inflation, and high-disruption world we live in today is constantly on my mind. What does this mean for us as investors in this era? As we've written about this before, I would highlight this analysis is like predicting the outcome of a football game at halftime. Much of this has already happened. Ultimately, what is important for me is to own companies with improving economic returns. That's the way I can generate performance for my clients.

Goldilocks—The Self-Reinforcing Liquidity/Credit Cycle

I learned in school that inflation is "too much money chasing too few goods." So why don't we have inflation if we have all this money?

In part it's because we are in a liquidity and credit "bubble" that is self-reinforcing. Why? Because liquidity is funding technologies across sectors that unlock capacity. More capacity means more deflation or "no-flation." This, in turn, is reinforcing a chase for yield, low interest rates, and more access to liquidity and credit.

Part of our thesis is that an extremely low cost of capital combined with a fundamental intersection of technological change is funding unprecedented innovation and



David Eiswert

Portfolio Manager,
Global Focused Growth Equity Strategy

disruption. A flood of liquidity is therefore funding disruption that otherwise would have taken much longer.

This speed of innovation and disruption is incredible in one sense, but also has unequal and unintended consequences. While we are deep into a shift from scarcity to abundance, and this sounds wonderful at a headline level, abundance does not mean dollar-based GDP growth. Abundance does imply "low-flation" or "no-flation," however.

Electric Cars to Good Living— Disruption Is Everywhere

Tesla is a prime example. Although electric vehicles are certain to win long term, liquidity is allowing an acceleration of innovation and disruption that couldn't happen with a 5% U.S. 10-year Treasury yield.

Tesla couldn't exist in its current form with such an interest rate backdrop. But,

We live in a unique time in history. Technology is unlocking capacity across sectors.

— David Eiswert
Portfolio Manager, Global Focused Growth Equity Strategy



We believe this era of investment has accelerated the maturity and scale of disruptive platforms, which has put real and negative price pressure on many business models.

— David Eiswert

Portfolio Manager, Global Focused Growth Equity Strategy

despite the wishes of the bears, Tesla does exist in a world of easy and cheap capital (full disclosure, I'm on my second Model S and will probably never go back to an internal combustion engine car ever again).

As Tesla invests and innovates, one consequence will be that it forces the rest of the industry to accelerate investment. This means electric vehicles crossing the chasm early and Elon Musk succeeding in his goal—to move the world to electric cars.

Across the global economy we see liquidity funding a virtuous circle for innovators. Huge levels of funding are available for companies capitalizing on e-commerce, social networks, and cloud computing. It's a golden age for private investing (especially for those that invest early) and a golden age for disruption and disruptive investing.

Here are a couple more examples. Take Allbirds (the environmentally and sustainability-oriented shoe retailer making shoes from wool, trees, and sugar cane). I don't see any real differentiation in shoes with a wool upper. But Allbirds success is driven by fundamental disruption in advertising, distribution, and IT and a change in consumer tastes. Shoes made from trees with a direct message and distribution channel to a mass audience via the internet was not possible 15 years ago, but it's very possible now.

As per Tesla, not only does Allbirds funding feed back into the success of the disruptive platforms it uses, but it also forces the established player—Nike, for example—to accelerate investment in the same platforms.

Kraft Heinz is the same. Once a yield play on the monopoly of beans, ketchup, and mustard, it has been disrupted. Unlike Nike, however, it's now much worse off because of a fundamental lack of innovation to stay relevant to

consumers. EA Sports and Activision didn't know what hit them with Fortnite. JUUL, the electronic vaping company, has benefited from vaping and health trends that are disrupting smoking—and, by association, tobacco stocks as well—at a rapid rate.

When you amalgamate all these forces, they exert a large impact on the characteristics of stocks and the "factors" that have been used to describe them in an investment sense. Disruption has bred disruption, and one outcome is that factors aren't behaving in the way many expect them to. As a consequence, it's more important to look forward than back.

Platforms—A New Era

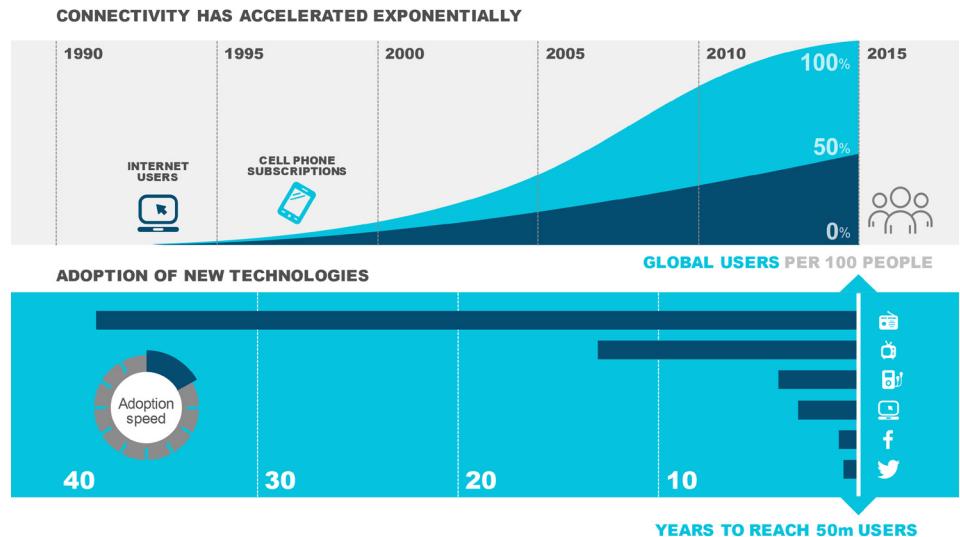
We believe this era of investment has accelerated the maturity and scale of disruptive platforms, which has put real and negative price pressure on many business models. While some argue this is transitory, you could also argue the only way for incumbents to get back to their industry dominance is to turn back time and spend enough to re-monopolize sales, marketing, and distribution of the industry. However, how much would Kraft Heinz or Nike have to spend to snuff out Allbirds or vegan food marketing on Instagram and Facebook? A lot.

Liquidity and this period of easy credit are unlocking capacity and deflating dollar growth rates within many sectors. As liquidity and credit keep pouring in, companies have the capital and, just as importantly, the technological foundation via a world of technology, e-commerce, and social networks to cross the chasm in a way they never had before.

The list of industries being impacted by this phenomenon goes on—disruption is real. It's also hard to model because it often hasn't happened yet. Insights about change and an imagination about what it may mean for an industry and individual stocks are an investor's

(Fig. 1) Adoption and Connectivity Have Accelerated Disruption

As of December 31, 2015



Sources: World Bank and McKinsey.

The information presented herein is shown for illustrative, informational purposes only. This is not intended to be investment advice or a recommendation to take any particular investment action.

The trademarks shown above are the property of the respective owners. T. Rowe Price is not endorsed, sponsored, or otherwise affiliated with any of the trademark owners represented by the trademarks shown above.

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

The Productivity Problem—We Are Getting More Efficient; We Just Can't Measure It

Headline economic growth rates have also been impacted by the failure of productivity to rise for much of the past decade. This has long perplexed many economists and central bankers, but part of the problem appears to be that we can't measure productivity growth very well in this era of change and disruption.

Take energy. Our energy team believes new technologies are driving higher productivity as measured by barrels of oil produced per dollar of capex. That counts as progress on the productivity dimension surely? However, investment and innovation are not driving up the

ratio of the dollars extracted per unit of capex. Why? Because innovation and the associated unlocking of capacity is putting pressure on the price of oil as we extract more. Fears of peak oil supply have effectively faded to a reality of oil abundance in the space of a decade driven largely by technological change. Amazon Web Services (AWS) is different but the same. AWS is driving incredible improvement in IT efficiency but shrinking and deflating the industry as it does so.

While the world is probably better off because of innovation, access to iPhones, Netflix, autonomous cars, gene science, and cheap energy, we're not necessarily better off in terms of dollars of GDP.

The sum of disruption and abundance across sectors is therefore “no-flation” and a break with presumed wisdom about how this cycle will evolve.

MSG (Make Stimulus Great Again)

One result of this era is that governments will try to fight low growth with stimulus. Chinese stimulus and U.S. stimulus have been constant features of the past decade even as the cycle has matured and the equity bull market has passed its 10-year anniversary. Such stimulus can spur short bursts of growth driven by debt, and when debt service costs are low this is sustainable. However, imbalances will inevitably build in such a world and risks will be created. This is happening.

As a result, the bear will eventually show up back at the house, and it's important to beware the stimulus fade. While stimulus does not change the midterm path of growth, it does cause mini-growth expansions and fades. These ebbs and flows of growth influence both data and sentiment. In turn, this has been an important driver of short-term asset prices in this cycle, with quant capital exaggerating these moves as the panic or momentum button (or both) is hit with greater magnitude than at any stage in financial markets history. This is an evolution of ownership and economy playing out in tandem.

Concentration of Intellectual Property, Wealth, and the Rise of Populism

If technology makes our world so much better, why are populations unhappy? In part this is because:

1. Change is absorbed and then "assumed" very quickly at the individual level. How often do you take a flight and marvel at the altitude, speed and time to travel while simultaneously complaining about the terrible food?
2. The disruptive platforms concentrate wealth. Silicon Valley, London, and Shanghai are disproportionately "winning" and "wealthy." Europe arguably made a large mistake letting Google, Facebook, and Amazon

establish themselves in foreign territory. China was smarter when it blocked these companies and fostered/allowed domestic champions.

3. Legacy businesses with legacy labor forces are being disrupted. The pain of low wage growth and reduced pricing power for labor is broad-based. The joy is concentrated.

Time for the Bear to Return Home and Confront Goldilocks?

While many investors have long regarded the return of higher growth and inflation as the point to jump off into the bull case, we think the bear in this cycle is higher inflation and rates. A reversal of liquidity provision and higher debt servicing costs could bring the Goldilocks narrative to a very unhappy and child-unfriendly ending. The big question is whether inflation and interest rates are mean reverting.

Deflationary Progress—What Does It Mean for Investors?

Eight factors to consider:

1. We are in a low-GDP growth, low-inflation, and low-rate world, and we think this will persist given the structural drivers underlying these trends.
2. Higher growth and inflation remain a real risk to the "virtuous" cycle.
3. Industry consolidation is a natural response to the environment we live in and will continue.
4. Populism, regulation, and societal pushback will be features of investing for some time to come.
5. A decade ago banks were the enemy, now governments and society are shifting to new targets; technology companies will need to acknowledge their social importance.



Be very cautious of owning a company with declining returns.

— David Eiswert

*Portfolio Manager, Global Focused
Growth Equity Strategy*

6. Developed market banks are still swimming against a riptide; selectivity is crucial.
7. Mean reversion should be thoughtfully questioned; industry structures being disrupted by new natural monopolies should be treated with caution.
8. Owning companies with pricing power and improving returns will be crucial for alpha.

Final Thought

We believe the world is making progress, but this era of secular change and disruption contains new risks and new opportunities that require an active approach. While we will continue to pick stocks to generate the best of the opportunities we see, the big-picture points above will need thoughtful action as we move into new and equally disruptive times.

The specific securities identified and described above do not necessarily represent securities purchased or sold by T. Rowe Price. This information is not intended to be a recommendation to take any particular investment action and is subject to change. No assumptions should be made that the securities identified and discussed above were or will be profitable.

T. Rowe Price focuses on delivering investment management excellence that investors can rely on—now and over the long term.

T. Rowe Price[®]

Important Information

This material is being furnished for general informational purposes only. The material does not constitute or undertake to give advice of any nature, including fiduciary investment advice, and prospective investors are recommended to seek independent legal, financial and tax advice before making any investment decision. T. Rowe Price group of companies including T. Rowe Price Associates, Inc. and/or its affiliates receive revenue from T. Rowe Price investment products and services. **Past performance is not a reliable indicator of future performance.** The value of an investment and any income from it can go down as well as up. Investors may get back less than the amount invested.

The material does not constitute a distribution, an offer, an invitation, a personal or general recommendation or solicitation to sell or buy any securities in any jurisdiction or to conduct any particular investment activity. The material has not been reviewed by any regulatory authority in any jurisdiction.

Information and opinions presented have been obtained or derived from sources believed to be reliable and current; however, we cannot guarantee the sources' accuracy or completeness. There is no guarantee that any forecasts made will come to pass. The views contained herein are as of the date written and are subject to change without notice; these views may differ from those of other T. Rowe Price group companies and/or associates. Under no circumstances should the material, in whole or in part, be copied or redistributed without consent from T. Rowe Price.

The material is not intended for use by persons in jurisdictions which prohibit or restrict the distribution of the material and in certain countries the material is provided upon specific request. It is not intended for distribution to retail investors in any jurisdiction.

Australia—Issued in Australia by T. Rowe Price Australia Limited (ABN: 13 620 668 895 and AFSL: 503741), Level 50, Governor Phillip Tower, 1 Farrer Place, Suite 50B, Sydney, NSW 2000, Australia. For Wholesale Clients only.

Brunei—This material can only be delivered to certain specific institutional investors for informational purpose upon request only. The strategy and/or any products associated with the strategy has not been authorised for distribution in Brunei. No distribution of this material to any member of the public in Brunei is permitted.

Canada—Issued in Canada by T. Rowe Price (Canada), Inc. T. Rowe Price (Canada), Inc.'s investment management services are only available to Accredited Investors as defined under National Instrument 45-106. T. Rowe Price (Canada), Inc. enters into written delegation agreements with affiliates to provide investment management services.

China—This material is provided to specific qualified domestic institutional investor or sovereign wealth fund on a one-on-one basis. No invitation to offer, or offer for, or sale of, the shares will be made in the People's Republic of China ("PRC") (which, for such purpose, does not include the Hong Kong or Macau Special Administrative Regions or Taiwan) or by any means that would be deemed public under the laws of the PRC. The information relating to the strategy contained in this material has not been submitted to or approved by the China Securities Regulatory Commission or any other relevant governmental authority in the PRC. The strategy and/or any product associated with the strategy may only be offered or sold to investors in the PRC that are expressly authorized under the laws and regulations of the PRC to buy and sell securities denominated in a currency other than the Renminbi (or RMB), which is the official currency of the PRC. Potential investors who are resident in the PRC are responsible for obtaining the required approvals from all relevant government authorities in the PRC, including, but not limited to, the State Administration of Foreign Exchange, before purchasing the shares. This document further does not constitute any securities or investment advice to citizens of the PRC, or nationals with permanent residence in the PRC, or to any corporation, partnership, or other entity incorporated or established in the PRC.

DIFC—Issued in the Dubai International Financial Centre by T. Rowe Price International Ltd. This material is communicated on behalf of T. Rowe Price International Ltd. by its representative office which is regulated by the Dubai Financial Services Authority. For Professional Clients only.

EEA ex-UK—Unless indicated otherwise this material is issued and approved by T. Rowe Price (Luxembourg) Management S.à r.l. 35 Boulevard du Prince Henri L-1724 Luxembourg which is authorised and regulated by the Luxembourg Commission de Surveillance du Secteur Financier. For Professional Clients only.

Hong Kong—Issued in Hong Kong by T. Rowe Price Hong Kong Limited, 21/F, Jardine House, 1 Connaught Place, Central, Hong Kong. T. Rowe Price Hong Kong Limited is licensed and regulated by the Securities & Futures Commission. For Professional Investors only.

Korea—This material is intended only to Qualified Professional Investors upon specific and unsolicited request and may not be reproduced in whole or in part nor can they be transmitted to any other person in the Republic of Korea.

Malaysia—This material can only be delivered to specific institutional investor upon specific and unsolicited request. The strategy and/or any products associated with the strategy has not been authorised for distribution in Malaysia. This material is solely for institutional use and for informational purposes only. This material does not provide investment advice or an offering to make, or an inducement or attempted inducement of any person to enter into or to offer to enter into, an agreement for or with a view to acquiring, disposing of, subscribing for or underwriting securities. Nothing in this material shall be considered a making available of, solicitation to buy, an offering for subscription or purchase or an invitation to subscribe for or purchase any securities, or any other product or service, to any person in any jurisdiction where such offer, solicitation, purchase or sale would be unlawful under the laws of Malaysia.

New Zealand—Issued in New Zealand by T. Rowe Price Australia Limited (ABN: 13 620 668 895 and AFSL: 503741), Level 50, Governor Phillip Tower, 1 Farrer Place, Suite 50B, Sydney, NSW 2000, Australia. No Interests are offered to the public. Accordingly, the Interests may not, directly or indirectly, be offered, sold or delivered in New Zealand, nor may any offering document or advertisement in relation to any offer of the Interests be distributed in New Zealand, other than in circumstances where there is no contravention of the Financial Markets Conduct Act 2013.

Philippines—THE STRATEGY AND/ OR ANY SECURITIES ASSOCIATED WITH THE STRATEGY BEING OFFERED OR SOLD HEREIN HAVE NOT BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION UNDER THE SECURITIES REGULATION CODE. ANY FUTURE OFFER OR SALE OF THE STRATEGY AND/ OR ANY SECURITIES IS SUBJECT TO REGISTRATION REQUIREMENTS UNDER THE CODE, UNLESS SUCH OFFER OR SALE QUALIFIES AS AN EXEMPT TRANSACTION.

Singapore—Issued in Singapore by T. Rowe Price Singapore Private Ltd., No. 501 Orchard Rd, #10-02 Wheelock Place, Singapore 238880. T. Rowe Price Singapore Private Ltd. is licensed and regulated by the Monetary Authority of Singapore. For Institutional and Accredited Investors only.

Switzerland—Issued in Switzerland by T. Rowe Price (Switzerland) GmbH, Talstrasse 65, 6th Floor, 8001 Zurich, Switzerland. For Qualified Investors only.

Taiwan—This does not provide investment advice or recommendations. Nothing in this material shall be considered a solicitation to buy, or an offer to sell, a security, or any other product or service, to any person in the Republic of China.

Thailand—This material has not been and will not be filed with or approved by the Securities Exchange Commission of Thailand or any other regulatory authority in Thailand. The material is provided solely to "institutional investors" as defined under relevant Thai laws and regulations. No distribution of this material to any member of the public in Thailand is permitted. Nothing in this material shall be considered a provision of service, or a solicitation to buy, or an offer to sell, a security, or any other product or service, to any person where such provision, offer, solicitation, purchase or sale would be unlawful under relevant Thai laws and regulations.

UK—This material is issued and approved by T. Rowe Price International Ltd, 60 Queen Victoria Street, London, EC4N 4TZ which is authorised and regulated by the UK Financial Conduct Authority. For Professional Clients only.

USA—Issued in the USA by T. Rowe Price Associates, Inc., 100 East Pratt Street, Baltimore, MD, 21202, which is regulated by the U.S. Securities and Exchange Commission. For Institutional Investors only.

© 2019 T. Rowe Price. All rights reserved. T. ROWE PRICE, INVEST WITH CONFIDENCE, and the Bighorn Sheep design are, collectively and/or apart, trademarks of T. Rowe Price Group, Inc.