Perspective

A Quarterly Publication June 30, 2018

In This Issue . . .

- ✓ The nature of media ("if it bleeds, it leads") and the way people process information can make it difficult for investors to "see the forest through the trees".
- ✓ U.S. economic history presents a *picture within a picture*—business cycles exist on the road to economic progress.
- ✓ The risk of recession still appears low in the current business cycle.
- ✓ Diminished expectations generally mark the bigger picture economic outlook.
- ✓ Both innovation and ingenuity have a history of sneaking up on the world.
- ✓ Fracking is one such recent example.
- ✓ The low expectations bar sets up the potential for favorable surprise.
- ✓ The emergence of the "4th factor of production" may well be triggering a massive episode of *creative destruction.*
- ✓ Customer-centric business models enabled by emerging digital tools may shake up the current corporate order.

The Picture Within the Picture

"If newspapers were published every 50 years instead of every day, the lead story would be the large increase in life expectancy since the last issue of the newspaper.

But, from day to day, life expectancy does not change much, while people do get in car crashes, gun fights, and wars." **Steven Pinker**

Capital Investment Services of America, Inc.
111 E. Wisconsin Avenue, Suite 1310 Milwaukee, Wisconsin 53202
414/278-7744 800/345-6462
info@capinv.com www.capinv.com

In his book, *Enlightenment Now: The Case for Reason, Science, Humanism, and Progress*[1], Harvard psychologist Steven Pinker argues that the nature of the media and the way people process information may result in distorted views of the world around us.

He points out that the media's primary objective is attracting viewer attention. Their "if it bleeds, it leads" mode certainly attracts attention, but focuses on the negative aspects of life and human nature. Pinker also points out that "bad things tend to happen quickly, but good things typically develop more slowly and their impact is usually out of sync with the news cycle."

Pinker also notes, "Because of a mental bug that the psychologists Amos Tversky and Daniel Kahneman call the availability heuristic: people estimate the probability of an event or the frequency of something occurring by the ease with which instances come to mind. Whenever a memory turns up high in the result list of the mind's search engine—because it is recent, vivid, gory, distinctive, or upsetting—people will often overestimate how likely it occurs in the world."

As a result, people overestimate the probabilities of such things as death by plane crashes, terrorist attack or tornadoes. And they can easily lose sight of progress that accrues over time as the following excerpt from *Pinker's* book suggests:

> ***"Over the course of the 20th century, Americans became 96 percent less likely to be killed in a car accident, 88 percent less likely to be mowed down on the sidewalk, 99 percent less likely to die in a plane crash, 59 percent less likely to fall to their deaths, 92 percent less likely to die by fire, 90 percent less likely to drown, 92 percent less likely to be asphyxiated, and 95 percent less likely to be killed on the job. Life in other rich countries is also safer, and life in poorer countries will get safer as they get richer."***

For investors, "seeing the forest through the trees" is no less challenging. Accompanying the 24/7 "news" reporting cycle are constant streams of opinions, prognostications and advice on "how to trade today's breaking news".

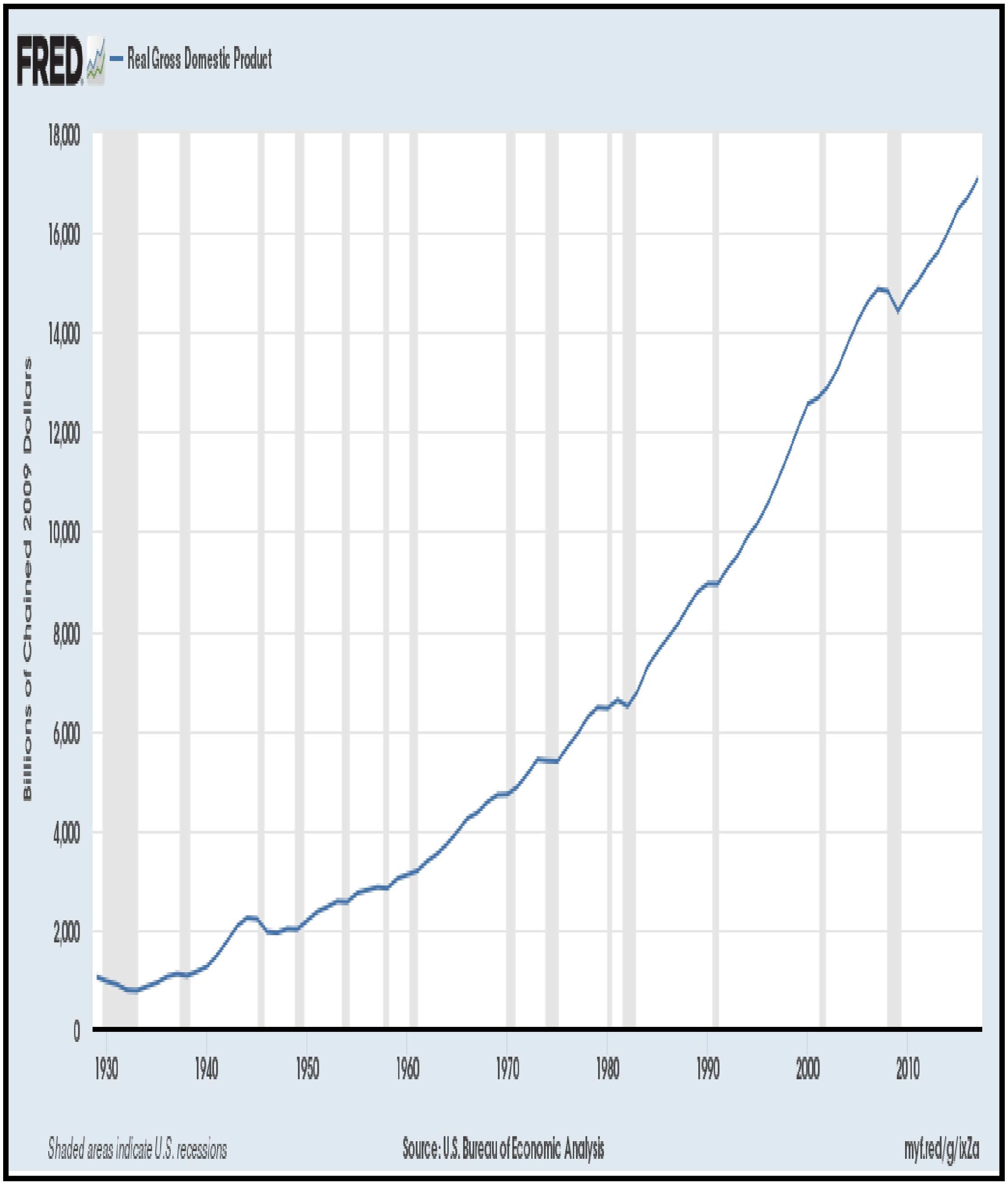
The daily cacophony often elicits emotions and behavior that can sabotage the investment decision making process, often at the most critical of times.

One countermeasure is to review things through a wide-angle lens of sorts. A longer view can help provide perspective and context to the present.

Consider for example, Chart 1 (on the following page) which provides a look at U.S. economic growth (after inflation) over the last 10 decades.

[1] Steven Pinker, *Enlightenment Now: The Case for Reason, Science, Humanism, and Progress*, Penguin Publishing Group, copyright 2018

Chart 1: Picture within a picture—cycles exist on the road to economic progress.



To our eyes, the chart contains a *picture within a picture*.

The *big picture* is that economic progress has been substantial and pretty persistent over time in the U.S.

The time frame covers dramatic episodes of economic *creative destruction*, periods of war, peace, many White House occupants, Fed leaders, dramatic social and cultural events, different companies ascending and descending.

While often underestimated and regarded as if it is a delicate flower, the march towards economic advancement has been more like a dandelion—pushing through barriers against what often appeared as incredibly long odds.

Within this bigger picture is the *recurring picture* of economic expansions followed by recessions (the shaded areas in the chart). This pattern is, of course, the so-called business cycle.

What causes these cycles? Why do recessions occur? What drives economic growth in the first place? Is long-term stagnation in the cards? How close are we to the next recession, the next bear market in stocks?

We'll provide our perspective on these questions and the present investment environment momentarily. But first, let's add some additional context around this picture within a picture.

Growth since 1929 has averaged about 3.3% per year (after accounting for estimated inflation). That may not sound like much and can easily get lost in a day-to-day context and intense investor focus on the business cycle. But a 3.3% growth rate drives a doubling in the standard of living in only a little more than every 20 years. That's a big deal!

Stock returns over this period—despite bear markets during nearly every one of the 14 recessions that had to be endured along the way—delivered positive annualized returns after inflation of around 6 to 7%. That's another big deal.

Stock prices largely tracked corporate earnings growth over this time. The relationship between earnings growth and economic progress is, we believe, symbiotic. The underlying dynamic of *creative destruction*, whereby human ingenuity spawns new innovations and better ways of doing things displaces (destroys) the status quo and drives an improvement in economic wellbeing over time.

The *creative destruction* process also transforms what were once luxuries into everyday amenities for most everyone. Accompanying the economic betterment has generally been a safer world (as the earlier Pinker excerpt pointed out), increased democracy, more openness and tolerance within society.

The businesses on the creative side of the *creative destruction* dynamic are those delivering the products and services fueling the betterment process. And the earnings (or lack thereof) of businesses reflect their relative success in pleasing customers. Meanwhile, competition keeps raising the "bar", and those companies that fail to adapt risk being displaced by others that deliver the proverbial better "mousetrap".

> ***One thing I love about consumers is that they are divinely discontent. Their expectations are never static—they go up. It's human nature. We didn't ascend from our hunter-gatherer days by being satisfied. People have a voracious appetite for a better way, and yesterday's "wow" quickly becomes today's 'ordinary'. I see that cycle of improvement happening at a faster rate than ever before….you cannot rest on your laurels in this world. Customers won't have it.***
>
> ***Jeff Bezos, Amazon's 2017 annual report***

Human nature is such that there's never a shortage of problems and the desire for better and easier ways of doing things provides the dandelion-like qualities we mentioned earlier. So, the create/destroy/repeat dynamic rarely rests.

Now, let's move to the *picture within a picture* as it relates to the present investment situation.

Current business cycle

As we think the *big picture* reflects, the natural tendency of the economy is to grow. The economy has historically spent the vast majority of time in expansion mode.

Underlying commerce for goods and services is the economy's financial plumbing. The recurring business cycle pattern of expansion followed by recession appears due to fluctuations in credit availability and financial system liquidity.

Policymakers' role—particularly the Fed's—in financial liquidity fluctuations is significant. As expansions age, the Fed typically responds to the accumulation of excesses (typically too much inflation and/or debt) by raising interest rates under their control and adopting "tight" monetary policy. Like the proverbial straw that breaks the camel's back, the Fed's incremental tightening often ushers in recession.

Once in recession, the focus of the Fed turns from restraining excesses to fostering economic growth by increasing financial liquidity conditions. The business cycle process starts anew.

In the 2008 Panic, financial liquidity didn't just become restrictive, the plumbing froze. Similar conditions had not been experienced since the Great Depression.

As we have discussed ever since, the financial trauma of 2008 has had a huge impact on the collective psyche. Like the earlier comments about the fear of plane crashes and tornadoes, the fear of a 2008 repeat—at any moment—still remains pervasive.

The angst is understandable. It also keeps the expectations bar low, risk aversion alive and (so far, at least) has helped limit the accumulation of troublesome excesses.

We believe the "evidence" still strongly suggests the next recession is some ways off yet. The underlying economic momentum should provide sufficient resiliency to withstand current trade frictions and most other potential worries (Italy's finances?) that are no doubt on the horizon.

Importantly, the uptrend in aggregate corporate earnings growth should also remain intact. As economist *Ed Yardeni's* recently noted, ***"the bull market (in stocks) will last as long as the economy continues to expand."***

For those interested, a more detailed assessment of the current business cycle fundamentals is provided in the appendix at the end of this *Perspective*.

Cartoon: *Pinker's* point!

"It's all bad. And now, the weather."

Now let's turn our attention to the bigger picture outlook.

The 4th factor will likely trigger more game-changing fracking-like economic events

The prevailing expectations for longer run U.S. growth are low. Whether it's the International Monetary Fund, the U.S. Congressional Budget Office, the Federal Reserve or, judging by the expectations impounded within bond yields by the bond market, the expected bigger picture inflation-adjusted growth rate for the U.S. economy is somewhere in the 1½ to 2% per year. This expectation is well below the 3%+ historical rate noted back in Chart 1 (page 3).

If these growth projections prove accurate and the domestic economy advances at a rate roughly one half that of the annual rate experienced in the past, it will take over 43 years for the standard of living to double. That's a far cry from 21 years of historical experience. A big deal, indeed, and a great deal is at stake!

A portion of the projected growth slowdown is demographic in nature. Population growth is slowing in most countries around the globe. In developed countries (which includes China), populations are destined to decline over the next few decades if current birthrates continue. The U.S. is the one exception, as population growth remains positive.

Still more of the projected growth slowdown, however, is due to an expectation that productivity growth will extend its recent disappointing trend well into the future.

Cartoon: It seems that every generation believes the next one is doomed.

"Productivity isn't everything, but in the long run it is almost everything." **Improvements in standards of living depend almost entirely on rising output per worker.**

Paul Krugman, economist and political commentator

From an investment perspective, there are several important aspects of these diminished expectations to note.

- They create a relatively low expectations bar against which reality will be measured. This sets up the potential for favorable surprises. Much as it's been the case since 2008, better-than-expected economic and corporate earnings growth is typically fuel for stock market strength.

- Also, innovation and ingenuity have a history of sneaking up on the world.

  Consider fracking. For the past 40+ years, probably every U.S. president offered up new policies to make the U.S. "energy independent". Despite good intentions and lots of spending on policy initiatives, the U.S. remained essentially at the mercy of OPEC.

  However, in the midst of last decade's "peak oil" worries and \$200, \$300, \$500 a barrel oil projections, a group of intrepid frackers did what no president had been able to do—totally change the world energy situation and, perhaps, the geopolitical equation.

  The potential of shale as an oil source was long known. It took constant experimentation, ingenuity, risk taking and the application of evolving technology to make shale oil commercially viable. The U.S. is now well on its way to becoming the largest energy producer in the world.

  Tech guru Chris Dixon (cdixon.org) offers up the observation that most profound technological change happens "gradually and then suddenly." Businesses and people require time to figure out how to put new technologies to their best use, and industries need time to "reinvision" their operations around the new technology.

- Not only does ingenuity and innovation tend to sneak up on all of us, it also is consistently underestimated. The recommendation that the Patent Office be closed in the late 1800s because "everything that can be invented has been invented"[2] is a classic example. Yet, as economist Brian Wesbury reminds us, the most powerful economic force of the past 35 years has been the computer chip, which was essentially made from…sand! Human beings have repeatedly created something out of nothing in almost magical fashion.

[2]Charles Duell, Commissioner of the U.S. Patent Office

- And today, enabled by things like the internet, phones that we carry around in our pockets are loaded with Google algorithms that can search almost all printed knowledge, while more minds than ever are busy at work experimenting with new idea recipes. While demographic trends may be weighing on the growth outlook, it's also important to consider another quote from *Pinker*; **"Among the world's 'bottom billion' are a million people with a genius-level IQ."** It's not likely that the world's ultimate resource—human ingenuity—is going to be in short supply anytime soon!

We suspect it's not just the recent slow productivity trend, or the fears of a 2008 repeat that are keeping expectations of future growth subdued, however. A large source of the angst is an economy that appears is in the midst of a massive "new" round of *creative destruction*.

The emergence of what economist Yardeni (referenced earlier) calls the "4th factor" is promising to change the structure of the economy, the microeconomics of many businesses and, perhaps, even the very markets for goods and services that comprise commerce. *More game-changing fracking-like events are likely upon us.*

This disruption is unsettling and, likely, decreasing confidence in the future as the associated disruption unfolds in "news time" while the benefits will, likely, only accrue over time.

What is the 4th factor? The three traditional factors of production are:

- Land
- Labor
- Capital

Yardeni's 4th factor is information and its digitization. He explains[3]:

> ***"The price of information is deflating. As it gets cheaper, it also becomes more useful for increasing the productivity of the other factors of production, especially labor and capital. Increasingly, real-time information can also be a substitute for labor and capital, and even land, in the production process. That is truly revolutionary."***

Need some examples? On-line (digital) shopping and its mass appeal have suddenly saddled many retailers with unnecessary physical locations.

Startup companies can now get "shelf space" on the internet for relatively small sums of capital. Dollar Shave Club arrives on the scene and carves off meaningful market share from P&G's Gillette brand. Fearing a similar threat, the other day another iconic household product company (Colgate) made an investment in recent start up Hubble to create a subscription "toothpaste club".

[3] *Predicting the Markets*, Ed Yardeni, YRI Press, copyright 2018

Once the province of only large multinational companies, management consultant McKinsey estimates that over 85% of startup companies now have a global reach at inception.[4] Tech veteran Mark Andreessen estimates that the capital needed for software startups has fallen so sharply that only a few thousand dollars are needed to begin.

And digitalization replacing humans? With all the robot worries, we don't think we even need examples.

Just as sand "reinvisioned" became the basis for Silicon Valley and incredible computing power, the 4th factor is leading to a reinvisioning in the way we do many things.

Two other recent books, *Reinventing Capitalism in the Age of Big Data* [5] and *Subscribed: Why the Subscription Model Will Be Your Company's Future* [6], offer very similar ideas on the reinvisioning required within the digital economy.

The authors of the second book (*Tzuo and Weisert*) summarize things reasonably well in this passage:

> ***"Retailers like Sears and Macy's changed the way mass society consumed things, but they had minimal insight into who was actually buying their products or how they were using them.***
>
> ***But, to be successful today, companies must start with the customer. The more they know about their customer, the better they can serve their customers' needs.***
>
> ***Big changes are coming. Smaller start-ups are taking down huge enterprises simply because they know who they are selling to.***
>
> ***The entire $80 trillion economy is up for grabs. Companies that know what their customers want, and how they want it, will succeed over companies that spend a lot of time and effort creating a product they think is a good idea, then spend equal amounts of time and effort trying to persuade people to buy it.***
>
> ***This shift, from a product-centric to a customer-centric organizational mindset, is a defining characteristic of the digital economy."***

---

[4] McKinsey Global Institute, Digital Globalization: The New Era of Global Flows, March 2016

[5] *Reinventing Capitalism in the Age of Big Data*, Viktor Mayer-Schönberger and Thomas Ramge, Hachette Book Group, copyright 2018

[6] *Subscribed: Why the Subscription Model Will Be Your Company's Future*, TienTzuo and Gabe Weisert, Penguin Publishing Group, copyright 2018

Investment strategy for 4th factor

The way to maximize the probability of investment success in this environment seems relatively clear. Companies operating on the creative side of the *creative destruction* dynamic should realize strong earnings and cash flow growth as well as stable (or rising) profit margins. Avoiding likely casualties from the *destructive* side of the dynamic will also be incredibly important.

We own many companies at the forefront of providing the modern day productivity tools that help other companies cross the digital divide.

Areas in which these companies operate include:

- IoT (internet of things)
- Cloud computing
- Edge computing
- Software simulation
- Data science
- AI (artificial intelligence)
- Health science
- Direct digital manufacturing
- Software as a service
- Quantum computing
- Digital twins
- Mass customization
- 5G

Way back in the big picture of Chart 1 (page 3), we noted that *creative destruction* forces have, over time, propelled the U.S. to greater prosperity. New companies and jobs were created—many, if not most of them, have entirely unanticipated. Large numbers of jobs were lost, most from the less productive areas of the economy. Companies that failed to adapt their business models were replaced by those that provided better customer satisfaction.

Our "ear-to-the-ground" investment process involves engaging with and listening to the strategic visions, threats, and opportunities articulated by many of the finest business management teams in the world. We "hear" a growing sense of urgency and preparedness to embrace the 4th factor digital transition, deploy productivity enhancing technologies, and better fulfill customer desires.

We suspect the *picture within the picture* may well hold much more promise than generally believed.

As always, expect financial market volatility to be part of the *picture*. The chatter focused on the latest stories of the day will likely only become louder. But volatility is a price to pay for rewarding investment returns. And there are considerable investment opportunities and rewards ahead.

APPENDIX: No recession yet in the picture

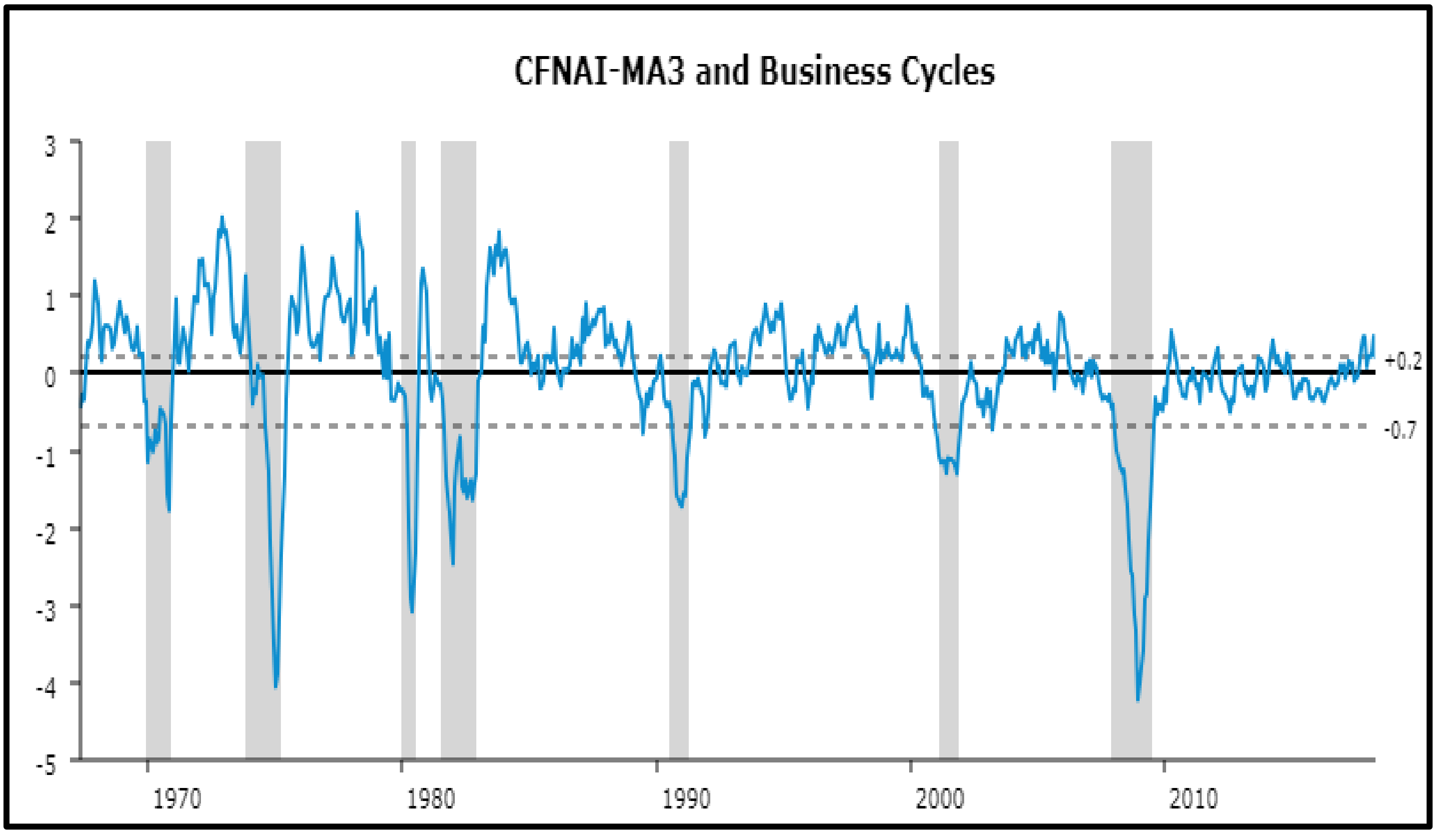
One of the business cycle assessment tools we've come to favor after much study is the Chicago Federal Reserve National Activity Index. The CFNAI (not a very catchy acronym we admit!) encompasses 85 indicators of U.S. economic activity covering production, income, employment, spending, housing, sales, orders and inventories.

We believe its record as a timely leading indicator of both recession *and* inflation makes it very worthy of investors' attention.

The Chicago Fed also provides "key threshold levels" along with each CFNAI update. These levels act somewhat like warning lights on a car's dashboard.

Charts 2 and 3 are mid-year updates. Are there warning lights flashing? Our conclusions are expressed at the top of the charts. An interpretation key follows each chart as well.

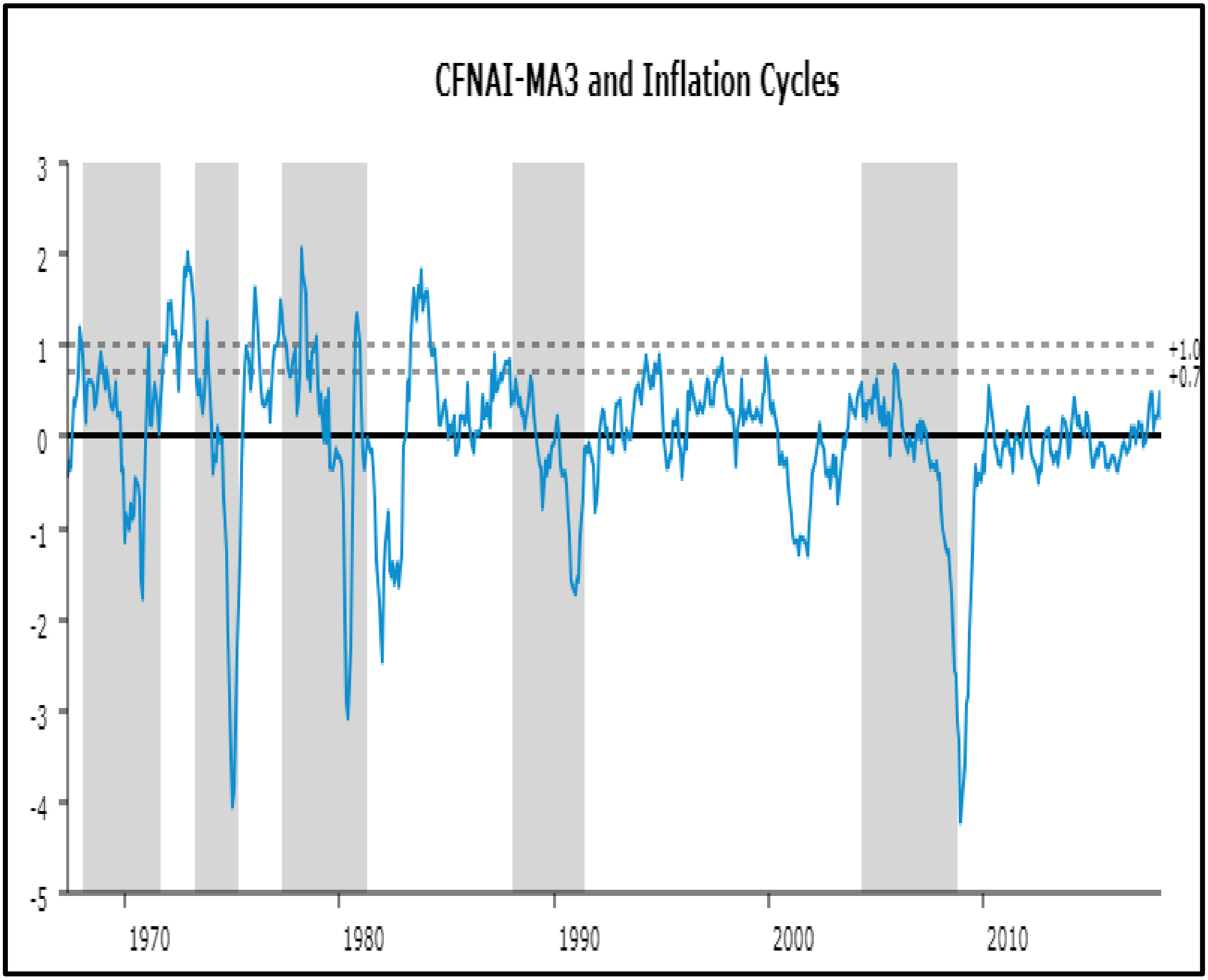
Chart 2: Where is the U.S. economy in the current business cycle? No recession yet on the horizon.



How to interpret Chart 2:

- Shading = past recessions
- **Readings below -.7 = recession signal** (bottom dotted line)
- Following recessions, readings above +.2 = signal that new economic expansion has begun (top dotted line)
- Scale is in standard deviations from trend growth
- Source: Federal Reserve of Chicago

Chart 3: The economy doesn't appear terribly inflation-prone. The Fed is not likely to have to jump on the monetary breaks anytime too soon.



How to interpret Chart 3:

- Shading = past periods of sustained increasing inflation
- **Readings above +.7 more than two years into an economic expansion are likely periods of rising inflation** (bottom dotted line)
- Readings above +1.0 more than two years into an expansion are consistent with a **substantial** likelihood of **consistently rising inflation** (top dotted line)
- Scale is in standard deviations from trend inflation
- Source: Federal Reserve of Chicago

"Yeah-but" #1, what about trade...?

What about negative economic consequences from the tariff and trade disputes? Perhaps the Chicago Fed's business cycle indicator doesn't yet reflect trade issues that could well escalate from here?

Economists don't often agree on much, but most agree that trade wars, tariffs and quotas inflict economic damage. But we still suspect the "art of the deal" is largely at work behind the current trade confrontations.

While the probability is not zero, the odds remain low that things will escalate into anything close to the disastrous trade policies like the Smoot-Hawley Tariffs that contributed to the 1930s Great Depression.

Instead, *plausible* "worse case" trade outcomes could shave somewhere around an estimated 1-2% from the domestic economy's recent 4-to-5% "trend" nominal growth rate. Such an impact would be significant, of course, and would negatively impact earnings for a number of companies. But the underlying pace of the economy appears sufficient to endure such a headwind and avoid recession.

Tariffs raise costs for consumers. In similar fashion, the plausible "worst case" impact on inflation is around .5% annualized. Again such an impact would not be trivial, but in combination with slower growth from higher tariffs, and the Fed's own institutional angst from 2008's Panic, they seem unlikely to significantly restrict financial system liquidity anytime soon.

According to the World Trade Organization, average tariffs in the U.S. are 3.5% compared to 5.2% in the EU, 9.9% in China, 4.1% in Canada and 7.0% in Mexico. The trade confrontation could conceivably have a favorable ending that results in more free trade, with fewer (and lower) tariffs.

"Yeah-but" #2, what about the flattening yield curve…?

Many are justifiably concerned about the Fed's recent rate hikes. Isn't this tightening going to put the screws to this expansion?

These concerns relate to the "flattening" of the yield curve (relationship between short-and longer-term bond yields). This is viewed as a leading indicator of yield curve "inversion" (short-term bond yields exceeding longer-term bond yields). And as one analyst put it, "Once the yield curve inverts, the recession fuse is lit".

The *picture within the picture* history from earlier suggests the Fed's tightening actions absolutely deserve respect. We also agree that yield curve inversions have, indeed, been a good leading indicator of recession.

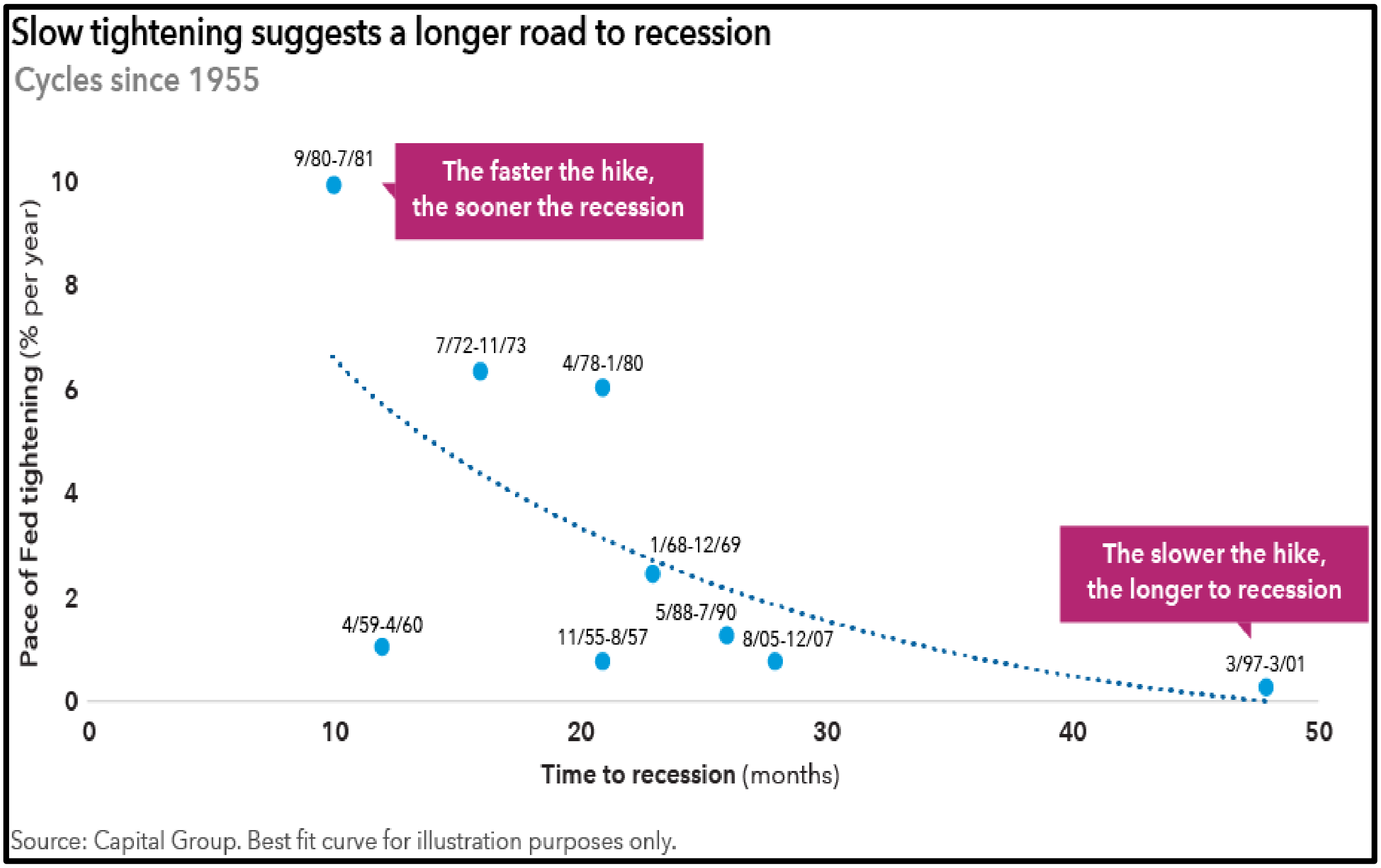
But, as always, context is necessary. The starting point for recent Fed rate hikes was an extraordinary 0% rate policy that they maintained for the better part of a decade. Rates may be higher now because of the Fed rate hikes, but they remain near historic lows, and financial market liquidity remains flush.

The characterization of former Fed Vice Chair Stanley Fischer that policy is simply "moving from ultra-easy to extremely easy" still provides useful context. They are a long way from "tight" as the absence of flashing warning lights in the Chicago Fed's business indicator suggests.

Also, flat yield curve conditions (short and long rates about the same) tend to persist for an extended period within business expansions.

And, to the extent the trade dispute or other events reinforce the cautious psyche, the Fed's intent to "normalize rates" can proceed at a not-in-a-hurry pace. This, too, can extend the expansion (see Chart 4 below).

Chart 4



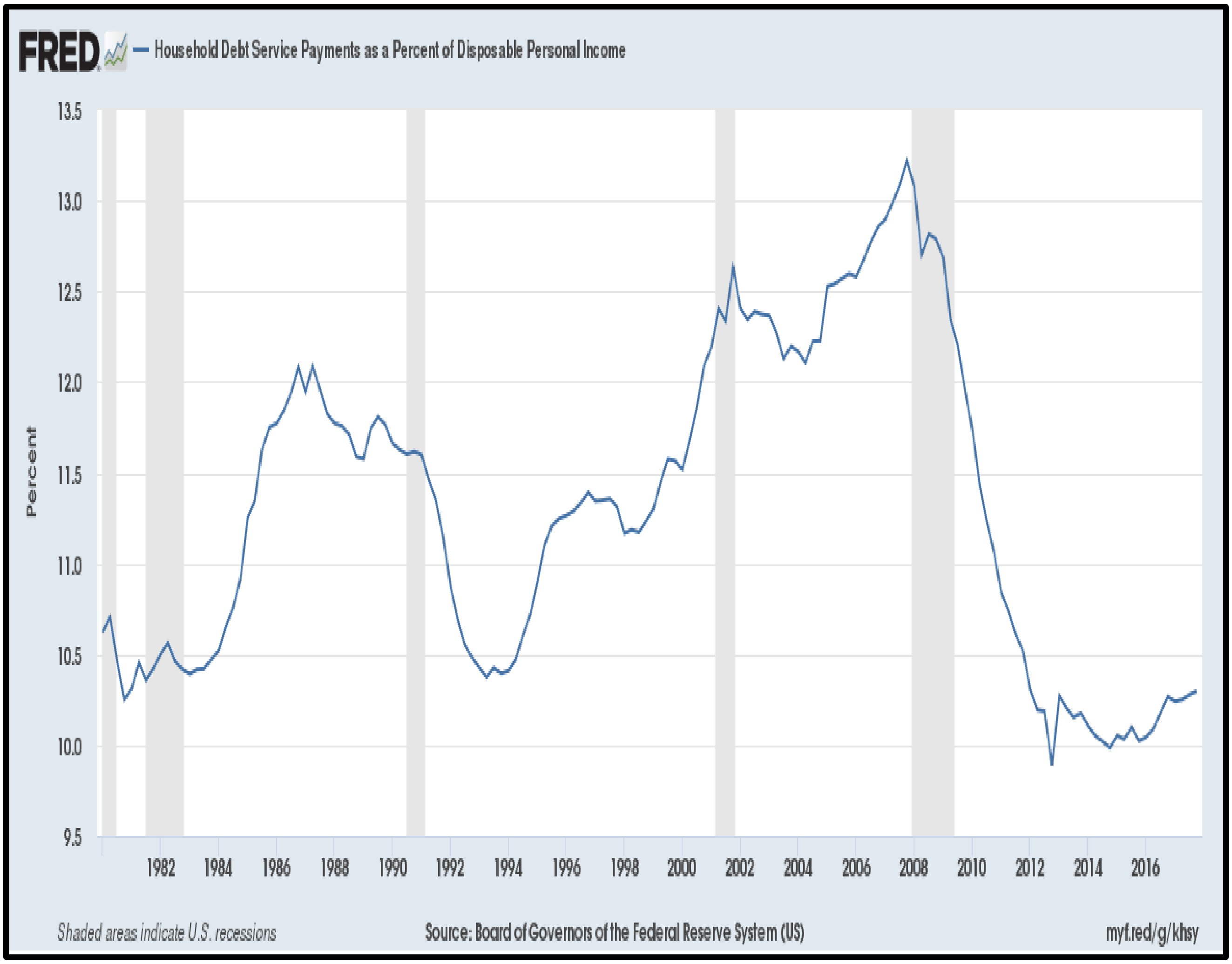
"Yeah-but" #3, what about debt levels…?

While the media often plays up stories about specific companies and individuals that meet their ruin because of excessive borrowing, debt levels in aggregate do not appear to be a threat to the business expansion at this point either.

Here's a quick review:

- Household debt declined after the 2008 Financial Panic and both debt burdens and debt-to-consumer-net-worth measures remain around levels near those that existed in the mid-1980s. (See Chart 5 on the following page).

Chart 5: Consumers are in reasonably good shape.

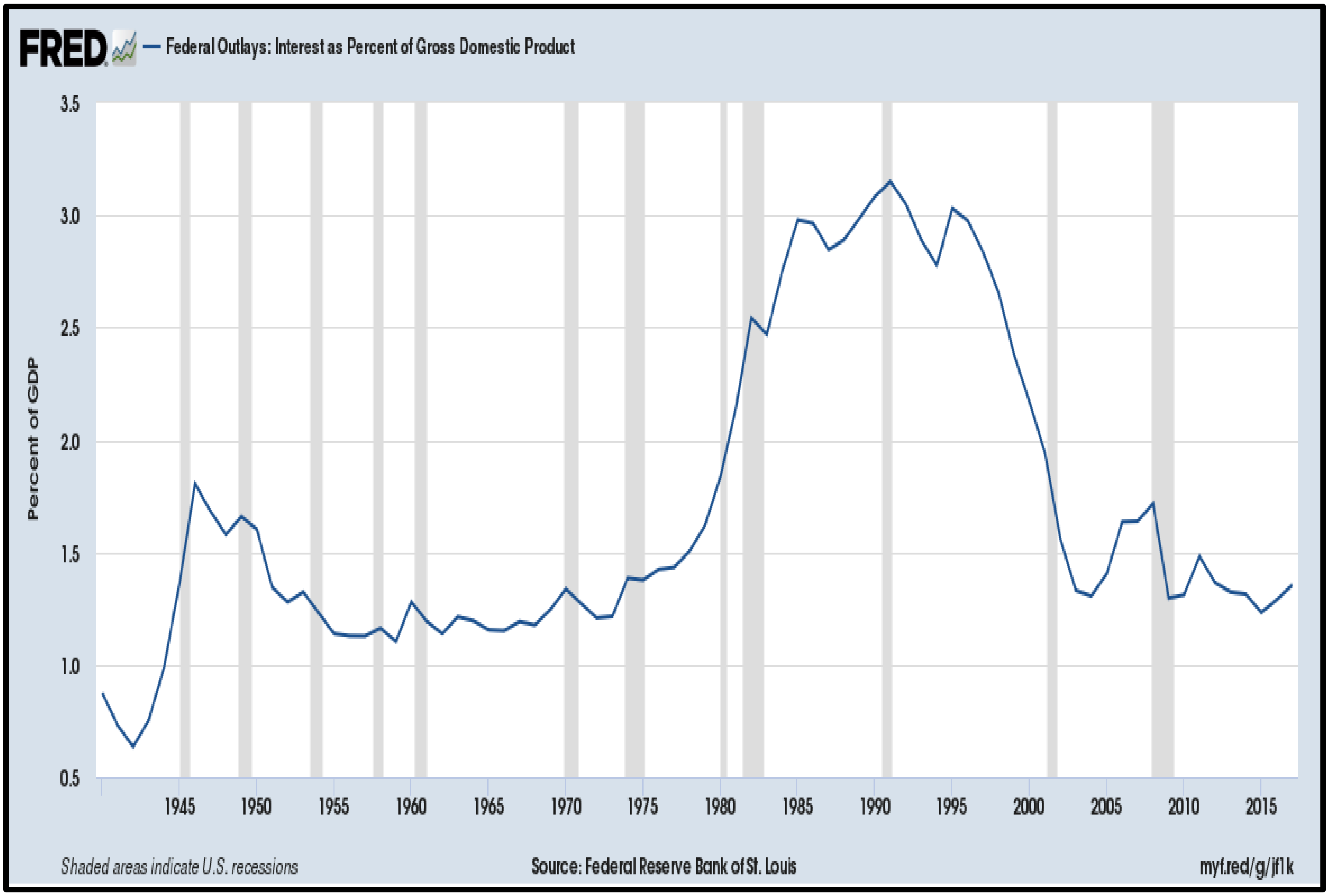


- Corporate leverage in aggregate is similar to what it was in the ***early*** stages of economic expansions of the 1990s and 2000s. Meanwhile, company cash balances have risen significantly and interest debt coverage ratios are healthier than they have been in 20 years.

- Banks are well capitalized in the aftermath of 2008.

- Federal debt service is at 1960's levels (refer to Chart 6 on the following page), and while we would like to see government spending on a sustainable course, there is not a strong correlation between federal debt levels and economic growth over the next 5-10 years.

Chart 6: Debt service cost on the national debt will increase,
but it's a long way from levels of recent decades.



Established in 1981, *Capital Investment Services of America, Inc.* is a Milwaukee, WI-based independent investment counsel providing custom-tailored portfolio management to individuals, businesses, and charitable institutions.

If you would like to be added to our mailing list, email us at: info@capinv.com or call us at 1-800-345-6462.

For additional information, visit our website at: www.capinv.com