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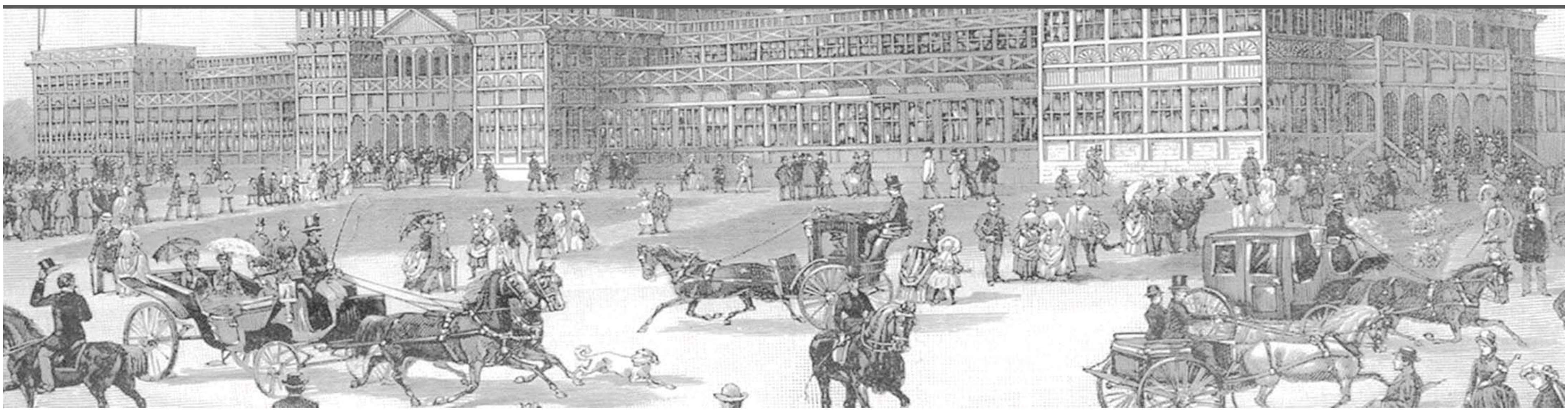
EXECUTIVE BREAKFAST SERIES 06.05.2018
Brendan Wagner– Portfolio Manager

The Myth of Low Productivity

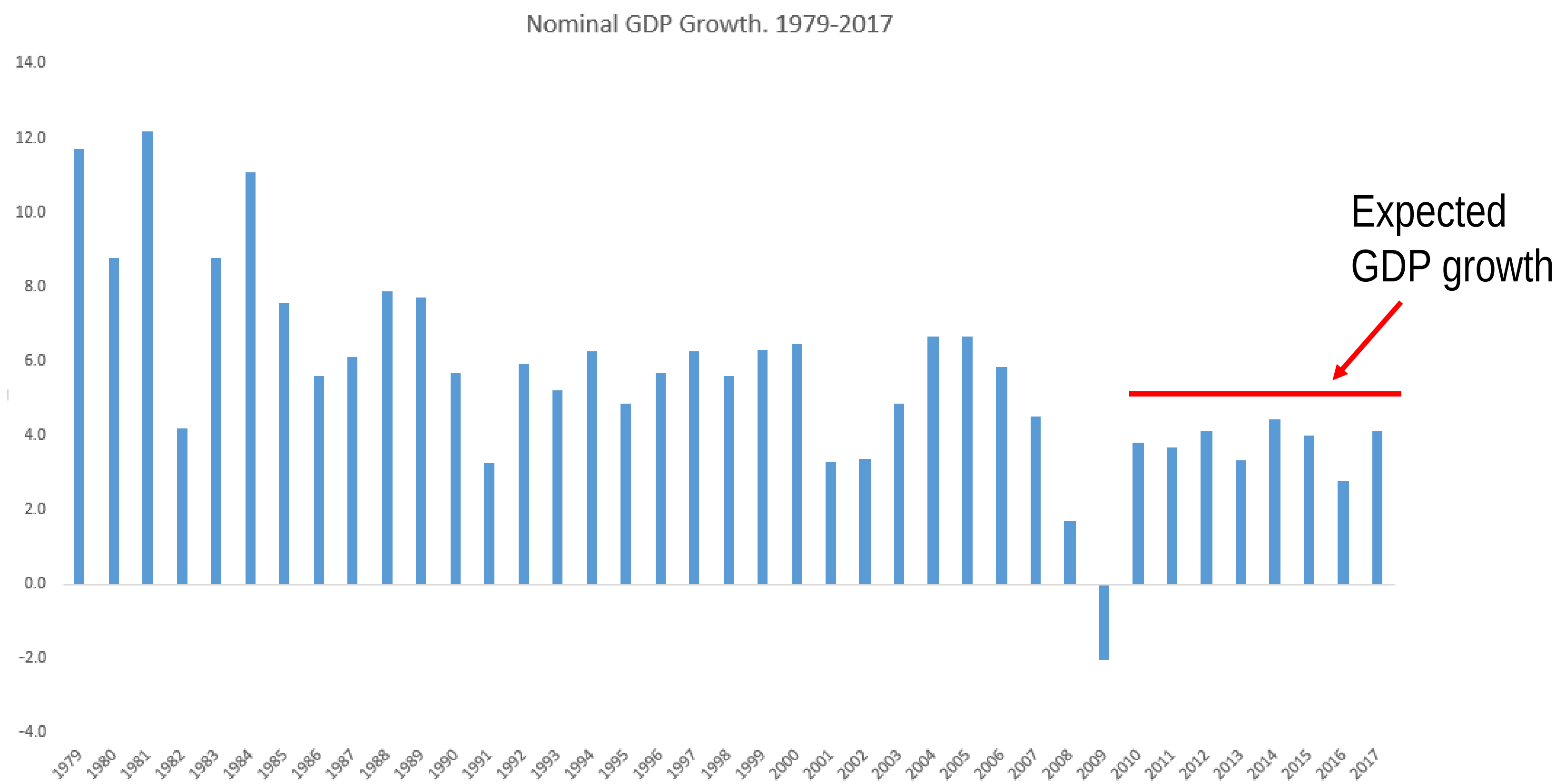
Productivity, or "doing more with less," is actually soaring.
It's just not widely shared among the workforce.



Productivity growth impacts GDP growth

GDP = Gross Domestic Product. The "*market value of the goods and services produced by labor and property located in the United States*" –Federal Reserve Bank of St. Louis

GDP = aggregate hours worked x labor productivity

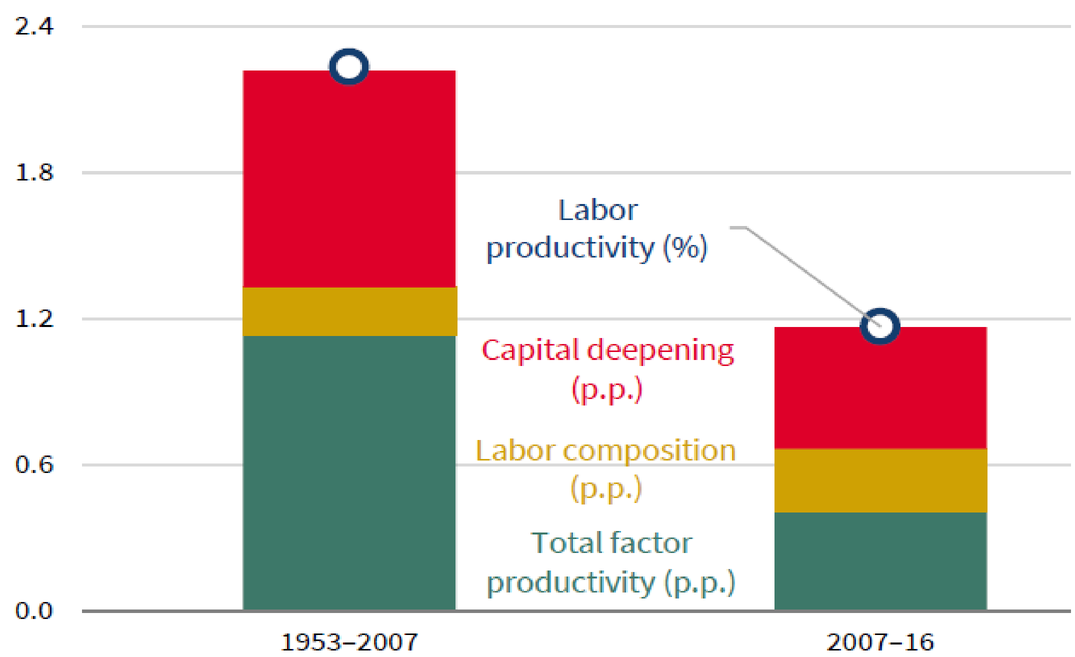


What is productivity and why are we talking about it?

“Labor productivity is ***the amount of goods and services produced per hour spent on the job***. Increases in labor productivity are a fundamental factor in determining how fast the economy grows, and how fast the average standard of living grows.” *(Federal Reserve Vice Chairman Stanley Fischer, July 6 2017)*

Figure 8-29. Sources of Labor Productivity Growth, 1953–2016

Percent change or percentage points (annual rate)



<u>Predictions from 2011 for GDP growth turned out to be optimistic. And because GDP came in lower than anticipated, the interest rate on the 10year Treasury is much lower than predictions.</u>

Table 2-1
Administration Economic Forecast

	Nominal GDP	Real GDP (chain-type)	GDP price index (chain-type)	Con-sumer price index (CPI-U)	Un-employ-ment rate (percent)	Interest rate, 91-day Treasury bills (percent)	Interest rate, 10-year Treasury notes (percent)	Nonfarm payroll employ-ment (average monthly change, Q4-to-Q4, thou-sands)
	Percent change, Q4-to-Q4				Level, calendar year			
2009 (actual)	0.6	0.2	0.5	1.5	9.3	0.2	3.3	-44
2010	4.0	2.5	1.5	1.0	9.6	0.1	3.2	76
2011	4.3	3.1	1.2	1.4	9.3	0.2	3.0	146
2012	5.7	4.0	1.6	1.9	8.6	0.9	3.6	194
2013	6.2	4.5	1.6	1.9	7.5	2.6	4.2	275
2014	6.0	4.2	1.7	2.0	6.6	3.7	4.6	277
2015	5.4	3.6	1.7	2.0	5.9	4.0	4.9	224
2016	5.1	3.2	1.8	2.1	5.5	4.1	5.2	182
2017	4.5	2.7	1.8	2.1	5.3	4.1	5.3	138
2018	4.3	2.5	1.8	2.1	5.3	4.1	5.3	113
2019	4.4	2.5	1.8	2.1	5.3	4.1	5.3	99
2020	4.3	2.5	1.8	2.1	5.3	4.1	5.3	97
2021	4.3	2.5	1.8	2.1	5.3	4.1	5.3	93

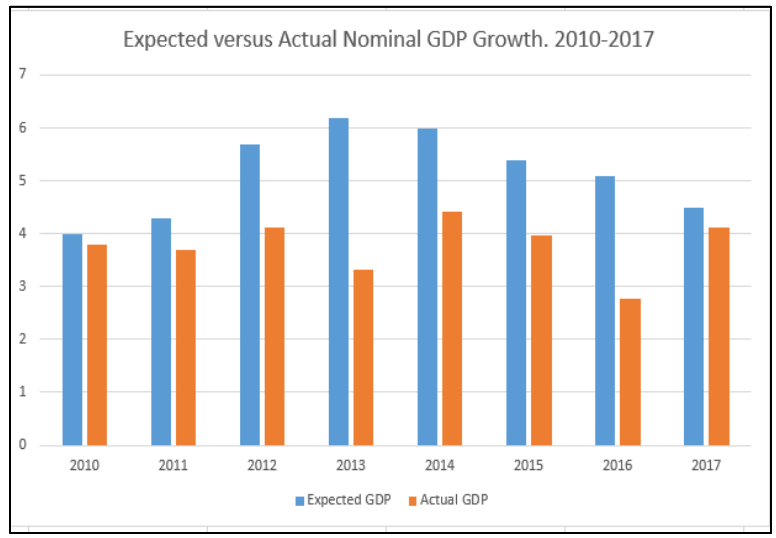
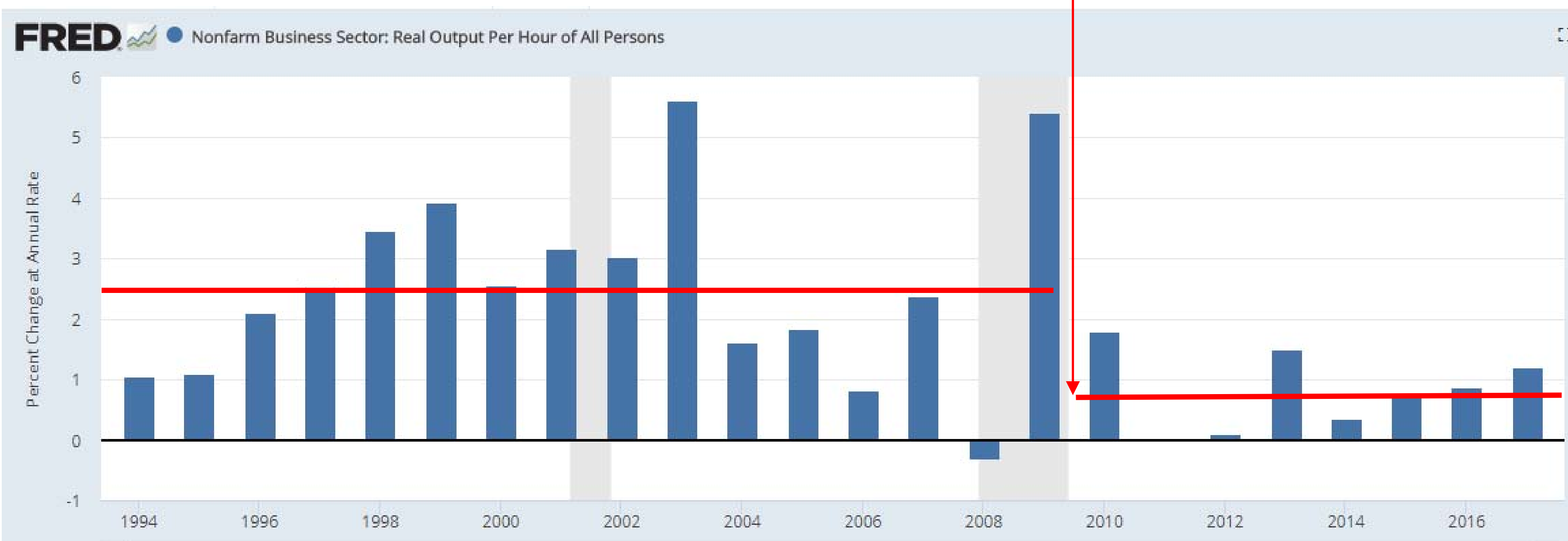


Table 2-2
Components of Potential Real GDP Growth, 1953–2021

Component	Growth rate: 1953:Q2 to 2007:Q4	Growth rate: 2010 to 2021
1 Civilian noninstitutional population aged 16+	1.4	1.0
2 Labor force participation rate	0.2	-0.3
3 Employment rate	0.0	0.0
4 Ratio of nonfarm business employment to household employment	0.0	0.0
5 Average weekly hours (nonfarm business)	-0.3	-0.1
6 Output per hour (productivity, nonfarm business)	2.1	$\boxed{2.3}$
7 Ratio of real GDP to nonfarm business output	-0.2	-0.4
8 SUM: potential real GDP	3.2	2.5

Why were GDP predictions wrong?

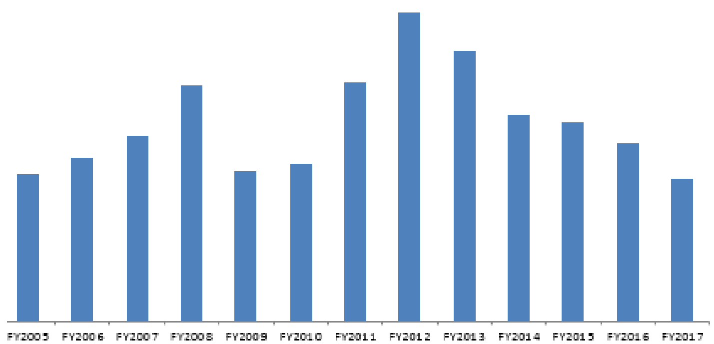
Because the productivity factor was wrong



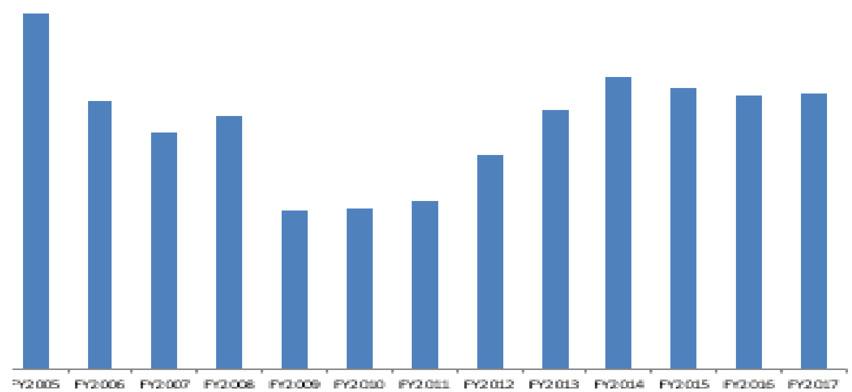
Why has productivity slowed?

Some economists point to slower "Capital Deepening" since the 2008 Financial Crisis. If these trends reverse, so will productivity, goes the thinking.

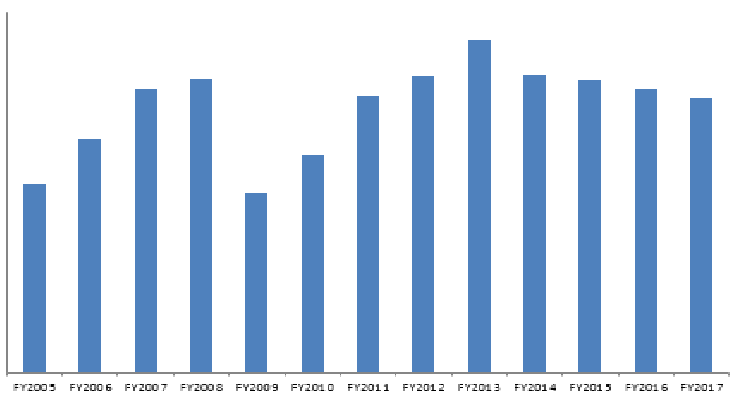
CAPEX at Caterpillar



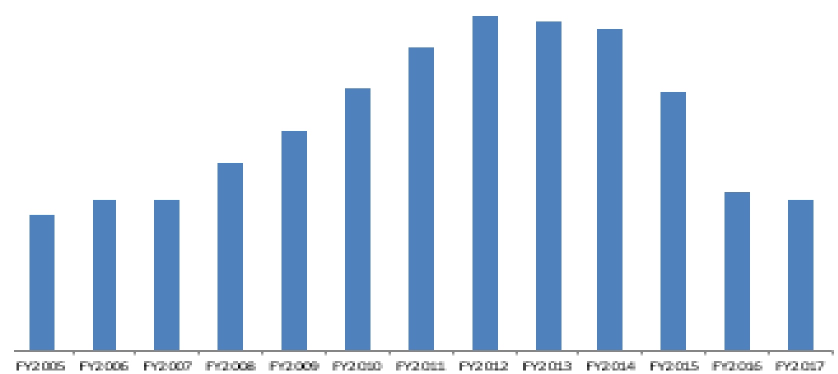
CAPEX at Ford



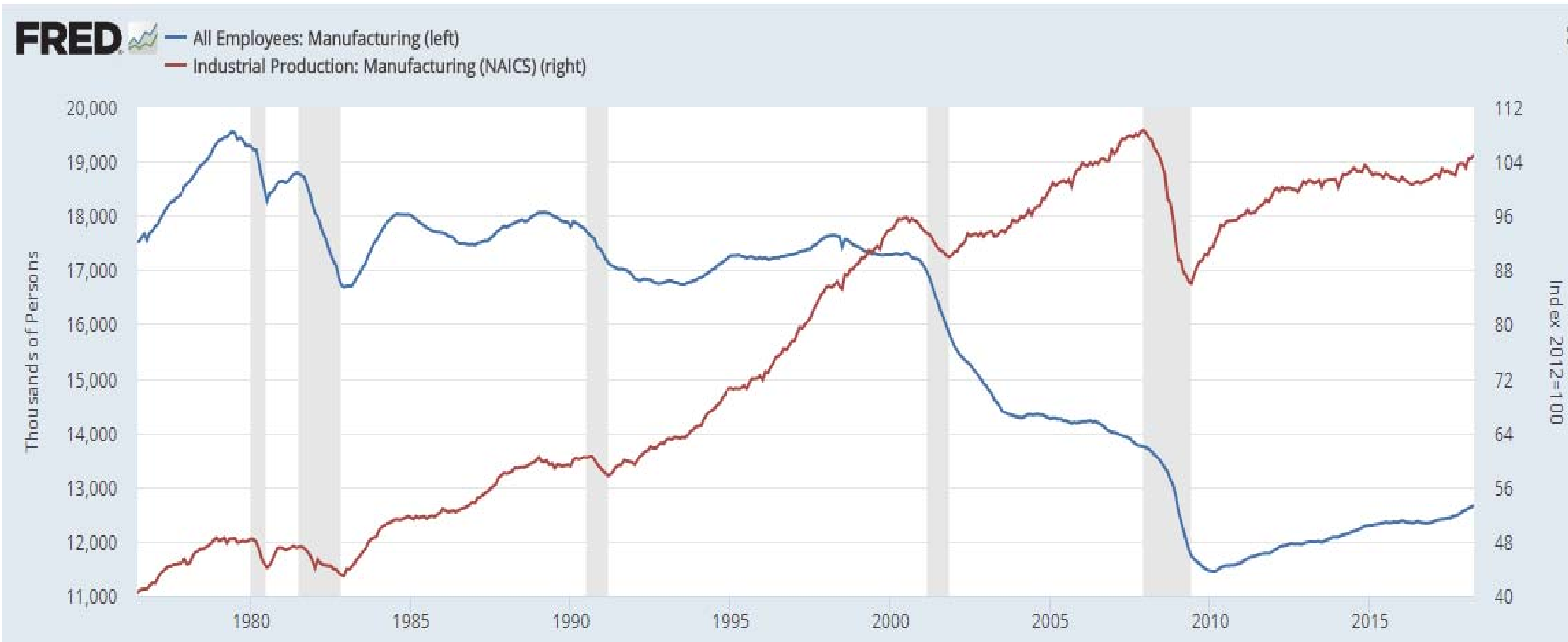
CAPEX at 3M



CAPEX at Exxon

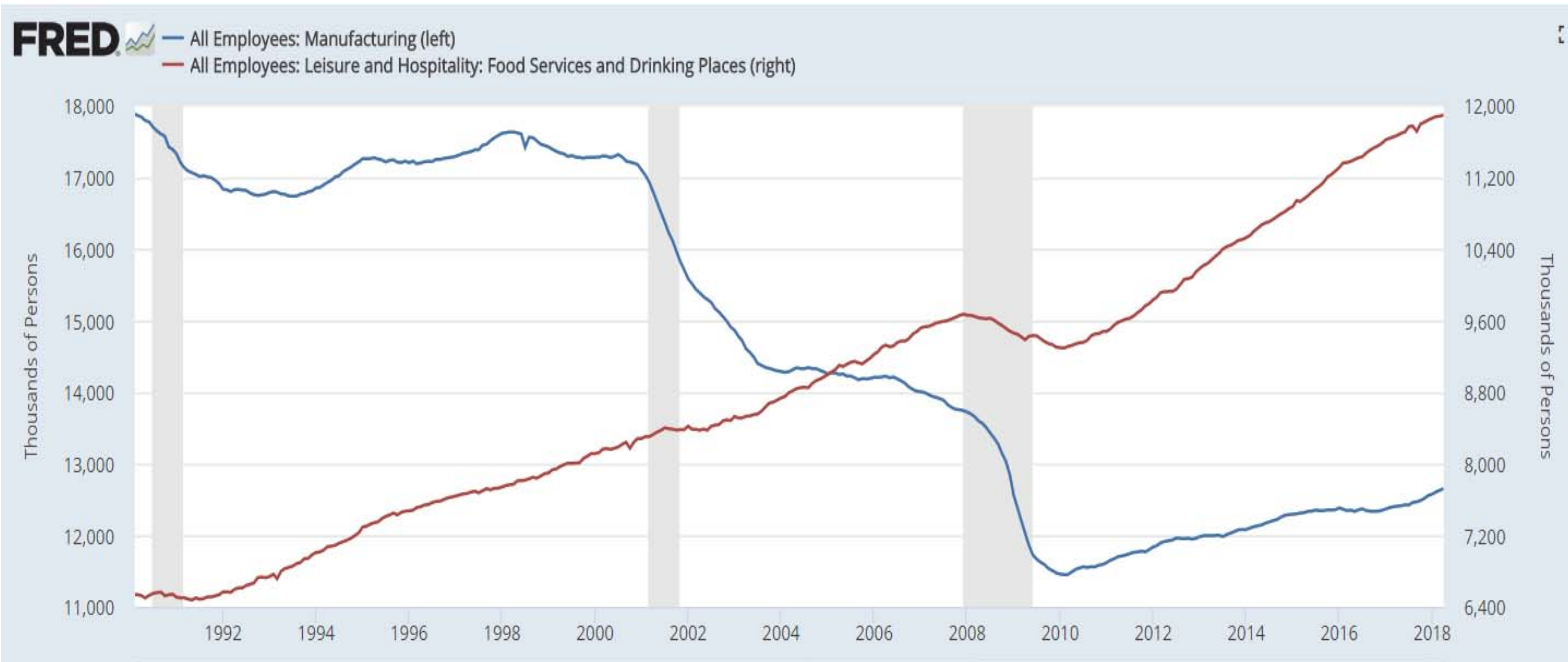


Manufacturing OUTPUT in the United States has doubled since 1980, while manufacturing EMPLOYMENT is down by a third.



A "mix-shift" in the type of jobs making up the US economy.

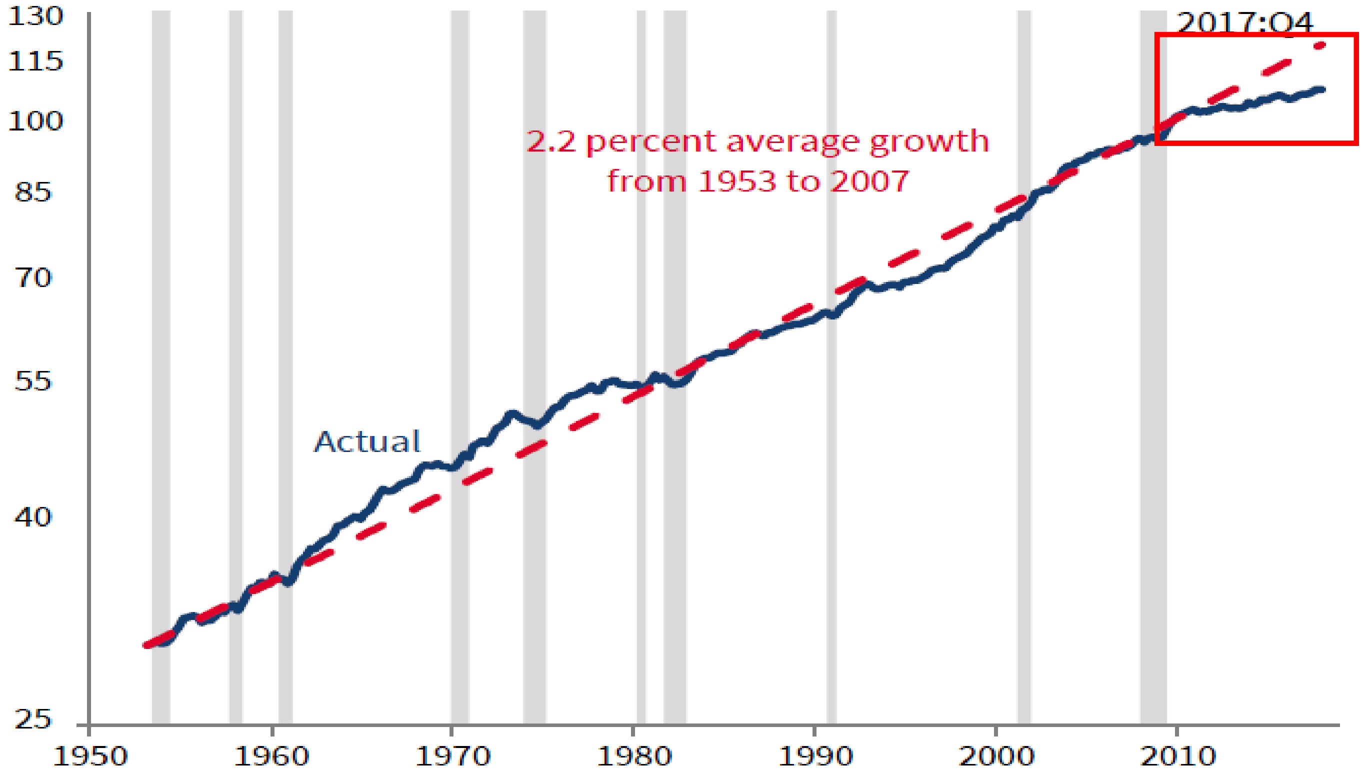
This chart shows the increase since 1990 in jobs at Food Service and Drinking places (very low productivity) versus the fall (though gradually recovering) in workers in manufacturing, the industry where productivity enhancements through technology and capital deepening can be the greatest.



The 2018 Economic Report of the President notes the below-trend growth in productivity over the past 8 or so years…

Figure 8-28. Nonfarm Business Productivity, 1953–2017

Log (index, 2009 = 100)



Recent period of below-trend growth

Sources: Bureau of Labor Statistics, Productivity and Costs; CEA calculations.
Note: 1953 and 2007 are NBER business-cycle peaks.

…And then predicts a huge reversal from the current trend to arrive at predicted (desired?) levels for GDP growth over the next decade…

Table 8-2. Supply-Side Components of Actual and Potential Real Output Growth, 1953–2028

	Component	Growth rate[a]	
		History, 1953:Q2 to 2017:Q3[b]	Forecast, 2017:Q3 to 2028:Q4
1	Civilian noninstitutional population age 16+	1.4	0.9
2	Labor force participation rate	0.1	–0.2
3	Employed share of the labor force	0.0	0.0
4	Ratio of nonfarm business employment to household employment	0.0	0.0
5	Average weekly hours (nonfarm business)	–0.2	0.2
6	Output per hour (productivity, nonfarm business)[c]	2.0	2.6
7	Ratio of real GDO to nonfarm business output[c]	–0.2	–0.5
8	Sum: Actual real GDO[c]	3.0	3.0
	Memo:		

Expecting 30% better productivity growth than 1953-2017 ??

The assumption of productivity growth ramping higher is the reason for predictions of 5% GDP growth over the coming decade…If productivity growth disappoints, then GDP might also…and the yields on 10year Treasuries may again turn out to look much different than predicted.

Table 8-1. Administration Economic Forecast, 2016–28

Year	Percent change (Q4-to-Q4)				Level (calendar year)		
	Nominal GDP	Real GDP (chain-type)	GDP price index (chain-type)	Consumer price index	Unemployment rate (percent)	Interest rate, 91-day Treasury bills (percent)	Interest rate, 10-year Treasury notes (percent)
2016 (Actual)	3.4	1.8	1.5	1.8	4.9	0.3	1.8
2017	4.1	2.5	1.6	2.1	4.4	0.9	2.3
2018	4.7	3.1	1.6	1.9	3.9	1.5	2.6
2019	5.1	3.2	1.8	2.0	3.7	2.3	3.1
2020	5.1	3.1	1.9	2.3	3.8	2.9	3.4
2021	5.1	3.0	2.0	2.3	3.9	3.0	3.6
2022	5.1	3.0	2.0	2.3	4.0	3.0	3.7
2023	5.1	3.0	2.0	2.3	4.2	2.9	3.7
2024	5.1	3.0	2.0	2.3	4.3	2.9	3.6
2025	5.0	2.9	2.0	2.3	4.5	2.9	3.6
2026	4.9	2.8	2.0	2.3	4.7	2.9	3.6
2027	4.9	2.8	2.0	2.3	4.8	2.9	3.6
2028	4.9	2.8	2.0	2.3	4.8	2.9	3.6

Sources: Bureau of Economic Analysis, National Income and Product Accounts; Bureau of Labor Statistics, Current Population Survey, Labor Productivity and Costs; Department of the Treasury; Office of Management and Budget; Council of Economic Advisers.
Note: Forecast was based on data available as of November 16, 2017. The interest rate on 91-day T-bills is measured on a secondary-market discount basis.

<u>Does their optimism square with reality</u>? Or are we now living in a world where a large source of productivity is from workforce reductions and squeezing out the middleman? After all, productivity is doing more with less (workers).

Excess Management Is Costing the U.S. $3 Trillion Per Year

by Gary Hamel and Michele Zanini

SEPTEMBER 05, 2016

Cost-cutting help from the experts….

BAIN & COMPANY

Zero-Based Redesign (ZBR)

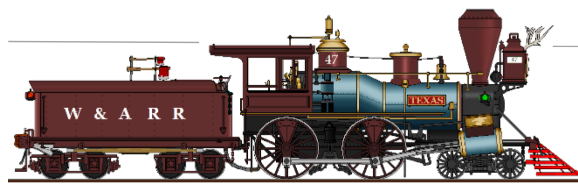
A fresh start can be the best start. **Bain Zero-Based Redesign** is a onetime, blank-sheet approach that transforms your operating model to simplify your organization, streamline work processes, reveal digital opportunities and unlock massive savings.

CSX to layoff 1,000 management positions

<u>Economist Robert Gordon of Northwestern is viewed as the **Mr. Negative** of the productivity debate.</u> He grouped productivity enhancements into several mini "Industrial Revolutions," each with their own major contributions to productivity. He suggested that current productivity tools *"do not fundamentally change labor productivity or the standard of living in the way that electric light, motor cars, or indoor plumbing changed it."*

Industrial Revolution #1 (1750-1830)

- Steam Engines
- Cotton Spinning
- Railroads



Industrial Revolution #2 (1870-1900)

- Electricity
- Internal Combustion Engine
- Running water with indoor plumbing

Industrial Revolution #3 (1950-1970)

- Air Conditioning
- Home Appliances
- Interstate Highway System

Conclusion – As always as investors, we are ON OUR OWN when it comes to understanding our economy and its effect on our investment portfolios.

Economists are wedded to their economic models – it is their life's work. Unfortunately, many economic models are based on decades-old economic concepts regarding the interplay between capital and labor.

Productivity growth - *doing more with less workers* - on a company specific level might be growing just as expected, but the mix-shift of the US economy to lower-productivity sectors may hinder overall growth.

It is our job to make sure we do not place too many bets on outcomes that may or may not turn out to be true, like the inevitability of perpetual increases in US productivity and thus increasing standard of living and strong economic growth.

Happy Tuesday!

Questions?
Comments?
Criticisms?

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