

**The Rate of Profit, Aggregate Demand,
and the Long Economic Expansion in the U.S. since 2009**

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1. Introduction¹

Business cycle expansions in the neoliberal era in the U.S. have been relatively long compared to those of postwar regulated capitalism. The seven economic expansions from 1945 through 1979 averaged 49 months from trough to peak, or just over 4 years in length. By contrast, prior to the Great Recession the neoliberal era saw three long expansions—in the 1980s, 1990s, and 2000s—of average length 95 months, or almost 8 years.

One factor that can explain the long expansions of the neoliberal era is the change in the form of the capital-labor relation brought about by neoliberal restructuring. Kotz (2009) found that every recession in the regulated capitalist era in the U.S. was preceded by a profit squeeze due to real wages rising faster than labor productivity as the unemployment rate declined in the expansion. Since 1980 neoliberal institutions have undermined labor's bargaining power so severely that the relatively low unemployment rate produced by an expansion has not empowered labor sufficiently to squeeze the profit rate.² On the demand side, in the neoliberal era stagnating wages have been made compatible with a long expansion by the mechanism of rising debt-driven consumer spending, which in turn rested on big asset bubbles combined with financial institutions that found ways to profit from lending to households of modest income (Kotz 2015: 109-114).

Since the Financial Crisis and Great Recession of 2008-09, neoliberal capitalism has continued to repress wages, but the debt-driven consumer spending mechanism has ceased to operate. As figure 1 shows, households reduced their debt relative to disposable income from 133% in 2008 to 104% in 2017. While consumer spending rose relative to disposable income in the previous expansions of the neoliberal era, that ratio has had no trend since 2009 (figure 2). While moderate asset bubbles emerged in real estate and corporate stocks since 2009, they have not led to rising debt-fueled consumer spending (Kotz 2018).³

Despite the breakdown of a key underpinning of the previous neoliberal expansion mechanism, the current business cycle expansion is a long one. Since the Great Recession ended in the third quarter of 2009, the economy has expanded for more than nine years as of December

1 Baris Guven provided research assistance for the project that gave rise to this paper.

2 Kotz (2009) found that a profit squeeze due to rapidly rising real wages did not emerge in the late stage of expansions in the neoliberal era for the period from the 1980s through the cyclical peak in 2000. Even in the later part of the 1990s expansion, when the unemployment rate fell below 4%, a wage-based profit squeeze did not occur.

3 The price-earnings ratio for the Standard and Poors 500 rose to 32.9 at the peak of the 1990s stock market bubble, compared to a peak of 25.4 in January 2018. The ratio of the house price index to homeowners equivalent rent rose to 156 in 2006, and after declining through 2012, it rose again but only to 131 in 2017.

2018. The current expansion is now second in length since the end of World War II only to the 10 year long expansion of the 1990s. Despite the sluggish growth rate of GDP in this expansion, averaging 2.2% per year, nine years of expansion brought the official unemployment rate to below 4%.⁴

This paper examines the current economic expansion in the U.S. to determine the factors that underlie such a long expansion. We will analyze the movements in the rate of profit, using a modified version of the decomposition method pioneered by Weisskopf (1979).⁵ We will also examine the movement of the components of aggregate demand.

2. The Profit Rate

A number of different crisis tendencies can derail an economic expansion and bring a recession. The onset of recession in the US economy in the period since World War II has always been preceded by a decline in the rate of profit, of one to four years in length (Kotz, 2009).⁶ A profit rate decline can indicate either a problem in the creation of surplus value or a problem in its realization. Whatever the underlying cause of a profit rate decline, Marxist theory suggests that it will lead to a reduction the rate of capital accumulation, ushering in a recession.

We decompose the profit rate into two components:

$$r = \frac{P}{K} = \frac{P}{Y} \times \frac{Y}{K} \quad (1)$$

where r is the rate of profit after taxes, P is the flow of profit, Y is net output, and K is the value of the capital stock. The ratio P/Y is the profit share and Y/K is the output-capital ratio. Variation in the output-capital ratio over short periods of time mainly reflects variations in the rate of capacity utilization.⁷ We will analyze the after-tax rate of profit on the grounds that it is the best version to indicate the impact of the profit rate on accumulation.

The profit share can be expressed as follows:

⁴ The slow growth rate of GDP since 2009 gave rise to a slow growth rate of employment, but given the very slow growth rate of the labor force, the unemployment rate nevertheless declined relatively rapidly (Kotz 2018).

⁵ Other studies that use the decomposition methodology of Weisskopf for analyzing movements in the rate of profit are Bakir and Campbell (2006) and Bakir (2015).

⁶ However, not every decline in the rate of profit has been followed by a recession. In 1984-86 the profit rate declined but then recovered, and a recession did not occur until 1990.

⁷ Over longer time periods it also reflects changes in the desired ratio of capital stock to output as technology changes.

$$\frac{P}{Y} = 1 - \frac{W}{Y} - \frac{T}{Y} \quad (2)$$

where W is total labor compensation and T is taxes. The ratio W/Y is the wage share and T/Y the tax share.⁸

Finally, we decompose the wage share as follows:

$$\frac{W}{Y} = \frac{w_R \times \left(\frac{CPI}{P_Y} \right)}{\frac{Y_R}{N}} \quad (3)$$

where w_R is the real wage per hour, Y_R is real output, N is the number of hours worked, CPI is the consumer price index, and P_Y is the output price index. The ratio Y_R/N is real output per hour, or labor productivity.

The rate of profit is for the nonfinancial corporate business sector. Profit is defined as after-tax profit plus interest payments, and the capital stock is the current-cost net stock of fixed assets.⁹ Figure 3 shows the annual profit rate from 2008 to 2017. After a sharp drop in 2009, the profit rate recovered through 2012-13. It declined from 2013 through 2016, then rose slightly in 2017. We analyze the three periods of profit rate recovery, then decline, and finally slight recovery.

This methodology for analyzing the movements in the rate of profit is based on identities, which can uncover a kind of accounting relationship. For equations 1 and 3, which are multiplicative relations, the sum of percentage changes in the right-side variables must add up approximately to the change in the left-side variable.¹⁰ For example, if the profit share falls by 5% and the profit rate falls by 10% over a period, we can say that the fall in the profit share “accounted for” half of the fall in the profit rate over the period. Equation 2 is an additive identity. The concept of “contribution” is the appropriate one for that equation, where the contribution of a change in a right-side variable to the change in the left-side variable is the percentage points of change in the left-side variable due to the change in the right-side variable.¹¹ The sum of the contributions of the

⁸ Taxes are taxes on production and imports plus taxes on corporate profits.

⁹ It is conventional to put net fixed assets in the denominator of the profit rate, and for consistency this choice requires that the numerator of the profit rate include interest on borrowed funds.

¹⁰ The relationship is approximate because interaction terms for the right-side variables can also account for a small part of the change in the left-side variable.

¹¹ The contribution of a right-side variable over a period is calculated by multiplying the

right-side variables in equation 2 should equal the change in the left-side variable apart from rounding errors.

Table 1 through 3 show the results of the decomposition of the profit rate in each of the three time intervals, which we refer to as periods 1, 2, and 3. Table 1 shows that a rising output-capital ratio made a significant contribution to the 36.7% increase in the profit rate during period 1, which is to be expected as the economy recovers from a deep recession that idles a large part of the capital stock. However, the rising profit rate in that period was mainly accounted for by a 21.1% rise in the profit share. Table 2 shows that a large decline in the wage share provided the entire contribution to the rise in the profit share over that period, since the tax share actually rose. Table 3 shows that in period 1 the declining wage share was entirely accounted for by the combination of a declining real wage and modest growth rate of labor productivity (a slight rise in the price ratio CPI/P_Y worked in the opposite direction). The declining real wage is not surprising given that the unemployment rate had fallen only to 7.4% by 2013 .

The direction of change in the profit rate reversed after 2013, declining through 2016. Table 1 shows that the output-capital ratio declined over that period, which is associated with either the underconsumption or over-investment crisis tendency (Kotz 2009). However, Y/K fell by only 1% while P/Y declined by 8.1%, which indicates that a falling profit share is the main factor underlying the fall in the profit rate. Table 2 shows that a rise in the wage share contributed all of the decline in the profit share in period 2, while a declining tax burden worked in the opposite direction. Table 3 has a surprise about the factors underlying the rise in the wage share in period 2. In 2013-16 the real wage grew only at the modest rate of 1.2% per year, despite the decline in the unemployment rate from 7.4% in 2013 to 4.9% in 2016. The rising wage share was a result of a near-disappearance of growth in labor productivity, which rose at only 0.4% per year in that period. Had labor productivity growth continued at a historically normal rate, the wage share would have fallen rather than rising. This suggests that the declining profit rate during 2013-16 was not a case of the usual reserve-army-based profit squeeze, in which workers, empowered by declining unemployment, are able to increase wages rapidly. Rather, it was an unusual squeeze on the profit rate due to a near-stoppage of labor productivity growth. We will consider a possible explanation for the slowdown in labor productivity growth below.

In the one-year-long period 3, the slight rise in the profit rate is entirely accounted for by a

change in the right-side variable over the period by the ratio of the right-side variable to the left-side variable at the start of the period.

small rise in the output-capital ratio, which outweighed the slight fall in the profit share. The data examined for this study do not shed light on the reasons for the small rise in the output-capital ratio. Substitution of workers for means of production seems an unlikely explanation, given the 2.0% rise in output per labor hour in period 3 (table 3). (Tables 2 and 3 show that the slight fall in the profit share was due to a rise in the wage share, which was in turn accounted for a sharp rise in the ratio CPI/P_Y while labor productivity growth outpaced real wage growth.)

Why was the three-year decline in the profit rate not followed by a recession? A likely explanation is that the profit rate remained relatively high after 2013 compared to past experience in the neoliberal era. The profit rate rebounded strongly in 2010, and in 2012-13 the profit rate of 8.8% equaled the highest rate previously reached in the neoliberal era (in 1997). By 2016 the profit rate had fallen by a modest 9.1%, to 8.0%. In 1990 and 2000 a declining profit rate was followed by a recession, but the profit rate in 1990 was 7.2% and in 2000 6.9%, compared to the 8.0% rate in 2016. In 2007 the profit rate fell to 7.9%, almost the same as in 2016, but the 2008 recession does not appear to have been a consequence of a falling profit rate but rather was set off by a deflating real estate bubble and severe financial crisis (Kotz 2015: chapter 5).

Neoliberal capitalism in the U.S. has continued to keep labor in a very weak bargaining position, perhaps weaker than in the period before the Great Recession. Even an unemployment rate below 4% apparently does not lead to a profit squeeze that would come from an empowered working class. That the expansion has not given rise to the a wage squeeze on profits by empowered workers despite the low unemployment rate may be one factor that explains the long duration of the expansion.

While the profit rate recovered strongly after 2009, the rate of capital accumulation did not. Table 4 provides data on the rate of capital accumulation and the rate of profit during the four expansions following a recession in the neoliberal era. That table shows three measures of each variable: the rate at the business cycle peak, the highest rate during the expansion, and the average rate over the expansion. By all three measures, the rate of profit is highest in the current expansion. However, by all three measures the rate of capital accumulation is the lowest in the current expansion. Figure 4 shows the rate of profit and rate of accumulation from 2007 to 2017. The rate of accumulation did rise with the profit rate after 2009, but it never reached its pre-recession level despite the profit rate rise above its pre-recession level.¹²

¹² Kotz and Basu (2019) found econometric evidence that the usual strong effect of a rise in the profit rate on accumulation weakened significantly after the Great Recession, a result

The sluggish rate of capital accumulation might account for the very slow rate of productivity growth after 2013. Figure 5 shows that nonresidential fixed investment recovered rapidly after 2009 but then stagnated in 2015 and 2016. The tepid rate of investment growth is a possible explanation for the slow productivity growth in 2013-16, although a more thorough analysis of that relation would be needed to draw any firm conclusion.

3. Aggregate Demand

A sustained economic expansion requires sustained growth in aggregate demand. An examination of the growth of the main components of aggregate demand during 2009-17 shows two distinct subperiods, the first from the trough year of 2009 through 2014 and the second from 2014 to 2017.¹³ In the first period investment spending grew much faster than GDP, while consumer spending lagged slightly behind GDP growth, as table 5 shows. Despite the much larger size of consumer spending, investment spending growth contributed 53.3% of GDP growth, almost as large as the 61.8% contribution from consumer spending growth, as table 6 shows. During that subperiod, government spending growth was a drag on GDP growth, as austerity policy starting in 2010 reversed the government stimulus from 2008-09. Net exports also were a drag on GDP growth in the first subperiod.

In the second subperiod of 2014-17, consumer spending growth accelerated from 1.9% per year to 2.7% per year, which was significantly faster than GDP growth. Investment spending slowed to a rate slightly below the GDP growth rate. Government spending growth turned slightly positive in the second subperiod. Table 6 shows that consumer spending growth contributed 81.3% of GDP growth in the second subperiod, with investment and government making small additional contributions.¹⁴ Net exports continued to be a drag on GDP growth.

The GDP growth rate was essentially the same in the two subperiods, and it rounds off to

attributed to the conditions of the structural crisis of neoliberal capitalism since 2008.

¹³ The aggregate demand analysis of growth rates of the components of GDP in this paper uses the GDP price index to deflate the components rather than the price indexes for the individual components. This is justified by the aim of getting a set of component growth rates whose contributions to GDP growth add up to the GDP growth rate. For example, deflating investment spending by the GDP price index yields a growth rate of investment spending that reflects the impact of the increase in the dollars spent on investment on GDP growth. That measure of investment spending growth has two components, the increase in real investment spending (deflated by the investment price index) and the change in the ratio of the investment price index to the GDP price index.

¹⁴ Almost all of the contribution of rising government spending from 2014-17 was due to state and local government spending growth.

2.2% over the whole expansion of 2009-17. The data suggest that a significant uptick in consumer spending five years into the expansion played the main role on the demand side in prolonging the expansion at a steady, if slow, rate of growth. On the surface, this is similar to the pattern of the long expansion of 1991-2000. In that decade, after 7 years of expansion an acceleration of consumer spending growth, stimulated by a huge stock market bubble, prolonged the expansion for 3 more years until the stock market bubble burst in 2000, bringing the expansion to an end (Kotz 2003).

There are two differences between the 1990s and 2010s expansions. First, the 1990s expansion was faster overall: For the last five years of that expansion GDP grew at 4.1% per year, and in the last three years consumer spending rose at the very high rate of 4.9% per year (Kotz 2003). Second, the role of consumer spending in leading rapid economic growth in the late 1990s was a result of a large asset bubble on the stock market. In the current economic expansion GDP growth has been sluggish, at 2.2% per year. The acceleration of consumer spending growth did not lead to an acceleration of GDP growth, as it did in the 1990s, but rather it prolonged the steady expansion in the face of declining investment spending growth. Also, the acceleration of consumer spending growth after 2014 was not due to the effect of an asset bubble, since, as was noted above, despite the modest asset bubbles in real estate and the stock market, household debt has declined relative to disposable income and consumer spending has not risen relative to disposable income since 2009.

If neoliberal capitalism in the U.S. has lost its previous demand-side motor of debt-fueled consumer spending, what explains the increase in the growth rate of consumer spending to 2.7% after 2014? It appears to mainly result from faster growth in disposable income in subperiod 2. Table 7 shows that the growth rate in real disposable income increased from 2.1% per year in 2009-14 to 2.5% per year in 2014-17. The faster growth in disposable personal income partly reflected faster growth in real wage income in subperiod 2.¹⁵ Adding the real hourly wage growth rate of 1.1% per year to the growth rate in hours worked of 1.9% per year gives a growth rate in pre-tax wage income of 3.0% per year in subperiod 2, which exceeds the 2.7% growth rate in consumer spending in subperiod 2. Thus, a steady rate of increase in hours worked over the

¹⁵ The real wage reported in table 7 is different from the real wage in table 3. The former is for the entire private sector while the latter is for the nonfinancial corporate business sector only. Also, the data for the two tables comes from different U.S. government agencies that may have differences in methodology of data construction.

expansion combined with a modest increase in real wage growth in subperiod 2 appears to have contributed to faster growth in consumer spending after 2014. Thus, once the early high rate of investment spending subsided after 2014, consumer spending growth compensated for the low rate of investment spending growth to maintain a 2.2% GDP growth rate, as expanding employment plus modestly rising real wages provided sufficient disposable income growth to meet the demand requirement for a continuing economic expansion.¹⁶

The roles of consumer spending, investment spending, and government spending have been quite different in the neoliberal era as a whole compared to their roles in the era of regulated capitalism in the U.S. Table 8 shows the growth rates of those components of aggregate demand over the regulated capitalist era of 1948-79 and the neoliberal era of 1979-2017. In the regulated capitalist era investment spending and government spending led GDP growth while consumer spending growth lagged behind. In the neoliberal era the relation reversed, with consumer spending growth leading GDP growth while investment spending and government lagged behind.¹⁷

4. Concluding Comments

No economic expansion in a capitalist economy lasts forever. At some point expansion will be interrupted by a recession. However, at this time there is no likelihood of a repeat of the Financial Crisis and Great Recession of 2008-09. The conditions that give rise to a severe financial crisis do not appear to be present in the U.S. The huge stock of high-risk derivative securities that had accumulated in the major financial institutions were acquired by the authorities. The Dodd-Frank bill, although a limited reform, has imposed some new regulatory requirements on the banks that discourage the kinds of activities that brought the 2008 financial crisis. There have been reports of new types of speculative activities by financial institutions, but they do not seem to be on a scale that could bring a system-wide financial crisis. There is not a large enough asset bubble in the economy to threaten a severe recession when it deflates. The level of household debt is well below its 2007 peak.

Predicting the timing and the cause of the next recession is a hazardous business. At the time of this writing, it appears that the biggest threat to the expansion is President Trump's trade

¹⁶ A more definitive explanation of the acceleration in consumer spending growth after 2014 requires further research.

¹⁷ Table 8 also shows the significantly faster GDP growth in the regulated capitalist era compared to the neoliberal era in the U.S. An investigation into the reasons for that difference is beyond the scope of this paper, which is concerned with the dynamics of the current long economic expansion.

war, particularly the aspect of it that is directed at China. Given the high degree of global integration of production today, the trade war is causing a great deal of uncertainty for corporate decision-makers about investment decisions. This might cause a major decline in business fixed investment, as companies decide to wait before making commitments.

The most serious problem of the macroeconomy in the U.S. today is not the likelihood of a recession arriving soon but rather the persistent stagnation since 2008. The expansion since 2009 has the slowest rate of GDP growth of any expansion since the beginning of the regulated capitalist era in the late 1940s, as figure 6 shows. This indicates that neoliberal capitalism is stuck in its structural crisis phase, a condition that can be overcome within capitalism only by the construction of a new institutional form of capitalism. However, there is no sign yet of the emergence of a viable new institutional structure for U.S. capitalism.

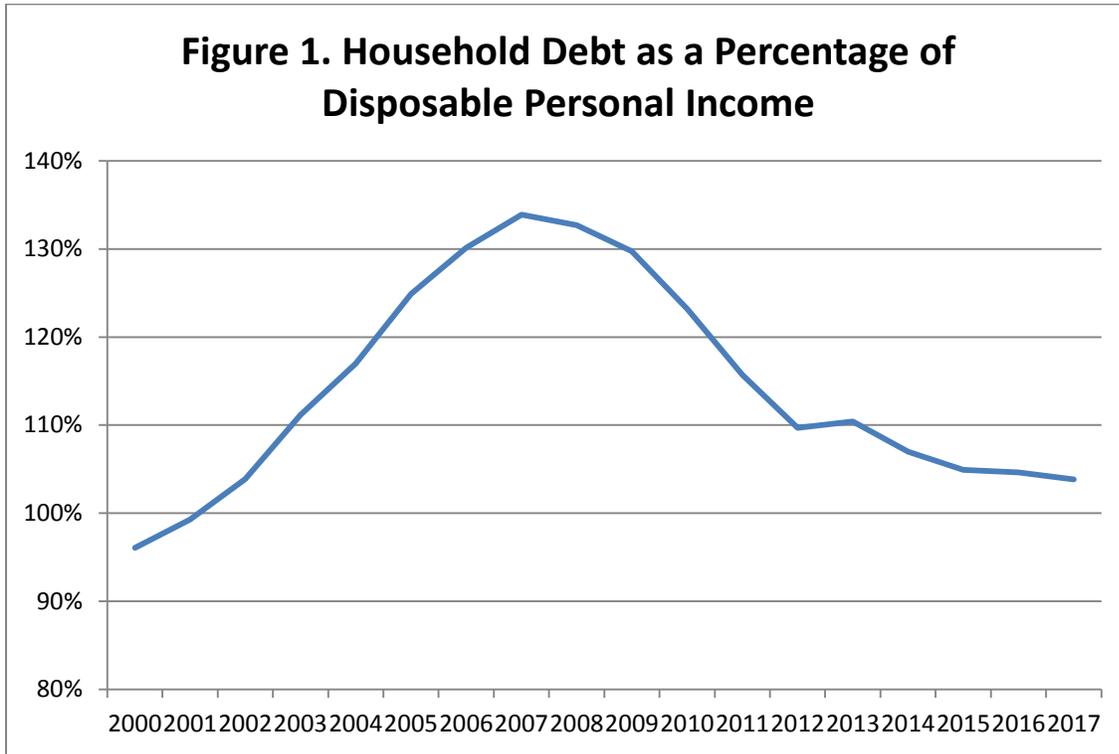
Note about Citation of Sources

Data for the figures and tables are from the Bureau of Economic Analysis, Bureau of Labor Statistics, and Board of Governors of the Federal Reserve. All data were downloaded in 2018. For data from the Bureau of Economic Analysis, NIPA stands for National Income and Product Accounts. Detailed information about data sources and the data analysis methodology are available from the author upon request.

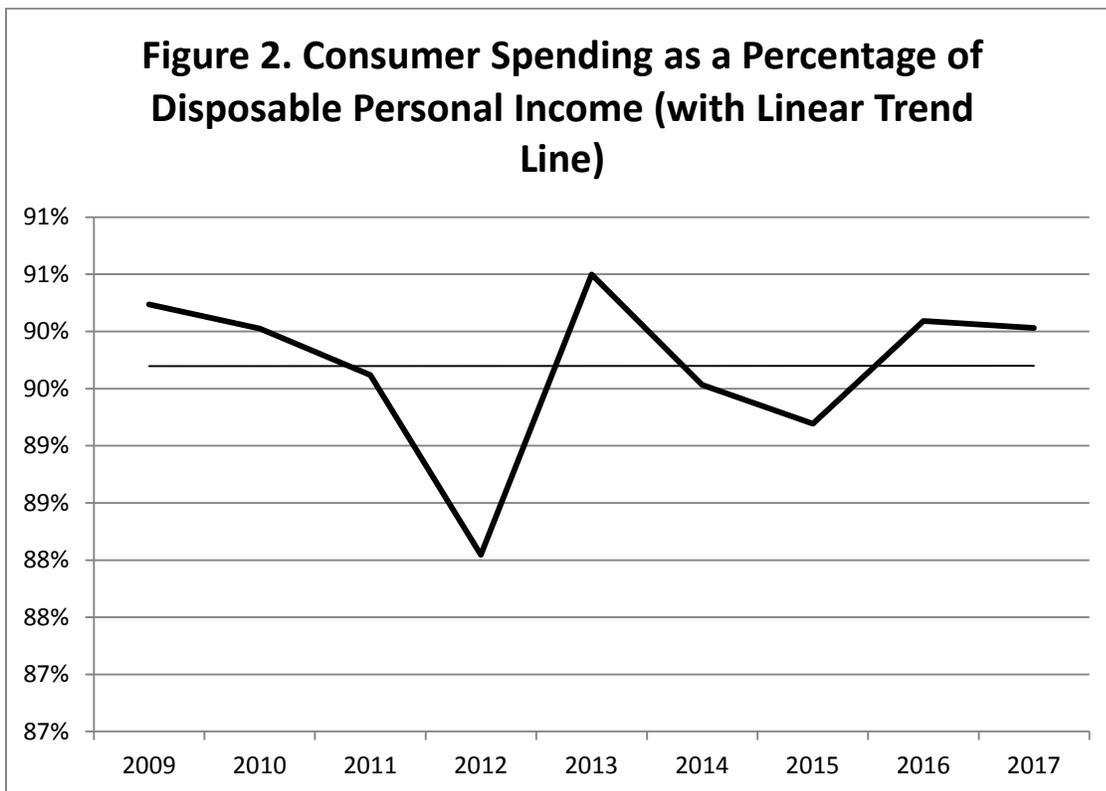
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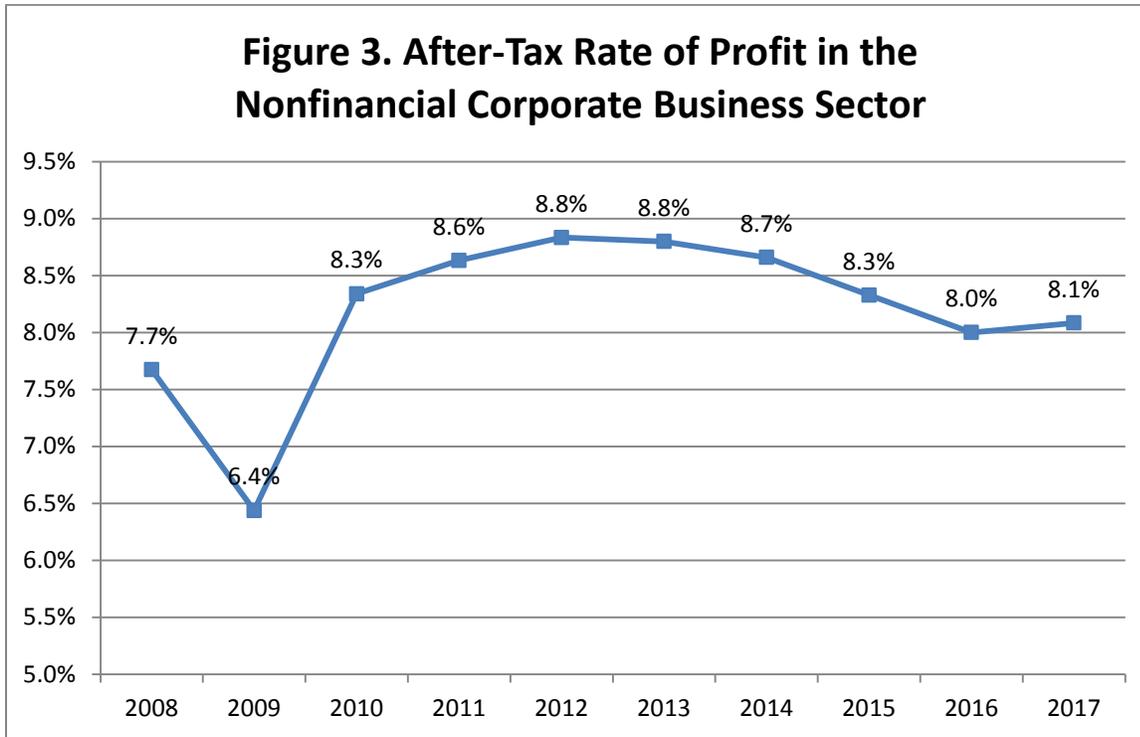
Figures and Tables



Source: Board of Governors of the Federal Reserve System.

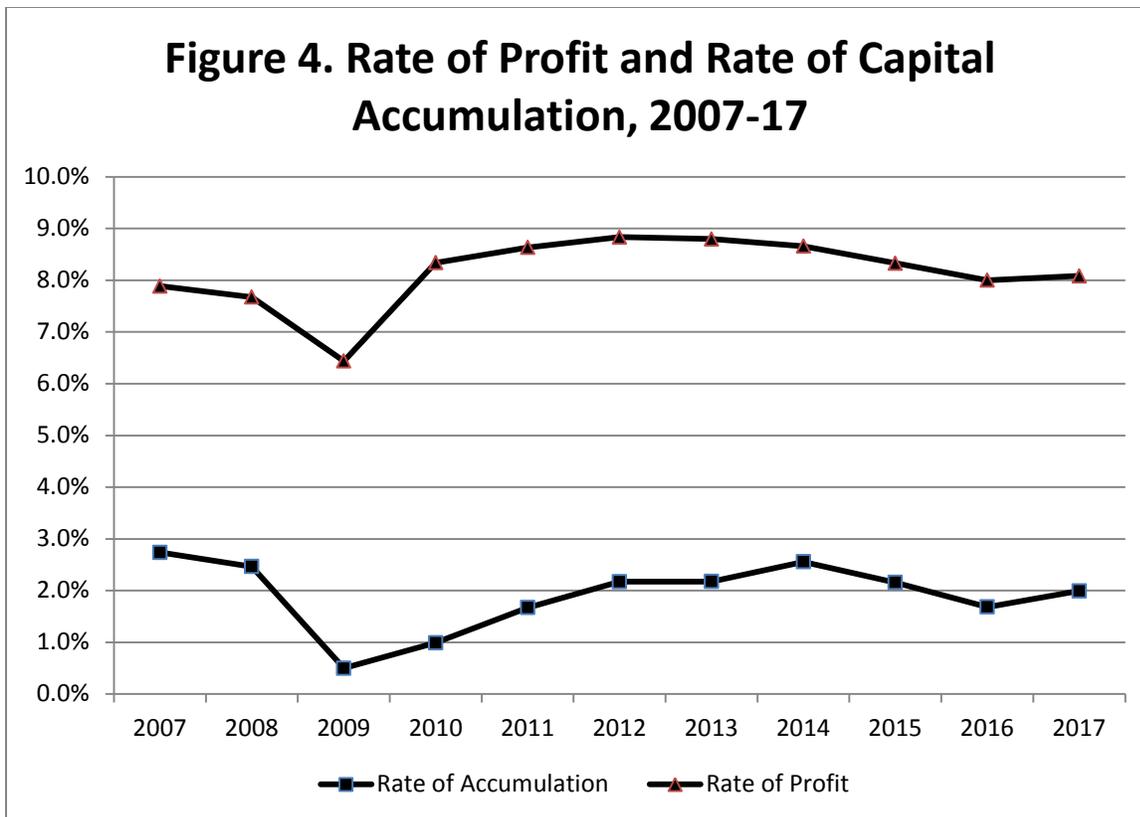


Source: NIPA Table 2.1, 2018



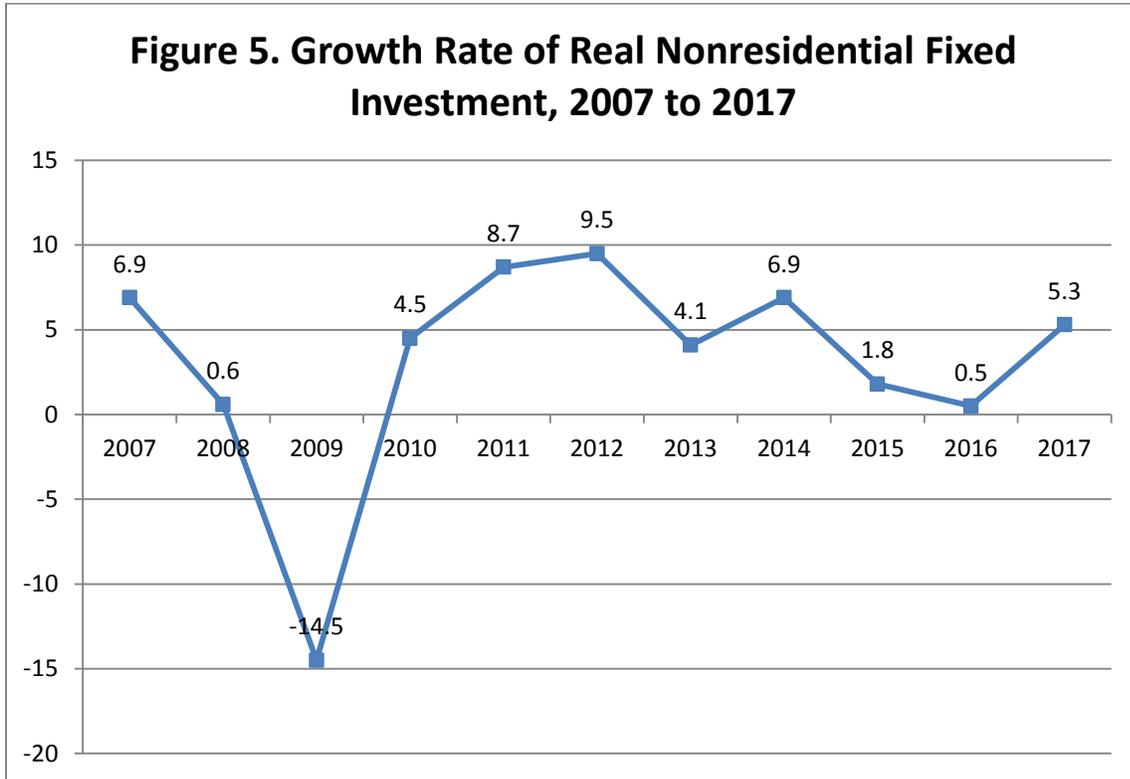
Source: NIPA table 1.14, Fixed Assets table 4.1.

Note: The rate of profit is corporate profit after tax plus interest paid divided by net fixed assets.

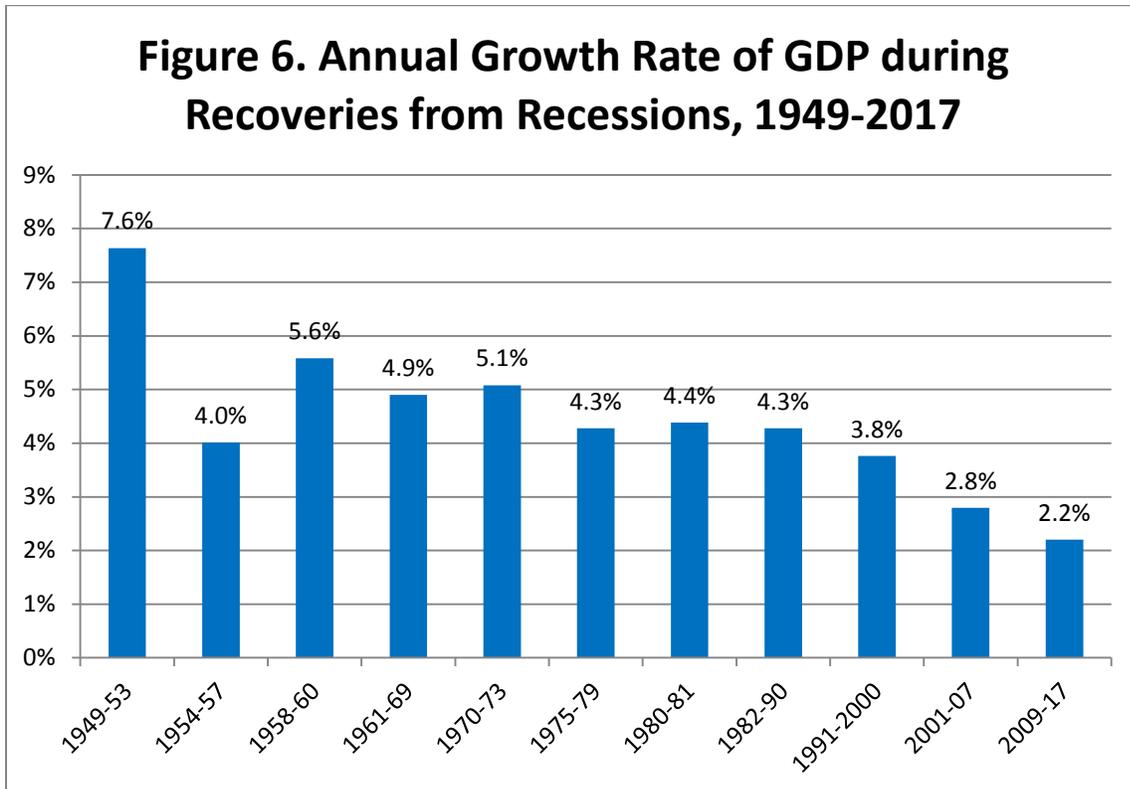


Source: NIPA table 1.14, Fixed Assets tables 4.1, 4.4, 4.7.

Note: The rate of capital accumulation net fixed investment divided by net fixed assets.



Source: NIPA table 1.1.1.



Source: BEA table 1.1.6

Note: Calculated from quarterly data.

Table 1. Change in the Rate of Profit and its Components
(Percentage Change over the interval)

Period	Rate of Profit	P/Y	Y/K
1) 2009-13	36.7%	21.1%	12.8%
2) 2013-16	-9.1%	-8.1%	-1.0%
3) 2016-17	1.1%	-1.0%	2.0%

Source: NIPA T 1.14, Fixed Assets Table 4.1.

Table 2. Contributions to the Change in the Profit Share

Period	W/Y	T/Y
1) 2009-13	27.5%	-5.4%
2) 2013-16	-12.9%	3.1%
3) 2016-17	-2.5%	2.8%

Source: NIPA table 1.14.

Note: The rows do not add exactly to the change in P/Y because business transfer payments have been omitted.

Table 3. Annual Rate of Change in the Wage Share and its Components

Period	W/Y	w _R	Y _R /N	CPI/P _Y
1) 2009-13	-1.4%	-0.1%	1.7%	0.3%
2) 2013-16	1.1%	1.2%	0.4%	0.3%
3) 2016-17	0.6%	1.3%	2.0%	1.2%

Source: NIPA table 1.14, 6.9D; Bureau of Labor Statistics.

Table 4. The Rate of Profit and the Rate of Accumulation

	Rate of Profit			Rate of Accumulation		
	peak	highest	average	peak	highest	Average
1983-90	7.2%	8.5%	7.6%	2.5%	3.6%	2.6%
1992-2000	6.9%	8.8%	7.7%	4.5%	4.5%	3.4%
2002-07	7.9%	8.7%	7.9%	2.7%	2.7%	2.1%
2010-17	8.1%	8.8%	8.5%	2.0%	2.6%	1.9%

Source: NIPA tables 1.14, Fixed Assets tables 4.1, 4.4, 4.7

Note: Peak values are for the business cycle expansion peak year, or for the last year for 2010-17.

Table 5. Growth Rates of GDP and its Main Components

	2009-14	2014-17
GDP	2.1%	2.2%
Consumer Expenditure	1.9%	2.7%
Investment Expenditure	7.6%	2.1%
Government Expenditure	-1.1%	0.8%

Source: NIPA T1.1.5, 1.1.4.

Note: All of the growth rates were calculated by deflating nominal values using the GDP price index.

Table 6. Contribution Shares for the Growth of GDP

	2009-14	2014-17
Consumer expenditure	61.8%	81.3%
Investment expenditure	53.3%	16.4%
Government expenditure	-10.7%	6.2%
Net exports	-4.3%	-4.0%
All expenditure	100.0%	100.0%

Source: NIPA T1.1.5, 1.1.4.

Note: The contribution share of a component is the change in the component as a percentage of the change in GDP over the period.

Table 7. Annual Growth Rates of Consumer Expenditure and Related Variables

	2009-14	2014-17
Consumer Expenditure	1.9%	2.7%
Disposable Personal Income	2.1%	2.5%
Real wage in the Private Sector	0.2%	1.1%
Hours worked in the Private Sector	1.9%	1.9%

Source: NIPA table 1.1.5, 1.1.4, 2.1, Bureau of Labor Statistics.

Note: Consumer expenditure, disposable income, and wages are deflated using the GDP price index.

Table 8. Annual Growth Rate of Components of GDP under Two Regimes

	1948-79	1979-2017
GDP	3.8%	2.6%
Consumer Expenditure	3.6%	2.9%
Investment Expenditure	4.2%	2.1%
Government Expenditure	4.6%	2.2%

Source: NIPA table 1.1.5, 1.1.4.

Note: All components are deflated using the GDP price index.