## Table Of Contents

<table>
<thead>
<tr>
<th>Predicting Business Cycles</th>
<th>1-27</th>
</tr>
</thead>
</table>
Figure 1.

REAL GDP
(trillion 2012 dollars, saar, ratio scale)

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Bureau of Economic Analysis.

Figure 2.

REAL GDP
(quarterly percent change, saar)

Note: Business cycle peaks (P) and troughs (T) according to the National Bureau of Economic Research.
Source: Bureau of Economic Analysis.
Figure 3.

US NOMINAL GDP (yearly percent change)

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Bureau of Economic Analysis.

Figure 4.

CORPORATE AFTER-TAX PROFITS REPORTED TO IRS* (yearly percent change)

* After-tax profits as reported to IRS, excluding IVA and CCAdj
Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Bureau of Economic Analysis.
Predicting Business Cycles

Figure 5.

S&P 500 & RECESSIONS (ratio scale)

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Standard & Poor’s.

Figure 6.

S&P 500 BULL & BEAR MARKETS & THE BUSINESS CYCLE (monthly, ratio scale)

Note: Shaded green areas denote S&P 500 bull markets, while red areas are bear market declines of 20% or more. Business cycle peaks (P) and troughs (T) according to the National Bureau of Economic Research.
Source: Standard & Poor’s.
Predicting Business Cycles

**Figure 7.**

US TREASURY 10-YEAR BOND YIELD (percent, weekly)

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Federal Reserve Board.

**Figure 8.**

INVESTMENT-GRADE CORPORATE BOND YIELD MINUS US TREASURY 10-YEAR BOND YIELD* (basis points)

* Corporate bond yield is average of Moody’s Aaa and Baa yields through 1996, then average of BoA Merrill Lynch data for AA-AAA and BBB-A yields.
Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Federal Reserve Board and Haver Analytics.
Figure 9.

COMPONENTS OF COINCIDENT ECONOMIC INDICATORS (ratio scale)

Payroll Employment (millions, sa)

Real Personal Income Less Transfer Payments (trillion 2012 dollars, saar)

Manufacturing & Trade Sales (billion 2012 dollars)

Industrial Production 2012=100, sa

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Predicting Business Cycles

Figure 10.

COINCIDENT ECONOMIC INDICATORS
(2016=100, sa, ratio scale)

Aug

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Conference Board.

Figure 11.

REAL GDP & COINCIDENT ECONOMIC INDICATORS
(yearly percent change)

CEI
Real GDP

Aug

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Bureau of Economic Analysis and Conference Board.
Figure 12.

REAL GDP: GOODS
(trillion 2012 dollars, saar, ratio scale)

Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Bureau of Economic Analysis.

Figure 13.

REAL GDP: SERVICES
(trillion 2012 dollars, saar, ratio scale)

Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Bureau of Economic Analysis.
LEADING & COINCIDENT ECONOMIC INDICATORS
(2016=100, sa, ratio scale)

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Conference Board.

RATIO LEADING TO COINCIDENT ECONOMIC INDICATORS

Note: Shaded areas denote recessions according to the National Bureau of Economic Research
Source: Conference Board.
Figure 16. ADP NONFARM PRIVATE PAYROLL EMPLOYMENT BY COMPANY SIZE
(millions, sa)

Company Size (by employees)
- Small (1-49)
- Medium (50-499)
- Large (over 500)

Source: ADP.

Figure 17. ADP NONFARM PRIVATE PAYROLL EMPLOYMENT BY COMPANY SIZE*
(as a percent of total ADP payrolls)

Company Size (by employees)
- Small
- Medium
- Large

* Company size by employees: Small (1-49), Medium (50-499), and Large (over 500).

Source: ADP.
Predicting Business Cycles

Figure 18.
NFIB SMALL BUSINESS SURVEY: EARNINGS & EMPLOYMENT PLANS
(12-month average percent)

Earnings Over Past 3 Months* (higher minus lower)
Expecting To Increase Employment* (next 3 months)

* First month of every quarter from 1974 to 1986, then 12-month average.
Source: National Federation of Independent Business.

Figure 19.
NFIB SMALL BUSINESS SURVEY: EARNINGS & CAPITAL SPENDING PLANS
(12-month average, percent)

Earnings Over Past 3 Months* (higher minus lower)
Capital Spending Plans* (next 3 to 6 months)

* First month of every quarter from 1974 to 1986, then 12-month average.
Source: National Federation of Independent Business.
Predicting Business Cycles

Figure 20.

CORPORATE AFTER-TAX PROFITS REPORTED TO IRS*
(billion dollars, saar, ratio scale)

* Excluding Inventory Valuation Adjustment and Capital Consumption Adjustment.
Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Bureau of Economic Analysis.

Figure 21.

PAYROLL EMPLOYMENT EX GOVERNMENT EMPLOYMENT &
CORPORATE AFTER-TAX PROFITS
(ratio scale)

* Excluding Inventory Valuation Adjustment and Capital Consumption Adjustment.
Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Predicting Business Cycles

Figure 22.

CORPORATE PROFITS MARGIN IN GDP*
(after-tax profits as a percent of nominal GDP)

* Using after-tax corporate profits reported to IRS. Excluding Inventory Valuation Adjustment and Capital Consumption Adjustment.

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.

Source: Bureau of Economic Analysis.

Figure 23.

AFTER-TAX CORPORATE PROFIT MARGIN & COSTS

Compensation of Employees Plus Private Fixed Investment
(as a percent of nominal GDP)

Corporate Profits After Tax*
(as a percent of nominal GDP)

* After-tax tax profits reported to IRS (excluding Inventory Valuation Adjustment and Capital Consumption Adjustment).

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.

Source: Bureau of Economic Analysis.
**Figure 24.**

**RESOURCE UTILIZATION RATE* (percent)**

*Average of all industries’ capacity utilization rate and employment rate, i.e., percentage of labor force that is employed.

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.

Source: Bureau of Labor Statistics and Federal Reserve Board.

**Figure 25.**

**RESOURCE UTILIZATION RATE COMPONENTS (percent)**

*Percentage of labor force that is employed.

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.

Source: Bureau of Labor Statistics and Federal Reserve Board.
Predicting Business Cycles

Figure 26.

CORPORATE PROFITS MARGIN IN GDP* & RESOURCE UTILIZATION RATE
(after-tax profits as a percent of nominal GDP)

* After-tax profits reported to IRS (excluding Inventory Valuation Adjustment and Capital Consumption Adjustment).

** Average of all industries’ capacity utilization rate and employment rate, i.e., percentage of labor force that is employed.

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.

Figure 27.

LEI / CEI vs. RESOURCE UTILIZATION RATE

* Average of all industries’ capacity utilization rate and employment rate, i.e., percentage of labor force that is employed.

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
**Figure 28.**

*S&P 500 FORWARD EARNINGS & AGGREGATE WEEKLY HOURS*  
(yearly percent change)

- * Forward Earnings*
- Aggregate Weekly Hours**

* Time-weighted average of consensus operating earnings estimates for current and next year.  
** Production & nonsupervisory employees.  
Source: Bureau of Labor Statistics and Thomson Reuters I/B/E/S.

**Figure 29.**

*S&P 500 FORWARD EARNINGS & REAL CAPITAL SPENDING*  
(yearly percent change)

- Forward Earnings*
- Real Capital Spending**

** Nonresidential fixed investment in real GDP.  
Source: Bureau of Economic Analysis and Thomson Reuters I/B/E/S.
Predicting Business Cycles

Figure 30.

COINCIDENT ECONOMIC INDICATORS: RECOVERIES & EXPANSIONS*
(2016=100, sa, ratio scale)

* Red horizontal lines span cyclical peaks through subsequent cyclical recoveries. Green horizontal lines are expansion periods following recoveries. Source: Conference Board, Haver Analytics, and YRI calculations.

Figure 31.

PERSONAL CONSUMPTION EXPENDITURES IN REAL GDP: TOTAL
(billion 2012 dollars, saar, ratio scale)

Note: Shaded areas denote recessions according to the National Bureau of Economic Research. Source: Bureau of Economic Analysis.
**Figure 32.**

PERSONAL CONSUMPTION EXPENDITURES IN REAL GDP: DURABLE GOODS
(billion 2012 dollars, saar ratio scale)

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Bureau of Economic Analysis.

**Figure 33.**

CONSUMER CREDIT
(billion dollars outstanding, nsa)

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Federal Reserve Board.
Figure 34.

**HOUSING STARTS**
(million units, saar)

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Census Bureau.

Figure 35.

**PRIVATE RESIDENTIAL INVESTMENT IN REAL GDP**
(billion 2012 dollars, saar, ratio scale)

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Bureau of Economic Analysis.
Figure 36.

UNEMPLOYMENT RATE
(percent, sa)

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.

Figure 37.

PRIVATE NONRESIDENTIAL FIXED INVESTMENT IN REAL GDP
(trillion 2012 dollars, saar, ratio scale)

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Bureau of Economic Analysis.
Predicting Business Cycles

Figure 38.

REAL BUSINESS INVENTORIES-TO-SALES RATIO

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Census Bureau.

Figure 39.

INVENTORY INVESTMENT IN REAL GDP (billion 2012 dollars, saar)

Note: Business cycle peaks (P) and troughs (T) according to the National Bureau of Economic Research.
Source: Bureau of Economic Analysis.
Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Federal Reserve Board.
Figure 42. 

FEDERAL FUNDS RATE & BUSINESS CYCLE (percent, weekly)

Note: Shaded areas denote recessions according to the National Bureau of Economic Research. 
Source: Federal Reserve Board.

Figure 43. 

FEDERAL FUNDS RATE & FINANCIAL CRISSES (percent, weekly)

Note: Blue shaded areas denote periods of monetary easing between cyclical peaks and troughs in the federal funds rate. Red shaded areas denote monetary tightening periods. 
Source: Federal Reserve Board.
Figure 44.

US YIELD CURVE* & BUSINESS CYCLE (basis points, weekly)

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Federal Reserve Board.

* 10-year US Treasury yield less federal funds rate.

Figure 45.

US YIELD CURVE* & FINANCIAL CRISES (basis points, weekly)

* US Treasury 10-year bond yield less federal funds rate.
Source: Federal Reserve Board.
Figure 46.

US FEDERAL GOVERNMENT EXPENDITURES & RECEIPTS
(as a percent of nominal GDP)

Expenditures
Receipts

Q2

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Bureau of Economic Analysis.

Figure 47.

US FEDERAL GOVERNMENT BUDGET DEFICIT
(as a percent of nominal GDP)

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Bureau of Economic Analysis.
Figure 48. US FEDERAL GOVERNMENT OUTLAYS (as a percent of nominal GDP)

Source: US Treasury Department and Bureau of Economic Analysis.

Figure 49. US FEDERAL GOVERNMENT OUTLAYS (as a percent of total outlays)

Source: US Treasury Department.
Predicting Business Cycles

Figure 50.

DEBT OF FINANCIAL SECTORS
(as a percent of total debt)

Source: Federal Reserve Board.

Figure 51.

US DEBT
(as a percent of nominal GDP)

Debt/GDP
Total
Nonfinancial
Financial

Source: Federal Reserve Board Financial Accounts of the United States.
GDP, GDI, & NATIONAL INCOME
(trillion dollars, saar, ratio scale)

Gross Domestic Product
Gross Domestic Income*
National Income

* GDI is Gross Domestic Income, which equals National Income plus Consumption of Fixed Capital
Source: Bureau of Economic Analysis.

GDP LESS GDI: STATISTICAL DISCREPANCY*
(billion dollars, saar)

* GDI is Gross Domestic Income, which equals National Income plus Consumption of Fixed Capital.
Source: Bureau of Economic Analysis.