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

* Excluding food and energy.

Figure 3.
WEST TEXAS INTERMEDIATE CRUDE OIL PRICE
1967-1984
(dollars per barrel, monthly, ratio scale)

* Shaded areas denote recessions according to the National Bureau of Economic Research. Monthly from 1946 to 1984, daily thereafter.
Source: Haver Analytics.

Figure 4.
US CONSUMER PRICE INDEX &
AVERAGE HOURLY EARNINGS: 1967-1984
(yearly percent change)

* Production & nonsupervisory workers.
Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Figure 5.

**AVERAGE HOURLY EARNINGS***
(yearly percent change)

* Production & nonsupervisory workers.

Note: T = President Reagan fires members of PATCO on August 5, 1981. Shaded areas denote recessions according to the National Bureau of Economic Research.


Figure 6.

**UNION MEMBERS**
(as a percent of private wage & salary employment)

Figure 7. AGE WAVE & INFLATION

* Percent of labor force 16-34 years old.
** Five-year percent change in CPI at annual rate.

Figure 8. PRODUCTIVITY: NONFARM BUSINESS
(20-quarter percent change, annual rate)

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
**Figure 9.**

**GDP IMPLICIT PRICE DEFLECTORS**

(2012=100)

Source: Bureau of Economic Analysis.

**Figure 10.**

**RETAIL SALES: GENERAL MERCHANDISE STORES (GMS) & ONLINE SHOPPING**

(as percent of total In-Store + Online GAFO*)

Percent of Total GAFO*

- Online**
- GMS: Warehouse Clubs & Super Stores
- GMS: Department Stores & Others

* GAFO (general merchandise, apparel and accessories, furniture, and other sales) includes retailers that specialize in department-store types of merchandise such as furniture & home furnishings, electronics & appliances, clothing & accessories, sporting goods, hobby, book, and music, general merchandise, office supply, stationery, and gift stores.

** Electronic shopping and mail order houses.

Source: Census Bureau and Haver Analytics.
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Figure 11.
US CONSUMER PRICE INDEX*: 1800-1947

* Annual data. Base index from 1800 to 1947 is 1967 = 100.

Figure 12.
CONSUMER PRICE INDEX: ADVANCED ECONOMIES (yearly percent change)

Source: IMF.
Figure 13.
CONSUMER PRICE INDEX: JAPAN
(yearly percent change)

Source: Haver Analytics.

Figure 14.
CONSUMER PRICE INDEXES: DURABLE GOODS
(percent change)

Figure 15.

**CHINA: PRODUCER PRICE INDEX**
(yearly percent change)

Source: China National Bureau of Statistics.

Figure 16.

**CHINA: CONSUMER PRICE INDEX**
(yearly percent change)

Source: Haver Analytics.
Figure 17.

OUTPUT GAP: ACTUAL DIVIDED BY POTENTIAL REAL GDP (percent)

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

Figure 18.

RESOURCE UTILIZATION RATE & OUTPUT GAP (percent)

* Average of all industries’ capacity utilization rate and employment rate, i.e., percentage of labor force that is employed.
** Actual divided by potential real GDP in percent.
Figure 19.
NON-ACCELERATING INFLATION RATE OF UNEMPLOYMENT (NAIRU):
ESTIMATED & PROJECTED
(.percent)

Source: Congressional Budget Office.

Figure 20.
NAIRU* MINUS UNEMPLOYMENT RATE
(percent)

* Non-accelerating inflation rate of unemployment.
Source: Congressional Budget Office.

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Figure 21.

US MONEY MULTIPLIER
(M2 as a ratio of Monetary Base)

Source: Federal Reserve Board.

Figure 22.

M2 VELOCITY
(Nominal GDP as a ratio of M2)

Source: Federal Reserve Board.
WAGE INFLATION & UNEMPLOYMENT RATE
(using average hourly earnings)

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Hourly Earnings* (yearly percent change)</th>
<th>Unemployment Rate (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>Appliance &amp; nonsupervisory workers.</td>
<td></td>
</tr>
</tbody>
</table>

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

UNEMPLOYMENT RATES
(percent, sa)

* Total number of people working part time for economic reasons as percent of civilian labor force.
** Unemployed plus marginally attached
Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
**JOB OPENINGS: NATIONAL & SMALL BUSINESS (percent, 3-month average)**

* The job openings rate is the job openings level as a percent of total employment plus job openings level.
** First month of every quarter from 1974 to 1986, then monthly.

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

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**NFIB SMALL BUSINESS SURVEY: JOB OPENINGS & UNEMPLOYMENT RATE**

* First month of every quarter from 1974 to 1986, then monthly.

Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
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Figure 27. WAGE INFLATION & SMALL BUSINESS JOB OPENINGS

Average Hourly Earnings* (yearly percent change)

NFIB: Small Business with Job Openings** (percent, 3-month average, 12 months ahead)

* Production & nonsupervisory workers
** First month of every quarter from 1974 to 1986, then monthly.
Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
Source: Bureau of Economic Analysis and National Federation of Independent Business.

Figure 28. QUITTS RATE & CONSUMER CONFIDENCE INDEX

Quits Rate* (percent, sa)
Consumer Confidence Index (1985=100, sa)

* Private industry.
Figure 29.
TOTAL UNEMPLOYED AS RATIO OF JOB OPENINGS


Figure 30.
NFIB SMALL BUSINESS SURVEY: JOB OPENINGS & QUALIFIED APPLICANTS
(percent, sa)

Percent Small Business
- With Few or no qualified applicants for job openings
- With Job Openings

* First month of every quarter from 1974 to 1986, then monthly.
Source: National Federation of Independent Business.
Figure 31.

AVERAGE HOURLY EARNINGS (yearly percent change)

Average Hourly Earnings
- Private Industry (7.9)
- Production & Nonsupervisory Workers (7.7)

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

Figure 32.

AVERAGE HOURLY EARNINGS: MANUFACTURING* (yearly percent change)

* Production & nonsupervisory workers.
Note: Shaded areas denote recessions according to the National Bureau of Economic Research.
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Figure 33.

EMPLOYMENT COST INDEX: PRIVATE INDUSTRY
(yearly percent change)

Employment Cost Index
- Total Compensation
- Wages & Salaries
- Benefits


Figure 34.

AVERAGE HOURLY EARNINGS & EMPLOYMENT COST INDEX (ECI)
(yearly percent change)

- Average Hourly Earnings*
- ECI Wages & Salaries**

* Production and nonsupervisory workers.
** All private industry.
Figure 35.
HOURLY COMPENSATION & AVERAGE HOURLY EARNINGS (yearly percent change)

Hourly Compensation: Nonfarm Business
AHE: Production & Nonsupervisory Workers


Figure 36.
HOURLY COMPENSATION & EMPLOYMENT COST INDEX (yearly percent change)

Hourly Compensation: Nonfarm Business
ECI: Private Industry Workers

ATLANTA FED’S MEDIAN WAGE GROWTH TRACKER
(yearly percent change)

Wage Growth Tracker*
Average Hourly Earnings**

* Three-month moving average of median wage growth.
** Production & Nonsupervisory Workers.

ATLANTA FED’S MEDIAN WAGE GROWTH TRACKER*
(yearly percent change)

Job Switcher
Job Stayer

* Three-month moving average of median wage growth.
*Excluding food and energy.

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

Figure 41.

CONSUMER PRICE INDEX: JAPAN
(Yearly percent change)

CPI Inflation
- Headline (0.4)
- Core* (0.3)

BOJ's Inflation Target

* Excluding energy, food, alcohol.
Source: Ministry of Internal Affairs and Communications.

Figure 42.

CONSUMER PRICE INDEX: EUROZONE
(Yearly percent change)

CPI Inflation
- Headline
- Core*

ECB's Inflation Target

* Excluding energy and unprocessed food.
Source: Haver Analytics.
Figure 43.

PERSONAL CONSUMPTION EXPENDITURES DEFLATORS
(yearly percent change)

PCED
- Headline
- Core*

Fed’s Inflation Target
Mar

* Excluding food and energy prices
Source: Bureau of Economic Analysis.

Source: Federal Reserve Board and Standard & Poor’s.
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**Figure 45.**

CONSUMER PRICE INDEX & PERSONAL CONSUMPTION EXPENDITURES
(indexed 1959 =100, ratio scale)

Headline
- Consumer Price Index
- Personal Consumption Expenditures Deflator


**Figure 46.**

CONSUMER PRICE INDEX & PERSONAL CONSUMPTION EXPENDITURES
(indexed 1959 =100, ratio scale)

Ex Food & Energy
- Consumer Price Index
- Personal Consumption Expenditures Deflator

Figure 47.

CONSUMER PRICES
(yearly percent change)

Headline Inflation
- CPI
- PCED*

* Personal consumption expenditures deflator.

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Figure 48.

CONSUMER PRICES
(yearly percent change)

Core Inflation*
- CPI
- PCED**

* Excluding food and energy.
** Personal consumption expenditures deflator.

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Predicting Inflation

Figure 49.

CONSUMER PRICE INDEX
(yearly percent change)

CPI Inflation
- Red: Rent of Shelter
- Blue: Core Excluding Shelter


Figure 50.

CONSUMER PRICES
(yearly percent change)

Medical Care Services
- Blue: CPI
- Red: PCED*

* Personal consumption expenditures deflator.
**Figure 51.**

CONSUMER PRICES
(yearly percent change)

Consumer Durable Goods

- CPI
- PCED*

* Personal consumption expenditures deflator.

**Figure 52.**

PERSONAL CONSUMPTION EXPENDITURES DEFLATOR
(yearly percent change)

Core PCED

- Official
- Market Based*

* Market-based PCE is a supplemental measure that is based on household expenditures for which there are observable price measures. It excludes most implicit prices (for example, financial services furnished without payment) and the final consumption expenses of nonprofit institutions serving households.
Source: Bureau of Economic Analysis.