

## Statistical Indicators of Business-Cycle Changes

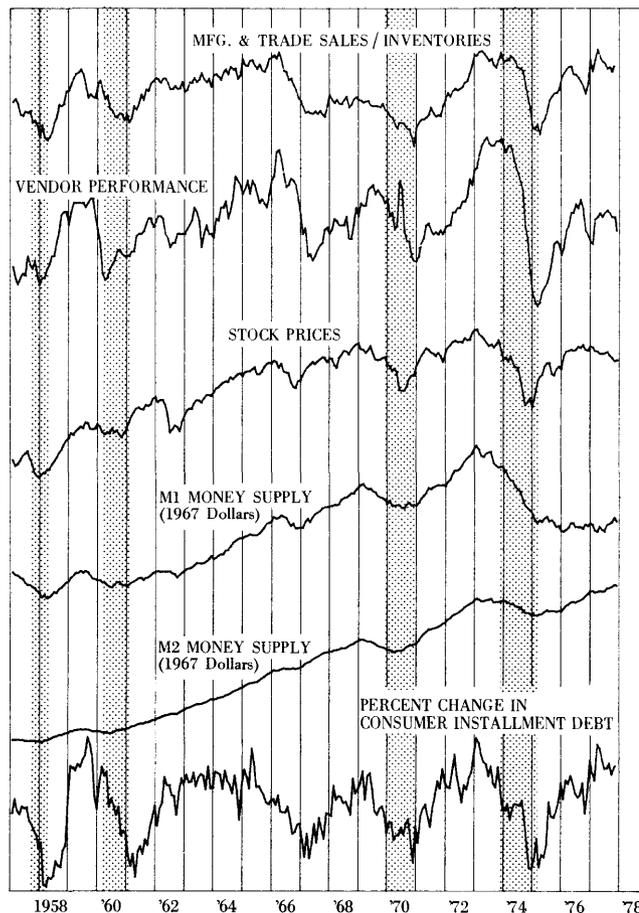
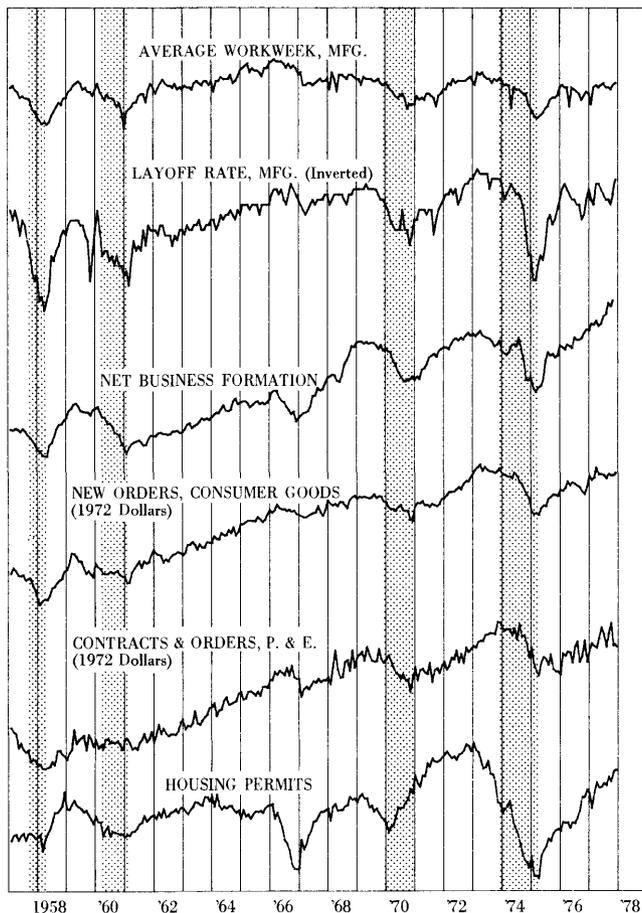
Among the primary leading indicators of business-cycle changes, the ratio of manufacturing and trade sales to inventories and the percent change in consumer installment debt increased during October, and the moving averages of these series increased for the first time in several months. In spite of these increases, the sales-to-inventories ratio remains appraised as probably contracting cyclically, and the cyclical status of the consumer-debt series remains indeterminate. The index of net business formation increased to a record amount during October and clearly is expanding cyclically.

The average workweek for a production worker in manufacturing and the index of housing permits issued increased during November. The moving averages of these series are at cyclical highs, and both are expanding cyclically. The inverted layoff rate in manufacturing and new orders for consumer goods and materials in constant

dollars also increased during November. The 3 month moving average of the layoff-rate series has increased markedly for 2 months, after having decreased during the preceding 4 months. As a result, its cyclical status has become indeterminate; it had been appraised as probably contracting. The 3 month moving average of the new-orders series also is slightly below a peak reached 6 months earlier. The cyclical status of new orders for consumer goods and materials in constant dollars also is indeterminate.

Contracts and orders for plant and equipment in constant dollars, M1 money supply in constant dollars, and M2 money supply in constant dollars decreased during November. The 4 month moving average of the contracts-and-orders series and the M1 money supply were moderately below recent peaks, which raised some doubt that they still are expanding cyclically. They now are appraised as probably expanding. The decrease in M2 money supply was

### PRIMARY LEADING INDICATORS



## THE STATISTICAL INDICATORS

	Direction of Change					Apparent Cyclical Status
	Aug.	Sep.	Oct.	Nov.	Dec.	
<i>Primary Leading</i>						
Average workweek, mfg.	+	nc	+	+		+
Layoff rate, mfg.*	nc	nc	+	+		?
Net business formation	+	-	+			+
New orders, cons. goods†	+	-	+	+		?
Contracts & orders p. & e.†	+	+	-	-		+?
Housing permits	+	-	+	+		+
Mfg. & trade sales/inv.	+	-	+			-?
Vendor performance	-	-	nc	-		?
Stock prices	-	-	-	+	-	-
M1 money supply†	+	+	+	-		+?
M2 money supply†	+	+	+	-		?
Chg. in cons. instal. debt	+	-	+			?
Percent expanding cyclically						75
<i>Primary Roughly Coincident</i>						
Nonagr. employment	+	+	+	+		+
Industrial production	-	+	+	+		+
Personal income, mfg.†	-	+	+	+		+
Mfg. & trade sales†	+	-	+			?
Nonagr. employment ratio	+	+	-	+		+
Gross National Product†q	+	+				+
Percent expanding cyclically						100
<i>Primary Lagging</i>						
Avg. duration of unempl.*	+	-	+	nc		+
Mfg. & trade inventories†	+	+	-			+
Com'l. & industrial loans	+	+	+			+
Cons. instal. debt/pers. inc.	+	+	-r			+
Labor cost/unit of output	-	+	+			+
Short-term interest rates	+	+	+	+		+
Percent expanding cyclically						100

\* Inverted. † In constant dollars. q Quarterly. nc No change. r Revised.

Plus and minus signs indicate, respectively, increases or decreases in monthly or quarterly data and expansions or contractions of each series as currently appraised; question marks indicate doubtful status when shown with another sign or indeterminate status when standing alone; blank spaces indicate data not yet available.

small, and this series remains appraised as expanding cyclically. Vendor performance decreased substantially during November, but because the 2 month moving average of this series has fluctuated markedly for more than a year, its cyclical status remains indeterminate.

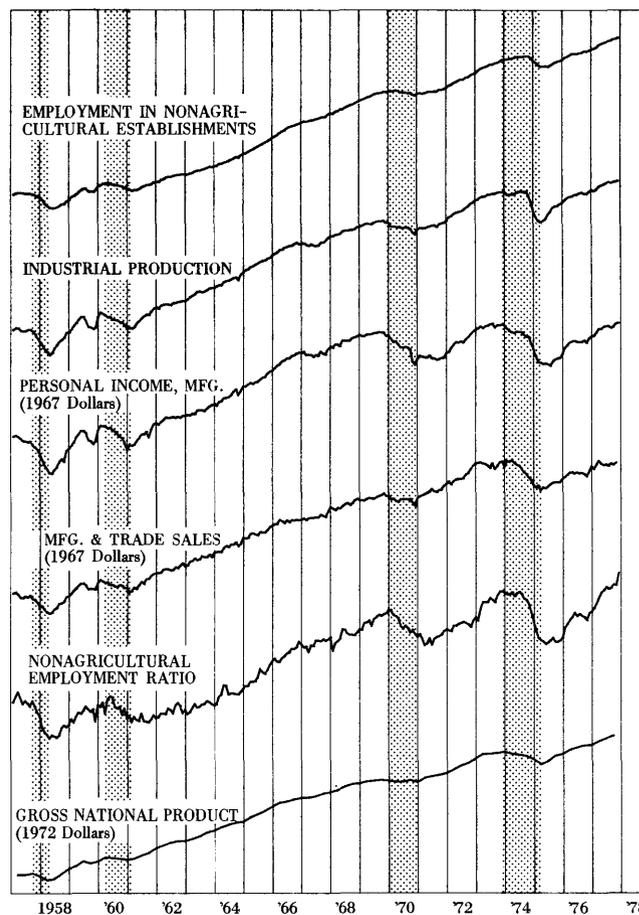
The index of 500 common stocks prices decreased during December, but the 2 month moving average of this series increased slightly. The index of stocks prices has been in a downward trend for more than a year, and this series remains appraised as contracting cyclically.

Six of the twelve primary leading indicators are appraised as expanding cyclically, two are appraised as contracting cyclically, and the cyclical statuses of four are indeterminate. Because the inverted layoff rate in manufacturing no longer is appraised as contracting cyclically, the percentage of primary leaders (for which a cyclical trend is evident) appraised as expanding cyclically increased from 67 to 75.

### Roughly Coincident and Lagging Series

All of the primary roughly coincident indicators increased during the most recent month or quarter for which data are available. Of these six series, five are at record levels and clearly are expanding cyclically. The only roughly coincident series not appraised as expanding cyclically is manufacturing and trade sales in constant dollars. The 2 month moving average of that series had decreased for 3 months before increasing for the 3 most recent months. Nevertheless, it did not exceed its recent previous peak, and its cyclical status remains indeterminate. All of the primary roughly coincident series for which a cyclical

## PRIMARY ROUGHLY COINCIDENT INDICATORS



trend is evident are appraised as expanding cyclically.

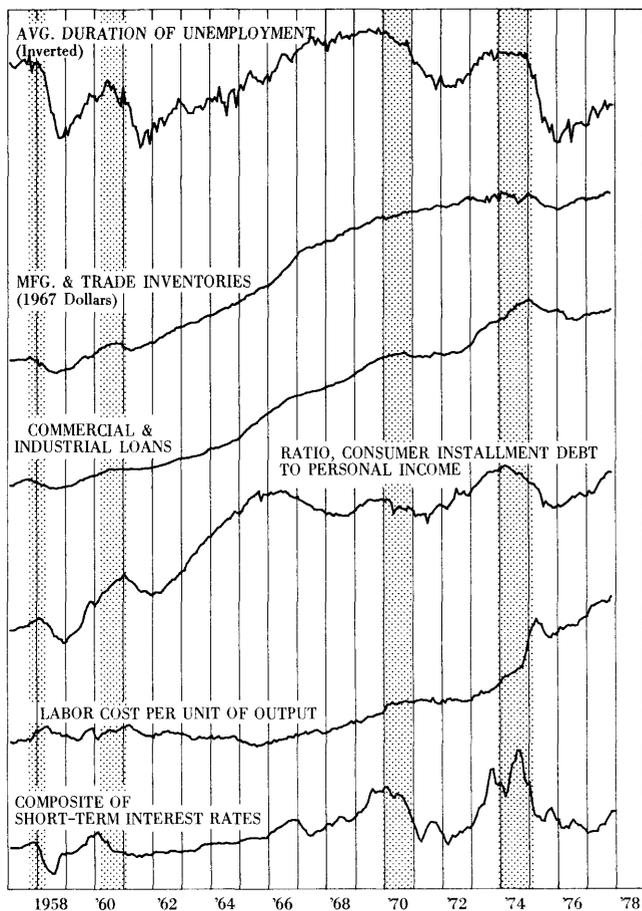
Among the primary lagging indicators, commercial and industrial loans and the index of labor cost per unit of output increased and continued to expand cyclically during October. Manufacturing and trade inventories in constant dollars and the ratio of consumer installment debt to personal income decreased slightly during October. However, decreases of those magnitudes for a 1-month duration have not been cyclically significant; therefore, we continue to appraise these series as expanding cyclically.

The inverted average duration of unemployment was unchanged during November, but the 3 month moving average of this series decreased slightly. Nevertheless, we continue to appraise the inverted average duration of unemployment as expanding cyclically. The composite of short-term interest rates increased and continued to expand cyclically during November. All of the primary lagging series are appraised as expanding cyclically.

### Current Analysis

Recent data reveal that many of the primary leading series that had deteriorated somewhat earlier, reversed their decreasing trends recently and continued to improve through November. Only two leaders (the ratio of manufacturing and trade sales to inventories and the index of 500 common stocks prices) still are appraised as contracting cyclically. Of the four leaders for which a cyclical trend now cannot be discerned, two are near their recent past peaks. Continued improvement in them would suggest that they are expanding.

## PRIMARY LAGGING INDICATORS



Recent data suggest that the adverse changes in some economic series during past months merely reflected a "slowdown" in the rate of economic expansion and not the beginning of a cyclical contraction of general business activity. With three-quarters of the primary leading indicators (for which a cyclical trend is evident) appraised as expanding cyclically, we expect that general business activity will continue to expand during the next few months at least.

## FINANCE FLOW OF FUNDS

Note: All data are seasonally adjusted unless indicated otherwise.

Data compiled and published by the Federal Reserve Board indicate that the total debt of domestic *nonfinancial* borrowers increased \$94.6 billion during the third quarter of 1977. As of September 30, 1977 such debts totaled \$3.2 trillion, which was 12.0 percent more than that a year earlier.

Debts of *financial* intermediaries (organizations that borrow or accept deposits that are lent to other borrowers) increased \$62.3 billion during the 3 months ended in September to a total of \$2.2 trillion at the end of that period. This amount was 12.6 percent more than that a year earlier. During the third quarter of 1977, foreigners increased their borrowings in the United States by \$7.5 billion, to about \$203 billion at the end of September. This amount was 12.9 percent more than that a year earlier.

The total debts of various borrowing sectors as of September 30, 1977, and the rates of increase in borrowings during various periods are shown in the accompanying

table. The total debt shown in the table, \$5.5 trillion, partly involves "double counting," because the intermediation of loans may not increase the burden of debt repayment. For example, a mortgage borrower who obtains a loan at a savings institution is ultimately borrowing from the depositors at that institution. The institution simply is a "middle-man."

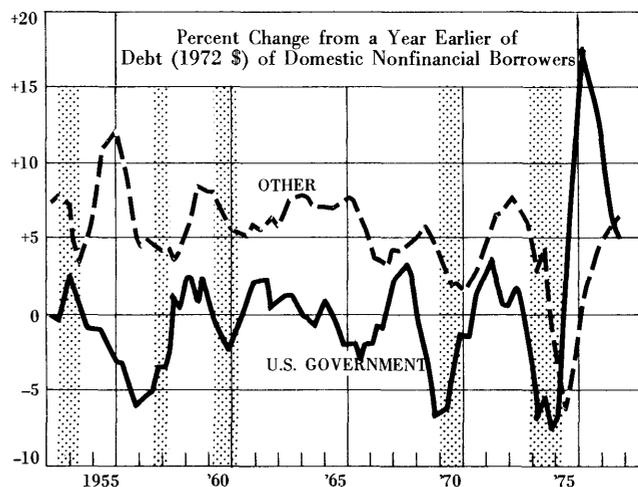
Moreover, nearly all individuals and businesses also are simultaneously borrowers (debtors) and lenders (savers or investors). Therefore, like intermediaries, their net balance of debts owed and claims owned is smaller than gross figures suggest.

Oppositely, the flow-of-funds data reflect only transactions that result in the creation of fixed dollar obligations. Consequently, the totals of debt shown do not include all financial obligations (such as future pension payment obligations), and in this sense the debt data reflect undercounting. (For example, the present value of unfunded pension claims on the Federal Government alone reportedly are more than \$4 trillion.)

As the table shows, the rate of debt accumulation has accelerated somewhat during recent quarters, and the recent rates for most sectors have been larger than their long-term averages. The 12.0 percent increase in the debts of domestic *nonfinancial* borrowers during the 12 months ended in September was a record, and the annualized rates of increase during the most recent 3 and 6 month periods were even larger. (Data for the most recent quarter are subject to revisions related to future additional data and changes in seasonal factors. Thus, percent changes from the corresponding quarters of earlier years, which are based on unadjusted and more complete data, are probably more reliable than quarter to quarter changes.) This rapid and apparently accelerating accumulation of debt has been cited by some analysts as evidence that a "liquidity crunch" is imminent. We describe below why this forecast may be premature.

The real burden of debt decreases as the general level of prices increases, because less purchasing power is required to pay obligations denominated in fixed amounts of paper dollars. Chart 1 shows the debts of domestic nonfinancial borrowers deflated by the price index (the implicit price deflator) used to derive real Gross National Product in 1972 dollars. This chart shows the rates of change in constant-dollar debts for the U.S. Government and for all other sectors (state and local governments, households, and nonfinancial businesses).

Chart 1



DEBTS OWED IN THE UNITED STATES, September 30, 1977

	Debt Outstanding* (\$ billions)	Compound Annual Percentage Increase From						
		3 Mos.* Earlier	6 Mos.* Earlier	1 Year Earlier	2 Years Earlier	5 Years Earlier	10 Years Earlier	25 Years Earlier
<i>Borrowing sector</i>								
U.S. Government	\$579.4	16.0	12.0	10.9	15.0	11.1	7.5	3.8
State & local gov'ts.	269.2	15.6	14.0	9.9	8.2	7.8	8.4	8.9
Households*	1,245.6	14.7	14.6	14.3	12.4	10.4	9.7	9.7
Nonfin'l. corps.	1,024.9	9.0	9.4	10.6	9.2	10.1	10.1	8.4
<i>Domestic nonfinancial</i>	<i>\$3,118.9</i>	<i>13.1</i>	<i>12.3</i>	<i>12.0</i>	<i>11.4</i>	<i>10.2</i>	<i>9.2</i>	<i>7.4</i>
Comm'l. banking system	\$1,124.1	9.8	10.1	10.3	9.4	10.2	10.0	7.0
Priv't. nonbank finance	873.4	15.5	14.4	14.8	13.9	11.9	11.2	10.7
Federal agencies	164.3	14.4	16.6	13.9	14.6	20.6	20.7	16.5
<i>Total financial</i>	<i>\$2,161.7</i>	<i>12.4</i>	<i>12.3</i>	<i>12.6</i>	<i>11.7</i>	<i>11.6</i>	<i>11.0</i>	<i>8.5</i>
<i>Total domestic</i>	<i>\$5,280.6</i>	<i>12.8</i>	<i>12.3</i>	<i>12.3</i>	<i>11.5</i>	<i>10.7</i>	<i>9.9</i>	<i>7.9</i>
Foreign borrowers	202.8	16.4	17.7	12.9	18.8	18.8	12.9	9.6
<i>Total</i>	<i>\$5,483.4</i>	<i>13.0</i>	<i>12.4</i>	<i>12.3</i>	<i>11.8</i>	<i>11.0</i>	<i>10.0</i>	<i>7.9</i>

\* Seasonally adjusted.

\*\* Includes unincorporated and nonprofit enterprises, personal trusts, and farms.

The chart shows that real borrowings by the Federal Government have been large during the current business-cycle expansion. Before 1975, real Federal borrowings increased at a smaller rate than those of other nonfinancial sectors; indeed, in a number of years the real value of Federal debt actually decreased. However, beginning with the second quarter of 1975 and ending with the first quarter of 1977, Federal Government debt obligations increased more rapidly than those of the other nonfinancial sectors.

The real debts of other nonfinancial sectors have increased markedly during recent past quarters, after having actually decreased during the first 3 quarters of the current business-cycle expansion. From a cyclical low of a decrease of 6.3 percent during the second quarter of 1975, this series has increased to 6.4 percent for the third quarter of 1977. As Chart 1 shows, this rate of real debt accumulation by nonfinancial borrowers other than the U.S. Government is not unusually large compared with those rates during most of the periods shown. In particular, this series averaged 7.1 percent for 4 years during the early 1960's, and that rate exceeds the recent rate by 0.7 percentage point. Moreover, the recent rate of real debt accumulation by all nonfinancial

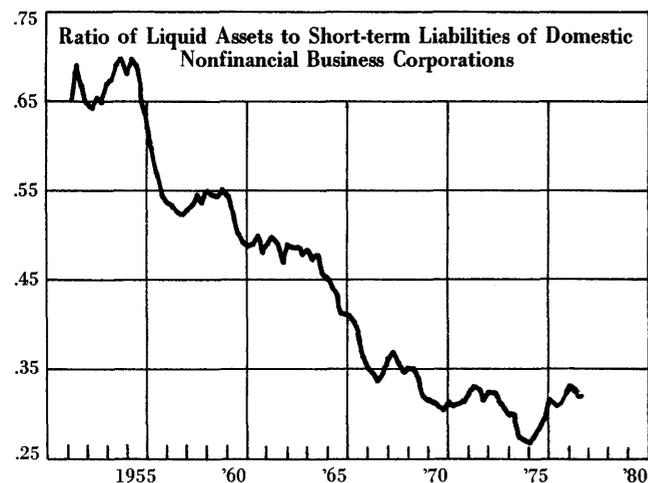
sectors (Federal Government plus the other sectors) also is *not* at a clearly unsustainable level. Thus the assertion that the rate of debt accumulation has reached some immediately critical level would seem to be unwarranted on the basis of historical experience.

During 1975 and 1976 nonfinancial business corporations raised long-term funds (bonds, mortgages, and equities) considerably in excess of their external requirements for capital expenditures. These funds resulted in an improvement in the working capital positions of such corporations. Chart 2 shows the ratio of liquid assets to short-term liabilities of such corporations from 1952 to 1977. As the chart shows, this measure of corporate liquidity has increased somewhat since reaching a postwar low in the fourth quarter of 1974. However, this ratio during the 3 quarters of 1977 has been below the recent peak level reached in the fourth quarter of 1976. These data suggest that nonfinancial business corporations have ceased adding to their liquidity.

Increases in external financing and internal generation of funds by such corporations have been used to increase capital expenditures somewhat. Capital expenditures in relation to replacement-cost depreciation have continued to increase during the past 3 quarters, but the recent ratio of 1.34 remains below the postwar average of 1.45.

Flow-of-funds data indicate a record accumulation of debt by nonfinancial borrowers. However, general price increases have continued to reduce the amount of purchasing power that borrowers must repay on such debt, and the rate of debt accumulation adjusted for price level changes has not yet reached a level that is immediately unsustainable.

Chart 2



PRICE OF GOLD

	1977 Jan. 6	1978 Dec. 29	1978 Jan. 5
Final fixing in London	\$132.60	\$166.00	\$165.70

Research Reports is published weekly at Great Barrington, Massachusetts 01230 by American Institute for Economic Research, a nonprofit, scientific, educational, and charitable organization. Second class postage paid at Great Barrington, Massachusetts 01230. Sustaining membership: \$9 per quarter or \$35 per year.