

The Harwood Index of Inflating

Many commentators share our general conclusion about money and inflating; but, as far as we know we are alone in attempting to quantify the magnitude of inflating. Although our estimates may be subject to a significant margin of error, the data warrant the conclusion that, while absolute inflating has continued unabated during the 1970's, relative inflating as measured by the Harwood Index, has diminished. These opposing trends are not sustainable, but there is little indication as yet of the way in which either will end.

For many years this Institute has compiled and published the Harwood Index of Inflating and the estimates of the sources and uses of purchasing media upon which it is based.

The Harwood Index is the ratio of *total* purchasing media in use to the amount of *noninflationary* purchasing media. Noninflationary purchasing media is that representing goods offered in the market, including monetary gold when it is continuously offered for redemption of currency. Inflationary purchasing media is that purchasing media created for other purposes, such as the purchase of goods for consumption or investment. The amount of inflationary purchasing media is equal to the difference between total purchasing media in use and noninflationary purchasing media. It may also be calculated as the excess of the investment-type assets of the banking system over the total of saved purchasing media entrusted to the bank.

Although there are many analysts who share our general conclusions, we alone, as far as we know, attempt to quantify the magnitude of inflating.

This task has been difficult. The monetary and banking data are not collected with our purposes in mind. consequently we have had to make our own adjustments to the reported data, which increases the possibility of substantial error. Indeed, for several years we did not believe that the data were sufficiently reliable to warrant our publishing the Harwood Index at all.

We resumed such publication in 1979, not because of complete confidence in our new estimates but because we concluded that any probable errors and omissions in the data would not alter the major trends evident in Chart 1. In other words, even though the estimates of purchasing media in use and the split of such purchasing media into inflationary and noninflationary components may be substantially in error, we are confident that the trend of relative inflating was upward from about 1940 to about 1970 and that its subsequent trend has been downward. Other estimates derived from extreme assumptions affect the absolute levels of the Harwood Index and the timing of its peak (the latter only by a year or two at most), but not the trends.

Purchasing Media in Use

We, and virtually all other monetary economists, use the monetary aggregates published by the Federal Reserve Board. At one time the old M1 series probably provided a

Chart 1
 HARWOOD INDEX OF INFLATING
 Seasonally Adjusted

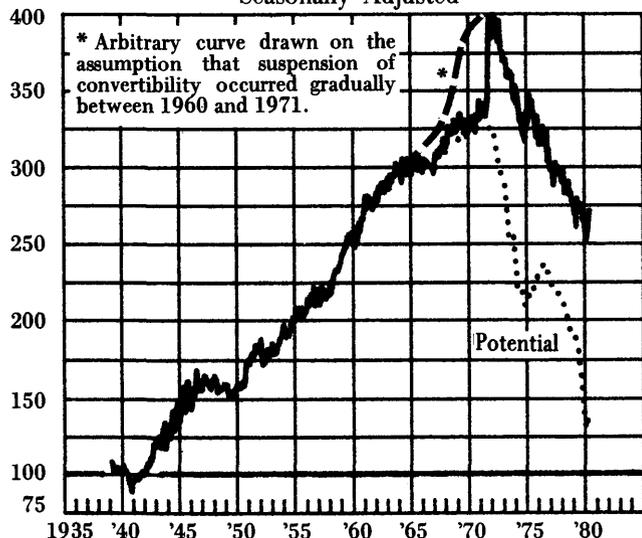
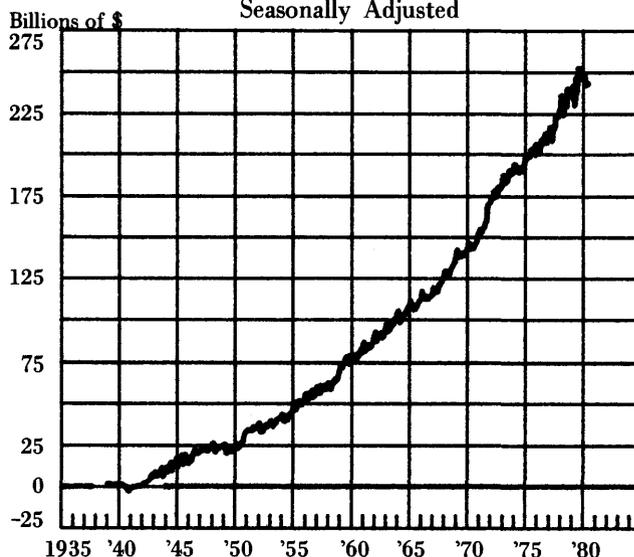


Chart 2
 INFLATIONARY PURCHASING MEDIA IN USE
 Seasonally Adjusted



highly useful estimate of purchasing media, comprising coin, currency, and demand deposits at commercial banks. The aggregates attempt to measure the amounts held by the public; the amounts held by issuers (the Treasury, the Federal Reserve, and the commercial banks) are excluded. All the monetary aggregates are compiled from the records of *issuers*; yet for economic significance the actions of *holders*, or *users* are critical, inasmuch as holders may not use all of the reported "money" as purchasing media and/or they may use additional claims as purchasing media. Recently the Fed "redefined" its monetary aggregates (see *Research Reports* for April 7, 1980) to reflect changes in the practices of holders of purchasing media. For example, because demand deposits held by foreigners are used primarily to effect transactions outside the United States and not to bid for things in this country, such holdings have been excluded from the redefined monetary series. Similarly, some types of "innovative" accounts (such as NOW, ATS, and credit union share drafts) at financial institutions now are acknowledged to be purchasing media, and the Fed has included such items in their M1-B and higher aggregates.

Although these adjustments are improvements we believe that they remain inadequate measures of purchasing media in use. With respect to currency, considerable evidence suggests that substantial amounts of U.S. currency have been hoarded and are in use outside the United States. These obviously are not in use in the United States. At one time we incorporated an estimate of idle currency (and demand deposits) in our purchasing media estimates to reflect the apparent hoarding of "money" by individuals and businesses during and after World War II, but such amounts apparently were completely dishoarded by the early 1960's. At present, we are deducting as "idle" purchasing media only the amount (about \$3.2 billion) of obsolete currency issues (mainly silver coins), but the portion of the "currency in circulation" component of the Fed's aggregates that is not in use in the United States may well be far larger than our estimated amount. We simply do not have "hard" evidence by which to estimate the amount.

Similarly, we believe that only a portion of the "other checkable deposits" that the Fed includes in M1-B is used as purchasing media. Recent studies indicate that the turnover of NOW, ATS, and credit union share drafts is only about one-third that of comparable retail demand deposits; therefore, we include only one-third rather than the total of other checkable deposits in our estimate of purchasing media in use. Oppositely, we believe that overnight repurchase agreements at commercial banks (and overnight Eurodollar deposits held by U.S. nonbank residents at Caribbean branches of U.S. banks) are effective substitutes for transactions balances. For this reason, we include the amount of these items in our estimate of purchasing media in use, although they are not included in either of the Fed's estimates of transactions balances (M1-A and M1-B).

Readers should note that our adjustments to the Fed's data are attempts to reflect the behavior of holders of various types of claims as such behavior becomes apparent. Most changes in the public's practices for the types of claims held as purchasing media have occurred in response to regulation. "Innovations" to conserve transactions balances probably will continue, but they may not be discerned by us or by the Fed for some time after their initial use. In this era of fiat currency, the potential claims that could be used as purchasing media are virtually unlimited.

Inflationary and Noninflationary Purchasing Media

Once we have an estimate of purchasing media in use, we estimate its inflationary and noninflationary components. Historically, the noninflationary component (the portion representing things offered in the market) was estimated as the sum of the monetary gold held by the issuers of money (and continuously offered to the public) and the total of commercial, industrial, and agricultural (CI & A) loans held by the banking system. Inflationary purchasing media was estimated by comparing the amount of savings-type liabilities of the banking system (time and savings accounts, bank capital, etc.) with their holding of investment-type assets (such as real estate loans, bonds, consumer loans, security loans, etc.). Any excess of investment-type assets over savings-type liabilities was presumed to reflect the monetization of credit for purposes other than offering things in the market and thus represented the creation of inflationary purchasing media.

If the data were accurate, the sum of the two types of purchasing media so estimated from the banking system's balance sheets would equal (after deduction of estimated hoarded or otherwise inactive purchasing media) the amount of purchasing media in use derived from the adjusted monetary aggregates. This result has not been achieved in practice, probably because the data are not collected and compiled with our purposes in mind. The specific reasons apparently involve the use of slightly different "universes" (for example, the monetary aggregates exclude deposits at banks in U.S. territories and possessions which are included in the balance sheet data), slightly different reporting dates, and consolidating adjustments for interbank deposits, checks in process of collection, vault cash, etc.

Nevertheless, discrepancies between reported balance sheet data and the monetary aggregates have been minor in comparison with the decreasing usefulness, particularly during the 1960's and 1970's, of reported classifications of bank loans. At one time, the total of CI & A loans reported by bankers comprised almost entirely 90 or 180 day notes from tradesmen, industrialists, and farmers who in fact were engaged in offering things in the markets. This category gradually included increasing amounts of term loans, which are not extended for offering things in markets but for buying things already offered, for example, equipment. Moreover some business firms began using such loans for acquiring excess inventories to profit from anticipated rising prices and for other forms of speculation, for the financing of mergers and acquisitions, and for plant expansion in anticipation of long-term debt or equity issues, etc.

This meant that the allocation between noninflationary and inflationary purchasing media, estimated either the "short way" (gold and CI & A loans as the sources of noninflationary purchasing media) or the "long way" (the banking system's excess of investment-type assets over savings-type liabilities as the source of inflationary purchasing media) became dependent on the allocation of reported CI & A loans into *bona fide* loans and loans for other purposes.

We now allocate total CI & A loans between *bona fide* commercial loans and other loans on the basis of manufacturing and trade sales, a series that also presumably reflects the volume of things (other than monetary gold) offered in the markets. Prior to the mid-1960's, the monthly reported manufacturing and trade sales were very nearly equal to twice the monthly level of reported

commercial, industrial and agricultural loans. Accordingly we have, in recent years, used one-half of the monthly manufacturing and trade sales as our estimate of *bona fide* loans for the purposes of bringing things to the markets.

Since August 1971, when the "gold window" was closed and monetary gold ceased to be continuously offered in the markets, the gold certificates issued by the Treasury and held by the Fed simply became, in effect, interest-free, undated Treasury debt — an investment-type asset similar to other government debt. This single event resulted in a sudden decrease in noninflationary purchasing media, an increase in inflationary purchasing media (shown in Chart 2) and a marked increase in the Harwood Index of Inflation (shown in Chart 1). The 1971 termination of the gold dollar might plausibly be viewed as a *de jure* recognition of earlier limitations on convertibility. Consistent with this possibility, we have shown in Chart 1 the possible trend of the Harwood Index based on a gradual *de facto* suspension of convertibility after the formation of the London gold pool in 1960.

A Decrease in Relative Inflation

Although the computation of the Harwood Index of Inflation involves many judgments, even when the most extreme alternative allocations are employed, the resultant values of the index always increase to a peak around 1970 and decrease thereafter. The decrease in *relative* inflating, which is what the Harwood Index measures, occurred during the 1970's despite an unabated increase in *absolute* inflating. The trend of *absolute* inflating, the creation of inflationary purchasing media, has changed little, as shown in Chart 2.

We intend to describe the possible implications of these trends in a future *Research Reports*. For now we simply note that the trends during the 1970's are unsustainable: for the Harwood Index of Inflation to continue its downward trend, inflationary purchasing media must be withdrawn from circulation at some point. Oppositely, continued growth of inflationary purchasing media will result in an end to the downward trend of the Harwood Index at some point. The former possibility could occur if gold convertibility is restored. The "potential" curve in Chart 1 is the level that the Harwood Index would assume if convertibility had been restored at the market price of gold at the time shown and if the "profits" from the assumed devaluation were used to retire Treasury securities held as investment-type assets by the banking system.

INDUSTRIAL PRODUCTION

The index of industrial production has decreased markedly since the peak in business activity in January; however, most components of industrial production peaked or stopped increasing early in 1979. If we take March 1979 rather than January 1980 as the peak in general business activity, the pattern of industrial production during this cycle is similar to that during the 1973-75 contraction. The duration of the present contraction in industrial production through June was 15 months, 1 month less than that for the 1973-75 contraction. This alone by no means convinces us that industrial output soon will begin expanding. Yet, with the recent drop in interest rates, the outlook for the housing and motor vehicle industries is improved, and they were two of the major depressants on total industrial output.

Therefore, if they begin expanding soon, industrial output probably would begin expanding also, cutting short the current recession.

The Federal Reserve Board reported that the latest seasonally adjusted monthly estimate of industrial production decreased 2.4 percent during June to 141.2 (1967=100). During May, April, and March industrial production decreased, respectively, 2.4 percent, 2.2 percent and 0.4 percent. Thus the decrease in industrial production has been marked during the past 3 months, with the index for June 7.5 percent lower than that a year earlier.

The accompanying table shows that the rates of increase in industrial production and its components have varied considerably since the trough of the last recession, March 1975.

Although the National Bureau of Economic Research, which assigns dates for business-cycle peaks and troughs, determined that general business activity reached a peak during January 1980, substantial evidence suggests that the cyclical peak in economic activity occurred in March 1979. Total industrial production peaked then, even though it decreased at an annual rate of only 0.5 percent through February of this year but at a rate of 20 percent since then. In the November 1973-March 1975 recession, total industrial production also changed little during the first 10 months (increased at a rate of 0.5 percent) before contracting sharply (at a 28 percent rate) during the remaining 6 months of the recession. The dating of the business-cycle peak may be academic if analysts are careful to study trends in the key sectors. If they are careless, however, they could conclude that, by reason of the brief duration of the contraction to date, almost surely the recession will have to extend many months longer.

The series of curves show cyclical comparisons of some component production series. For this cycle, the percentages are calculated from the March 1979 values, which we assume was the business-cycle peak for this analysis. These four sectors account for 41.30 percent of the total industrial production index, with durable goods materials accounting for 20.35 percent, business equipment 12.63 percent, construction supplies 6.42 percent, and total autos 1.90 percent.

The similarities in the trends of these four series during this cycle and the 1973-75 cycle are striking. Because every recession is unique in many ways, these similarities are not convincing evidence that the current recession (which through June would have been 15 months in duration with March 1979 as the peak) will have ended in July (to equal the 16 months duration of the 1973-75

CHANGES IN INDUSTRIAL PRODUCTION INDEXES
(Compound Annual Rates)

	Pro- por- tion	3/75 to 2/76	2/76 to 12/77	12/77 to 12/78	12/78 to 2/80	2/80 to 6/80
Total Index	100	16.1	5.2	8.0	0.3	-20.4
Manufacturing	87.95	18.3	5.8	8.1	-0.1	-22.5
Durable	51.98	14.7	6.8	9.6	-1.6	-26.7
Nondurable	35.97	22.8	4.6	6.1	1.8	-17.2
Mining & Utilities	12.05	1.3	1.7	7.4	2.1	-0.4
Products, Total	60.71	13.3	5.2	6.3	0.5	-16.5
Final	47.82	11.9	5.0	6.2	0.8	-12.9
Consumer	27.68	16.8	4.5	3.6	-1.7	-15.2
Business Equip.	12.63	6.0	7.9	9.5	4.6	-12.3
Defense & Space	7.51	1.2	0.7	12.0	4.3	-0.6
Intermediate	12.89	18.1	5.8	6.7	-0.3	-28.9
Materials	39.29	20.5	5.1	10.9	-0.2	-25.7

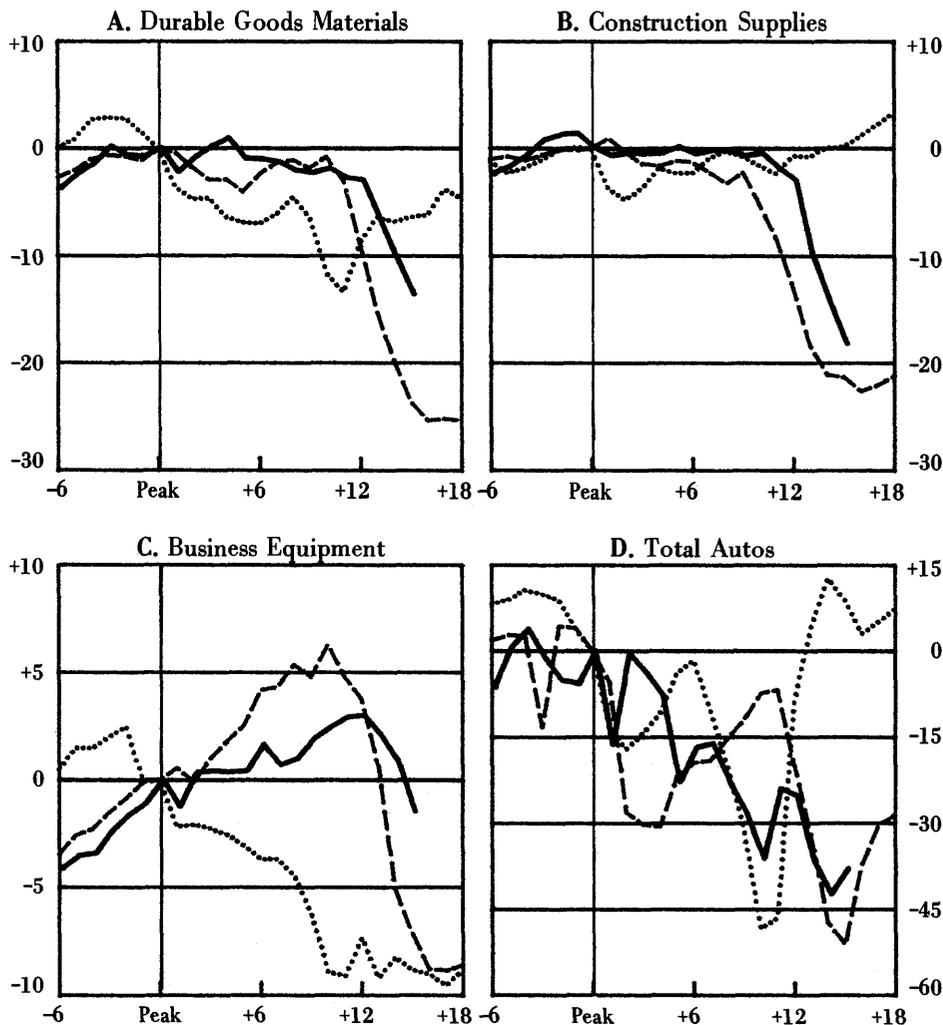
recession). They do suggest, however, that the corrective adjustments associated with recessions may be close to completion for this cycle.

Supporting this possibility are the markedly lower current levels of interest rates compared with those in late March and early April. The June average of our composite of short-term interest rates was 52 percent less than the March average. The decrease was 48 percent from the peak monthly average of such rates (in August 1974) to the business-cycle trough in March 1975. Long-term rates, as we pointed out in *Research Reports* for July 21, 1980, already have decreased in percentage terms more than during the entire duration of any other postwar contraction of such rates. According to this evidence, interest rates already have decreased by magnitudes that in the past have fostered cyclical turns toward expansion of borrowing and buying, the latter of which is a chief requirement for economic expansion.

Now that interest rates are substantially below those of recent peaks, a turnaround of the residential construction industry and its related industries, as for example construction supplies shown in curve B, seems more probable. Of course construction supplies production also is affected by the level of nonresidential construction activity, but that has held up remarkably well during this cycle compared with that during the 1973-75 recession. Moreover, recently lower interest rates almost surely will promote nonresidential construction activity as well as residential construction activity. In 1975, housing permits, housing starts, value of new construction put in place, and construction supplies output, all reached a cyclical trough in March, the business-cycle trough month. Permits during June 1980 were higher than those during May, which was the low to date for this cycle. That is not a sufficient change for concluding an expansion has begun, and data for the other housing series are available only through May, when the series still were clearly trending downward. Nonetheless, if May later proves to be the trough for residential construction activity, it would have highly favorable implications for a turnaround in industrial production in the near future.

The motor vehicle industry, as suggested by curve D, has been the other major industry that has depressed overall economic activity. Signs of a cyclical turn in U.S.-made motor vehicle sales and output are not yet evident. But if sales do begin to expand, it could quickly promote an increase in auto output, inasmuch as dealers' inventories, although high in relation to recent depressed sales

RECESSION COMPARISONS FOR SELECTED INDUSTRIAL PRODUCTION INDEXES



Business-cycle peak months: December 1969 --- November 1973 — March 1979
The curves show the percentage differences (vertical scale) in the series' values from the value of that series at the respective business-cycle peak month, which is assumed to be March 1979 for these comparisons.

volume, are not large in terms of units. Perhaps the termination of talk about consumer credit stringency will stimulate consumer interest in new car purchases and initiate expansion in the U.S. automobile industry.

If cyclical troughs in both the residential construction and motor vehicle industries are reached in near-future months, the trough in overall economic activity probably would be reached before late this year, which most analysts have suggested is the earliest probable time for another cyclical expansion to begin.

PRICE OF GOLD

	1979		1980	
	Aug. 2	Jul. 24	Jul. 31	
Final fixing in London	\$291.50	\$643.00	\$614.25	

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