

The Harwood Index of Inflating

Over the years the Harwood Index of Inflating has been instrumental in many of the Institute's useful conclusions. Publication of the Index was suspended in 1975, because of doubts about the validity of the data that provided the basis for computing the Index, namely, the amount of purchasing media and the components thereof. Our tentative purchasing media estimates and the Harwood Index of Inflating based thereon are contained in this article. Although these estimates are tentative, we believe they are sufficiently accurate that the trends revealed will not be significantly altered by subsequent revisions. The trend of the Harwood Index has been downward for most of the 1970's, which reveals that relative inflating has decreased. However, the amount of inflationary purchasing media in use (absolute inflating) has continued to increase. The downward trend in relative inflating is attributable to debasement of the dollar, rather than to an end or reduction of inflating. The lower Harwood Index suggests that economic distortions ultimately to be corrected are less now than during the late 1960's and early 1970's, but it does not suggest that general price increases will be smaller.

Long before organized inquiry into money and credit systems began, those systems evolved in response to the needs of markets. The first step in this evolution was the use of "monetary" commodities in barter transactions for which one party to the transaction did not have exactly what the other wanted. Further steps in this evolution were the standardization of units of the commodities so used and the eventual use of written claims of ownership (such as warehouse receipts) in transactions rather than the monetary commodities themselves.

Another basic step in this evolution occurred when such claims of ownership on the monetary commodity were issued to represent exchange values of things offered in the markets in addition to representing the commodity itself. As a consequence, the amount of claims to the monetary commodity exceeded the stock of the monetary commodity in the possession of the issuers. The first such issuers were the first genuine commercial bankers. Their activities were based on the discovery that some of the claims they issued were not presented for redemption in the monetary commodity but were exchanged for other things in the markets. The sellers of those other things then returned claims to the issuers in payment of loans that originally involved the creation of new claims.

Problems

The evolution of money and credit systems facilitated transactions among producers and consumers and thus aided man in improving his material well-being. Each major innovation was an unplanned, spontaneous response

to the requirements of free markets. Considerable trial and error no doubt was involved before the more useful forms of purchasing media came into widespread use. Although such innovations provided sufficient benefit to gain widespread use, they were not perfect. Problems were associated with them, too.

The selection of a commodity for use as a monetary unit perforce adds to the demand for that commodity; consequently, its exchange ratio for other things will increase. But a monetary commodity remains a commodity for other uses as well, and its exchange ratio for other things is affected by market conditions of supply and demand for those other purposes as well as for the monetary purpose. Standardization of units of the monetary commodity (usually via the minting of coins) and the use of claims of ownership in transactions increased the possibility of debasement and fraud. One reason for this was that common usage of these coins and claims reduced the need to scrutinize the monetary items used in transactions. Another was that the minting of coins was a prerogative of the sovereign, who did whatever he chose, which often was to reduce the commodity content of coins below their stated amounts.

Finally, the issuance of claims on a monetary commodity to represent other things in the market never became an exact process, because bankers and borrowers are human beings who can err. Misjudgments of the exchange value of things for which purchasing media were created, misapplication of the proceeds of loans, and other human errors sometimes resulted in imbalances between the amount of bank credit used in transactions and the exchange value of things offered in the markets.

By the early decades of this century, money and credit systems had evolved in ways that minimized these difficulties. Gold had become the premier monetary commodity. One reason is that it has ideal physical characteristics; it is nearly indestructible, divisible, portable, of high unit value, and fungible. Also, the stock of gold available for use had become large in relation to usual production and consumption during any short period; consequently, fluctuations in the exchange ratio of gold for other things tended to be relatively small and gradual.

By the end of the last century, the principle that national currencies should be a fixed weight of gold seemed firmly established in major countries (as were other limitations on arbitrary government powers). Although the human capacity for errors of judgment was probably similar to that during other periods, the principles of sound commercial banking (creating new purchasing media only to represent the exchange value of things offered in the markets) were widely followed.

Bankers who did not adhere to this principle soon ceased to be bankers, because their banks went broke.

This is not to say that the system of money and credit had evolved to perfection by the early twentieth century. In particular, the vast increase in the use of bank credit as purchasing media, which had fostered (or at least accompanied) an undreamed-of expansion of production and consumption, seemed to promote the fluctuations of economic activity known as the business cycle. It was not widely recognized that a common trait of business cycles was a divergence from sound commercial banking practices that gave rise to changes in the relationship between bank credit used as purchasing media and the amount of things available in the markets.

What the Harwood Index Measures

This last aspect of money and credit is what is measured by the Harwood Index, and the Harwood Index is useful as an indicator of the probable extent of distortions in an economy fostered by unsound commercial banking. The Index reflects the relationship between the amount of bank credit in use as purchasing media and the amount of things available in the markets to be purchased at the current price level. However, the Index by itself is not useful for identifying specific distortions or for forecasting trends of business activity, interest rates, security prices, or the general price level. Analyses of such trends require the use of other evidence along with the Index.

Another limitation of the Harwood Index is that it does not reflect factors affecting money and credit that arise outside the banking system, such as changes in the supply of and demand for the monetary commodity. For example, if much of the public began using gold to effect transactions, that gold would not be reflected in either the banking system data or the Harwood Index. In another instance, an official devaluation of a currency would not be reflected in the banking data or the Harwood Index unless the Treasury monetized the "profit" on its gold holdings by issuing gold certificates to the Federal Reserve.

Computing the Index

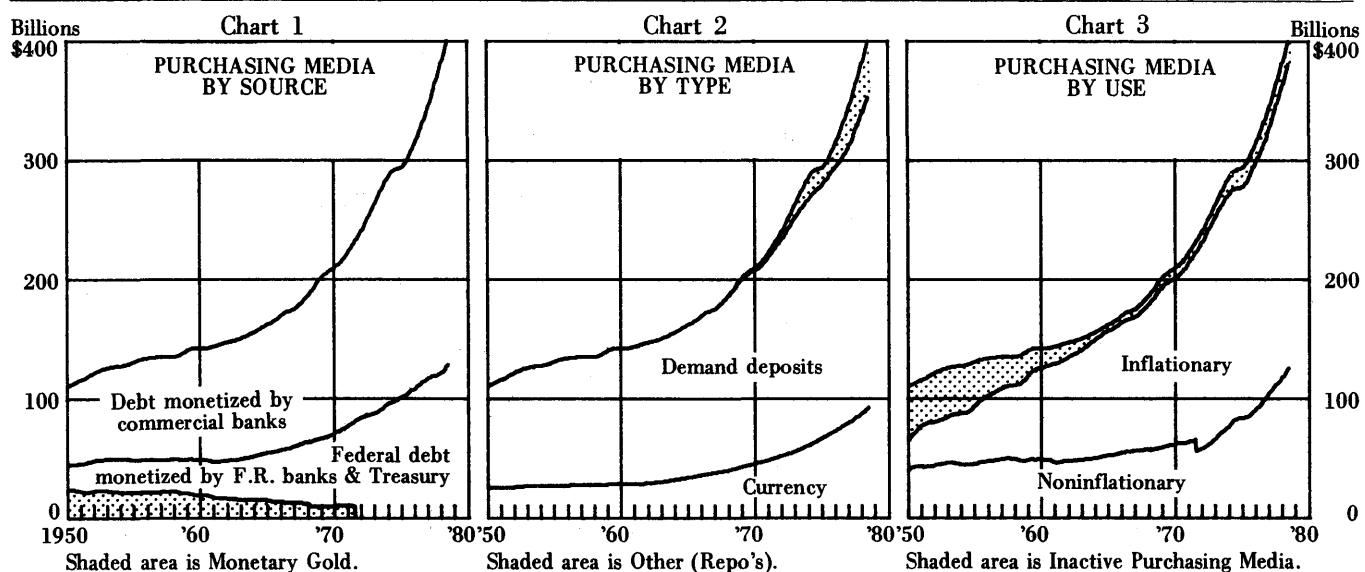
At the time that E. C. Harwood developed the Index of Inflating, banking records reflected nearly all money and credit transactions. Moreover, at that time actual banking

practices conformed closely with the listed categories of assets and liabilities reported by banks. Accordingly, the total of the reported net demand deposit liabilities and the note circulation of the banking system provided a reliable estimate of the amount of purchasing media in use, and the banking system's holdings of gold and short-term commercial, industrial, and agricultural loans were a reasonable estimate of the value of things available in the markets.

Since then, several significant developments have necessitated adjustments to the banking data for use in calculating the Index. First, a massive portion of the Treasury securities was monetized by the banking system during World War II, but only a fraction of the purchasing media was immediately put into use. Recognizing that the inflationary effects of the wartime monetization of Government debt had been delayed, the Institute accurately predicted that an extended postwar boom would occur as the inactive purchasing media in the hands of the public were gradually put into circulation. They were placed into use as individuals purchased houses and automobiles and other consumer durable goods not available during the war and businessmen purchased new, nondefense plant and equipment not generally available earlier. Our estimates, based on measures of bank debits, indicate that the inactive purchasing media accumulated during the war (hoarded by individuals and held in idle demand deposits by businesses) were not completely put into circulation until the early 1960's.

However, two new types of inactive purchasing media have since appeared: outstanding silver coins (which have disappeared from circulation) and U.S. demand deposits held by foreign banks and official institutions. Both are included in the U.S. monetary statistics, although neither appears to be in use in the United States. We have adjusted the reported data downward to reflect these inactive purchasing media.

The second required adjustment to reported data involves financial claims other than demand deposits at commercial banks that have come into use as purchasing media during recent years. There is much doubt about the amount of these claims used as purchasing media, but the recent growth of such items clearly has been rapid. Our estimate of purchasing media in use includes the total amount of securities sold by banks to nonbank

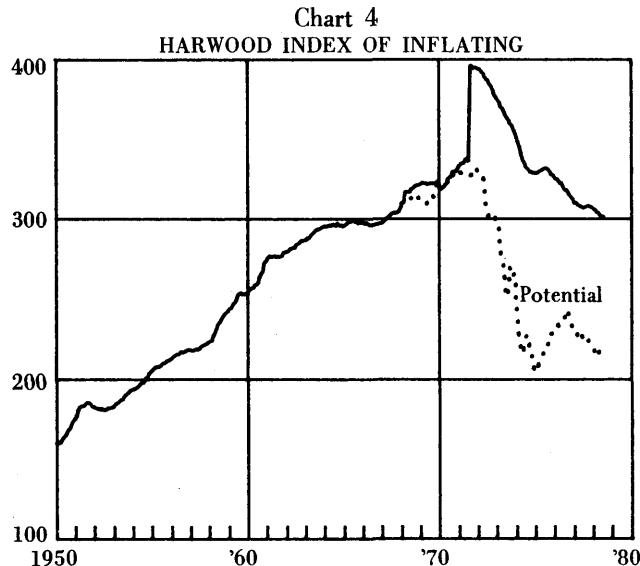


customers under agreements to repurchase (repo's). This total probably overstates the amount of repo's that substitute for demand deposits (i.e., some represent saved purchasing media), but any overestimate probably is offset by other types of claims, such as NOW accounts, transferable "money market" funds, and nonbank travelers' checks, portions of which also are in use as purchasing media but are not included in the reported money stock data.

Third, changed financial procedures have altered the significance of the total commercial, industrial, and agricultural loans reported by banks. Today many such loans are for periods over 1 year, and even short-term loans often are used for a wide variety of purposes other than bringing goods directly to markets. Because of this, we have had to develop a method for estimating noninflationary purchasing media in use to replace the former method of using the total of the aforementioned types of loans. This task has been time-consuming, in part because no analyst outside this Institute has attempted to make such an estimate. After much experimentation, we found that an amount equal to one-half of reported monthly manufacturing and trade sales corresponds quite closely to reported commercial, industrial, and agricultural loans (less estimated term loans) for the years prior to 1965, which appears to be about the time that businessmen began in earnest to borrow on short-term credit for purposes other than offering things in the markets.

Finally, until August 1971, foreign official holders of dollar claims had the legal opportunity to present them to the U.S. Treasury in exchange for gold at the rate of one dollar claim per 1/35th of an ounce of gold. Thus, the official U.S. stock of gold was continuously offered in the markets. Since that date, the U.S. stock of gold has not been continuously offered. Therefore, the purchasing media created to represent the official stock of gold, which had been "noninflationary" until August 1971, have been "inflationary" since then. The Treasury auctions of gold that have taken place from time to time since early 1975 have involved the removal of some purchasing media; however, inasmuch as the Treasury has spent the difference between the auction prices of gold and the official "price" of \$42.22 per ounce, the auctions did not help much to retard inflating.

Our tentative purchasing media estimates are shown in



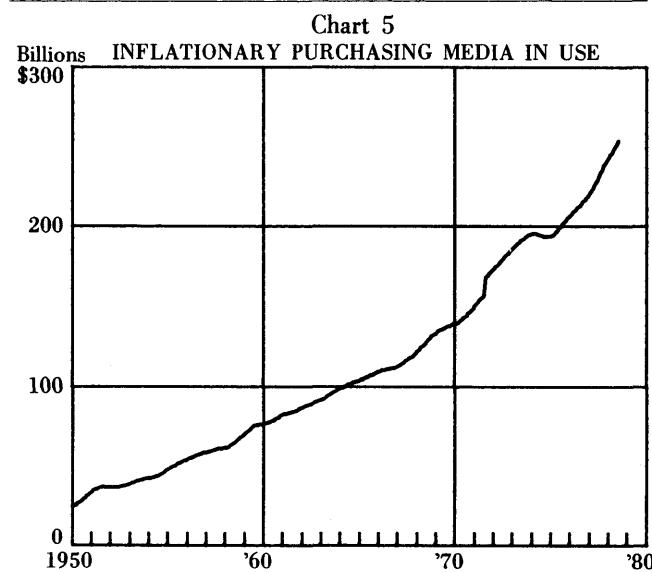
Charts 1, 2, and 3. The top curves in these three charts are identical. The estimated amount of inactive purchasing media is shown in Chart 3. Estimated "repo's" can be seen in Chart 2. The effects of the closing of the "gold window" are apparent in Chart 1, and also in our estimate of noninflationary purchasing media as shown in Chart 3. To eliminate the effects of seasonal and irregular fluctuations, the curves plotted are 12-month moving averages of all components other than monetary gold. Because we do not yet have all necessary data for 1979, the most recent month of data used in this presentation is for December 1978, and because of centering the moving average, the last month plotted is July 1978.

We stress that these figures are tentative, because additional information and future revisions may alter the values shown. Nevertheless, we have published these data because the trends of the *Harwood Index of Inflating* seem firmly established; future revisions probably will not significantly alter either the upward trend following World War II or the downward trend during the 1970's, as shown in Chart 4.

Debasement and Inflating

That the Harwood Index has trended downward since 1971, while general price increases have accelerated markedly is noteworthy. Both trends date from the closing of the "gold window" by President Nixon in 1971, after which the prices of things no longer were related by the money-credit system to their exchange ratios for gold.

In the absence of a functioning official "price" for gold, viewing the noninflationary value of things offered in markets as the gold-exchange value of such became meaningless. Instead, the volume of things offered in markets had to be valued at changing current prices, which means that noninflationary purchasing media change with the volume of things offered and with the general prices of the things offered. In effect, as inflating has fostered higher price levels, a part of previously inflationary purchasing media has been transformed into noninflationary purchasing media, "validating" the higher price level. Thus, the complete removal of inflationary purchasing media now would suggest that the general price level would tend not to increase further, but it would not suggest that some earlier, lower price level would be achieved.



Although the end of convertibility resulted in a sharp drop in the amount of noninflationary purchasing media (and a marked increase in the Index of Inflating) in 1971, the amount of noninflationary purchasing media has increased rapidly since then, as Chart 3 shows. This upward trend in noninflationary purchasing media is attributable primarily to the validation of successively higher and higher price levels. This upward trend in the noninflationary component of purchasing media in use has caused the downward trend in the Harwood Index of Inflating, or in relative inflating. Absolute inflating, or the creation of excess purchasing media, has continued virtually unabated since 1971, as Chart 5 reveals.

Implications and Outlook

What, then, is the significance of the downward trend in the Harwood Index? Inasmuch as the dollar is now a debased, paper currency (and will remain so until its convertibility into gold is restored), the downward trend of the Index does *not* mean that "price inflation" will diminish. Continuation of recent trends, i.e., continued decreases in the Harwood Index attributable to rapid growth of the noninflationary component of purchasing media in use relative to the inflationary component, probably signals a lessening of the economic distortions ultimately to be corrected. This interpretation is consistent with widespread recognition that the public has learned from its experience with "inflation" during this decade to adjust for the effects of "inflation." For example, businessmen reportedly are much more cautious with their inventory and capital expenditure plans, in spite of expectations that prices for inventory items and capital goods will be higher later.

Nevertheless, continuation of the downward trend of the Harwood Index near the rate prevailing since 1971 would involve rapid and accelerating price increases if absolute inflating continues at the same rate since 1971. If the trend of the Harwood Index since 1971 were to continue for the next 10 years and real output continues its long-term trend, the rate of general price increases would average 15 percent per year for that period, in contrast to the average rate of about 8 percent between 1971 and 1978. Still the Index would not decrease to 100. For that to happen, inflationary purchasing media would have to be removed at some point.

One way that inflationary purchasing media could be reduced would be to restore convertibility, i.e., to again offer for sale on a continuing basis the entire stock of monetary gold at a fixed price. The dotted curve in Chart 4, labeled "potential," indicates what level the Harwood Index would have been had convertibility been restored at the then-current market price of gold *and* had the "profits" from devaluation been used to retire Treasury securities held by the banking system. The most recent value of this curve is substantially above 100 because restoration of convertibility at the market price of gold through 1978 would have transformed only a portion of inflationary purchasing media in use into purchasing media representing gold. (For the "potential" Index to be near 100, the gold price would have had to be roughly \$750 per ounce during 1978.) Inasmuch as the exchange ratio of gold for other things at actual 1978 prices for gold was in the upper portion of its long-term historic range, such a massive devaluation of the dollar probably would not end general price increases. Indeed, in such a situation, general prices probably would increase further.

What Will Evolve?

The downward trend of the Harwood Index during the 1970's may well mark the beginning of the end of the experiment with inflating that began in the 1930's. That experiment will end when there is no inflationary purchasing media in use and the Index reaches 100. The return of the Index to 100 because of widespread cancellation of purchasing media and a return to convertibility at the present official price of \$42.22 per ounce is as close to an impossibility as we can imagine. However, an eventual return to a convertible currency seems assured, inasmuch as fiat currencies have come and gone for centuries and gold has emerged as the preferred monetary unit.

One possible evolution of monetary arrangements would involve the creation of a new currency after the dollar had been completely rejected as a medium of exchange, which might occur after the price of gold approached infinity and the dollar had become virtually worthless. Other possibilities would involve less drastic cancellation of purchasing media and less drastic devaluations, with the dollar surviving as a currency.

One way to minimize the hardship of the eventual adjustments to sound monetary arrangements would be: to restore the dollar as a unit of gold at a market-related price; to demonetize Treasury debt with the "profits" from the devaluation; to demonetize the remaining Federal debt held by the banking system by paying it off over a number of years with the proceeds of Federal budget surpluses; to require that the commercial banking function be kept separate from the other functions of financial institutions; and to encourage bankers to re-learn the art of sound commercial banking by a monetary policy that does not bail out the bankers from the bad loans they made from lending excesses. A seemingly workable procedure for establishing the gold "price" at which the dollar could be made redeemable again was suggested by Senator Jesse Helms in legislation introduced in 1976. The idea was that the U.S. Treasury would establish a 5 year (or other period) plan of upper and lower limit prices at which the Treasury would, respectively, sell and buy gold, with the range of the limits narrowing toward the market price in each successive year. At the end of the 5 years, a single price for buying and selling gold would be set.

To date, neither the politicians nor the monetary authorities have demonstrated that they plan to stop inflating. In spite of irrefutable evidence that inflating is undermining the economy at its foundation, official efforts have been aimed at restoring public confidence in the paper dollar enough to continue their inflating-embezzling practices. Almost surely it will take additional "crises," or perhaps an eventual breakdown of economic processes, before their "jig" will be "up."

PRICE OF GOLD

	1978	1979	
	Jun. 29	Jun. 21	Jun. 28
Final fixing in London	\$184.30	\$282.30	\$275.90

Research Reports (ISSN 0034-5407) (USPS 311-190) 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.