

Research Department
Federal Reserve
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Tarnished Copper

The American public has been hoarding pennies in recent months in the expectation that the price of copper would rise above \$1.51 per pound, making the metal value of the coin greater than its face value. Many people also have been hoarding because of a belief that the Lincoln copper penny would become a prized numismatic item, in view of the Treasury's proposal for changing the metallic composition of the coin.

However, the public apparently has overlooked the fact that prices have declined sharply following the 1973-early 1974 upsurge in free-market copper prices. The price of copper on the London Metal Exchange—the freely fluctuating quotation upon which foreign producers base their selling price—has plunged during the last several months from a record \$1.52 per pound to less than the 85-cent price currently quoted by domestic producers. That decline has occurred in the face of supply interruptions caused by a month-long strike in the U.S. copper industry.

Demand versus supply

The Treasury's decision to seek Congressional authorization for changing the copper content of the one-cent coin was motivated by last year's unprecedented upsurge in world prices. The demand for copper rose sharply in 1973 as the industrialized nations of the world experienced their strongest expansion in economic activity since the Korean War. As a result, deliveries

of refined copper to fabricators throughout the non-Communist world rose by 9 percent—or twice the annual rate of gain during the prior decade. Speculators meanwhile bid feverishly for copper on the commodity exchanges as they sought protection against worldwide inflation and depreciating currencies.

In the face of this upsurge in demand, world production rose by only 1 percent last year, as labor disputes, equipment breakdowns and political upheavals adversely affected output. The copper industry had long been subject to frequent interruptions in supply, since many of the world's largest mines are located in politically unstable countries. The United States and Canada, the two largest producers in the non-Communist world, account for about one-half of total mine production, but another one-third is produced in Chile, Zambia, Zaire (Congo) and Peru, where political upheavals and changes in mine ownership have held the growth of output in recent years below targeted levels. By early 1974, all four of these countries had taken over full or partial ownership of the copper properties located within their boundaries.

Even with the industry's long history of instability, an inordinately large number of "forces majeures"—noncontrollable cutbacks in shipments—occurred last year. In Zambia, a border dispute with Rhodesia delayed exports of metal

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as well as imports of copper-producing equipment. In Chile, workers struck the El Teniente mine for 77 days, resulting in production losses of nearly 75,000 tons, and the internal political discord which culminated in the September coup d'état disrupted production even further. In the U.S. and Canada, furnace breakdowns and the difficulties of installing pollution-control equipment resulted in a rash of force majeure by major producers. The gap between refinery production and shipments was filled by a sharp reduction in inventories held by producers, fabricators and metals exchanges.

Initial price surge

The outcome of this tight supply situation was a doubling of world copper prices over the course of the year, with the London price soaring from 51 cents to \$1.01 per pound. The Cost of Living Council permitted domestic producers to raise their price 17 percent (to 60 cents a pound) by March 1973, but a wide gap later developed between the soaring world price and the domestic ceiling price, leading to a heavy outflow of U.S. metal to higher-priced overseas markets. Another (December) increase in the U.S. price, to 68 cents a pound, did little to stem the outflow.

The Treasury thereupon asked Congress for authority to change the one-cent piece from 95 percent copper and 5 percent zinc to a 96-percent aluminum alloy. The free-market (London) price at that point was \$1.11 per pound, and the

Treasury feared that it might soon reach \$1.20 per pound—at which price the cost of producing the penny, including material and labor, would exceed the face value of the coin. For that matter, at a \$1.51 price, the metal content alone would equal the face value, stimulating the hoarding of coins for melting.

Downward spiral

Two important developments later obviated the need for a new coinage. First, Congress passed legislation last December authorizing the sale of copper from the national stockpile. The Mint then purchased 30,000 tons from this source at 75 cents per pound, and last month bought another 5,000 tons from dealers at 89 cents per pound, to meet its copper-penny requirements through the rest of this year.

More importantly, world copper prices have declined sharply from the \$1.52 peak reached in April, when the speculative bubble associated with the Arab oil embargo was at its worst. The quotation subsequently plunged almost without interruption to a present level of 82 cents per pound—below the prevailing U.S. producer price of 85 cents—and undoubtedly would have fallen even further but for this summer's strike in the U.S.

The decline was triggered by a heavy speculative sell-off, attributable to rising interest costs on inventory and (especially) to a fundamental improvement in the overseas supply-demand situation. Copper production outside this country ran 15 percent above the

year-ago level during the first six months of this year, and since deliveries to fabricators rose by only 1 percent, inventories jumped 45 percent above their year-earlier mark. For this reason, prices on the exchanges are likely to continue downward now that the U.S. strike has been settled, despite the tight supply situation in this country caused by persistent equipment problems and the end of stockpile sales. Moreover, the huge increase in worldwide primary capacity scheduled to come on stream during the 1974-78 period suggests the absence of significant price pressures for several years to come.

The evidence thus indicates that the Mint will be able to purchase all the copper it needs to meet its 1975 penny production requirements for less than \$1.00 per pound and, in addition, will have little difficulty in meeting its later needs. The Mint plans to purchase 20,000 tons from dealers this month on a sealed-bid basis in an attempt to satisfy the bulk of its 1975 coinage requirements.

Even if copper prices were to rise above the \$1.51 per pound "melting point" and the composition of the penny had to be changed, it is not at all certain that the new coin would be an aluminum alloy. Admittedly, aluminum is durable, widely available, and easy to fabricate, and its light weight assures that the metal cost of the penny would remain significantly lower than its face value for a long time to come. Approximately 500 pennies can be produced from a pound

of aluminum, compared with 150 for copper. But because of the operating problems that aluminum pennies would cause for the vending-machine industry, it is unlikely that Congress will authorize such a shift. In June, the House Banking Committee approved a measure that would authorize the Treasury to reduce the copper content of the penny to 70 percent if necessary, but it rejected the use of an aluminum alloy.

Meager return

The introduction of a new coin would not necessarily endow the present Lincoln penny with numismatic value. The Mint has produced over 62 billion Lincoln pennies of identical design during the last 15 years, so the coin does not have the characteristic of rarity required in establishing value for any collectible item. Currently the Mint is producing 35 million every day—almost twice as many as a year ago.

Moreover, because of the miniscule amount of metal in each coin, a collector would have to acquire an enormous number of pennies to earn even a modest return. For example, even at a price of \$1.57 per pound, a person would have to collect 240,000 pennies—with copper content of 1,600 pounds—to earn only \$100 more than the \$2,400 face value. Furthermore, out of that \$100, storage, transportation and brokerage costs would have to be deducted. And melting could not occur at all unless the Administration lifted the present ban against melting or treating of coins.

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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT
(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 8/7/74	Change from 7/31/74	Change from year ago	
			Dollar	Percent
Loans (gross) adjusted and investments*	84,461	+ 417	+8,653	+ 11.41
Loans gross adjusted—	66,370	+ 212	+7,760	+ 13.24
Securities loans	1,712	+ 110	- 490	- 22.25
Commercial and industrial	23,494	+ 73	+3,082	+ 15.10
Real estate	19,677	- 25	+2,695	+ 15.87
Consumer instalment	9,425	+ 2	+ 750	+ 8.65
U.S. Treasury securities	5,059	+ 200	- 188	- 3.58
Other Securities	13,032	+ 5	+1,081	+ 9.05
Deposits (less cash items)—total*	79,419	+ 296	+7,261	+ 10.06
Demand deposits adjusted	22,679	+ 651	+1,311	+ 6.14
U.S. Government deposits	401	+ 46	+ 99	+ 32.78
Time deposits—total*	55,286	- 51	+5,992	+ 12.16
Savings	17,804	- 11	- 67	- 0.37
Other time I.P.C.	28,339	+ 185	+5,991	+ 26.81
State and political subdivisions	5,960	- 214	- 312	- 4.97
(Large negotiable CD's)	15,138	+ 122	+3,926	+ 35.02
Weekly Averages of Daily Figures	Week ended 8/7/74	Week ended 7/31/74	Comparable year-ago period	
Member Bank Reserve Position				
Excess Reserves	86	40		68
Borrowings	181	477		239
Net free (+) / Net borrowed (-)	- 95	- 437		-171
Federal Funds—Seven Large Banks				
Interbank Federal funds transactions				
Net purchases (+) / Net sales (-)	+1,417	+1,857		+109
Transactions: U.S. securities dealers				
Net loans (+) / Net borrowings (-)	+ 480	+ 399		+266

*Includes items not shown separately.

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