

Case Studies



Case Study 14.1: Mackerel Economics in Federal Prisons

The economist R.A. Radford spent several years in prisoner-of-war camps in Italy and Germany during World War II, and he wrote about his experience. Although economic activity was sharply limited, many features of a normal economy were found in the prison life he observed. For example, in the absence of any official currency behind bars, cigarettes came to serve all three roles of money: medium of exchange, unit of account, and store of value. Cigarettes were of uniform quality, of limited supply (they came in rations from the International Red Cross), reasonably durable, and individually could support small transactions or, in packs, larger ones. Prices measured in cigarettes became fairly uniform and well known throughout a camp of up to 50,000 prisoners of many nationalities.

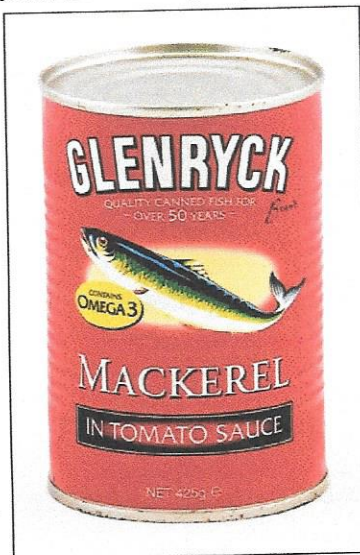
Now fast-forward half a century to the U.S. federal prison system. Prisoners are not allowed to hold cash. Whatever money sent by relatives or earned from prison jobs (at 40 cents an hour) goes into commissary accounts that allow inmates to buy items such as snacks and toiletries. In the absence of cash, to trade among themselves federal prisoners also came to settle on cigarettes as their commodity money (despite official prohibitions against trade of any kind among inmates). Cigarettes served as the informal money until 2004, when smoking was banned in all federal prisons.

Once the ban took effect, the urge to trade created incentives to come up with some other commodity money. Prisoners tried other items sold at the commissary including postage stamps, cans of tuna, and Power Bars, but none of that seemed to catch on. Eventually prisoners settled on cans of mackerel, a bony, oily fish. So inmates informally use "macks"—as the commodity money came to be called—to settle gambling debts, to buy services from other inmates (such as ironing, shoe shining, and cell cleaning), and to buy goods from other inmates (including special foods prepared with items from the commissary and illicit items such as home-brewed "prison hooch"). At those federal prisons where the commissary opens only one day a week, some prisoners fill the void by running mini-commissaries out of their lockers.

After wardens banned cans (because they could be refashioned into makeshift knives), the commodity money quickly shifted from cans of mackerel to plastic-and-foil pouches of mackerel. The mack is considered a good stand-in for the dollar because each pouch costs about \$1 at the commissary, yet most prisoners, aside from weight-lifters seeking extra protein, would rather trade macks than eat them.

Wardens try to discourage the mackerel economy by limiting the amount of food prisoners can stockpile. Those caught using macks as money can lose commissary privileges, can be reassigned to a less desirable cell, or can even spend time in the "hole." Still, market forces are so strong that the mackerel economy survives in many federal prisons.

SOURCES: R. A. Radford, "The Economic Organization of a P.O.W. Camp," *Economica*, 12 (November 1945): 189–201; and Justin Scheck, "Mackerel Economics in Prisons Leads to Appreciation of the Oily Fillets," *Wall Street Journal*, 2 October 2008.



QUESTION

1. How well do pouches of mackerel satisfy the six properties of ideal money (durable, portable, divisible, uniform quality, low opportunity cost, stable value)?

Case Study 14.2: The Hassle of Small Change

About 8 billion U.S. pennies were minted in 2009, and about 150 billion pennies circulated. That's about 500 pennies per U.S. resident. Most pennies are resting in change jars, drawers, or other gathering places for the lowly coin. Pennies are abandoned in the tiny bins and donation cans at store counters. Many people won't bother to pick one up on the sidewalk (as evidenced by the number you find there). The penny, like all U.S. currency, has over time been robbed of its exchange value by inflation. Today's penny buys only one-seventh as much as it did in the 1950s. Pennies can't be used in parking meters, vending machines, or pay telephones, and penny candy is long gone. To avoid the hassle of small change, some restaurants, such as the Vanilla Bean Café in Pomfret, Connecticut, charge prices exactly divisible by 25 cents. That way, pennies, nickels, and dimes aren't needed for any transaction.

The exchange value of the penny has declined as the cost of minting it has risen. For more than a century, the penny was 95 percent copper. In 1982, copper prices reached record levels, so the U.S. Mint began making pennies from zinc, with just a thin copper finish. Then the price of zinc rose, boosting the metal cost of a penny in 2009 to 0.8 cents. Add to that the 0.8-cent minting cost per penny, and you get 1.6 cents per coin. So the government loses 0.6 cents on each penny minted, or \$14.4 million on the pennies minted in 2009. Nickels, which are mostly copper, are also money losers; in 2009 they cost 6 cents to make.

Has the penny outlived its usefulness? In the face of rising metal prices, the government has some options. First option: mint them from a lower-cost alloy. This would buy some time, but inflation would eventually drive the metallic cost above the exchange value of the coin. Second option: abolish the penny. Take it out of circulation. Countries that have eliminated their smallest coins include Australia, Britain, Finland, Hong Kong, and the Netherlands. New Zealand eliminated its 5-cent coin, as well as its 2-cent and 1-cent coins. The United States abolished the half-cent coin in 1857, at a time when it was worth 8 cents in today's purchasing power.

Third option: decree that the penny is worth five cents, the same as a nickel. At the same time, the government could withdraw nickels from circulation. With pennies worth so much more, there would be no incentive to hoard them for their metallic value (a current problem), and it would likely be decades before the metallic value caught up with the exchange value. Rebasement of the penny to 5 cents would increase the money supply by about \$6 billion, a drop in the bucket compared to a total money supply of \$1.7 trillion, so the move would have virtually no effect on inflation.

If the penny gets so little respect, why did the Treasury mint 2.4 billion in 2009? As noted, some people are hoarding pennies, waiting for the day when the metallic value exceeds the exchange value. Another source of demand is the sales tax, which adds pennies to transactions in 44 states. Charities also collect millions from change cans located at check-out counters. And zinc producers lobby heavily to keep the penny around as a major user of the metal. Thus, the penny still has its boosters. That's why retailers continue to order pennies from their banks, these banks order pennies from the Fed, the Fed orders them from the U.S. Mint, and the Mint presses yet more pennies into idle service.



SOURCES: Austan Goolsbee, "Now that the Penny Isn't Worth Much, It's Time to Make It Worth 5 Cents," *New York Times*, 1 February 2007; Elizabeth Williamson, "Will Nickel-Free Nickels Make a Dime's Worth of Difference," *Wall Street Journal*, 10 May 2010; and Thomas Sargent and Francois Velde, *The Big Problem of Small Change* (Princeton, NJ: Princeton University Press, 2002). View the rounded prices on Vanilla Bean Café's menu at <http://www.thevanillabeancafe.com/>.

QUESTION

1. In countries where the monetary system has broken down, what are some alternatives to which people have resorted to carry out exchange?