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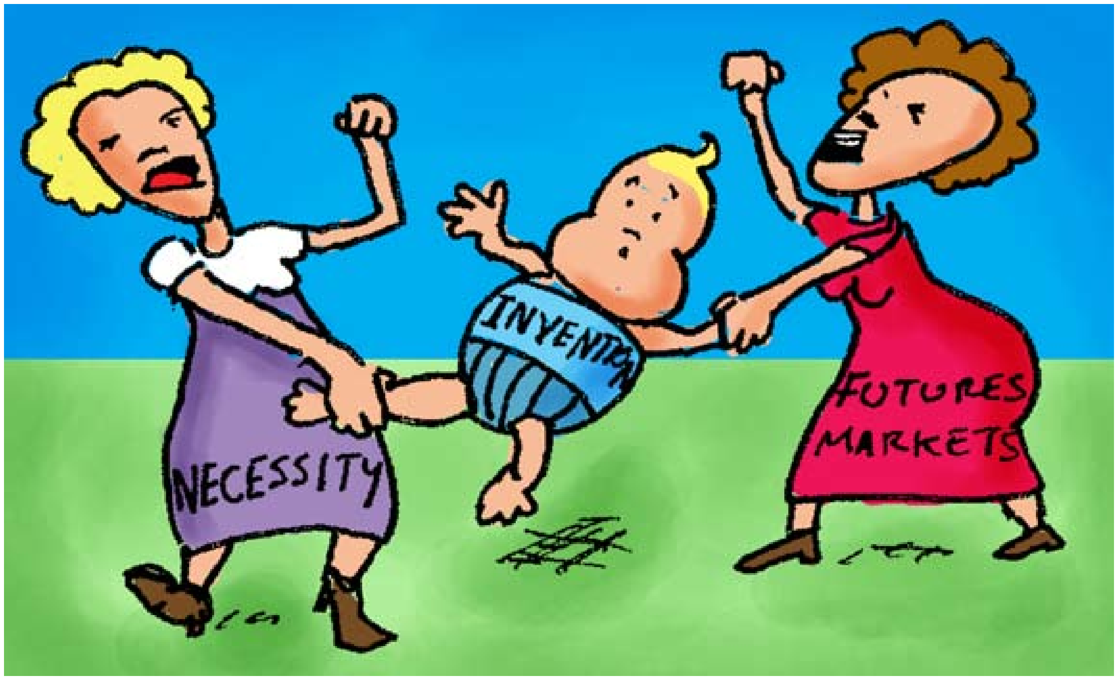
Money: Past, Present, and Future

You may have heard that it makes the world go round ....



5,000 to 250 years ago

For the first 2,500 years of written history, civilizations rise to a certain technological and cultural level, then fall, leaving little behind of value. There are some crumbling relics and texts valued today for their antiquity and cultural meaning, but not much that people today would look at or read for pleasure or instruction. There was progress, of course, but it occurred mostly outside the civilizations. It spread by local diffusion rather than hierarchy.

Then about 2,500 years ago, silver coin money was perfected in Athens. This created an information network that grew to encompass the entire globe. It made economic activity far more efficient and even more important, preserved and built upon innovation. There must have been tremendous innovations in building technologies to create the Egyptian pyramids. If the Pharaohs had paid for the work in silver, it would have stimulated the creation of hundreds of specialized businesses, which would have interacted to create many spin-off products, resulting in a self-sustaining economic sector to create wealth and growth. Instead, people were told what to do, figured out what they needed for the tasks at hand, and went on to other things when the projects were finished.

Money changes human behavior. Instead of doing things that make local sense, like planting a crop so you can harvest it, or chopping down a tree to make a table, people obey market signals. They go to market, see what's cheap that they can make into something expensive, and do it. They don't ask where the cheap stuff came from, or what someone will do with the expensive stuff, they just ask the price.

Not all aspects of life are brought into the money economy. We speak of earning trust, repaying loyalty, and reciprocating affection; but not by and for money. Other types of behavior are mediated by gift, gambling, or involuntary exchange, or not exchanged at all. But the money sphere is the most efficient, and the fastest innovator.

Next come the Romans, the first government to exploit the power of money. Instead of telling people what to do, you can tax them, then pay for what you want. This is far more efficient, but it changes forever the relation between people and their government.

The Emperors do not understand money. They don't understand that it is a signal nor that, like electricity, it requires a circuit to do work. Rome produces nothing. It taxes, buys stuff with the proceeds, then taxes the money back. Clearly this stops working so they declare a monopoly on coinage, debase the coins, and institute wage and price controls.

Over the next 1,500 years governments rise and fall, but there is a steady march of economic progress. The Romans are replaced by the Roman Catholic Church, which reverses the problem.

The Church gets money from all over Europe, through fees and indulgences, and Italy is also the importer of almost all high-value trade goods. So all the gold and silver in Europe flows to Rome, where it builds up and does no good. Showing the same grasp of finance as the Roman Emperors, the Spanish Conquistadors seize a mountain of silver in the New World, only to make Spain poorer than before.

The solution to the government destruction of coin money is paper money. It evolves from merchant practices, despite strong religious and government discouragement. It is more convenient and safer than coins, and has two more important advantages. With coins, the initiator of an economic circuit needs precious metal, so the rich determine the direction of economic activity. Paper money is created by a debt, by the promise of future value. So it's the persuasive innovators who call the shots, and they're much better at it than rich people.

Second, each entity issuing paper money has its own interest rate and each pair of entities has an exchange rate. Instead of money being a signal only of relative prices of goods and services, it gets an accelerator, a brake, and a steering wheel. This increases the bandwidth of the economic signal and allows for far more efficiency. We have an explosion of paper money-mediated progress: Renaissance, Reformation, Enlightenment, Industrial Revolution.

250 years ago to now

The next major event occurs in 1775. Ever since Roman times, fighting a war meant raising taxes and using the money to pay soldiers to fight it. You could have any stupid reason you wanted for a war – most of the time one or both sides claimed to be fighting for peace – or no reason at all; with one exception. You couldn't fight a war against taxes. But that's exactly what the Continental Congress wanted to do. Being practical men rather than medieval hold-over monarchs, they knew the solution. Fighting a war with paper money eliminated the unpopular "taxing" step.

Congress issued Continental Dollars, which depreciated at about 50 percent per year during the Revolutionary War. Poor England was paying in gold, at a +5 percent interest rate. Regardless of what happened on the field of battle, England couldn't afford to keep fighting, paying +5 percent versus −50 percent. The extremely low interest rate stimulated the Colonial economy to the point it could fight the war and support the people without difficulty.

This piqued the interest of governments, of course. It took about a century, but all developed countries declared monopolies on printing money. Not understanding it any more than silver coins, they discovered it didn't work, so they debased it (printing too much and making promises they couldn't hope to fund) and played with wage and price controls. With paper money they could also try interest and exchange rate controls.

There was some theory. What came to be called microecnomics is the theory of barter, which was reasonably well developed. Macro economics tried to add a theory of money, but it was essentially a theory of government monopolies of tangible money, and it failed even at that.

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The one final historical thread is from what was called at the time the American Northwest, the northern drainage basin of the Mississippi River system. This was a wilderness in 1840, with the majority of inhabitants living in the Stone Age. There was little money, either paper or coin. So people started futures exchanges. What's fascinating is this entirely new and complex institution sprang up suddenly in every major city in the region, and at no other time or place, before or since. Yet it was so natural, no one claimed to have invented it, nor pointed to any historical model.

Futures markets had two huge improvements. Paper and coin money signals only tell you the prices of things available for sale in the market. Futures markets cover all goods, types, locations, and times of economic interest. More important, price spreads cover goods and services that don't exist. No one knows how to turn flour back into wheat or move a crop backward in time from August to May, but the Chicago Board of Trade has been quoting prices on both services for a century and a half. If you have 1,000 underlying contracts you have half a million spreads. The futures signal can be extremely detailed.

The second improvement was mark-to-market collateral. With coin money, you need enough gold and silver to cover all goods in the process of production, limiting economic output. Paper money expands the capital base, but you still must either have or borrow the full value of all goods and services up to the point of final sale to the consumer. With futures markets, you need only have enough capital to cover the changes in price, which allows far greater development for a given amount of available resources.

The economic explosion that followed built the modern global economy. Nineteen of the 100 wealthiest Americans of all time build their fortunes in this region between 1850 and 1880. Not just "robber barons" like Rockefeller, Mellon, and Carnegie, but great inventors like McCormick, Westinghouse, and Pullman, plus innovators in other fields such as Swift, Pulitzer, Hearst, Armor, and Marshall Field. It wasn't that 19 of the 100 smartest Americans of all time were living in the Minnesota woods in 1850, it was that derivatives turned ordinary inventors and businesspeople into world-changing innovators whose names are household words up to today. But the world

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did not notice, preferring to discuss the goings on in New York, London, and Washington, as if those places mattered to the economy.

Now

Looking at that list of 100 wealthiest Americans of all time (from Michael Klepper and Robert Gunther, The Wealthy 100) I was struck by how few got rich from money. The early ones used mostly barter. John Jacob Astor famously flooded the North American interior with machine-made wampum belts, trading for furs before the vast increase in wampum supply destroyed its currency value. Then there were the 19 mentioned above. Afterward were people like Henry Ford. The key to his wealth was paying workers enough to afford to buy his cars, creating the American blue-collar middle class. This is not a coin or paper money concept. In the 1990s we had a crop of billionaires who created companies with negative profits, and no clear plan of ever earning money. In this millennium we have hedge fund billionaires getting rich from derivatives.

There were some people on the list getting rich with money. Generally, they inherited wealth and dealt primarily with the government. Given the government's monopoly of money, it's not surprising that mainly cronies could use it to gain wealth. However, I believe government abuse has injured paper money beyond salvation. As a medium of exchange it is used for only small and criminal transactions, and the baroque nonsense surrounding the redesign of the $100 bill suggests it will not even serve those much longer. It has not been taken seriously as a store of value since the 1970s if not earlier. It has lost its status as numeraire, as derivatives make balance sheets meaningless, and our banking system has moved to risk-based capital (so the foundation of monetary value is a statistical abstraction rather than a pile of gold or government credit). Good money must be all three at once: medium of exchange, store of value, and numeraire; paper money can't claim even one out of three.

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I could be wrong. Technological improvements could restore a government-monopoly medium of exchange, and fiscal restraint could restore long-term confidence in value. Advances in accounting could put financial statements and banks on a firm real-money basis. I think that's a fairy tale or, if stated as a formal macro economic argument, a fairy tale with numbers.

In my opinion, we will soon be in a fully derivative-based economy. That doesn't mean paper money will be worthless; gold and silver did not lose their value when paper money came along. But, like gold today, paper money will be inconvenient for transactions, will have unstable value not obviously related to its utility, and will be meaningless to aggregate.

The future

One place this has already happened is travel. You could take a handful of cash and show up at an airport or hotel, but few people do it. You will pay a high and unpredictable price and you may well find what you want is unavailable. You will attract attention as a potential criminal.

Most people go on-line ahead of time and search for available deals on future services. Some bid aggressively using sites like Priceline and SkyAuction, others are content with Expedia or vendor sites. Payment is electronic. It would take only incremental improvements to have a full two-way market, with both suppliers and consumers participating, with mark-to-market payments. This could be far more efficient than paper money one-sided spot transactions, and not just for travel services.

Robert Shiller has put forth a bolder vision of derivative markets for all the major financial risks individuals face. Someone entering medical school could sell a swap paying, say, half the median income of a matched cohort of medical students, in return for fixed payments. This significantly reduces the student's exposure to doctor incomes. Of course, he wouldn't want the fixed payment in dollars, or even gold. He would want to swap his fixed payment into a contract that paid, say, half the average annual expenses of the 90th percentile family living in Chicago (if this happens, by the way, do not buy into the cohort selected by John Paulson).

Mixtures of these ideas, and others, could turn paper money into a pure token money, or eliminate the need for it entirely. Price signals for everything would become much more precise, so the economy could be much more efficient. It would be easier for individuals to achieve financial security.

There is an alternative. People can leave the money economy entirely by devoting their energies to self-satisfaction or non-money-mediated exchange. Instead of designing a product that can be sold for profit, paying taxes on the profit, and using the rest to buy goods that also have lots of taxes on them, creative people might switch to inventing things they like themselves, and exchanging them on social networks.

An analogy for this is the music industry. It has gone from a business selling physical goods for cash to a complex network relation between creators and listeners. The terms are still being sorted out, but it seems highly likely that intermediaries will be eliminated and musicians and fans will find mutually agreeable ways to share and to support the art.

We stand at an exciting time of financial history. Governments are racing to extract the last bits of power from their monopolies on printing money, before it all collapses. We have a global derivative economy that's running things at the moment, but will need to change rapidly. No doubt governments will declare monopolies on derivatives at some point, but until then the world is new and opportunities are everywhere.