

Bank Credit, Compound Interest, Ponzi Finance.

Keith Rankin, 3 December 2014

My recent postings about savings, debt, and money have attracted some interest especially from the "people who are aware that money is [not a commodity] but wish it was" camp (see [Pixies in the Garden?](#)). One respondent wrote: "And so [bank credit] goes on, like a 'pyramid' system". I take it that he was referring to what is commonly known as 'Ponzi' finance, named after 1920's trickster Charles Ponzi.

The main differences that these people have with me is over the following beliefs: that money can represent a debt that does not have an offsetting credit; that interest necessarily compounds with destructive consequences because it is the creation of banks; and that bank credit is unhelpful *per se* compared to other forms of money. (On the latter point I would definitely favour the hapless Royal Bank of Scotland over the hapless [for different reasons] David Parker as supplier of our money.)

The most important question about commercial-bank credit is 'when' rather than 'whether' it is a problem. Like most things in life, *we can have too much or too little*.

Bank credit makes the money supply highly elastic, contrary to what most economists think. Commercial-bank money is created when it is demanded, and is extinguished when it is not demanded. The non-commercial monetary authorities (central banks) have influence over money's 'price' – the rate of interest – and can place other constraints in the form of controls over bank lending. They can also create money via the central banks' balance sheets, but cannot force debt-averse people to spend it.

The bank-money system is a socially liberal decentralised monetary system. The alternative state-monopoly system has much greater capacity to be oppressive.

If banks create money (as debt and credit) when we have too much saving, then that's a good thing. It recycles those prior savings, minimising the damage caused by excess saving. (The easiest way to imagine excess saving is as: 'saving for no particular purpose'. Such saving tends to go unspent, into savers' estates on death. In *Inequality, consumer credit and the saving puzzle*, Christopher Brown [2008] notes that retired people have higher rates of saving than other groups in the population. Retired people may not be the dissavers that we assume them to be.)

Banks lend to customers who intend to spend. It's that spending that offsets the non-spending that saving represents. (It also means that the distribution of spending – the main arbiter of present living standards – is less unequal than the distribution of income, because savers have higher incomes [including interest] on average than do borrowers. This mitigates but does not solve the income distribution problem. Acknowledgement of public equity – through, for example, a [universal basic income](#) – is a necessary prerequisite to the resolution of the income distribution problem.)

If banks create too much money when we have too little saving – and they can quite easily do so, because even our unsaved money is held in the bank – then we do have a problem. (This is the situation of a supply-constrained economy – discussed in [Constraining Credibility](#) – that I argued we have not actually faced since the early 1970s.) This is the problem of trying to buy more goods and services than we are able to produce; it is the orthodox inflation story. It is in these circumstances that monetary policy constraints are appropriate to slow down the rate of business expansion.

Compound Interest

Compound interest is the epitome of modern alchemy. It is widely understood as a way of amassing riches by doing nothing other than wait. And, from the point of view of productive debtors, it is sometimes understood as a constant shifting of the goal-posts, creating a kind of business debt-serfdom that can be resolved only by constantly expanding their output, necessitating economic growth.

Here's a simple example of a debt contract. In 2014 creditor C lends \$60,000 to debtor D for a period of 10 years, with interest at 5.24% compounded annually. D must pay C \$100,000 at the 10-year maturity date. What it really means is that D enjoys \$60,000 worth of goods and services in 2014 that C was entitled to. In exchange C contracts to enjoy \$100,000 worth of goods and services at D's expense in 2024. (In reality D would normally service her debt in instalments, but it amounts to the same thing.)

There's no big deal here. It's a freely arranged contract between C and D. C is saving for a purpose; the purpose is to enjoy more goods and services later. (Saving for a sunny day, not a rainy day.)

What if the Eastpac Bank managed the arrangement? C and D both bank with Eastpac. Imagine it this way. D borrows \$60,000 from Eastpac at 6.25% per annum, and buys \$60,000 worth of goods from C (or acquires \$60,000 worth from C's entitlement). C deposits the \$60,000 at Eastpac on a 10-year term deposit, advertised at a fixed annual interest rate of 5.24%. Debtor D arranges an associated credit facility of \$50,000. Thus D's interest liability is allowed to compound at an annual rate of 6.25%. On the maturity date in 2024, D must forego \$110,000 of goods so she can repay her creditor and service provider. \$10,000 worth goes to Eastpac's shareholders (E); \$100,000 worth goes to C.

The ideal outcome is that the full \$110,000 of D's foregone goods are acquired by C (\$100,000 worth), and E (\$10,000 worth). D brought forward her enjoyment. C and E delayed theirs.

The more likely outcome, in 2024, is that D's foregone \$110,000 worth is wanted neither by C nor E. They would rather have the money than the goods that D had to sell in order to acquire that money. (We may note that banks pool risks and rewards. Thus all would have been well had C and E acquired other goods, and other depositors of Eastpac or another bank had acquired the goods D forewent. In my story here, though, all may not be well.) If no other creditor could be found to acquire the \$110,000 worth of goods, then the banking system, acting on behalf of its saver-creditors, has to go out and find and fund another debtor who would buy the \$110,000 worth of goods, enabling D to meet her contracted obligation. The banks must create the money needed to service their existing debts, because the banks' creditors choose to not receive goods and services when their credits mature.

Another variant of the story is that inflation has taken place. Inflation compounds, just as interest does. If the annual average inflation rate had been 6.25% then D's \$110,000 worth of goods in 2024 would have been no more than \$60,000 worth in 2014. C's \$100,000 worth of goods gained in 2024 would have been less than the \$60,000 worth ceded in 2014. Not exactly the free compound interest bonanza C might have expected. (We note that this is part of Japan's Abenomics' solution; attempts to create negative compound interest through higher inflation rates than deposit interest rates. D is the Japanese government and C is the Japanese private sector. It's improbably hard to create much inflation, though, when people will not spend, even at negative effective interest rates. Japan has created some inflation, but only through its depreciating Yen. Currency depreciation, of course, can never be a global solution.)

There are many other variants of the story, in which D may be a car-purchaser, a small businessperson, a mortgagor, a speculator.

But, to cut to the chase, why might the interest rate on term deposit be around 5% with the inflation rate at about 1%? It should mean that many people identify with D and few identify with C; many want to borrow and few want to lend; so the compensation price to lenders must be high. Banks are subject to competition; their margins are no monopoly rort. Most of the interest paid to banks is cycled back to their depositors; they in turn (by not spending it) cycle it back to the banks, creating a savings glut.

The correct market solution for a savings glut is negative compound interest rates on deposit. The mathematics of negative interest rates lead to stabilisation rather than the destabilisation associated with positive compound interest. Today's goods and services would go mostly to those who can make best use of them. Savers continue to maintain claims – albeit diminished claims – on future production.

Negative interest rates represent an institutional challenge of the first order, however. (See "[Why has the ECB introduced a negative interest rate?](#)".) Savers across the world have a sense of entitlement and have the potential to create a middle-class rebellion on an unknowably large scale. So the competitive banking system is pretty much obliged to pay positive nominal interest rates (hoping that some inflation will create negative effective interest rates). (Would you switch banks if your bank charged you a negative interest rate? Or would you withdraw stashes of banknotes and stuff them under the bed?) Thus the banking system has to do a hard-sell on the debit side of its ledger. Its best bet is to lend on the security of real estate and company shares to the extent that the people who own these assets will borrow and spend, and the people who sell these assets will spend the loans advanced to the purchasers. It's this spending, necessarily created as debt, which prevents the savings glut from becoming an economic depression, while also enabling the banks to pay positive interest rates.

While this accumulation of financial thin air can go on for as long as we believe it can go on for, the illusion is that compound interest has created huge wealth for a privileged minority. And indeed if a few people cash in and spend their compounded fortunes, they may actually realise that illusion. (Alchemy may work for the few; never for the many.) However, if a sufficient fraction of the savings glut is reversed, if too many of these savers cash in and spend at the same time, the whole economy may break. This apparent wealth is built on the unrecoverable debts of the chronically or suddenly underprivileged. Illusory wealth may be OK for simple insurance purposes. But – thanks to Christchurch – we all now know what happens when everyone calls in their insurance simultaneously.

Ponzi Finance

One variant way in which our system handles savings' gluts is called Ponzi finance. And a variation of Ponzi finance in which an unscrupulous debtor takes advantage of glut savers (savers who are not actually saving for anything) is a Ponzi scheme.

The problem is excess saving. Excess saving accumulates because savers tend not to meet their side of the inter-temporal exchange. They defer consumption indefinitely, whereas debtors must furnish the goods for repayment strictly as in terms of their contracts.

So we have an economic cake characterised by saved goods (and services) that must somehow be allocated to some debtor. (We note that when a government says that it must reduce its borrowing, what it is really saying is that someone else must be increasing their borrowing. When $x\%$ of GDP is saved and lent, the critical financial question is who will receive that $x\%$ of GDP as debt.)

Ponzi finance exists when a debtor or group of debtors consume part of that $x\%$, as debt, without intending to forego future consumption. Thus, their intent is to take on future debt as a means of servicing past debt. If they choose creditors that tend to be happy to allow their credits to compound, then all these debtors have to do is maintain the façade of being creditworthy, rather than to actually service debt out of foregone income.

Most Ponzi finance is open; there is no deceit. The US government has fought several wars funded mainly by Chinese saving. (Reducing taxes while fighting wars, as the US did, is not orthodox public finance.) There's no subterfuge about this, however. Further, nobody expects the US to plunder the oilfields of the vanquished Iraqis in order to make good American indebtedness to Chinese savers. Rather everyone suspects that the Chinese savers will not seek to exact their pounds of flesh in the form of consumer goods 'made in America'. In the meantime, individual Chinese savers can spend their savings if they wish. Likewise individual Ponzi creditors can always withdraw their funds, just so long as there are few who wish to do so.

Not only is the US economy, openly, a Ponzi debtor; the world economy actually depends on the US economy persisting in that role. The combined current account surpluses of the rest of the world exactly match the current account deficits of the United States. One reason we don't worry about Americans

consuming the wealth created by the rest of the world is that we suspect, if push came to shove, that the US could produce much more than it does.

Another open Ponzi finance debtor is the Japanese government. Japan moved into recession this year largely on account of a small increase in its equivalent of GST, from 5% to 8%. While Japan plainly has the economic capacity to pay taxes at much higher amounts than it does, the Japanese people clearly prefer a saver-funded than a fully tax-funded public sector. Ponzi public finance is a benign evil in Japan. Public spending in this minimal-growth post-industrial economy is funded by borrowing; borrowing that also pays the interest on the public debt.

Ponzi finance becomes a problem when deceit is involved. In the mid-2000s the Icelandic banking system was running a Ponzi scheme based on debtor self-deceit, creditor naiveté and government wilful blindness. Those Icelanders paying themselves huge salaries and bonuses from creditor savings pretended to themselves that they were clever investors, when they were really just bumbling speculators.

The Ponzi schemes that have made the headlines – Bernie Madoff in the USA, and lesser NZ lights such as David Ross and [John David Milne](#) – are unambiguously fraudulent because of the intent behind them. Yet these schemes represent opportunistic behaviour – as is dumpster diving (listen to [What food-wastage tells us](#)) and free downloading of music – that trades one set of adverse consequences against another. Ponzi finance flourishes in a savings-glut environment.

Solution

The savings-glut economy with its 10-year cycle of leverage and deleverage may seem like an insoluble problem. It's the norm in the economic history of capitalism; the years 1940 to 1970 are the exceptional years. And it is unsustainable. Bank credit is not the problem. Purposeless saving is the problem; too many of us produce more than we wish to consume, requiring others to consume – as debtors – our excesses.

What we see as our private economic security becomes the economic insecurity of others. Further the unsustainability of our practices of persistently producing more than we want to consume must eventually compromise our survival as a species. I know of a David Low cartoon from the 1930s, which shows the rich scrambling for the dry end of a leaking boat. Did that behaviour actually make the rich more secure?

The solution, in its broad sense, involves two parts. The first part is to make a small but consequential change to the rules of income distribution. That is the explicit recognition of public equity as a proper source of private income.

The second part is to match our selling behaviour to our buying behaviour. If we believe that we wish to buy an average of \$50,000 worth of goods and services a year, then we should aim to earn on average \$50,000 (after tax) each year; no more. (There are actuarial techniques that enable us to manage the uncertainties; further, governments with the power of taxation can act as insurers of last resort to ensure a degree of collective economic security.) If savers cannot or will not voluntarily match selling behaviour to buying behaviour, they can be induced to do this through the development of financial techniques that allow deposit interest rates to become negative. (Islamic banking may help us in this regard, though I am not sufficiently familiar with it to be sure.) Negative interest rates defuse the compound interest time bomb.

When we save we should save for a purpose. We should save today with the intent of dissaving in the future. Or we borrow today content to facilitate the dissaving of others tomorrow. Save for a sunny day; insure against a rainy day; borrow when we need a sunny day; keep the Ponzi environments away.
