

Comments on “The Challenges Facing Currency Usage: Will the Traditional Medium be Able to Resist Competition from the New Technologies?”

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Drehmann, Goodhart and Krueger have set themselves an interesting and potentially important task. They are interested in finding out whether the new economy poses a threat to the use of currency. Their answer is a definitive “No!” a result which I personally find convincing.

Their evidence is strong. As they note, most digital cash schemes have either vanished, or are struggling. As stated in section 2.2, there are few countries with non-trivial e-money activity. Given that e-purse use is stagnating or declining, the evidence seems more than enough to answer the question posed by the title without further analysis. The authors are at pains to show that costs of e-money – especially the risk of fraud, and the costs of continuously improving encryption technology to forestall counterfeiting – are likely to remain high, placing e-money at a competitive disadvantage vis-à-vis cash for the foreseeable future.

Big and Small

Much of the paper is focused on differentiating between the demands for large as opposed to small bill usage. The idea is that small bills are used by the salt of the earth for medium of exchange purposes, while larger bills are used by the criminal class, mostly as a store of value. The authors imply (though they do not rigorously show with

simple statistical tests) that different bill sizes are associated with different money demand functions. They find weak results, especially for the effects of ATMs and EFTPOS, but also for crime. I'm not sure what I take away from it all. Time-series econometrics like this rarely seems to shed much light on tricky issues like the introduction of new technologies, especially when the variables of interest have strong trends. Even with the panel dimension I guess I'm not surprised that the overall results are so weak.

Indeed, it is not obvious to me that one should only focus on holdings of currency. Perhaps new technologies will allow me to maintain my holdings of cash but reduce my M1 by reducing my use of checks. I now pay essentially all my recurring bills by direct transfer over the internet. In the past, I would have paid all these bills with checks. If offered e-money at lower cost than my checking facility, I would probably try it. Traditional monetary aggregates include increasingly antiquated concepts like checks but exclude e-money. Even if cash withstands the challenges of e-money, conventional monetary aggregates may not. Central banks have an interest in the stability of monetary aggregates above and beyond those of currency!

Even if e-money eventually does drive out currency, it's not clear whether this is very important to monetary policy. As other authors have noted, bank-issued e-money would continue to be a claim to base money. Since the latter consists of currency plus commercial bank reserves held on deposit at the central bank, the elimination of currency might simply mean an increase in reserves. (Indeed, the central bank could guarantee this by appropriate reserve requirements for e-money.) Of course it is likely that the successful introduction of e-money would shrink the monetary base and thus seigniorage.

Still, as Rogoff and others have pointed out, seigniorage is small, and might easily be swamped by other benefits (in Rogoff's case, a reduction in currency-assisted crime; in the case of e-money, a more efficient monetary mechanism).

And yet

While I was totally convinced by this article that cash is here to stay for at least a while, forever is a long, long time. So let me do the following thought experiment. The argument here is that cash is safe as a medium of exchange since cash is cheaper, safer and more anonymous. Fair enough. But the same was true – even more so – when the check was introduced hundreds of years ago. Party B cannot use checks from party A without being deposited and cleared through a bank. Party B does not know whether the check is good without independent verification. And checks are certainly not anonymous. Yet the check manifestly overcame its disadvantages and is now a substantial part of M1, and a liquid medium of exchange in most countries.

One can go much further along the same line of reasoning. While the stock of credit associated with credit and charge cards is not yet a formal part of narrow money, it is most certainly a money substitute in the present. Going back in time, paper money would have suffered many of the same disadvantages vis-à-vis specie as e-money does today vis-à-vis cash. It behooves us to recall that the confidence we feel about cash now would have been matched in the past by those skeptical about checks, credit cards, and even paper money.

This skepticism seems especially relevant when we consider how rapidly technology seems to progress. Perhaps there is some equivalent to Moore's law for e-

money; e-money may also prove more popular with technology convergence facilitated by e.g., Bluetooth. And it is important to remember that electronics funds transfer now accounts for the vast majority of payments in the OECD, when judged by value. Is it really impossible to imagine the wiring of money so commonly used by businesses will eventually come down to the retail level? The incentive for banks to offer digital currency is large, since the float provides an interest-free loan from customers. To quote an authority in the area:

“Today, there continue to be incentives for private businesses to recapture seigniorage from the federal government. Seigniorage profits are likely to be part of the business calculation for issues of prepaid payment instruments, such as prepaid cards ... a diversion of seigniorage may be an inevitable byproduct of creating a more efficient retail payment system in the long run.”

Alan Greenspan

“Fostering Financial Innovation: The Role of Government”

E-money may be down now, but I doubt it is out for the count.

Smaller editorial points

- The motivation comes too late
- Paper could be more tightly focused; six is too many topics
- “Dollarization” cannot be reasonably spelled with an Anglo-spelling.
- Standard errors would be better in the monetary tables than t-statistics
- Add tests of equality across big and small bills
- Much of the analysis seems miles from e-money. You should consider pruning or working harder to achieve links to e-money.
- Add more on the interpretation of the small economic size of the technological coefficients in the tables
- E-money should be defined earlier in the paper