

The future of Community Currencies: physical cash or solely electronic?

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Abstract

Accompanying the decline in the use of cash over the past 20 years has been a revival of interest in, and development of, near-moneys - alternative, complementary and community currencies. Much of the growth has been in non-physical (i.e. non-cash or –voucher based) forms, but there are market segments where physicality is essential, making them resilient to any trend away from cash. Alternative currencies, that seek to compete with (and perhaps ultimately even replace) national currencies, are likely to become digitized. Bitcoin, despite its shaky start, seems to be gaining traction; and there is no suggestion that it needs to be anything other than digital. Complementary currencies, that seek to fill gaps that are badly served by conventional currencies, such as Business to Business currencies, and business currencies such as Air miles, are only rarely physical, and, where they are, are more likely to be business-specific gift certificates, rather than a circulating medium of exchange.

On the other hand, certain forms of community currencies – local currencies designed to promote transactions within a particular area are more likely to be physical, in other words, cash. Although time-based systems, such as Community Exchange Systems, have adopted a completely non-tangible approach, currency-based community currencies (where the unit of account is set equal to the national currency) have almost invariably adopted a physical medium. For example, the Transition Towns currencies in Britain, Canada and US are all cash-based. This is because there are significant subsidiary benefits that rely on the physicality of the currency. Visibility, and saliency of an image appearing on a physical note, will build awareness, and encourage usage. In addition, the currency itself can play a part in marketing the community. Often, the group at whom the currency is aimed appreciates the physicality of the currency (and allows for the recreation of lost dominations of notes, such as the \$1 in Canada, or the £1 in Britain, where coins have replaced notes in the national currency).

This paper documents the trends in physical community currencies over the past decade, and explores the reason for what appears to be a retrograde step – the use of cash. Lessons are drawn from the experience of physical community currencies to suggest that, beyond micro-transactions, there are other niche uses for which cash is likely to be attractive.

Introduction

The decline in cash as a medium of exchange has been a significant development in the evolution of money. Banking services, standing orders, direct debits, cheques, electronic transfers, debit and credit cards have all allowed people to purchase goods and services without the need for cash. As these payment methods have become ever more prevalent, cash has played an increasingly small role in facilitating transactions.

In recent years, the arrival of new payment methods and currencies such as Bitcoin and its competitors has matched the move to solely non-physical currencies of the types originally pioneered by business reward currencies. Earlier generations had trading stamps given out with purchases, and redeemable for goods and services. The largest trading stamp scheme in Britain was Green Shield stamps (given out primarily at petrol stations for purchases of fuel) which started in 1958, and survived until 1991. In the last 20 years one of the most successful types of reward currency, Air Miles, has been solely in electronic form. Even the iconic Canadian Tire currency, seen by Moody's as a "sub-fiat" currency (Babad, 2014) began moving from a physical medium to an electronic one in 2000; as electronic rewards (linked to a credit card) can be earned at twice the rate of the physical currency, the volume of the paper money printed is surely likely to decline. Indeed, rumours have been around since at least 2011 that its demise is imminent.¹

A revival of interest in local community currencies (or scrip) in recent years, though, has seen an opposing trend – the development of physical currencies that emphasize the benefits of tangibility to encourage the localization of business and consumer spending. Just as business currencies are usable only at the business that issued them, so a local currency can be used only within a particular area (and often only at locally-based businesses). There are various motivations for developing local currencies – a demonstration of local identity, a way of keeping spending local, a way of avoiding big banks and the trappings of a late-capitalist economy: in part, the recent trend can

¹ The options for Canadian Tire – move with the times, and have an electronic loyalty programme (especially to match competition from Target as it enters the Canadian market) or keep the iconic paper form is nicely summed up in Strauss (2012).

be seen as a reaction to the 2008 (and ongoing) financial crisis and to a search for an alternative economic system. As such, it is largely associated with the political left.

An alternative currency is anything that can serve as an alternative to the national medium of exchange. It may aim to supplant a national currency (as the digital Bitcoin or the physical silver Liberty Dollar might have aspirations to do), or it may be more limited in scope, aiming only to facilitate some particular types of transaction. Numerous types of alternative or substitute currencies exist, so a note on terminology might be helpful. Jerome Blanc (2011) and Jens Martignoni (2012) have suggested different classification systems for types of community currencies; but the following coarser structure will suffice for our purposes.

Table 1: Classification of alternative currencies

	Local	Universal
Electronic	LETS, CES	Air Miles, Bit Coin
Physical	Transition towns,	Liberty dollar/Trade dollars

It is not impossible to imagine the development of a new universal cash currency if government-issued cash were to disappear. Trade currencies, such as the Maria Theresa Thaler (still being minted, and still dated 1780 – Gervais, 1982; Tschögl 2001); Bernard von NotHaus’s ill-fated Liberty Dollar would have been able to play similar role (at least if it could have avoided running foul of US law – see Feuer 2012). But for credibility, any such currency would likely have to be backed by a trusted source: having a set amount of precious metal in the currency would, once again, be the easiest way to achieve this on a transnational scale. Liberty dollar warehouse receipts had the ability to avoid this; but, as holders discovered, they are subject to political (or legal) risk. (Current eBay auction prices suggest that they are now chiefly valued as curios, as they sell at above face value.)

A complementary currency, by contrast, has no aspirations to replace a national currency, but operates alongside the legal medium of exchange. Promoters realize that a small town is unlikely to comprise an optimal currency area. Some complementary currencies allow for, and even encourage, transactions where only a proportion of the

price is paid in the national currency and the rest in the complementary currency. The advantage here is that a service industry (such as a restaurant or massage therapist) can increase business during slack periods by asking for enough national currency to pay any fixed costs, so the payments in local currency represent income that would not otherwise be earned.

A local, or community, currency is a complementary currency designed to operate only within one area; this paper is concerned largely with such currencies. While they are of marginal significance in terms of the percentage of (local) transactions that they account for, their proponents claim that significant benefit, such as spillover effects on other local projects, publicity, and educative benefits (explaining how money works, and the claimed benefits of localization) come from them.

It is worth noting that private cash currencies, of whatever kind, are not generally a close substitute for legal tender. Almost always, taxes must be paid in government-approved currency. There are exceptions to this: one form of emergency currency issued by cash-strapped municipalities in the US in the depths of the Great Depression was the tax anticipation note, which was guaranteed acceptance by the local government in payment of taxes. In the interim, this backing meant that the notes came to circulate freely and at par with US notes (Gatch, 2012). Bristol City Council has recently decided to accept Bristol Pounds for both Business rates and Council Tax.

Most of the modern local community currencies are designed to trade at par with the national currency (although they may be purchasable at a discount initially), but may take a local name (such as bucks, bits, pieces, Whistles). A minority have taken time as the unit of value, perhaps because of an egalitarian idea that each person's work time is of equal value, an idea pioneered by Robert Owen's National Equitable Labour Exchange from 1832. Ithaca, New York has perhaps the best-known hour-based system. But here, each hour has a set monetary value in dollars, and so "hour" is more a name of a monetary denomination than a substitute basis of value.

Mention should also be made of a trend towards "currencies" for particular specialized uses. These may be just a form of record-keeping (which, some argue, preceded the appearance of physical monies) – allocating household chores, perhaps,

in a way that lets prices adjust according to the relative attractiveness of the chore. (How many times do I have to clean the bathroom to make up for you making the bed each day?) And it's perhaps cooler to talk of a currency here rather than a rotating list of chores, which doesn't harness the benefits of specialization and the division of labour. Other ideas are the Belgian e-portemonnee, an electronic discount voucher system run by an inter-municipal waste disposal company, which lets local people gain discounts at municipal facilities in exchange for reducing their waste and other environmental actions (Balch, 2014). Fairfield, Iowa, experimented with "Hero Rewards" or "merits" – local people earned vouchers for working with local charities, which could be used for discounts at local merchants (Ragogna, 2011). Denison University (in Granville, Ohio) requires students to earn Denison Volunteer Dollars (by working at approved local charities) to earn money for a "tax" payable to take certain economics courses.²

For any alternative currency to have a chance of success, it has to pass what might be called the usefulness test. Friedrich Hayek (1976, 1978) argued that competing currencies would allow people to use ones that were most helpful for them, and this would tend to prevent inflationary over-production by issuers, as rational users would prefer a currency that is a good store of value rather than one which wasn't (hence dollarization in high-inflation countries such as 1990's Turkey). But the alternative must give the user benefits: as Michael Linton says, the promoters must be able to answer the question from businesses, consumers and governments, "What's in it for me?" If a currency is hard to use, accepted in only a few places, solely at high-end establishments, or for goods and services that are not in demand, it will fail. A currency accepted only by the candle-stick maker (but not the butcher or baker) and yoga teachers is unlikely to flourish. A small core group may get involved for ideological reasons; other people and businesses will need to be persuaded that the community currency gives them benefits that they cannot easily obtain by using government money. Wikipedia currently lists about 130 community currencies in the US and Canada. But of these, at best only 85 are active. One recent near-casualty was the Toronto Dollar, which ceased operations when not enough volunteers could be

² See <http://denison.edu/academics/economics/denison-volunteer-dollar-program> for details.

found to keep it running. Creating and maintaining a functioning community currency is a tough challenge!

In what follows, frequent reference is made to the U.S. emergency scrip issues of the Great Depression; there are many parallels between those issues and the ones of today. The Depression also saw the birth of the WIR network, Switzerland's parallel currency. Emergency Notgeld issues in Central Europe at the end of the First World War were produced (in overabundance) for similar reasons. I major on the UK Transition Towns currencies, a recent trend that has considerable support, with evidence from contemporary US and Canadian community currencies, and also the German Regiogeld phenomenon.

LETS, CES currencies and Time Banks

There is no necessary reason why a community currency must be tangible, with physical coins or tokens, notes or vouchers. In fact, the first type of modern community currency, Michael Linton's pioneering Local Economy Trading System (LETS) idea of the 1980's, merely recorded transactions and members' balances, and operated without any physical manifestation. In effect, the systems just allowed for the recording of transactions, and keeping a record of each member's credits or debits within the system. In the days before linked computers, records of transactions had to be sent in to the system administrator for recording. The advent of the internet has allowed for the development of similar ideas, where participants themselves do the record-keeping, subject only to an auditing oversight from the administrator. This means that modern LETS-style schemes should be more attractive and more liquid than the pioneering 1980's versions. Having a currency that is solely electronic saves the costs of printing or minting and, possibly, legal difficulties (an electronic currency can't be a counterfeit of government fiat money). The Community Exchange System (CES) currencies, time banks and so forth can operate efficiently without a physical medium – as long as credits and debits are recorded, there does not even have to be a physical way of settling debts.

Work on Time Banks over the past decade has demonstrated their usefulness (Seyfang and Smith, 2002; Seyfang, 2004; Collom et al., 2012). To cite just one recent case study: Research undertaken by Miranda van Kuik (2009) for the municipality of Landgraaf concluded that to achieve improvements in poverty alleviation, care provision, social integration and the reintegration of long-term unemployed into the workforce a Time Bank-like model, with no physical medium, would be most likely to help.

Time Banks now exist in numerous countries, and, with the exception of Ithaca, almost all are non-physical currencies. The US-based website timebanks.org lists 450 Time Banks in the US and other countries; but of these half are still “starting up”, and fewer than 150 have seen time banked or traded in the past year. Many people have ideas for community currencies, but not many come to fruition.

Given the decline in the significance of cash, and the lower start-up costs of non-physical currencies, one might expect a growth of these types of currency.

Physical Currencies and the Transition Towns movement

Before the advent of LETS and computerized record-keeping, virtually all community currencies were physical. These ranged from the clearing house scrip issued in the financial panics in the United States from the late nineteenth century until the Great Depression to the various circulating cheques and notes issued by businesses and municipalities, and novelties such as wooden currency and commemorative coins, whose role was more to raise funds for a project rather than produce local economic revival.

Tenino, in Washington state, was the first U.S. community to issue wooden money; in December 1931; slabs of “slicewood” printed by the Chamber of commerce acted as an emergency currency after the failure of the local bank. The idea of using wood was that of Albert Balch, who correctly predicted that the wooden money would gain worldwide publicity. While most of an issue of paper scrip came in for redemption (\$1,079.75 out of \$1,279 issued, or 84.5%), of the wooden money, only 0.4% was redeemed (about \$40 out of \$10,308). The Chamber of Commerce was even able to

sell some of its wooden notes at a premium over the face value (O'Cathey, 1971).³ The idea of wooden money caught on: Fenton, Michigan was the first city to produce an official issue (that is, approved by the city council), in July 1934, with the express aim of raising money to pay for the city's centennial celebrations (Hudson, 1966 p.3).

Many currencies from the 1980's onwards, such as the Manitoulin Island (a Canadian island in Lake Huron) \$3 notes were meant more as a tourist souvenir than as an alternative currency: the target market was visitors, not locals. In British Columbia, Canada, the venerable Salt Spring Island dollar, launched in 2001, has been joined by community currencies in towns and cities across the country, ranging from the large (Calgary and Vancouver) to the small. The Chemainus Dollar, launched in 2010 in a town of 4,000, aims to entice visitors to the town by featuring representations of its famous murals.

A recent innovation in Canada has been the Vancouver Seedstock – the currency is not backed by the Canadian Dollar, but by the merchants who issue it. They donate Seedstock to one of the eight participating charities of their choice (and so get a tax write-off); the charity can then use the donation to buy goods or services from the merchant (or others participating in the scheme) or to sell them to people, who then use them to obtain goods from the 46 participating merchants. Powell River, on British Columbia's Sunshine Coast, has copied the scheme; the revived Toronto Dollar seems to be heading in the same direction.

Over in Britain, the Transitions Towns movement began in 2006, when Rob Hopkins launched it in Totnes. The motivation for the movement was concern about climate change, and the perceived need to develop local solutions to this and allied problems. One way to reduce carbon emissions would be to reduce the amount of distance goods had to travel to reach their ultimate consumers; local (farmers') markets selling locally-grown produce were a significant part of this strategy. Supporting a thriving local economy was seen as important to reduce travel and its associated emissions; and a way of achieving this would be to discourage the leakage of spending away from the community. If residents would shop locally, local employment would be

³ Heppner, Oregon had similar success with "sheep skin" money; about 50% of the issues were not redeemed.

expanded, opening the opportunity for more businesses, in a virtuous circle that would generate local prosperity and reduce both ecological and carbon footprints of the community. A local community currency would be a way to help with the achievement of these goals in general, only locally-based businesses participate – national chain stores and supermarkets generally do not want to accept the currency. This was true of earlier schemes: most of the local Depression-era scrip plans recruited only local participants. Stores headquartered out of town, and businesses such as railway companies generally refused to participate.⁴ There are now well over 1000 Transition Town initiatives worldwide, but only a small subset have produced their own local currency.

Specifically, a local currency aims to promote local trade and build community in a number of ways:

- **Strengthening the local economy:** Multiplier effects on the local economy are up to three times the size for spending in local businesses compared to spending at supermarkets or other businesses based out of town (Ward and Lewis 2002). One doesn't need a local currency to encourage people to shop local, but evidence suggests it helps. There are, of course, some downsides – keeping value in the community removes value from where it would have otherwise gone, and so has the potential to impoverish other areas. In addition, “the gains from more trade with locals are more than offset by the losses from less trade with strangers. Otherwise, economic sanctions would be a blessing” (Harford, 2008).
- **Raise awareness of the possibility of local trade:** A local currency has an educative function: in bringing the idea of buying locally into the public awareness, residents will be able to make a more informed choice when they go shopping.
- **Social Capital: Building community spirit:** A local currency can serve to bring the community together. It is something with which residents can identify, and feel proud

⁴ Winnfield H Caslow, of Chicago, launched his own stamp scrip currency in 1933 as part of a campaign to encourage spending at local stores; the Iowa County Scrip scheme of the same year was challenged by people such as the newspaper editor, Merle Stone (1933), partially because it in effect allowed the railways to avoid contributing to the project by not being compelled to accept the scrip.

of. Also, communities that use local currencies can make its use a focal point for local events.

- **Reducing carbon footprint:** A major motivation for Transition Towns participants, and often the motivation for encouraging local economic activity by means of a community currency.

- **Strong community profile:** Early adopters found that having a local currency puts the community 'on the map' and helps to attract visitors and press to the town. It also raises the town's profile should it seek to raise funds for community initiatives. (It might also attract visitors: these might come to learn about the local currency – something which guaranteed the success of Hawarden’s 1932 Stamp Scrip scheme – or to learn more about the Transitions Towns movement and its other initiatives.)

(Source: Adapted for Lewes Pound 2009, p.3)

The first Transition Town, Totnes, in Devon, launched its local currency in March 2007. Lewes, in East Sussex, which serendipitously launched its currency at the time of the Lehman Bros. collapse in September 2008, is probably better known (as a result of a BBC report linking the two events). Other towns, such as Stroud followed suit; while Brixton in London and Bristol pioneered currencies in larger areas. Many other local currencies are in the planning stages.

Location	Population	Launch	Denominations	No. Issued	Firms
Bristol	430,000	Sept 2012	£1, 5, 10, 20	£250,000 (2014)	650
Brixton	65,000	Sept 2009	£1, 5, 10, 20	£100,000 (2013)	270
Hawick	14,000	March 2010 ⁵	£1	£5000	40
Lewes	16,000	Sept 2008	£1; £1,5,10,21	£33,000 (2008)	80
Stroud	13,000	Sept 2009	£1,2,5,10	£10000 (2009)	63
Totnes	23,000	March 2007	£1; £1,5,10,21	£6500 (2008)	125

It should be clear from the above that there are considerable perceived advantages to having a physical medium of exchange. The Lewes Pound chose a physical medium as the notes are a “visible representation of the currency to enhance visibility and

⁵ Hawick’s was a demonstration project, that ran for four months, ending on 30 June, 2010. No further issue has followed.

community buy-in” (Lewes Pound, 2009 p. 4). The notes themselves can be used to promote the issuer, the town and the benefits of the currency, which is harder to do with a virtual medium. Many of the more recent community currencies have attempted to blend the curio aspect (having well-designed notes, featuring locally-significant landmarks, buildings, or people to attract collectors) with a way of generating local pride and a desire to demonstrate one’s commitment to buy local. Lewes, for example, rather subversively used a picture of the revolutionary Tom Paine in the space where the Queen’s head appears on English notes.⁶ He at least did live for a time (1768-74) in Lewes, but one can make a local hero out of a non-resident; Chemainus’ Vancouver Island, Canada) use of the artist Emily Carr is a stretch, as she never lived in the town.

To ensure acceptance and build confidence, most modern community currencies are fully backed by the national currency to guarantee redemption of any notes on demand. This is particularly helpful for businesses who worry they might otherwise be stuck with a large number of the notes. A limited validity (one year in Lewes), supposedly to encourage circulation is another feature that some community currencies have adopted. It also allows for an exit strategy if things don’t work out. (This may not always be possible, though; for example, Canadian law sees community currencies as gift cards, which must hold their value indefinitely.)

While it is easy to set up a virtual currency (free software is available), a physical currency is more complex. The costs associated with printing and distributing the notes are not trivial: the paper used has to be of good quality, and steps need to be taken to prevent forgery. The costs of administering the currency, and enabling its sale and redemption are higher than for a virtual currency. These costs present a considerable obstacle for those seeking to launch a physical local currency. All the Transitions Towns currencies have received grants in order to launch and maintain the schemes; none, as yet, is fully self-supporting. The other sources of revenue are a type of seigniorage (if the currency is fully backed by national currency, the amount gained

⁶ Scottish banks which still have the right to issue their own notes, can use the design to promote Scotland or the Union with England and Wales. Penrose and Cumming (2011) detect politically-significant differences between the pictures on the Unionist Royal bank of Scotland notes, and those used by Clydesdale Bank. The Dutch artist Dardara has taken this concept further, by producing non-money iconography as art with his Exchangebition bank project.

from sales can earn interest in an account until notes need to be redeemed; the same is true of Scottish and other non-English banknotes in the UK), revenue from sales of notes to collectors (or those lost or destroyed), plus, in some cases, a membership fee for businesses taking part in the scheme, or a payment necessary for redeeming the notes. With interest rates at very low levels, seigniorage revenue is minimal; sales to collectors (unredeemed notes) might, in effect, be the biggest contributor to revenue for many schemes. (Of Lewes' first issue, over 35% of the notes did not return; this was roughly enough to cover the printing costs.)

The pilot Totnes Pound that Transition Town Totnes (TTT) issued, which was valid for three months (until June 2007) was an example of the virtue of physicality. People were able to hold in their hands a tangible, beautiful and spendable banknote. A total of 300 first-issue Totnes Pounds were given away at a public talk on financial systems, and several local businesses and shops agreed to take them in payment for goods and services. The fourth iteration of the Totnes £ was launched in May 2014.

Rob Hopkins (2008) explains his excitement at the first launch, in March 2007:

It's a cool March evening in the small town of Totnes in Devon. Around 160 people are filling the seats of St John's Church for an evening event called 'Local Money, Local Skills, Local Power'. The event is run by Transition Town Totnes (TTT), the UK's first Transition Initiative, and the evening itself is something of an achievement: 160 people turning out to an event about economics, usually a subject guaranteed to stick people to their sofas tighter than superglue.

Each person, on arrival, is given a Totnes Pound, one of 300 notes produced by TTT as a pilot to see how a printed currency might be received in the town. One side is a facsimile of an 1810 Totnes banknote, from a time when Totnes banks issued their own currency, spotted four weeks before on the wall of a local filmmaker. As I begin my introduction to the evening and to the speaker, I invite the audience to each wave their Pounds in the air - it is quite a sight. 160 people, Pound in hand, beginning the powerful journey of telling new

stories about money, and also about the future, its possibilities and their interdependence as a community.

As I stood at the front of that hall, watching the room full of laughing, twinkling people, waving their Totnes Pounds, I felt very moved. There is a power here, I thought, which has remained largely untapped. Surely when we think about peak oil and climate change we should feel horrified, afraid, overwhelmed? Yet here was a room full of people who were positively elated, yet were also looking the twin challenges of peak oil and climate change square in the face.

What might environmental campaigning look like if it strove to generate this sense of elation, rather than the guilt, anger and horror that most campaigning invokes? What might it look like if it strove to inspire, enthuse, and focus on possibilities rather than probabilities?

This initial issue was chiefly significant for its educational value. The amount in circulation is a tiny fraction of the local economy (about 0.01%) but it did a great job of raising awareness of the need to buy local. And, of course, several other local currencies started, inspired by the Totnes£ (Hopkins, 2008).

With a community currency, at first things tend to go well. Sometimes too well, if too many souvenir-hunters take away the currency (BBC 2008 – report on Lewes). The promoter of the Chemainus dollar, Karl Schultz, says that the prime purchase of the CH\$ has come from those wanting smaller denominations for souvenirs or “novelty use.” But this produces a paradox: pretty notes encourage collectors and helps pay for the costs – but if all the notes go to collectors, this defeats the purpose of the scheme. Many of the Regiogeld systems in Germany mint special coins for collectors (Thiel, 2011 p. 18). Lewes, Bristol and Brixton all sell collectors’ packs of their notes at a premium over face value as a way to capitalize on this market without undermining the purpose of the currency, but they have to compete with enterprising locals selling notes on eBay. Interestingly, higher denominations may still sell to collectors – all Chemainus’ \$100 notes were sold soon after the launch of the scheme (Herpel, 2010).

Later, though, after the novelty has worn off, the rate of circulation tends to slow, and the currency moves slowly, if at all. This, too, happened with the stamp scrip issues in the Great Depression (Warner, 2012) – given that you can do more things with real money than with a local currency, it is not a good substitute for normal money.

Demurrage (Gesellian money) The Chiemgauer, Regiogeld

Community currencies, their proponents say, are made to be used. They need to circulate, and, preferably circulate rapidly, in order to produce the local economic benefits claimed. One way to encourage quick circulation is to have the value of the money decline over time.

Silvio Gesell (1916, 1929) argued that money ought to decline in value over time – to correct what he saw as an inequality between sellers of goods and holders of money: sellers can sometimes be forced into selling their goods cheaply, as the quality deteriorated (think fresh produce left at the end of the day in a market); whereas holders of money face no such imperative. Therefore, he argued, money should decline in value over time, by means of a tax or price (demurrage) paid for holding on to the money. Table Money, where the value of the note was printed on the back, was used for the design of the Tauscher of 1931 (Godschalk, 2012), and in a few places in the US a few years later. But it was far easier to require that the value of the note be maintained by affixing a special stamp on the back. In the 1930's there were numerous currencies of this kind. In Germany, Schwanenkirchen's Wara was widely copied. It had a 1% per month demurrage fee. The Wörgl, in Austria, had an 8% p.a. demurrage fee (see Lietaer, 2010). In the United States and Canada stamp scrip, promoted by Irving Fisher (1932, 1933) was put into circulation – the stamp used here implied a much greater negative interest rate than Gesell had envisioned (5.2% p.a.); often 1 or 2% per week.⁷ In effect, these stamp scrip currencies were a form of community credit that allowed municipalities fund make-work projects for the unemployed. The scrip was redeemed by the revenue from stamp sales. Few were

⁷ Unfortunately, an inferior version – transactions stamp scrip, pioneered by Joe Elliott in Anaheim, California (Warner, 2008), and more famously by Charles Zylstra in Iowa (Clifton, 1932, Buchan, 1977, Elvins 2005) gained greater salience in the US.

successful and most disappeared once Roosevelt started printing money in March 1933. Data collected by Hugo Godschalk (2012), though, suggests a higher velocity of circulation for stamp scrip than for conventional currency during the scrip's heyday in early 1933.⁸

Despite Fisher's support, Gesell's idea of a national declining currency never caught on. Instead, John Maynard Keynes (1936) built on Gesell's ideas (which he praised in Chapter 23 of his *General Theory*) to suggest that what mattered was not a declining nominal value of a particular note, but a decline in its real value, accomplished by inflationary policies. However, Gesell's idea of a declining currency has been used for certain regional and local currencies in Germany. The Regiogeld initiatives, pioneered by the Bremer Roland (2001), spread steadily: by 2006 there were 13 such initiatives (Schroeder, 2006) and, depending on how you count, up to 73 by 2011 (Thiel, 2011). Probably the best-known, largest, and most successful example is the Bavarian Chiemgauer (see Thiel, 2012), which requires stamps of 2% of the value of the note to be affixed to it every three months. Other Regiogeld have different rates of demurrage; Stroud (England, which models the Chiemgauer, see Scott Cato and Suarez, 2012) has a 3% stamp due every six months. Higher rates of demurrage may make the currency unattractive: the threat of a tax of 10% tax on American State banknotes in 1863 succeeded in removing them from circulation very quickly (Selgin, 2000).

In an age of negative nominal interest rates, cash becomes a better substitute for bank deposits than in more normal times; Gesellian money is a way of decreasing the attractiveness of this substitution. But it is unlikely that "extraordinary monetary policies" will include a move to a declining physical Euro. Electronic demurrage is much easier.

⁸ Even though most of Godschalk's examples are of the inferior transactions scrip type, the hybrid Mason City scrip (see also Godschalk 2001; Warner 2012), which required stamping each week, or with each transaction, whichever came sooner, worked tolerably well.

Significance: Do Community Currencies Matter?

At present, community currencies have a long way to go to make a significant impact. There might actually be more people studying them than actually participating in their production and development. Rather like the Depression-era scrip schemes, initial enthusiasm soon gives way to apathy – the most successful schemes today, and in the 1930's, were those that attracted wider attention and generated business from visitors to the town to see what was happening, who often took one or more examples away with them.⁹ Ironically, it seems that souvenir hunters can make or break a complementary currency scheme.

Central Banks have sometimes worried that community currencies might undermine the national currency, and disrupt the smooth operation of monetary policy. Some states have laws on counterfeiting which cover alternative currencies. For example, the Liberty Dollar fell foul of US regulations that limit the minting of coinage to the Treasury, as directed by Congress; and in Kenya, Peace Corps volunteer Will Ruddick spent an uncomfortable few nights in jail when the Kenyan authorities decided that his Bangla-pesa was unlawful. Authorities elsewhere take a more relaxed view: paper community currencies have not had any problems in the US or the EU; in Canada they are formally classed as gift cards (which means they must be redeemable in perpetuity); in Britain, they are akin to vouchers, which “represent a pre-payment for goods or services from a specified supplier (or group of suppliers) and do not legally entitle the holder with the right to redeem the voucher” (Naqvi and Southgate, 2013 p.5).

The Bank of England concluded last year that “local currencies are unlikely to pose a risk to the Bank’s monetary and financial stability objectives” (Naqvi and Southgate, 2013 p.1).

In practice, the size of UK schemes relative to aggregate spending in the economy is currently too small to have a significant impact on the price level or the desired path for monetary policy. Moreover, even if the schemes were

⁹ It is arguable that Irving Fisher’s interest and initial approval of the Hawarden scrip issues, combined with C. C. Clifton’s syndicated article is what caused the plan to work, regardless of any intrinsic merit.

large enough to affect spending at the macroeconomic level, this would not impede the Bank's Monetary Policy Committee's (MPC's) ability to set monetary policy to meet its inflation target unless these impacts were unanticipated over the MPC's forecast horizon (Naqvi and Southgate, 2013 p. 7).

Central banks, it seems, need not worry about being blown off course by community currencies; unless there is a sudden unexpected massive substitution of community currencies for national currency.

Would-be users of community currencies are warned, though, that the notes are not legal tender, and are not backed by the Bank of England. So, if someone were to make off with the sterling that backs the Transition Towns monies, people would be left holding valueless pieces of paper. By contrast, following the bailout of the Royal Bank of Scotland, legislation was passed that now requires Scottish (and Northern Irish) note-issuing banks to ring-fence accounts used to back the note issue (Naqvi and Southgate, 2013 p.4).

Awareness of the existence of a local currency might be high, but the proportion of people using it may be small. In Totnes, although most (88%) of respondents to a survey were aware of the Totnes Pound, around three-quarters of those had never used it. Only 0.01% of the local economy is represented by T£ transactions (Banks et al, 2010). According to Schroeder (2006) the Chiemgauer is the only Regiogeld system to achieve any economic significance. Although Martignoni (2012) reckoned that there were more than 5000 community currencies around the world, many schemes are tiny, and some are moribund. Community currencies are not about to take over the world monetary system.

Calculating the multiplier effects on the local economy of a community currency is fraught with difficulty. While, undoubtedly, local spending that is recycled from local businesses to local employees and suppliers (and then back into local purchases) must have a greater local stimulus effect than spending that leaks out to other places, measuring the size of the local multiplier is not easy. In addition, the use of a local currency won't necessarily stimulate more local spending: people might just substitute

spending local currency for national currency at the same (local) businesses as before. So, even if the New Economic Foundation is correct to propose a multiplier three times bigger for local rather than leaking spending, it is by no means clear that introducing a local currency would produce significant gains in local economic activity. What matters is the proportion of local spending, not the means by which it is spent. Similarly, the desire to have the currency circulate faster looks as if it would increase activity; if people merely substitute using cash for using electronic money, the velocity of circulation of the local currency is likely to be higher than for national currency. Also, as it makes sense to keep your stock of an inferior asset at low levels, velocity of the community currency is likely to be higher for this reason.

The amount of community currency in circulation is tiny compared with the volume of national currency; so any effects are likely to be tiny. For example, the value of British banknotes in circulation is around £54 billion; in a year Bristol issued about £250,000 in Bristol pounds. Taking Bristol's population to be 430,000, this equates to just under £0.60 per person per year (whereas the stock of Bank of England notes in circulation is a little under £800 per capita).^{10,11} One would expect that the velocity of circulation would be less than for the depreciating Chiemgauer (where velocity is 13.5) Even if velocity were as high as the figures reported in Godschalk (2012), where the weekly stamping necessary for the Mason City scrip implies a minimum velocity of 52 for rational actors, this would still mean only £30 per capita of spending accounted for by the community currency. Gross Value Added in Bristol in 2012 was £11.7 billion, or £27,300 per capita. Transactions in Bristol Pounds would account for 0.1% of this. Even if the velocity calculation were wrong by an order of magnitude, and all Bristol Pound spending was new local spending, the boost to the local economy would still be less than £300 per capita per year. Only the venerable Swiss WIR (16% of spending in Switzerland) and the Chiemgauer €1920 per member, or

¹⁰ Of course this figure is probably an overestimate: not all currency in circulation actually circulates, and some may still be used overseas. Adding in Scottish and Northern Irish bank notes increases the total stock of banknotes in circulation by about 10%.

¹¹ In 1933, the bottom of the Great Depression, Willis and Chapman (1934 p. 15) estimate that there was about \$1 billion in various kinds of scrip in circulation (see also Friedman and Schwartz, 1963, pp. 322-25). The value of notes and coins in circulation was about \$5.7 billion, so scrip represented perhaps 15% of the cash-money supply. The \$1 billion of scrip would represent around \$8 per capita, or just over \$100 per capita in today's money. But the comparison is misleading: much of the scrip, in terms of value, was represented by emergency clearing house certificates that were used mainly for interbank settlements.

just under 5% of the average per capita Bavarian GDP, reach any level of significance; and, as a percentage of GDP, total Chiemgauer spending is less than 0.002%. Over the period 2005-13, non-profits benefited to the tune of €335,000. Certainly not trivial to the recipients, but not significant compared with the over one billion Euros Bavarians give to charity each year.

Demurrage should reduce any benefits: Rösl (2006) estimates the welfare costs of a universal Chiemgauer replacing the Euro to be in the region of €130 per capita per year. The declining value of the currency would increase velocity, but the benefits of this are exceeded by the (utility) losses from the demurrage, which, in effect, has the same result as a higher rate of inflation.

Community currency schemes may have non-economic benefits (as their promoters argue); as far as macroeconomics is concerned, they are insignificant.

The Future of cash community currencies

To judge from news reports of new initiatives (at the time of writing, a “Colne Quid” has been slated for launch in East Lancashire in early August and a feasibility study for a Cardiff local currency has just been launched)¹² the future for physical community currencies looks bright. But most proposed currencies die on the drawing board, as the impediments to their introduction become apparent, and/or seed financing is not forthcoming.¹³ Those that do make it into circulation tend to follow the pattern of the 1930’s scrip schemes: initial enthusiasm followed either by collapse, or, more commonly, a gradual withering away. Every so often, though, one breaks through and receives ongoing media attention. This makes the future of community currencies hard to predict. The unlikely success stories of the Chiemgauer and Lewes

¹² East Lancashire town set to pioneer new currency, *Lancashire Telegraph* July 9, 2014; ‘Cardiff pound’ feasibility study launched, BBC news July 29, 2014 <http://www.bbc.co.uk/news/uk-wales-south-east-wales-28539490>

¹³ The long list of the stillborn includes the Squamish and Dunbar dollars in BC, and the Milton Keynes pound in England.

Pound are testament to the fact that local pride, having a currency to call our own,¹⁴ can trump more rational cost benefit analyses.

Although there is a trend away from cash even within community currencies, physicality remains important, as explained above. Until it's possible to wave virtual notes, or put pictures on them, the "postcard" function of physical community currencies will continue to exist, and attract collectors.

Monetary experiments, like Seedstock, will continue, and local pride may be harnessed to create local souvenir-you-can-spend money in areas that want to attract visitors. They may be useful for education as well – a form of "play money" that has pretensions to usefulness. Some currencies encourage the maintenance of a physical form because local businesses are prepared to offer discounts for people using the local currency. This might make good business sense if it can be used as a form of price discrimination between locals and out-of-towners (and may be cheaper than issuing business-specific discount coupons); but as the local currencies are not hard to obtain, the discrimination might not work. It is, however, unlikely that there will be further development of big cash-based community currencies unless they also offer both an electronic option of some kind, and strong support from local government (i.e. the ability to use them to pay taxes).

In any case, if community currencies were so great, wouldn't we expect there to be more of them, and that they would be self-sustaining? In Britain, where there is considerable support for the idea, only the five transitions towns mentioned above have persevered with their currencies; despite plans for local currencies in Milton Keynes, Edinburgh, and other cities, none has left the drawing board. The problem is that it takes a lot of time and effort to launch a currency, and also its ongoing operating costs. Covering these is difficult. LETS and CES currencies tend to compensate their administrators by levying a fee on transactions within the system.

¹⁴ These words formed the title of a newspaper report (Robertson, 2010) on the proposed Squamish dollar, which, although conceived in 2010, has yet to be born.

The CES comes with a built-in levy system that can optionally be used. The transaction levy mechanism deducts a small percentage of every transaction entered. The levy is deducted from both the sellers' and the buyers' accounts and accumulates in a special 'treasury' account. The levies can be called back into the system by the Administration when and as required. No other account may directly receive the levies.

The levies serve as a source of revenue for the Administration and so could be seen as a form of 'taxation'. It is better to see them, however, as a system of service or usage fees. Any exchange needs revenue to operate and this is the best way to do it.

Many new exchanges feel that they still need a supply of official money for operational costs but usually it is better to recruit to the exchange the providers of the services that are more usually purchased with official money. That way dependence on the official money system is reduced and the feeling that the new money system is secondary to the official one is eliminated. (Community Exchange System, Frequently asked questions) (CES Concepts: https://www.community-exchange.org/docs/CES_concepts.html#5)

If the LETS or CES is small, and trades solely in “hobby” services, the transaction levy is often smaller than the tax that would be payable if the national currency is used. But any transaction levy is salient – for countries outside of North America where prices are quoted sales-tax (or VAT) inclusive, the fee may add extra friction and reduce transactions; in addition, amateur hobby services may be inferior substitutes for professional services.

For Transition Towns and Regiogeld currencies, tax must be included in prices charged (and income tax on the surplus of revenue over costs) – community currencies are not a legal tax avoidance mechanism. Therefore, unless the currency reaches a sufficient volume of transactions so that the administrative costs can be covered by earnings through seigniorage, or the costs are swallowed (either by a membership fee on businesses or an encashment fee when local currency is changed into national currency, or by a bank or credit union acting as clearer for the system) it is hard to get a physical currency to be self-sustaining. Overcoming low levels of usage and high costs remains a challenge for all the Transitions Towns currencies.

Much of the cost comes from handling the physical currency. Retailers and banks need bigger tills, and the national and community currencies will need to be counted separately at the end of each day.¹⁵ Given that non-cash transactions are continuing to grow in importance, it is not surprising that users of community currencies want the same convenience. Four of the five TT currencies either have electronic versions of the currency (Bristol, Brixton's pay-by-text) or are talking about introducing it soon (Totnes, Lewes). Competing with rewards-giving credit cards is particularly challenging for a physical medium. (Lewes experimented with a Lewes pound cash-back scheme for local purchase paid for by any means in 2011). In Germany, 70% of Chiemgauer transactions are made electronically (Thiel, 2012). In effect, electronic community currencies are reduced to the status of a reloadable visa or gift card. The trend to having multiple "personalized" designs for credit cards seems to have abated: presumably users noticed that what the card looked like made no difference to its acceptance. It is likely that community currency cards would see a decline in pictorial diversity too.

Conclusions

It seems that tangible community currencies work better where the economy is cash-based: physical community currencies not surprisingly seem do better in places where people are unbanked and electronic money is not an option. The Banca Palma model (which predates most of the modern European and American currencies) has flourished in the favelas of Brazil's big cities. As it is bank-based, it also has a non-tangible form, which may, in time, cause the physical form to fade away.

For the unbanked poor, however, cash is still king. The local currency in Santisuk Thailand is used, it is claimed, for 10% of transactions (Hookway, 2009; Walker, 2009). A recent cash community currency success is the Bangla-Pesa, developed by Peace Corps volunteer William Ruddick for the Bangladesh slum in Mombasa, Kenya, which obtained significant publicity when Mr Ruddick was arrested for fraud and destabilizing the Kenyan Shilling. An about-face by the Government saw a minister

¹⁵ In 2011, the Squamish Credit Union estimated the costs to them of clearing Squamish Dollars would be around \$700 per month.

attend the re-launch. For the Bangla-Pesa Michael Linton's "what's in it for me?" question is easily answered: businesses that sign up (mainly women entrepreneurs with microbusinesses) receive a credit of 200 Pesa. Circulation reached 10,000 Pesas (about \$210) a day in mid-2014 (Mghenyi, 2014). Small beer, perhaps, but still useful to people living on less than \$2 a day, especially as the project reports that member businesses have seen sales rise by 22% since the Bangla-Pesa was introduced; this seems to be new business, as sales in Kenyan shillings have remained the same.¹⁶

Where there is no alternative to cash, and official currency is scarce, community currencies have the best chance of success. This is also borne out by a study of the various Great Depression scrip issues: once more government money started to reach people, the attractiveness of clunky substitutes like stamp scrip quickly waned. Similarly, as electronic money becomes more attractive and cash declines in significance, so will tangible community currencies. But just as many mints will continue to issue special commemorative coins, so community currency promoters will continue to issue notes and coins for collectors. And, given the perceived ability of community currencies to build social cohesion and instill local pride, as long as merchants are willing to accept cash, community currencies will continue.

There is one other possible spur for physical community currencies. Suppose (official) cash were to disappear through government order: would there be a rush to produce physical community currencies (or wider-ranging universal alternatives)? Initially, there would likely be considerable resentment about the disappearance of cash, and perhaps an attempt to find an alternative. Attempts to change the coinage and currency, except after a bout of hyperinflation, are never popular. For example, in 1983, the UK's Royal Mint decided to phase out the £1 Bank of England note, issuing a coin and ceasing to produce the note a year later. There was a flurry of interest in finding a substitute, and Scottish £1 notes appeared in significant numbers south of the border, but their life was short. People grumbled, but used the coins, and the Scottish notes disappeared again.¹⁷ Similarly, Canada successfully introduced the

¹⁶ Interestingly, Kenya is home to the M-Pesa payment system, which has led the way for money transfers and mobile banking in Africa. This, in time, could underline the Bangla-Pesa. Also, Mr Ruddick's attempts to raise seed financing for similar projects elsewhere in Kenya seem to have failed.

¹⁷ Alan Franks (1985) chronicles the demise of the pound note; one-third of the pound notes in a London bar's till were Scottish. In addition, a small Cornish company, Polyplus Laminates, offered to

“loonie”, the one-dollar coin in 1987, despite dire warnings that it would not be accepted.¹⁸ It is perhaps notable, though, that all the Transition Towns currencies have a £1 denomination. Similarly, Canadian community currencies have a \$1 denomination.

On the other hand, there are other issues that make physical notes problematic. Producers of notes fight an ongoing war with counterfeiters. As community currencies have not generally needed to be as secure as national currencies, would counterfeiting them be attractive? Although imitation is the sincerest form of flattery, attempts to forge scrip and community currencies have been few, but counterfeiting would be a measure of their desirability. Someone in 1933 Detroit did counterfeit the City’s June issue of scrip, but the quality was poor, and the counterfeits easily spotted (Mitchell and Shafer, 1984 p. 117). More recently, there have been two attempts to counterfeit Canadian Tire money – one in Germany and one in Armenia. Both perpetrators were easily caught – travelling to Canada with \$11 and \$45 million respectively in Canadian Tire Money was more than a mite suspicious. The take-home message is this – if you’re a professional forger, go for national notes; if you’re an amateur, counterfeiting even a community currency is unlikely to be successful.

One other form of flattery is to have your currency used beyond its intended area. This has happened for some widespread business currencies – airlines sell air miles to credit card companies for use as rewards for their customers, and the Air Miles themselves can be spent on a variety of goods and services beyond air tickets. A few businesses liquor store in Edmonton accepts payment in Canadian tire money (Montgomery, 2006). MacLeans magazine also reported that Toronto musician Corin Raymond was able to crowd-fund a music album (“Paper Nickels”) with Canadian tire money; while tourists in Jamaica found they could buy trinkets from a handicraft

lamine the £1 notes so that they would last indefinitely (Times Diary, April 21. 1983); Even Mrs Thatcher, not noted for policy swings, said the note might be retained if the coin was very unpopular (Dec 23, 1983); Stephen Petty wondered if it were all a plot to get Britons to spend more (Stephen Petty. "First Person." Times [London, England] 25 Feb. 1985: 13). But by 1986 the coin was accepted, pound notes had disappeared and the world did not come to an end.

¹⁸ See: Canadian govt. may be courting disaster with dollar coin, *Ottawa Citizen* 19 August 1985 p. A 12

vendor with it (he had family in Canada).¹⁹ On the other hand, it seems that Brixton drug dealers are more likely to accept Bitcoin than Brixton pounds (Cathead, 2013).

These anecdotes, combined with the analysis and stories of the previous sections, all suggest that community currencies are not good substitutes for regular cash. If regular cash were to disappear, any boost to them would likely be small. Conversely, as cash becomes less significant, community currencies themselves are likely to be squeezed out, unless they produce an electronic version.

However, it is worth returning to Michael Linton's question. Why would anyone use a physical community currency? For merchants, there are benefits if, like the Bangla-Pesa, the currency generates additional business. If people want to use it, and differentially choose businesses that accept the physical notes, then merchants have an incentive to accept them, and cash community currencies will continue, if not flourish. Innovative forms, such as Seedstock, may be the way forward. For consumers, the arguments put forward by the Transitions Towns movement and the Regiogeld proponents have some traction. Certain people like using a local currency. If this group overlaps with people who like using cash, then community currencies will survive, as marginal and economically insignificant forms of money.

Bibliography

Babad, Michael (2014) Triple-eh: Moody's lauds Canadian Tire money as almost 'sub-fiat' *The Globe and Mail* May 12 (updated May 13)

Balch, Oliver (2014) Bitcoin is having its moment but there are better sustainable currencies *The Guardian* July 9

Banks, Sophy, Carole Whitty, Hal Gillmore and Rob Hopkins (2010) *So, What does Transition Town Totnes Actually Do? The story so far 2006-2010* Transition Town Totnes

BBC (2008) Lewes pound 'too successful' (video)
http://news.bbc.co.uk/2/hi/uk_news/england/7619145.stm

Blanc, Jerome (2011) Classifying "CCs": Community, complementary and local currencies types and generations *IJCCR* 15, Section D pp. 4-10

¹⁹ See the report at <http://www.macleans.ca/society/life/7-surprising-things-bought-with-canadian-tire-money/>

Buchan, Dan (1977) The Hawarden scrip or stamp money in his *Pot Pourri*

Cathead, Harry (2013) I tried to buy drugs with Brixton's local currency January 28 at http://www.vice.com/en_uk/read/i-tried-to-buy-drugs-with-brixtons-local-currency

Clifton, C. C. (1932) Nation eyes Hawarden's experiment in scrip money *Des Moines Register* December 4 p. 1

Collom, Ed, Judith B. Lasker and Corinne Kyriacou (2012) *Equal Time, Equal Value* Ashgate

Elvins, Sarah (2005) Scrip money and slump cures: Iowa's experiments with alternative currency during the Great Depression *The Annals of Iowa* 64 (3) pp. 221-245

Feuer, Alan (2012) Prison may be the next stop on a gold currency journey *The New York Times* October 25 p. A18

Fisher, Irving (1932) *Booms and Depressions* Adelphi Press

Fisher, Irving (1933) *Stamp Scrip* Adelphi Press

Franks, Alan (1985) Sad note on a sterling fellow *Times* [London, England] 1 October p. 12

Friedman, Milton and Anna J. Schwartz (1963) *A Monetary History of the United States, 1867-1960* Princeton University Press

Gatch, Loren (2012) Tax anticipation scrip during the great depression *Paper Money* 280 July/August pp.259-267

Gervais, Raymond (1982) Pre-colonial currencies: A note on the Maria Theresa Thaler, *African Economic History*, **11** (1982), pp. 147-152

Gesell, Silvio (1916, 1929) *Die natürliche Wirtschaftsordnung durch Freiland und Freigeld*; translated by Philip Pye as *The Natural Economic Order*

Godschalk, Hugo (2001) Aufschwung durch lokales Nebengeld *Zeitschrift für Sozialökonomie* 129 pp. 11-16

Godschalk, Hugo (2012) Does demurrage matter for complementary currencies? *IJCCR* 16 Section D pp. 58-69

Harford, Tim (2008) It's like money, but with no dead presidents: Do 'local currencies' really help the communities that use them? *Slate* May 8 http://www.slate.com/articles/arts/the_undercover_economist/2008/05/its_like_money_but_with_no_dead_presidents.html

Hayek, Friedrich (1976, 1978) *The Denationalisation of Money* Institute of Economic Affairs (The argument refined subtitle added in 1978)

- Herpel, Mark (2010) Interview with Karl Schultz *American Chronicle*, June 4
- Hookway, James (2009) When it comes to cash, a Thai village says, 'Baht, humbug!' *Wall Street Journal* January 7
- Hopkins, Rob (2008) *The Transition Handbook*
- Hudson, Thomas *Guide Book of Wooden Money* sixth edition, privately published
- Keynes, John Maynard (1936) *The General Theory of Employment, Interest and Money* Harcourt, Brace and co.
- Lewes Pound (2009) *Community currency: Lewes pound how to guide* Transition Network
- Lietaer, Bernard (2010) *The Wörgl Experiment: Austria 1932-33* bog at <http://www.lietaer.com/2010/03/the-worgl-experiment/>
- Mackey, Patricia (2014) Bangla-Pesa brings big change to Kenyan slum *Borgen Magazine* June 30 <http://www.borgenmagazine.com/bangla-pesa-brings-big-change-kenyan-slum/>
- Martignoni, Jens (2012) A new approach to a typology of complementary currencies *IJCCR* 16 Section A pp. 1-17
- Mghenyi, Charles (2014) Bangla-Pesa on high circulation
- Mitchell, Ralph A. and Neil Shafer (1984) *Standard Catalog of Depression Scrip of the United States the 1930's including Canada and Mexico* Krause
- Montgomery, Sharon (2006) Liquor store rakes in Canadian Tire Money *The Canada eZine* December 21 <http://canada.lilithazine.com/Canadian-Tire-Money.html>
- O'Cathey, Earl R. (1971) *The Story of Wooden Money* privately published
- Naqvi, Mona and James Southgate (2013) Banknotes, local currencies and central bank objectives *Quarterly Bulletin* Fourth Quarter Bank of England
- Penrose, Jan and Craig Cumming (2011) Money talks; iconography and symbolic constructions of Scotland *nations and Nationalism* 17 (4) pp. 821 -842
- Ragogna, Mike (2011) *myLocal* heroes: an interview with Fairfield's Scott Morris *Huffington Post* blog, November 22 http://www.huffingtonpost.com/mike-ragogna/emmyemlocal-heroes-an-int_b_1106863.html
- Robertson, Meaghan (2020) A currency to call our own *Squamish Chief* June 10.
- Rösl, Gerhard (2006). *Regional Currencies in Germany – local competition for the Euro?*
Deutsche Bundesbank Discussion Paper Series 1: Economic Studies 43

Schroeder, Rolf F. H. (2006) Community exchange and trading systems in Germany *IJCCR* 10, pp. 24-42

Scott Cato, M. and M. Suarez (2012) Stroud pound: a local currency to map, measure and strengthen the local economy *International Journal of Community Currency Research* 16 Section D pp. 106-115

Selgin, George (2000) The suppression of state banknotes: a reconsideration *Economic Enquiry* 38 (4) pp. 600-615

Seyfang, Gill (2004) Time banks: rewarding community self-help in the inner city? *Community Development Journal* 39 (1) pp. 62-71

Seyfang and Smith (2002) *The time of our lives: Using time banking for neighbourhood renewal and community capacity building* University of East Anglia

Stone, Merle (1933) Rushing the Zylstra Bill (editorial) *Hawarden Independent* February 23

Strauss, Marina (2012) Canadian Tire's 'funny money' dilemma *The Globe and Mail* February 15 (updated September 6)

Thiel, Christian (2011) Complementary currencies in Germany: The Regiogeld system *IJCCR* 15 Section D pp. 17-21

Thiel, Christian (2012) Moral money – The action guiding impact of complementary currencies: A case study at the Chiemgauer regional money *IJCCR* 16 Section D pp. 91-96

Tschoegl, Adrian E. (2001). Maria Theresa's Thaler: A case of international money. *Eastern Economic Journal* 27 (4) pp. 445-464

Van Kuik, Miranda (2009) Time for each other: working towards a complementary currency model to serve anti-poverty policies of the municipality of Landgraaf, the Netherlands *IJCCR* 13 pp. 3-18

Walker, David (2009) The impact of community currency systems on gender relations in rural northeast Thailand: a hybrid social audit – gender analysis approach *IJCCR* 13 pp. 36-60

Ward, Bernie and Julie Lewis (2002) *Plugging the leaks: Making the most of every pound that enters your local economy* New Economics Foundation

Warner, Jonathan (2008) The Anaheim Scrip Plan *Southern California Quarterly* 90 (3) pp. 307-325

Warner, Jonathan (2012) Iowa stamp scrip: Economic experimentation in Iowa communities during the great depression *The Annals of Iowa* 71 (1) pp. 1-38

Willis, Henry Parker; and John Chapman (1934), *The Banking Situation: American post-war problems and developments* Columbia University Press