

The Bristol Pound: A tool for localisation?

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Abstract

The Bristol Pound is not the first convertible local currency (CLC) to circulate regionally, to be administered by a credit union, or to be supported by a local council. However, it is the first to possess all three of these attributes simultaneously. For this reason, the Bristol Pound has been heralded by some as marking a new era for local currency-driven localisation. To explore the Bristol Pound's impact on localisation, 27 semi-structured interviews were conducted with businesses and other Bristol Pound stakeholders. Economists were also interviewed to gain insights into the barriers to localisation and the likely impact of a CLC on these barriers. Overall, our findings suggest that the Bristol Pound is not driving localisation. Many of the key barriers were found to be political/institutional in nature (e.g. support for free trade, the free movement of capital, the power of global corporations, and the expansionary logic of capitalism). Such barriers are unlikely to be influenced by a CLC. We therefore suggest that those pursuing localisation should engage in a more active agenda that aims to change government policy and institutions to support an equitable, sustainable economy.

Keywords:

Local currency; Localisation; Bristol Pound; Political barriers; Post-growth economy.

Highlights:

- 27 interviews were conducted to explore the Bristol Pound's impact on localisation
- Our findings suggest that the Bristol Pound is not driving localisation
- The barriers to localisation were found to be political/institutional in nature
- Convertible local currencies are unlikely to impact on such barriers
- Political action aimed at institutional change would be a more effective strategy

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1. Introduction

In recent decades there has been a global proliferation of local currency experiments. Through such experiments, communities, activists, and non-governmental organisations have sought to further a variety of social, economic, and environmental objectives. Convertible local currencies (CLCs) are a relatively recent local currency innovation. They are backed by national fiat money at a one-to-one ratio, circulate within a defined locality (district, town, city, region), and can be spent with local, independent businesses that agree to accept them (Dittmer, 2013; North, 2014). While there is some evidence that CLCs can help foster community, their utility for furthering economic and environmental objectives is less clear (Michel and Hudon, 2015; Seyfang and Longhurst, 2013).

This article seeks to assess the claim that CLCs have the potential to counter globalisation by fostering localisation (Hopkins, 2008; Kennedy et al., 2012). Localisation refers to a process whereby localities, regions, and nations seek to become as self-reliant as possible for their everyday needs, thus reducing their dependence on imported goods. Informed by the concepts of self-reliance and resilience, proponents of localisation argue that it is inevitable due to the twin threats of climate change and peak oil. Therefore, they argue, it would be better to de-globalise voluntarily to smooth the transition to a post fossil-fuel era (North, 2010; Heinberg, 2011).

While governments have, for the most part, been cheerleaders of globalisation, opposition to it has largely been located in civil society. Since the mid-2000s, a number of civil society groups have experimented with CLCs with the aim of building more resilient local economies (North and Longhurst, 2013; Seyfang and Longhurst, 2013). While the relationship between CLCs and localisation has yet to be established (Dittmer, 2013; Michel and Hudon, 2015), the few case studies to examine the topic have mostly focused on small-scale town-based schemes in the UK (Longhurst, 2012; Graugaard, 2012; Cato and Suárez, 2012). These British schemes have been compared unfavourably to the Chiemgauer, a German CLC that circulates at the regional scale and has been operational since 2003. Despite being used by a wide variety of local businesses and producers, the question of whether the Chiemgauer actually drives localisation, as opposed to just replacing the Euro in transactions that would have occurred anyway, has yet to be answered satisfactorily (Dittmer, 2013; North, 2014)

Launched in 2012 by the Bristol Pound Community Interest Company (£B CIC) and Bristol Credit Union (BCU), the Bristol Pound (£B) is a CLC analogous in scale to the Chiemgauer. Approximately £B700,000 circulate throughout Bristol and the former county of Avon, an area covering almost 2 million people in the south-west of England (Hickey, 2015; Bristol Pound, 2015). While the £B is not the first CLC to circulate regionally, be administered by a credit union, or have local authority support, it is the first one to do all three simultaneously. For these reasons, Ryan-Collins (2012) has heralded

the £B as marking a “new era for local money”, and argued that it has real potential to drive localisation.

To date, no academic study has examined the relationship between a major CLC such as the £B and localisation. We aim to address this gap in the literature by exploring the following four research questions:

1. To what extent has the £B facilitated more local procurement by businesses that use the currency?
2. To what extent has the £B facilitated more local production?
3. What are the barriers to localisation, and are CLCs able to overcome these barriers?
4. If CLCs are not the answer to localisation, what other approaches could be pursued?

The first two research questions are addressed through the analysis of data gained from interviews with business owners in Bristol who accept the £B, as well as representatives of the £B CIC, Bristol City Council (BCC), and BCU. The third and fourth research questions are primarily tackled via an analysis of data collected from expert interviews with heterodox economists and localisation practitioners, although the other data sources also make a contribution.

The remainder of this article is organised as follows. Section 2 outlines the study’s context. Section 3 details the methodology, data collection, and analysis techniques employed in the research. Section 4 presents and discusses the results of the analysis, while Section 5 concludes.

2. Local currencies in context

2.1. Globalisation versus localisation

Geographical expansion has always been a key feature of capitalist development. However, following the breakdown of the post-war consensus in the 1970s, a combination of cheap oil, technological change, and a favourable political/ideological environment all contributed to a new round of globalisation, unprecedented in history. Since this time, capital accumulation has proceeded under a globalised economic order in which capital is free to relocate from high-cost to low-cost jurisdictions (Harvey, 1989; Harvey, 2006; North, 2010). This period has seen the rise of China as the workshop of the world and a concomitant decline in manufacturing in the Global North. Meanwhile, international trade and its associated carbon emissions have grown precipitously. Between 1995 and 2006, the carbon emissions embodied in international trade increased from 4.6 to 8.3 Gt, with such emissions now representing approximately one-third of the global total (Wiedmann, 2016; Xu and Dietzenbacher, 2014). With climate change mitigation necessitating huge emissions reductions, some

proponents of localisation have argued that the necessary reductions cannot be achieved without re-localising production and exchange. Moreover, a process of localisation is also inevitable, they argue, due to globalisation's dependence on finite oil supplies which are thought to be about to peak (North, 2010; Heinberg, 2011).

The concept of resilience is central to such arguments. Proponents of localisation conceptualise a resilient society as one that can adapt to disturbances, while maintaining core functionality in the face of change (Cretney, 2014; Hopkins, 2008). Resilience is unobtainable, it is argued, in the absence of self-reliance, which, in turn, requires a situation where basic needs can be satisfied using locally-produced goods and services. With its dependence on long, transnational, carbon-intensive supply chains, our contemporary globalised society is viewed as representing the very antithesis of resilience (Heinberg, 2011; James and Cato, 2014).

Local currencies have been endorsed by some as promising tools to help drive localisation (Douthwaite, 2012; Kallis, 2011). While Dittmer's (2013) review of the topic found little evidence that experimentation with local currency models such as LETS, HOUR currencies, and time banks had helped facilitate localisation, he raised the possibility that the absence of localisation might be due to the failure of these local currency models to gain the support of local businesses. CLCs, which are a relatively recent local currency innovation, have been much more successful in attracting business participation, and thus it could be argued that they have greater potential to drive localisation.

2.2. Convertible local currencies (pre-£B)

CLCs circulate within a defined locality (district, town, city, region) and can be spent with participating local businesses. Their relative success in attracting business support has been attributed to the fact that CLCs are backed by the national currency (North, 2014). The first ever CLC, the BerkShare, was founded in the USA in 2006 by the alternative economics think-tank the E.F. Schumacher Society.¹ By 2009 there were 180,000 BerkShares circulating throughout southern Berkshire County, an area covering 19,000 people. Moreover, 365 businesses were accepting BerkShares in this year. The CLC model soon caught the attention of Transition activists in the UK who advocate grassroots action to build localised economies to counter the twin threats of climate change and peak oil (Longhurst, 2012). By 2011, the towns of Totnes (Longhurst, 2012), Lewes (Graugaard, 2012), Stroud (Cato and Suarez, 2012), and Brixton (Ryan-Collins, 2011) all had their own CLCs. Although these CLCs have managed to attract business participation, their impact on localisation has been shown to be negligible — at least to date (North, 2014). However, it should be noted that these

¹ The innovation of the CLC model would not have been possible without the LETS and HOUR currencies which preceded it. For a short history of the evolution of local currencies pre-CLC see North (2014).

CLCs are all town-based schemes, while it has been argued that regional-scale CLCs have a better chance of driving localisation. With their larger circulation areas, regional-scale CLCs are thought to provide more opportunities for links to be forged between retailers, local producers, and suppliers (Douthwaite, 2012).

2.3. The £B: A new era for local money?

The £B was launched in 2012 as a not-for-profit collaboration between the Bristol Pound Community Interest Company (£BCIC) and Bristol Credit Union (BCU). Approximately 900 businesses accept it and transactions can be undertaken using paper notes or electronically, either online or with a mobile phone. BCU is responsible for administering £B accounts, while the £BCIC promotes the scheme and works to increase participation. The £BCIC is registered as a not-for-profit community interest company, while £B account holders are represented on the board and can participate in decision-making. Surplus profits generated by the £BCIC are distributed to active scheme members and the company's accounts are available online (Bristol Pound, 2015).² The £BCIC also plays an active role in promoting localisation, most notably through The Real Economy Co-op. This £BCIC-backed initiative aims to source "fresh and locally produced food as directly as possible from the people who grow and make it... giving them a fair price for their produce" (Bristol Pound, 2016).

When the £B was launched, Ryan-Collins (2012) published an article under the headline "Bristol Pound marks new era for local money". The article outlined three attributes which, taken together, make the £B well-placed to succeed in driving localisation.

First, Ryan-Collins (2012) argues that owing to its regional circulation area (the former county of Avon), the £B has the potential to drive localisation by linking agricultural producers and local energy cooperatives with an urban population of more than one million people. The £B Directory currently lists 13 farms, a renewable energy company, and two energy cooperatives amongst the 900 businesses that accept the £B (Bristol Pound, 2015). Despite being skewed towards retail firms, a range of business types accept the £B including a number of suppliers and wholesalers. As with the Chiemgauer (Volkman, 2009), the range of businesses that accept the £B suggests potential for localisation.

Second, Ryan-Collins (2012) views BCU's and BCC's support for the £B as giving it an advantage over other CLC schemes. In particular, it is argued that BCU's administration of the scheme could extend the £B to a more diverse demographic than previous local currency projects.

Third, Ryan-Collins (2012) expresses hope that BCC's acceptance of the £B for the payment of business rates will serve to encourage small businesses to join the scheme by providing an outlet for

² Profits are generated from fees charged on electronic payments: 2% for receiving text payments and 1% for receiving online payments (Bristol Pound, 2015).

excess £Bs. The Chartalist school of monetary theory would agree. According to this perspective, money gains legitimacy when accepted for the payment of taxes (Ryan-Collins et al., 2014).

By re-spending the £Bs received from taxes, either through wages or procurement, Ryan-Collins argues that BCC can act as “a clearing house for the currency”, thus stimulating “more regional production and consumption”. Not all researchers in the field are as optimistic about the £B’s potential, however. Dittmer (2013) argues that (a) the option to pay taxes in £Bs could reduce incentives to localise supply chains, and (b) the currency’s reliance on BCC procurement casts doubt on the utility of having a currency oriented towards local businesses in the first place.

Reprising Marx and Engel’s critique of “appeal-to-elites utopian socialism”, Dittmer (2013) levels an even more fundamental critique of CLCs: by seeking the support of society at large (including elites), CLCs shy away from questions of power and class conflict. This situation is particularly problematic, he argues, when radical objectives are downplayed and political activism foregone. Dittmer detects such tendencies in the £B, pointing to the absence of any references to either localisation or the Transition Network on the £BCIC’s webpage. Moreover, owing to the local council’s endorsement of the £B, he doubts whether the £B will “resist assimilation into conventional local growth agendas” (Dittmer, 2013: 10). He suggests a tax on transport fuels might be a better option because such a tax would better target the real problem (i.e. society’s reliance on unsustainable imports) by making such imports more expensive. A CLC, on the other hand, is less targeted because it “imposes additional costs on all interregional exchanges, payments, and transfers, regardless of whether they involve interregional material flows or not” (Dittmer, 2013: 10).

Echoing Dittmer, Klitgaard and Krall (2012) question whether objectives such as localisation can be achieved without political action and large scale institutional change. They express doubt that, through market mechanisms alone (e.g. local currencies), the system can simply be reset to “an era of small business where local production, and not global finance, was the driving factor of capitalism” (p. 251). Moreover, even if the clock could be rewound, they ask why the system would not simply evolve back to its present state with the passage of time.

Digipay4growth, a recent EU-funded project that the £B is to participate in, may provide evidence of Dittmer’s critique. The project aims to apply Cyclos digital payment technology to “stimulate local/regional economic growth” and “increase...the local/regional multiplier effect”. Bristol Prospects (the name of the scheme) is essentially an interest-free business-to-business mutual credit network for local small businesses. Although members will be encouraged to open £B accounts, doing so will not be a requirement. It is hoped that Bristol Prospects will complement the £B and help to scale up usage of the currency (Digipay4growth, 2015).³ The goal of “increasing the regional multiplier effect”

³ At the time of writing Bristol Prospects had yet to be launched.

is shared by both initiatives. According to research by the New Economics Foundation, because local businesses spend a larger portion of their earnings within the local area, such spending is worth 400% more (to local economies) than the same amount spent with non-local businesses (LM3 Online, 2017). When promoting the £B, the £BCIC tends to emphasise the local multiplier effect above other goals.

While increasing the local economic multiplier is not antithetical to localisation, those who advocate localisation on environmental grounds would be well advised to question an initiative whose goal is to increase economic growth. Like globalisation, economic growth places huge demands on the environment and the planet's finite resources. These demands have led some authors to call for a process of "degrowth" (D'Alisa et al., 2014) or a "steady-state economy" (Dietz and O'Neill, 2013) in wealthy nations. As noted by Dittmer (2013), while localisation requires growth in some sectors of the local economy (e.g. organic agriculture and renewable energy), aggregate growth is not a desirable outcome for those concerned with resilience and environmental sustainability. Similarly, Goodman et al. (2010) warn against an uncritical reification of local consumption. While such consumption may be better environmentally, no consumption is ever truly green. As noted by Czech (2010):

Some consumable goods are less brown than others — think Honda vs. Hummer — but even a unicycle requires natural resources for its production. Manufacturing the unicycle entails pollution, too. It just doesn't square to call an expanding unicycle sector a "green" phenomenon. Even compared to Hummers, unicycles are less brown, not green.

Thus, while resilience may well entail the consumption of more local goods and services, it also requires much less consumption overall. In this regard, and although it is beyond the scope of this study, Dittmer's (2013) question regarding whether or not CLCs contribute to unnecessary consumption is also pertinent.

3. Methods

The research for this study was undertaken in two phases. In the first phase, data were collected and analysed from interviews with business owners who accept the £B, and also with representatives from the £BCIC, BCC, and BCU. While the purpose of this phase was primarily to address research questions 1 and 2 (Section 3.1), insights gained from these interviews are also relevant to research questions 3 and 4. In the second phase, interviews were conducted with heterodox economists, localisation researchers, and proponents of localisation in order to gain deeper insights into research questions 3 and 4 (Section 3.2).

3.1. Phase one

A total of 27 semi-structured interviews were conducted with independent business owners (and some employees) who accept the £B. Twenty-one interviews were conducted face-to-face, five over the telephone, and one via email. Interviews were recorded with the participants' permission and generally lasted between 20 and 45 minutes. The £B has a directory on its website that lists all of the (approximately 900) participating businesses, along with an interactive map of their locations (Bristol Pound, 2015). These tools were used to identify potential interviewees representing a broad range of business types.

In the interests of efficiency, it was decided to target those parts of the city with high concentrations of businesses that accept the £B. The interview sample is thus somewhat skewed towards businesses concentrated in three geographical areas of the city. To protect interviewee anonymity, those areas are not disclosed. Nevertheless, a range of business types are represented in the interviews (see Table 1). Five telephone interviews and one email interview were conducted with businesses located either on the edge, or outside the city. These six businesses were targeted specifically for being producers and/or suppliers, a group whose participation is regarded as integral to the functioning of CLCs (Ryan-Collins, 2011; North, 2014). The aim of the questions put to business participants was to gain insights on their experience of using the £B. The most important line of questioning concerned the £B's impact on procurement practices. Follow-up questions were put to participants based on their responses to the pre-prepared questions.

Three email interviews were also conducted with representatives of BCU, BCC, and the £BIC respectively. As co-founders of the £B, BCU and the £BIC were viewed as prize interview targets. Similarly, as one of the few local authorities in the world to accept a CLC for the payment of local taxes, BCC was also identified as an important interview target. Potential interviewees from all three organisations were contacted by email and asked to participate following some web-based research. Individuals from BCU and BCC answered questions via email; the £BIC did so as an organisation. The questions were tailored specifically to get the respondents' perspectives on the impact of the £B on localisation.

Interviews were transcribed to facilitate data analysis, and each participant's responses were coded on a question-by-question basis. Coding was followed by further analysis which sought to identify common themes in the data. These themes form the basis of the results relating to research questions 1 and 2.

3.2. Phase two

A series of semi-structured interviews was conducted with heterodox economists, localisation researchers, and proponents of localisation. Although we adopt an ecological economics perspective in our research, we argue that ecological economics has much to gain from engaging with other heterodox schools of thought (Spash and Ryan, 2012). As Klitgaard and Krall (2011) have remarked: “Ecological economics is a vast improvement over mainstream economics because it embeds the economy inside a finite and non-growing biophysical system. This approach can be enhanced by a greater focus on market capitalism as a system” (p. 248). In order to address research questions 3 and 4, an understanding of the barriers to localisation was required, some of which relate to broader capitalist processes. Each interviewee was selected because he or she was judged to have important contributions to make on these topics.

Eight interviews were conducted in total (see Table 1), all of which took place over Skype. The interviews were recorded with the participants’ permission and generally lasted between 30 and 60 minutes. Before each interview, participants were asked whether they would prefer to be named in the study or anonymised. The questions sought to gain insights regarding the barriers to localisation and the impact of CLCs on these barriers. Interviewees were also encouraged to suggest other strategies for localisation. Again, each interview was transcribed, coded, and analysed thematically. However, the process was less straightforward than in phase one because research questions 3 and 4 are more analytical in nature. Therefore, the themes identified are more partial and may be more open to contestation than those from phase one.

Table 1. Expert interviewees

Name	Institution/Organisation	Background/outlook
Mark Burton	Steady State Manchester	Degrowth/Marxist
Molly Scott Cato	Green Party of England and Wales	Green Economist
Kristofer Dittmer	ICTA-UAB	Degrowth/Ecological
Gary Dymski	University of Leeds	Post Keynesian
Matthew Jackson	The Centre for Local Economic Strategies	Social Economist
Mary Mellor	University of Northumbria	Green Economist
Jo Michell	University of Western England	Post Keynesian
Marco Passarella	University of Leeds	Marxist

4. Results and discussion

4.1. The £B and local procurement

Research question 1 asked the following: To what extent has the £B facilitated more local procurement by businesses that use the currency? According to a representative of the £BCIC, there are cases where the currency has done so: “We have some examples of new business-to-business

connections” (£BCIC Interviewee). While the £BCIC did not supply any evidence to support this statement, our results suggest that the £B’s impact on supply chain localisation has been minimal. Table 2 lists all the business interviewees. Those in similar procurement situations *vis-à-vis* the £B are grouped by number. The significance of each number is explained in the right-hand column of the table.

Table 2. Has the Bristol Pound facilitated more local procurement?

Group	Inter-viewee	Company type	Average £Bs received per month	To what extent has the Bristol Pound facilitated more local procurement by businesses that use the currency?
1	G	Café	£200-£300	Some extra local procurement. £B was a consideration in the decision to use two new suppliers.
2	D	Health food	£50	No extra local procurement. £Bs spent with suppliers who were suppliers previously. Supplies bought from the same organic food wholesaler (Interviewee Z).
	H	Café	£20	
	I	Health food	Hundreds	
	S	Café	£50	
	X	Bakery	£400-£500	
3	Y	Food wholesaler	£2,000	No extra local procurement. Some £Bs spent with suppliers who were used previously. The majority spent on business rates. Sometimes find it difficult to spend £Bs. Interviewee Z converts some £B back into sterling in the months when no business rates are due. Interviewee Y mistakenly thought that they were not allowed to convert back to sterling.
	Z	Organic food wholesaler	£10,000	
4	W	Veg supplier	£500	No extra local procurement. Some £Bs spent with supplier who was used previously. The rest converted back to sterling.
5	B	Jewellery/craft	£20	No extra local procurement. Suppliers do not accept £B. Those who have received £Bs spend them in local shops, bars, and restaurants. Some reported spending £Bs at places they frequented previously. Others reported seeking out new places to spend them. Some reported difficulties spending £Bs. Others did not have this problem.
	C	Flower shop	£10	
	K	Art and craft	50p	
	L	Upholstery	1 payment	
	M	Home and gift	£0	
	N	Restaurant	£15	
	T	Toy shop	£100	
	U	Health food	£85	
V	Salad grower	£2		
6	A	Clothes shop	Varies	No extra local procurement. Some £Bs spent with suppliers who were used previously. Many suppliers do not accept the £B. Spends £B on groceries and restaurants.
	F	Sweetshop	£15-£40	
7	V	Farmer	£400	No extra local procurement. Does not earn enough to be worthwhile. Converts back to sterling because lives an hour away from Bristol.
8	R	Café	£25	No extra local procurement. Does not receive enough £Bs to pay suppliers. Employee takes some in wages to spend in bars and cafés. Has £Bs in account that they do not spend.
9	E	Used book shop	£5	These businesses either do not have suppliers (used book shop and charity shop), or information was not available because the employee interviewed did not know the answer.
	J	Restaurant	£50-£60	
	O	Restaurant	£800	
	P	Charity shop	40p	
	Q	Bakery	£20-£25	

Only one out of 27 business interviewees (G) indicated that the £B had influenced them to procure more locally. In this case, the acceptance of the £B by two suppliers was “a consideration” in the decision to source products from them. The first supplier was a local small-scale producer of soft drinks. According to the company’s website they make soft drinks using locally-sourced and British ingredients on their premises just outside Bristol. The previous drinks supplier was described by Interviewee G as “a large drinks distributor so definitely not local”. Therefore, some localisation does seem to have occurred as a result of this switch. The other example cited involved a decision to source salad items from a Bristol-based salad producer. In this case the effect on supply chain localisation was unclear, as Interviewee G did not know where the previous supplier sourced their produce.

Aside from Interviewee G, no further instances of supply chain localisation were detected. Those in similar procurement situations have been grouped and coded by number. Group 2 indicated that although they re-spend all of the £Bs they receive with local suppliers, those suppliers pre-dated their participation in the scheme. Therefore, although they pay their suppliers in a different currency, their procurement practices remain unaltered. Interestingly, all the businesses in this category sell food and drink and source produce from the same whole foods supplier (Interviewee Z). These transactions are undertaken using £Bs.

Interviewees Y and Z (Group 3) form an interesting pair. Both companies are wholesale suppliers. As noted above, Interviewee Z receives £Bs from customers (including those in Group 2). Again, Group 3 spends some £Bs with their old suppliers. However, because they receive more of the currency than they can recirculate back into the local economy, the majority of their £B earnings are used to pay business rates. For example, Business Z receives around £12,000 each month. Most of this money is used to pay business rates which amount to £86,000 per year. They also convert “a fairly small figure, probably less than 10%” of their £Bs back into sterling in the months when no business rates are due (Interviewee Z). Interestingly, Interviewee Y did not know it was possible to convert £Bs back into sterling, suggesting that, in this case, convertibility was not a factor in their decision to join the scheme. Similar to Group 3, Interviewee W (a vegetable grower/supplier and the sole occupant of Group 4) spends some of the £Bs they receive with an old supplier. The rest they convert back to sterling (Interviewee W).

The ten respondents in the largest group (Group 5) said their suppliers did not accept the £B. Again, the £B has not influenced them to change suppliers. The majority of this group spend their £B takings on things like groceries, coffees, and sandwiches. Some did so at places they frequented previously, while others reported finding places to spend them via the £B directory. Many had non-local suppliers: “I source a lot of my own products from places like Thailand, Bali, yeah, so it would be no good to them even if they were aware [of the £B]... I do buy a lot of British products as well, those British

products are very rarely from Bristol” (Interviewee B). Some reported having local suppliers who do not accept the £B. Businesses dealing in manufactured goods not produced locally were particularly unwilling to accept the currency.

Group 6 share commonalities with Groups 2 and 5. Although they pay some suppliers using the £B, the majority do not accept it. Again, those paid in £Bs are not new suppliers. Interviewee V, a supplier of meat and dairy produce (the sole occupant of Group 7) said that they did not procure things using the £B because they received too few of them. However, they were happy to convert their £B back into sterling. Interviewee R, a sandwich shop owner (the sole occupant of Group 8) said that while some of their suppliers accept the £B, it was more convenient to pay with sterling. The remaining five interviewees (Group 9) either did not have suppliers due to their business model or did not know the answers (because they were employees rather than owners).

When speaking to business owners it was clear that procurement decisions are based on a number of factors, mostly unrelated to the currency. Cost seemed to be a priority:

Yeah it's quite expensive to produce clothes in this country. I mean we do get... some stuff that is produced here. But then we don't sell high-end things, a lot of things produced here generally are a bit more expensive. But we try and focus on getting Fairly Traded stuff (Interviewee A).

Some gave other reasons for not procuring local goods:

I'm very specialist. I'm within the specialisms of specialists, it's kind of quality stuff mostly... A lot of the suppliers of the things I want, I get stuff from Germany, France, Europe, mainly. It's all European stuff (Interviewee K).

Interviewee K was proud to sell “quality stuff” and this was a prime consideration in deciding to purchase goods from outside of the UK. The lack of local manufacturers able to supply the necessary products was also cited as another barrier to local procurement: “There aren't any toy manufacturers in Bristol, as far as I know” (Interviewee T).

4.2. The £B and local production

Research question 2 asked the following: To what extent has the £B facilitated more local production? The vast majority of business interviewees had not seen any evidence of increased local production since the arrival of the £B. As Interviewee B put it:

There is potential there perhaps but certainly my experience with the Bristol Pound hasn't shown that we are getting, you know, extra types of people doing things in the local economy production-wise if you like. It doesn't seem to be happening (Interviewee B).

Some expressed surprise that the variety of locally-produced goods was something anyone would expect to be influenced by a local currency:

I've never thought about the connection between the variety of locally-produced goods. Maybe I don't know enough about the ethos of the local currency but I certainly haven't seen that (Interviewee Q).

This response is understandable given that the £B has never really been promoted as a tool for extending the variety of locally-produced goods and services. As mentioned in Section 2, the £BIC and BCU usually extol the £B's virtues as a way of increasing the local economic multiplier for pre-existing local businesses, not its capacity to increase local production. However, others have been more explicit in voicing such hopes for the £B (e.g. Ryan-Collins, 2012).

Interestingly, the interviewees from BCU and the £BIC (founders and administrators of the £B) provided conflicting views regarding the £Bs' impact on local production. According to the £BIC:

We are demonstrating it [the capacity of the £B to extend the variety of locally-produced goods and services] by continuing to grow the scheme. Though growth is slow, it is on an upward trend (£BIC Interviewee).

In contrast, the BCU interviewee said the following:

Arguably, the purpose of a local currency is not to extend the variety of locally-produced goods and services, but to support those already in existence and to encourage the environment which makes possible such extension (BCU Interviewee).

The point about encouraging a more supportive environment for locally-produced goods and services was echoed by other interviewees, many of whom expressed their hope that the £B would play a bigger role in local production in the future. The next section examines the barriers to localisation and the possibility of altering the £B to overcome them, while elucidating other potential strategies for doing so.

4.3. Barriers to localisation, and alternative approaches

Research question 3 asked about the barriers to localisation and whether CLCs can help overcome these barriers. Meanwhile, research question 4 asked what other approaches to localisation, apart from local currencies, could be pursued. Table 3 highlights some of the barriers to localisation (column 1) and potential approaches for overcoming them (column 2). These insights were gleaned from the expert interviews and each are discussed in the subsections below.

Table 3. Barriers to localisation and approaches to overcome them

Barrier to localisation	Approaches to overcome barrier
Free movement of capital	Government capital controls; Public procurement favouring local and ethical products/businesses.
Free trade	Government tariffs on imports; Government subsidies for domestic production.
Lobbying power of global corporations	Laws to keep money out of politics; Different forms of business ownership (e.g. cooperatives, public companies, not-for-profits); Regulation to reduce the power/size/purpose of corporations
The banking sector's lack of investment in local economies	Banking reform and regulation; New types of financial institutions that lend for local production; Bigger role for the state in money creation and allocation.
Consumer culture which values global commodities and cheap imports	Education campaigns; Restrictions on advertising; Policies to make local products more affordable (e.g. tariffs, subsidies, higher wages).
The expansionary logic of capitalism	Transition to a post-capitalist system.

4.3.1. Capital mobility

The free movement of capital was highlighted by many expert interviewees as an important barrier to localisation. As Marco Passarella explained:

Globalisation [the opposite of localisation] is and has been mainly driven by the removal of capital controls, the removal of barriers and constraints particularly to the financial sector... Financial liberalisation and globalisation are strictly related together and indeed the globalisation era in a way arose... at the end of the 70s early 80s when the European countries started to remove these barriers. Globalisation is mainly about removing barriers and allowing capital to flow from one country to another and from one region to another.

If the removal of capital controls was integral to the process of globalisation, their reinstatement could go a long way towards reversing the process; several interviewees suggested as much. However, because the imposition of capital controls requires political action at the national/international scale, CLCs could not be expected to have much impact on capital mobility.

It is true that CLCs have been advocated as a way of limiting capital mobility at the local level due to their supposed ability to encourage local spending (Cato and Suarez, 2012). However, because CLCs can be exchanged for national currency, this outcome is not guaranteed. As Mary Mellor put it:

As soon as you can switch and exchange into other currencies freely, the free movement of capital, then obviously production and exchange is going to flow globally... if people got hold of the Bristol Pound and didn't want to stay local they would just change it back into sterling, and then they'd change it from sterling into Euros, and Euros into dollars. So I think it's not the money that's making the Bristol Pound work, it's the willingness of people to act local.

Encouragingly, only three (out of 27 business interviewees) reported converting their £Bs back into sterling. However, these were amongst the few who received more than £B300 per month. The majority earned very few £Bs (see Table 2) and, consequently, did not earn enough to warrant converting them back into sterling. While BCC's acceptance of the £B for the payment of business rates is also a disincentive for converting back into national currency, only two businesses used their £B to pay business rates (Group 3). Interestingly, Group 3 are the highest earners of £Bs. The other participants reported receiving too few £Bs to pay business rates in them.

BCC's spending power has been pinpointed as a key factor that could help the £B to drive localisation. However, it is not clear that increasing the proportion of BCC procurement denominated in £Bs would have the desired effect of enforcing changes in spending habits. As described in Section 4.1, apart from Interviewee G, little evidence could be found of businesses changing their procurement habits since the arrival of the £B. If BCC did manage to vastly increase the number of £Bs in circulation, it is conceivable that businesses receiving more than they could spend would simply convert them back to sterling (like Interviewees V, W, and Z). Another likely outcome would be for excess £Bs to be returned to BCC in the form of business rate payments (like Group 3). This outcome would put the onus back on BCC to recirculate £Bs back into the local economy. Indeed, in 2014 over 50% of £B deposits in business accounts were paid to BCC to settle business rates (Bristol Pound Community Interest Company, 2014: 11), a problem that is well understood by the £BCIC:

The need for BCC to spend at or above the level of business rates received from business members using £B... is vital to maintain and increase the volume of currencies issued. As BCC currently accepts Bristol Pounds via business rates we can observe a dampening effect this can have on circulation (Bristol Pound Community Interest Company, 2014: 11).

This finding supports Dittmer's (2013) suggestion that the £B's dependence on public procurement undermines the utility of having a currency oriented towards local businesses. Interestingly, Matthew Jackson and Mark Burton both highlighted public sector procurement as a useful strategy for localisation (in lieu of a CLC). In his work at the Centre for Local Economic Strategies, Jackson has been collaborating with Manchester and Preston City Councils to help them increase their local spending.⁴ Meanwhile, Burton emphasised how such procurement would need to prioritise the decarbonisation of supply chains.

⁴ See Jackson (2017) for an interesting overview/appraisal of CLES' collaboration with Manchester City Council on local procurement.

4.3.2. Free trade

Institutional support for free trade was cited by interviewees as another political barrier to localisation. As Mark Burton put it:

[Free trade] tilts the table away from the local because cheap labour and cheap energy subsidised production elsewhere makes it very difficult, in a competitive environment, for local producers, whether that's local producers of food or durable goods or whatever.

Import tariffs and subsidies for domestic industry were suggested by some interviewees as strategies to reverse free trade in order to "protect... and build the local economy" (Molly Scott Cato). Meanwhile, a carbon tax on transport fuels was also suggested by Dittmer, Burton, and Cato as a means of making long-distance trade prohibitively expensive. However, as noted by a number of interviewees, any political moves to reverse globalisation would meet with resistance from those who benefit the most from it, in particular multinational corporations.

4.3.3. Corporate power

The formidable power of corporations was also cited as a key barrier to localisation. As Molly Scott Cato put it:

The people who have benefitted from those [pro-globalisation policies] have been corporations, and I think this is a major reason why people are losing confidence in politicians. Because they don't see politicians as people who are prepared to stand up to corporate power. Partly because the corporations themselves have a lot of lobbying power.

The £B is supposed to challenge corporate power by encouraging spending with local as opposed to big business. This principle is operationalised through the rule that £B "business accounts are available to traders that are independently owned and based in or around Bristol" (Bristol Pound, 2017). However, this rule has not been enforced across the board. For instance, the £BIC have an agreement with First Group, a corporation who deliver privatised bus services in Bristol, whereby £Bs can be used to pay for bus travel. Although this agreement was made to encourage more usage of the £B, some believe a more confrontational stance towards big business would widen the currency's appeal:

They could have said: 'Do you want to stick two fingers up to Tesco's? Bristol Pounds is the answer. Wanna stick two fingers up, generally, to big businesses, multi-national corporations, wanna support your local independent? Stick £50 of Bristol Pound in your wallet and spend it locally.' ...But they chose not to do it, so you had to work it out for yourselves, sort of thing... I

suppose because they thought they might be seen as having a political, or anti-political agenda (Interviewee E).

This statement tends to support Dittmer's (2013) Marx-inspired critique of the £B as a form of "appeal-to-elites utopian socialism" that forgoes the political action that is required to bring about change. One strategy might be to support and campaign for politicians who are prepared to challenge corporate power. However, as noted by Marco Passarella, "It's almost impossible... to win the elections by telling [people] that you are going to reduce the power of corporations." This is a problem because most of the interviewees' suggestions for overcoming corporate power would need to be implemented by sympathetic politicians. Suggestions ranged from tougher regulation of big business, right through to dismantling the shareholder-owned for-profit model of business organisation. Public ownership, worker cooperatives, and not-for-profits were all identified as possible alternative business models. Again, such moves would require strong government intervention to change laws and institutions. Although the idea of a bottom-up transition has a certain appeal, it has been shown that many proposals for achieving environmental and social sustainability require top-down action (Cosme et al., 2017). While worker cooperatives and not-for-profits do exist in the UK, they are currently the exception rather than the norm. Furthermore, as noted by Matthew Jackson, such operations require significant amounts of "social investment, funding, and resources to get off the ground".

4.3.4. Banks, money, and public goods

The banking sector's role in allocating money in the economy was also raised as an important area for consideration by some interviewees. The UK's banking sector was criticised for directing resources towards speculative and environmentally destructive activities at the expense of local economies and public goods. As it is backed by sterling, the £B does not create any additional spending power. This, according to a number of interviewees, explains its lack of impact on local productive capacity. Although BCU said they had been able to increase lending as a direct result of the recently acquired deposits of £B users (Interviewee BCU), the scale of the increase was limited by the relatively small number of £B deposits. Bristol Prospects, the mutual credit scheme that is associated with the £B, could hold more promise for increasing local productive capacity. While Bristol Prospects could create new spending power for its members, the scheme's explicit support for local economic growth is problematic from a sustainability perspective. Thus, for Bristol Prospects to drive sustainable localisation, the £BIC would need to be very selective about the types of businesses that were allowed to participate.

Several suggestions were put forward by interviewees to reform money and banking. Some suggested a bigger role for public, local, and cooperative banking. Marco Passarella suggested nationalising and breaking up the big banks that currently dominate. Mary Mellor argued that government spending should play a bigger role in allocating money towards local economies and public goods. Again, all of these suggestions require political intervention at the national scale.

4.3.5. Culture

Consumer culture was also highlighted as a huge barrier to localisation by a number of interviewees. Is the £B helping to reverse this culture? Molly Scott Cato noted that the Stroud Pound played an important role in getting people to think more about the nature of money and local economies. Similarly, according to a BCU representative, “anecdotal evidence [suggests] there are a growing number of people who have said that they now shop primarily in their local independent stores having previously shopped at supermarkets” (BCU Interviewee). While this may be true, it is also apparent that only a very small minority actually use the £B. A number of interviewees (both business and expert) expressed the view that the £B (and local currencies more generally) struggle to gain traction outside of educated, environmentally conscious, left-leaning circles:

[Bristol Pound users are typically] people who are maybe campaigning against big companies or against... I imagine it's that sort of activist person who wants to do something active to support the local economy... yeah, late twenties, thirties I'd say are the people that I see use it. People who like local farmers and who appreciate the impact it has on their personal business or the environment (Interviewee Q).

This view is reinforced by the fact that most business interviewees reported £B earnings of less than 2% of business turnover. Similarly, an email from a BCU representative confirmed that “at the end of July [2015] there were 1,277 individual [£B] accounts open, and 568 trader accounts”. As a rough approximation of regular users, this number equates to 0.4% of Bristol's population (or 0.2% of the currency's entire circulation area). Moreover, the £B700,000 currently in circulation accounts for only 0.007% of Bristol's gross domestic product.⁵ If the £B's impact on localisation is dependent on its use becoming normalised, it still has a long way to go.

4.3.6. The internal (expansionary) logic of capitalism

Perhaps the most daunting barrier to localisation raised during the interviews was the internal expansionary logic of capitalism, an issue discussed in detail by Mark Burton:

⁵ Bristol's gross domestic product is approximately £10 billion.

I see the process [of globalisation] as part of an integral process of long duration whereby capital, and that's shorthand obviously, where the owners of capital which these days includes bodies like pension funds as well as individual capitalists, where capital seeks to maintain its profitability and to surmount the internal contradictions of the system. And it does that through the pursuit of new resources, so in order to extract raw materials it does that on an ever-increasing scale which transcends national boundaries. It seeks labour forces for whom it can expropriate surplus value more readily. And also it accumulates through dispossession, forcing people off the land and so on. And it does it through the pursuit of new markets. So it's dealing essentially with the process of stagnation which is inherent in its internal logic, like a contradiction in the system. So that kind of leads us into a process of globalisation which of course has accelerated since the fall of the Soviet Union.

This argument is reminiscent of that put forward by Klitgaard and Krall (2012) (see Section 2) who also view the internal dynamics of capitalism as the main barrier to localisation. As with the other barriers mentioned previously, the £B does not pose a threat to the capitalist system. In fact, because CLCs are complementary (as opposed to alternative) currencies, it could be argued that they facilitate rather than undermine capitalist growth (Dittmer, 2013). While Burton accepts the argument that overcoming capitalist growth necessitates large-scale institutional change, he is also of the opinion that there is much that can be done locally to fight the system's tendency to globalise.

Burton is a founder member of Steady State Manchester, a grassroots collective which advocates and lobbies for an alternative approach to economic development in the Manchester city region "so that all can live well and within planetary limits" (Steady State Manchester, 2016). The group recently produced a report entitled "Policies for the City Region" (Steady State Manchester, 2017), aimed at the incoming Greater Manchester Mayoral administration (which will soon be given more responsibilities under a devolution agreement with central government). While the proposals in the report are concerned with the city-region scale, their focus on the political realm tends to support Dittmer's (2013) argument regarding the necessity for political engagement when the goal is to effect progressive change. Such engagement may prove to be a more effective route to localisation than the creation of CLCs.

4.4. Localisation by other monetary means

As outlined above, the evidence suggests there are multiple barriers to localisation which, being political in nature, are unlikely to be overcome by a CLC such as the £B. While this does not necessarily mean that localisation cannot be pursued through some form of monetary innovation, it does suggest that, to be effective, any such innovation would require state backing and enforcement. With this in mind, it is worth briefly examining Hornborg's (2017: 627) proposal for a complementary currency that would be distributed by governments to their citizens as a basic income. Rather than being one

of many local currencies (as per the CLC model), this approach would be a “national, complementary currency for local use”.

Such a currency would have three significant advantages over CLCs *vis-à-vis* its likely impact on localisation. First, because it would only be partially convertible (at some percentage of total income) and at rates regulated by the government, there would be less financial leakage from local regions into global circuits of capital accumulation. As noted in the previous section, because they are fully convertible, CLCs are ill-equipped to perform this function. Second, because Hornborg’s currency could only be spent on locally-produced goods (certified by the authorities and defined in terms of transport distances), demand for such goods would likely increase, thus incentivising local production. Again, this is not the case with CLCs which can be spent on goods originating from anywhere in the world. Finally, because such a currency would serve as fiat money for local goods and services, local production and consumption would be further incentivised. This arrangement contrasts with CLCs which are only accepted by businesses on a voluntary basis.

While Hornborg’s proposal for a state-backed complementary currency addresses some of the problems that we have identified with CLCs, it would require a much higher level of political involvement than CLCs do. It therefore remains an open question whether such an initiative could survive the transition from a theoretically promising proposal to a practical solution for localisation.

4.5. Limitations

Our analysis of the Bristol Pound is largely based upon 27 semi-structured interviews with businesses in Bristol. While 27 is not an insignificant number, if time and resources had permitted, we would have spoken to a larger proportion of the 900 businesses who accept the currency. Although we do not believe a larger sample of business interviewees would significantly change our results, we recognise that it would make them more robust. In this regard, future studies examining this topic might employ questionnaires as well as face-to-face interviews. Similarly, if time and resources had permitted, we would have interviewed more expert interviewees. Again, while we do not believe this would significantly affect our results, a larger sample representing a wider spectrum of opinion could only have enriched the study.

While we question the notion that social science can ever be conducted from a position of disinterested neutrality (Söderbaum, 1999), we also acknowledge how subjectivity, though unavoidable, can contribute to research limitations. In this regard, we recognise that our analysis of the interview data was an (unavoidably) interpretive and subjective process. Although we doubt that others would have come to radically different conclusions given the same data, we recognise the possibility that they might.

Another possible limitation is related to the timing of the field work. When the interviews were conducted (in July 2015), the £B had only been operational for three years. Some might argue that we should give the £B more time to establish itself before enquiring into its impact on localisation — an argument that is not without merit. However, given the multi-scalar barriers to localisation identified in this study, we doubt whether there will be any significant change with the passage of time.

Finally, it is worth stressing that our study only analyses the relationship between CLCs and the goal of localisation. We do not attempt to analyse other suggested benefits of local currencies such as their ability to facilitate exchange in the face of economic crisis, increase the local economic multiplier, or foster social capital. While their backing by a national currency is likely to hamper the effectiveness of CLCs in times of economic crisis (Dittmer, 2013), there is some evidence that CLCs may increase the local economic multiplier (Michel & Hudon, 2015) and help build social capital (Seyfang and Longhurst, 2013). Indeed, this claim is supported by the results of a recent case study concerning the social effects of the digital technology used to facilitate electronic £B payments. This technology was found to foster social interactions which would not otherwise have occurred (Ferreira et al., 2015). Thus if community building is the main goal being pursued (as opposed to localisation), then a CLC might yet be a useful tool.

5. Conclusion

This article has presented original research on the Bristol Pound, a CLC based in the UK, and assessed its impact (or lack thereof) on localisation. In doing so, we have explored four research questions: (1) To what extent has the £B facilitated more local procurement by businesses that use the currency? (2) To what extent has the £B facilitated more local production? (3) What are the barriers to localisation, and are CLCs able to overcome these barriers? (4) If CLCs are not the answer to localisation, what other approaches could be pursued?

Overall, our findings suggest that the £B is an ineffective tool for localisation. The £B has not influenced the businesses who use the currency to procure more local products; it has merely replaced the unit of account in which (some) local trade is denominated. What is more, the £B has had no discernible impact on local productive capacity. These findings are important because CLCs have been advocated as a potential tool to drive localisation. This advocacy may be misplaced.

Although our case study has only focused on a single CLC, it is one of the best-known CLCs, and it has a number of important characteristics which advocates suggest are needed for success (i.e. it circulates regionally, it is administered by a credit union, and businesses can use it to pay local taxes). Our findings may therefore be applicable to CLCs more generally, particularly given that many of the

barriers to localisation operate across multiple spatial scales, from the local to the global (e.g. capital mobility, free trade, the power of global corporations, and the expansionary logic of capitalism).

CLCs pose little challenge to the dominance of general-purpose (conventional) money and its logic of virtually limitless commensurability between all manner of goods and services, regardless of the socioeconomic, political, and ecological context of their production. Challenging this dominance may require fundamental reform of financial and monetary institutions at both the national and international scale. Since many of the most difficult barriers to localisation are political in nature, and hence are a product of complex power relations, these barriers are unlikely to be overcome by what is essentially a technical solution acting at the margins. Localisation goals may be better served through political struggle and contestation.

Proponents of localisation often emphasise grassroots (as opposed to top-down) solutions to the problems associated with globalisation. We do not deny the importance of activism or its central role throughout history in driving progressive change. However, like successful activists of the past, those seeking to drive localisation will ultimately need to influence government policy, or better yet, gain control of government institutions.

We therefore argue that those trying to drive localisation should seek political change in order to achieve their vision of an equitable, sustainable economy that respects the finite nature of the planet and its resources. Such an economy represents a fundamental ideological shift. Future research into the prospects for localisation would therefore benefit from a greater focus on the political barriers identified in this study, and strategies to overcome them.

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References

Bristol Pound. (2015) *Who's Behind It: The Bristol Pound is a not-for-profit partnership between Bristol Pound Community Interest Company (CIC) and Bristol Credit Union.* <http://bristolpound.org/who>: The Bristol Pound CIC. [Online] [Accessed on 28/01/2017]

Bristol Pound. (2016) *Real Economy.* [Online] [Accessed on 31/10/2016] <http://bristolpound.org/real-economy>

Bristol Pound. (2017) *How it works for business.* <http://bristolpound.org>: [Online] [Accessed on 23/02/2017]

Bristol Pound Community Interest Company. (2014) *Bristol Prospects: Circulation Plan.* Digipay4Growth.

Cato, M. S. and Suárez, M. (2012) 'Stroud pounds: A local currency to map, measure and strengthen the local economy.' *International Journal of Community Currency Research*, 16(D) pp. 106-115.

Cosme, I., Santos, R. and O'Neill, D. W. (2017) 'Assessing the degrowth discourse: a review and analysis of academic degrowth policy proposals.' *Journal of Cleaner Production*, 149 pp. 321-334.

Cretney, R. (2014) 'Resilience for Whom? Emerging Critical Geographies of Socio-ecological Resilience: Resilience of What, for Whom?' *Geography Compass*, 8(9) pp. 627-640.

Czech, B. (2010) *Forty Shades of... "Less Brown?"*. www.steadystate.org: Center for the Advancement of the Steady State Economy. [Online] [Accessed on 21/12/2016] <http://steadystate.org/forty-shades-of-less-brown/>

D'Alisa, G., Demaria, F. and Kallis, G. (2014) *Degrowth: A Vocabulary for a New Era.* New York: Routledge Ltd.

Dietz, R. and O'Neill, D. (2013) *Enough Is Enough: Building a Sustainable Economy in a World of Finite Resources.* San Francisco: Berrett-Koehler Publishers.

Dittmer, K. (2013) 'Local currencies for purposive degrowth? A quality check of some proposals for changing money-as-usual.' *Journal of Cleaner Production*, 54 pp. 3-13.

Douthwaite, R. (2012) 'Degrowth and the supply of money in an energy-scarce world.' *Ecological Economics*, 84 pp. 187-193.

Ferreira, J., Perry, M. and Subramanian, S. (2015) *Spending time with money: From shared values to social connectivity*. ACM.

Goodman, M. K., Goodman, D. and Redclift, M. R. (2010) *Consuming space: placing consumption in perspective*. Farnham: Ashgate.

Graugaard, J. D. (2012) 'A tool for building community resilience? A case study of the Lewes Pound.' *Local Environment*, 17(2) pp. 243-260.

Harvey, D. (1989) *The condition of postmodernity: an enquiry into the origins of cultural change*. Blackwell.

Harvey, D. (2006) *Spaces of global capitalism*. London: Verso.

Heinberg, R. (2011) *The end of growth: adapting to our new economic reality*. Gabriola, B.C: New Society Publishers.

Hickey, S. (2015) 'The innovators: the Bristol pound is giving sterling a run for its money.' *The Guardian*.

Hopkins, R. (2008) *The Transition Handbook: From Oil Dependency to Local Resilience*. Totnes: Green Books.

Hornborg, A. (2017) 'How to turn an ocean liner: a proposal for voluntary degrowth by redesigning money for sustainability, justice, and resilience.' *Journal of Political Ecology*, 24 pp. 623-632.

James, R. F. and Cato, M. S. (2014) 'A bioregional economy: A green and post-capitalist alternative to an economy of accumulation.' *Local Economy: The Journal of the Local Economy Policy Unit*, 29(3) pp. 173-180.

Kallis, G. (2011) 'In defence of degrowth.' *Ecological Economics*, 70(5) pp. 873-880.

Kennedy, M., Lietaer, B. A. and Rogers, J. (2012) *People Money: The Promise of Regional Currencies*. Devon: Triarchy Press.

Klitgaard, K. A. and Krall, L. (2012) 'Ecological economics, degrowth, and institutional change.' *Ecological Economics*, 84 pp. 247-253.

LM3 Online. (2017) *About LM3*. Impact Measurement Ltd. [Online] [Accessed on 31/01/17] <https://www.lm3online.com/about>

Longhurst, N. (2012) 'The Totnes Pound: A grassroots technological niche.' *Enterprising Communities: Grassroots Sustainability Innovations*. Emerald, Bingley, pp. 163-188.

Michel, A. and Hudon, M. (2015) 'Community currencies and sustainable development: A systematic review.' *Ecological Economics*, 116 pp. 160-171.

North, P. (2010) 'Eco-localisation as a progressive response to peak oil and climate change – A sympathetic critique.' *Geoforum*, 41(4) pp. 585-594.

North, P. (2014) 'Ten Square Miles Surrounded By Reality? Materialising Alternative Economies Using Local Currencies.' *Antipode*, 46(1) pp. 246-265.

North, P. and Longhurst, N. (2013) 'Grassroots Localisation? The Scalar Potential of and Limits of the 'Transition' Approach to Climate Change and Resource Constraint.' *Urban Studies*, 50(7) pp. 1423-1438.

Ryan-Collins, J. (2011) 'Building Local Resilience: The Emergence of the UK's transition Currencies.' *International Journal of Community Currency Research*, 15(D) pp. 61-67.

Ryan-Collins, J. (2012) *Bristol Pound marks new era for local money*. <http://www.neweconomics.org>: The New Economics Foundation. [Online] [Accessed on 13/05/2015] <http://www.neweconomics.org/blog/entry/bristol-pound-marks-new-era-for-local-money>

Ryan-Collins, J., Greenham, T., Werner, R. and Jackson, A. (2014) *Where does money come from?: a guide to the UK monetary and banking system*. Vol. Revised second edition. London: New Economics Foundation.

Seyfang, G. and Longhurst, N. (2013) 'Growing green money? Mapping community currencies for sustainable development.' *Ecological Economics*, 86 pp. 65-77.

Spash, C. L. and Ryan, A. (2012) 'Economic Schools of Thought on the Environment: Investigating Unity and Division.' *Cambridge Journal of Economics*, 36(5) pp. 1091-1121.

Steady State Manchester. (2016) *About SSM*. Steady State Manchester. [Online] [Accessed on 23/03/2017] <https://steadystatemanchester.net/about/>

Steady State Manchester. (2017) *Policies for the City Region: our full report, out now*. Manchester: Steady State Manchester. [Online] [Accessed on 23/03/2017] <https://steadystatemanchester.net/2017/03/02/policies-for-the-city-region-our-full-report-out-now/>

Söderbaum, P. (1999) 'Values, ideology and politics in ecological economics.' *Ecological Economics*, 28(2) pp. 161-170.

Volkman, K. (2009) 'Solidarity Economy between a Focus on the Local and a Global View. Regional Currencies in Germany, Austria and Switzerland.' *unpublished doctoral dissertation, University of Potsdam*,

Wiedmann, T. (2016) 'Impacts embodied in global trade flows.' *In Taking Stock of Industrial Ecology*. Springer, pp. 159-180.

Xu, Y. and Dietzenbacher, E. (2014) 'A structural decomposition analysis of the emissions embodied in trade.' *Ecological Economics*, 101 pp. 10-20.