

Alternative monetary narratives and experiments – systematizing the necessary societal transition

Filipe Moreira Alves, Anna Kovasna, Gil Penha-Lopes

¹ Researcher at the Centre for Environmental and Sustainability Research (CENSE), FCT-UNL; ² Independent researcher; ³ Researcher at Centre for Ecology, Evolution and Environmental Changes, Faculty of Sciences, University of Lisbon

Abstract: This essay aims at a contextualization and systematization of current alternative monetary narratives, experiments and movements (AMNEs), in search of the actions, collaborations and synergies that could provide the most effective pathways to transitioning the current dominant monetary system towards a more resilient and sustainable paradigm. Using Multi-Level Perspective (MLP) and Transition Management (TM) as analytical frameworks, we argue that the financial crash of 2007-08 should be taken into consideration as a major landscape shock, or avalanche, with multi-dimensional impacts in the monetary socio-technical regime. Our main conclusion is that we are currently going through a unique tipping point for monetary innovation and transformation, where municipal complementary currencies and crypto currencies will play a major role in reshaping the monetary socio-technical regime, facilitating the necessary societal transition to a more diverse, complementary and resilient monetary system.

Keywords: alternative monetary systems, complementary currencies, socio-technological transitions.

Título: Narrativas e experimentos monetários alternativos - sistematizando a necessária transição societária

Resumo: Este ensaio visa contextualizar e sistematizar as atuais narrativas, experiências e movimentos monetários alternativos (AMNEs), em busca das ações, colaborações e sinergias que possam fornecer os caminhos mais eficazes para a transição do atual sistema monetário dominante para um paradigma mais resiliente e sustentável. Usando o Multi-Level Perspective (MLP) e o Transition Management (TM) como estruturas analíticas, argumentamos que o crash financeiro de 2007-08 deve ser levado em consideração como o maior choque, ou avalanche, com impactos multidimensionais no regime sócio-técnico monetário. A nossa principal conclusão é que, atualmente, se está a passar por um ponto de inflexão exclusivo para inovação e transformação monetária, em que moedas complementares municipais e moedas criptografadas desempenharão um papel importante na reformulação do regime sócio-técnico monetário, facilitando a transição social necessária para um sistema monetário mais diversificado, complementar e resiliente.

Palavras-chave: sistemas monetários alternativos, moedas complementares, transições sociotecnológicas.

Título: Narrativas y experimentos monetarios alternativos: sistematización de la necesaria transición social

Resumen: Este ensayo apunta a una contextualización y sistematización de narrativas, experimentos y movimientos monetarios alternativos (AMNE) actuales, en busca de acciones, colaboraciones y sinergias que puedan proporcionar las vías más efectivas para la transición del sistema monetario dominante actual hacia un paradigma más resistente y sostenible. Al utilizar la Perspectiva de niveles múltiples (MLP) y Transition Management (TM) como marcos analíticos, argumentamos que la crisis financiera de 2007-2008 debe tomarse en consideración como un gran impacto paisajístico, o avalancha, con impactos multidimensionales en lo régimen sociotécnico monetaria. Nuestra principal conclusión es que actualmente estamos atravesando un punto de inflexión único para la innovación y transformación monetarias, donde las monedas municipales complementarias y las monedas criptográficas desempeñarán un papel importante en la remodelación del régimen socio-técnico monetario, facilitando la transición societaria necesaria hacia un sistema monetario más diversificado, complementario y resiliente.

Palabras clave: Sistemas monetarios alternativos, monedas complementarias, transiciones sociotecnológicas.

1. Introduction

It is undeniable that in the past decades, and mainly after the global financial crash of 2007-08, the number, diversity, scale and impact of alternative monetary narratives, movements and experiments have witnessed a significant increase, closely matched by a growing interest of media, policy-makers and researchers in the phenomenon (Tibbett, 2007; Michel & Hudson, 2015; Seyfang & Longhurst, 2013; Ziegler et al, 2017). With initiatives ranging from grassroots innovations such as community currencies and LETS systems, through studies on legislative banking and financial reforms commissioned by governments in several European countries, to the potential revolution of worldwide digital and crypto currencies based on blockchain technology, the monetary ecosystem is alive with initiative. This vitality is mirrored by new trends within academia, with a revival of theories on monetary plurality and complementarity, a reconceptualization of gift and barter economies in the XXI century, and requests from heterodox economists and other disciplines, such as anthropological economics, to rewrite economic textbooks, removing the myth of barter, revising the neoclassical standard stories of the evolution of money and banking, as well as accepting the endogeneity of money¹(Arestis & Sawyer, 2006). These are a few examples of the growing, decentralized and not yet fully interconnected movement that we explore in this paper, and that we refer to as Alternative Monetary Narratives and Experiments (AMNEs hereafter). Although AMNEs are considerably diverse in content, vision and practice, we argue that they are unified in their shared critique of the current monetary and financial system and its key design elements of centralization, monopoly, privatization and lack of transparency and democratic control. Present in the diverse motivations, visions and solution pathways that fuel AMNEs, are a few unifying key aims, including monetary plurality and complementarity; economic sovereignty and greater resilience; democratic control over money; decentralization and re-localization of economic exchange; and the strengthening of local economies and regional networks. In addition, many of the different AMNEs share common theoretical backgrounds, owing much to the writings and thought of scholars such as Silvio Gesel, Irvin Fisher, Karl Polanyi, John M. Keynes and more recently Thomas Greco, Gill Seyfang, Peter North, James Robertson, Ellen Brown and Bernard Lietaer (Alves, 2018).

Although AMNEs share some foundations and co-exist in our highly interdependent and interconnected economies, we argue that cross pollination, cooperation and partnerships for mutual benefit are still far from reaching their potential. Someone who would participate in different events, such as a FEBEA² meeting, the International Conference on Complementary and Social Currencies, a Finance Innovation Lab meet-up and a crypto-currency symposium, would notice that while the core intentions and motivations are often very similar and some of the proposed solutions even the same, the people do not overlap, the vocabulary is different, cross-collaborations are scarce or inexistent, joint publications rare, joint practices even more so, and overall mutual support lacking. Why this tendency for separate practice and theoretical silos, even in a field where practice is so shaped by ideals of sharing and mutuality? The hypothesis explored in this essay is that the current lack of coherent and easy to understand systematizations of AMNEs precludes the macro-perspective necessary to unlock mutually beneficial flows

¹ For more on this check this websites: <https://www.core-econ.org/>; <http://www.isipe.net/open-letter/>; <http://www.rethinkeconomics.org/>; <https://www.exploring-economics.org/en/>

² FEBEA is the European Federation of Ethical and Alternative Banks (FEBEA – Fédération Européenne des banques Ethiques et Alternatives): www.febea.org

and links. In terms of AMNEs, what we have is a monetary ecosystem with great diversity, but low relationship. In this paper, therefore, we develop a suggested systematization using Multi-level Perspective (MLP hereafter) and Transition Management (TM hereafter) to conceptualize, visualize and better understand the different levels and flows of the AMNE field, using Europe as a case study to trial the robustness and effectiveness of the proposed framework. Our aim is to build on existing work that already introduces several pieces of the AMNE-MLP monetary puzzle – such as Seyfang 2007; Finance Innovation Lab 2012 - and link them together to accomplish a meta-level perspective.

From a theoretical perspective this paper is thus anchored in Multi-Level Perspective and Transition Management studies, following the work of authors such as Frank Geels, Derk Loorbach, Jan Rotmans and J. Haan. According to Geels “The multi-level perspective (MLP) is a middle-range theory that conceptualizes overall dynamic patterns in socio-technical transitions. The analytical framework combines concepts from evolutionary economics (..), science and technology studies (..), structuration theory and neo-institutional theory.” (Geels, 2011, p.3). With its capacity to address structural change of different types with multiple actors and at different levels while providing a clear graphic perspective of transition pathways, MLP shows great potential as a tool for understanding money systems. This is especially so, since the current monetary system shares some of the key characteristics of the systems where MLP has been traditionally used and developed, such as energy, food and transportation.

MLP thus offers not only the possibility of framing and systematization, but also a potential for better understanding the dynamics of a socio-technological transition in our present monetary economy. This is where Transition Management (TM) becomes a good complement, allowing us to go deeper into the socio-technological processes, tipping points and thresholds that unlock and steer societal transitions (Loorbach & Huffenreuter, 2013). As Loorbach and Rotmans explain “Transition management is now defined as a deliberative process to influence governance activities in such a way that they lead to accelerated change directed towards sustainability ambitions. Transition management is meta-governance: how do we influence, coordinate and bring together actors and their activities so that they reinforce each other to such an extent that they can compete with dominant actors and practices?” (Loorbach & Rotmans, 2010, p.2). The terms and concepts gathered from MLP and TM used throughout this paper refer to this literature and will not be discussed or defined more closely here, as it is not the purpose of the work.

In section two below follows a brief explanation of our methodology, while section three presents a listing of key European AMNEs and a discussion of their central stakeholders, characteristics and dynamics, which in turn form the basis of placing them within the MLP framework as well as analysing the specific dynamics and flows of each actor using TM as the theoretical baseline. In section four, we discuss the potential cross-benefits of different stakeholders and movements, as well as potential tipping points and thresholds can could be jointly explored to facilitate a societal transition in the monetary field.

2. Methodology

The methodology used in the crafting of his paper consists mostly of a literature review complemented by website consultation focusing on worldwide databases of complementary currencies, international think-tanks and research centres focused on our field of study. Key members of the latter category include the New Economics Foundation

(NEF), The Royal Society of Arts, the Dutch research centre Drift, the International Movement for Monetary Reform (IMMR) and RAMICS – Research Association of Monetary Innovations and Complementary Systems.

From a methodological standpoint, it is also important to define more clearly our scope and what we mean by 'alternative'. Here, three key building blocks serve to illustrate and define:

- By alternative we mean any narrative and/or experiment that fundamentally challenges the classical and neoclassical theory of money and its functions, role in the economy and the societal need it responds to. Therefore, any theory, proposal, movement or experiment that builds upon, works within or aims to improve (make more efficient for example) the current dominant monetary system is excluded. One such example is the *Slow Money* Movement³, which aims at establishing more ethical lending practices among farmers and small entrepreneurs, offering better interest rates, better payment conditions and overall sustaining a stronger and more resilient economic network. While both useful and impactful, it can be argued that this nevertheless is a movement that works within the current system rather than fundamentally challenging it or any of its key design elements. The same can be said for the 'Move your Money' campaigns⁴ that got a lot of traction in the aftermath of the global financial crisis of 2007-2008, and the bankruptcies and financial scandals that followed. Whilst they present a critique of and solution for current banking and financial practices, they do not challenge the key design elements of the banking industry.

- By alternative we mean any narrative and/or experiment that embraces radical change and redesign as a key element of its discourse, aims and practice, rather than promoting incremental strategies. An illustrative example is the difference between an ethical and co-operative bank such as the Co-operative Bank UK⁵, and the European Bank of the Commons or the cooperative JAK Bank⁶. While ethical banks such as Banca Ética, La Nef and the Co-operative Bank UK promote a laudable incremental approach to more sustainable, stable and ethical banking practices, they still operate within the same fundamental logic as the current monetary system. The European Bank of the Commons, on the other hand, presents a radical new configuration of banking, as boldly stated in their mission: "[...] to facilitate a transition to an ethical post-capitalist space to gradually free us from the control of the current banking system, replacing it by a growing, fair, self-managed system. We want to rethink money and finances as commons."⁷ The same can be said for the cooperatively-owned and run, interest-free, full-reserve system of the JAK Bank, which fundamentally challenges some of the key characteristics of the current banking system;

- By alternative we mean any narrative and/or experiment that is born out of and promoted by economic agents outside the key institutions of the current monetary system, i.e., outside of central banks, private banks, hedge funds and rating agencies, stock markets, etc. Local currencies offer a great example of such initiatives being developed, used and promoted worldwide in a decentralized way by communities, NGO's, co-operatives and informal associations of people outside the dominant banking and monetary system.

³ <https://slowmoney.org/>

⁴ <https://www.moveyourmoney.com/>

⁵ <https://www.co-operativebank.co.uk/>

⁶ <https://jak.se/>

⁷ <https://bankofthecommons.coop/vision-and-mission/> visited in November 2018

In addition and from a theoretical point-of-view, we agree with the definition of 'alternative' put forward in the Handbook of Alternative Monetary Economics (Arestis and Sawyer, 2006), particularly in the first chapter 'Money: An Alternative Story' by Éric Tymoigne and L. Randall Wray. We also agree with the four leverage points for systems change and the Transition Theory put forth by the Finance Innovation Lab. Although some of the innovations considered in their 'Alternative Finance Wheel' might not fully fit our criteria – such as the case of crowdfunding to Equity –, the overall perspective on systems change is sound and coherent with the proposed conceptual framework of this essay⁸.

Another important field to consider in Alternative Monetary Narratives and Experiments is that of complementary currencies, and how to approach and understand the diversity of initiatives in that field. Here, we use Jérôme Blanc's classification of complementary currencies (Blanc, 2011), detailed in Figure 2 below. Blanc identifies four different generations of complementary currencies, considering not only their historical roots and evolution, but also their design and socio-economic function. Included in Blanc's categorisation, we find solutions from LETS to Time Banks, local currencies and regional digital currencies, showing a wide variety of alternative monetary designs used at different scales, for different purposes and to fulfil different functions. What to us is missing in Blanc's four generations, is the more recent development with regional and global digital currencies based on blockchain technology. Considering the increasingly widespread use and high profile of cryptocurrencies such as Bitcoin, Dash and Ethereum, we thus propose to add a fifth generation (G5) to the classification scheme.

Generation	Name	Significant cases	Complementarity	Scale
G1	Exchange systems	LETS; Trueque; CES	Autonomy; Community	Local
G2	Time banks	Time Banks and Time credits; Accorderie	Autonomy; Community	Local
G3	Local currencies	Ithaca hour, Regio, Palmas, Berkshares	Simultaneity and Supplementarity	Local and Municipal
G4	Municipal and Regional currencies	NU, SOL	Simultaneity and Supplementarity	Local, Municipal and Regional
G5	Digital	Bitcoin, Dash, Ethereum	Substitution and Supplementarity	All scales

Figure 1 – Classification of complementary currencies, adapted from Blanc (2011)

3. Systematizing niche innovations, regime changes and typologies of socio-technical pathways

The basic premise and hypothesis of this paper is that an overarching systematisation of AMNEs would benefit practitioners, policy-makers and researchers by highlighting possible synergies, collaborations and complementarities, and thus allow a conscious steering of the monetary socio-technical transition underway towards sustainability, resilience and regeneration. In short, a redesign of money systems to serve

⁸ https://financeinnovationlab.org/wp-content/uploads/2015/04/FIL_SystemsChange-Web-Final.pdf visited November 2018

a 'better world' (Telalbasic, 2017). However, it is not easy to maintain a clear overview of the present multitude of alternative solutions and proposals, which is likely one reason why current categorisations mostly consider separate sectors of innovation, such as the ones for currencies presented above. Today's great diversity of initiatives spring from different economic sectors and agents, use different technologies, have distinct dynamics and even differing theories of change. To identify, list and classify everything that is out there would be overwhelming. What we instead aim to do in this section, is to use our framework of Multi Level Perspective and Transition Management to classify some iconic AMNEs with a view to shedding more light on our hypothesis. Building on the classifications presented above, we will place and discuss the following AMNEs:

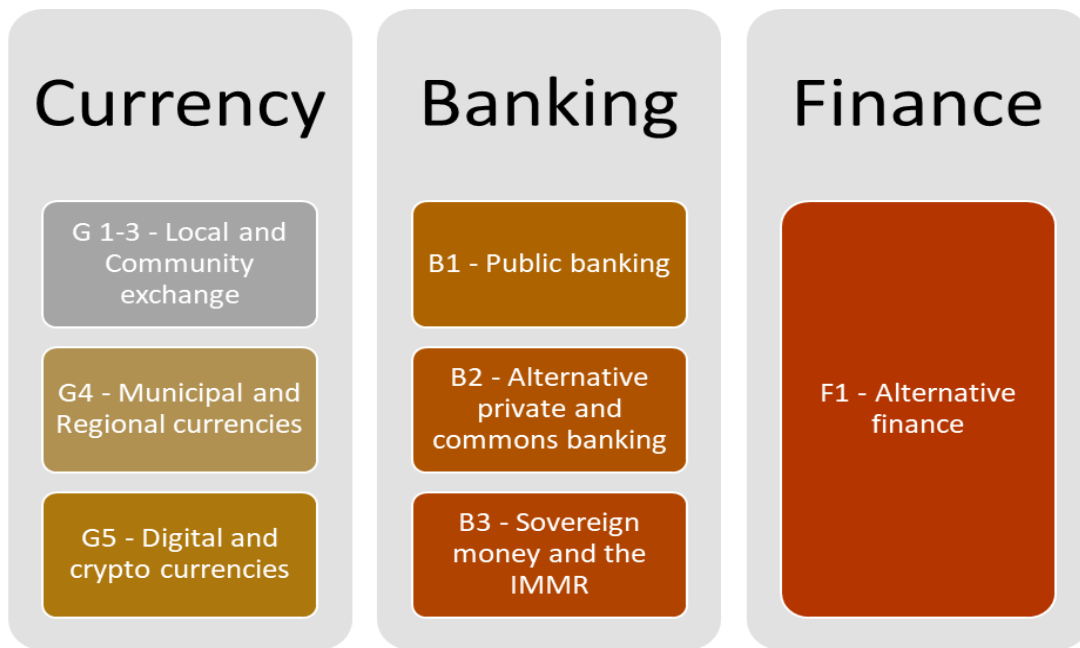


Figure 2 - AMNEs clusters

These seven AMNE clusters (G1-3; G4; G4; B1; B2; B3 and F1) were chosen to represent the different layers of a monetary system - currency/money, banking, and finance – as well as different scales – from nano and micro complementary currencies systems to macro monetary reforms – and different socio-technical transition dynamics.

For the purpose of this systematization, we separated the generations of complementary currencies. This is mostly because to us, LETS (G1), Time Banks (G2) and local currencies (G3) do not fundamentally affect the socio-economic monetary regime and within the MLP-TM framework remain mostly as niche innovations, marginal to the dominant monetary regime and without a clear transition pathway. We also left aside non-monetary niches such as gift circles and direct barter experiments for the same reason. This is not to minimize their socio-political, cultural and economic impact as well as the important societal space they occupy, but rather to reduce the analysis to those AMNEs which are directly and significantly re-shaping the current structures, institutions, flows and dynamics of the monetary system on a larger scale.

We also decided to distinguish the public banking movement from other banking alternatives, as they have different rationales, with distinct key institutions and

mechanisms, and the potential to re-align the current system in substantially different ways. Public banking aims to shift the power of money creation and allocation away from private institutions and to public institutions under democratic control. Banking alternatives such as the JAK Bank envision and practice an interest-free, full reserve system banking, but within the current design.

Figure 3 below allows for a better understanding of some of these distinctions and how to categorise the seven AMNE clusters under investigation here, taking into account the four key design elements of the current monetary system where AMNEs mostly intervene – interest, speculation and inflation; fractional reserve banking and fiat money; money monoculture; and the private issuing and control of money. The three clusters focusing on the currency/money level mostly offer solutions and alternatives that defy the current hegemony of single currency monetary systems. The banking clusters, on the other hand, mostly intervene in the area of how money is created, and under whose control and conditions the creation takes place. That is why, in our analysis, the IMMR and the Sovereign Money proposals (B3) not only directly criticize and act against the private issuing and control of money, but also question the current dominant practice of fractional reserves of debt money. Finally, because finance works in tandem with the underlying banking and currency matrix, we have placed alternative finance solutions (F1) at the centre of the graph, connected with all four areas of critique, and intervening in all of them through varied means. For example, Peer-to-peer (2P2) lending platforms that work with multi-currency systems, can directly defy not only the money monoculture, but also its unquestioned principles, such as interest, and, by by-passing the need for intermediaries, the private control of money allocation.

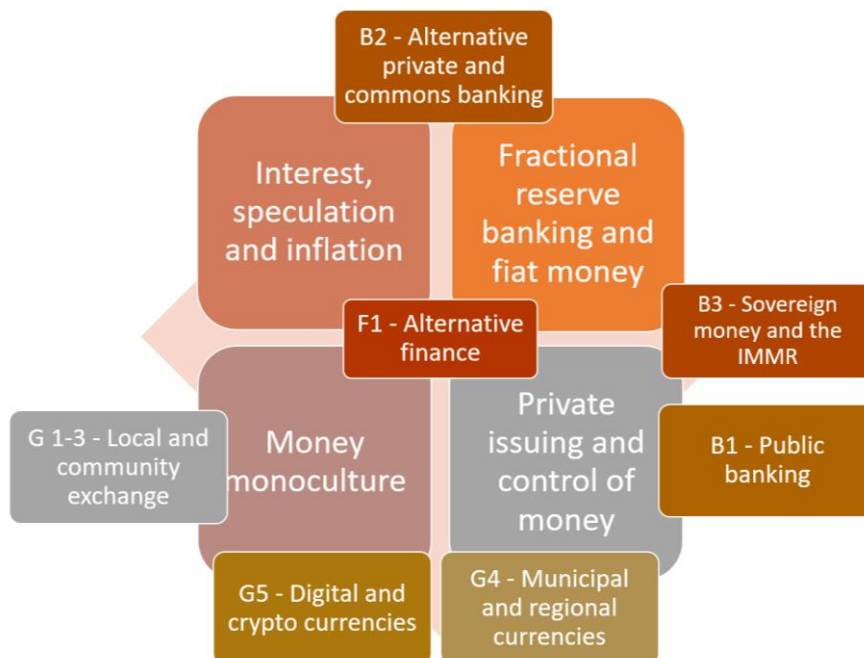


Figure 3 - AMNE's and the four dimensions of the monetary design critique

3.1 Landscape, regime and niche innovations

Moving on to place these seven clusters of Alternative Monetary Narratives and Experiments within the Multi-Level Perspective framework, it is important to first understand the different dimensions of MLP, namely landscape, regime and niche innovations, especially in the context of monetary systems. Starting with the higher level of structuration of activities, we have the socio-technical landscape. This represents the wider context, and can affect both the regime and niche innovations. The stability and continuity of the landscape conforms with the “concept of *longue durée* proposed by the historian Braudel, [which] highlights not only the technical and material backdrop that sustains society, but also includes demographical trends, political ideologies, societal values, and macro-economic patterns” (Geels, 2011, p.7). The current socio-technical monetary landscape has largely taken shape since the industrial revolution, with the creation of the first Central Banks in Europe, the first stock and bond markets, and the widespread introduction of nation-based currencies that systematically gained economic and monetary prominence (Ferguson, 2008). It is, however, also fair to say that it was during the last decades of the 20th century, especially after the abandonment of the gold standard, that the culture, practice and beliefs that make up the current monetary landscape really came together. This period, like much of the 20th century, was marked by severe and constant crises and shocks (Al-Suwailen, 2012; Reinhart & Rogoff, 2009; Laevan & Valencia, 2008), giving our monetary socio-technical landscape a ‘hyperturbulent’ character. However, while that hyperturbulence, had deep economic and social impacts, it never critically put in jeopardy the structures, culture and practices of the monetary landscape. A recent example is the monetary and financial crisis in Argentina in 2000-02, which had significant economic and social impacts, spurred the rapid growth of a parallel monetary system – Trueque – but ultimately produced no significant change in the monetary socio-technical regime or landscape. The Trueque fell even faster than it rose and the Argentinian economy took several years to recover from the monetary blow, but the overall system was intact and kept up with business as usual (Gomez, 2012).

The second layer here introduced is the ‘regime’. “The socio-technical regime forms the ‘deep structure’ that accounts for the stability of an existing socio-technical system [...]. It refers to the semi-coherent set of rules that orient and coordinate the activities of the social groups that reproduce the various elements of socio-technical systems.” (Geels, 2011, p.4). The socio-technical regime is the overall architecture of a specific system that holds the policy, market, technology and culture of that system. While being a ‘dynamically static’ structure, the regime can be path dependent and locked-in to a dominant design, and therefore resistant not only to changes but most importantly to paradigm shifts (Figure 4).

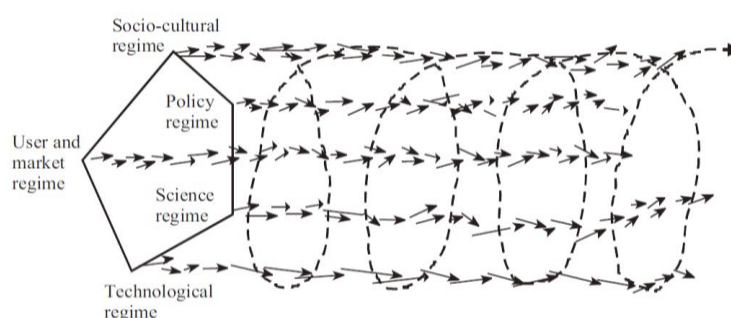


Figure 4 - Socio-technical regime (Source: Geels, 2011)

This is where landscape-exogenous shocks and niche-innovations come into play. Without major landscape shocks, such as the financial crash of 1929 or 2007-08, regimes can stay locked-in for long periods, even in face of ‘persistent problems’ such as systemic crises, inherent inefficiencies, unsustainable practices and negative societal impacts (Loorbach, 2013). Regimes and Landscapes are not independent but rather interdependent and even co-dependent in dynamic equilibriums with the capacity for mutual influence, i.e., regimes can have an impact on landscapes and landscapes not only frame the matrix of the regime but can also change them dramatically, specifically in the case of landscape shocks such as the financial crash of 2007-08 and the great recession that followed. Without landscape shocks, the regime will also likely integrate niche-innovations within the regime itself without any major changes to its core structure, institutions and dynamics, so called endogenous renewal (Geels & Shot, 2007, p.3), or simply guarantee that they remain marginal, illegal or socially insignificant. This was indeed the dynamics of the socio-technical monetary regime in the four decades before the 2007-08 events. Although niche spaces of monetary innovation spread, grew and gained momentum, from a policy, scientific, socio-cultural and technologically dominant perspective they remained mostly invisible or considered of minimal economic and monetary relevance (Rösl, 2006).

Those patterns changed in 2007, with the financial crash and the great recession that followed. Because of its intensity, speed and simultaneous impact in multiple dimensions of the regime, we consider the 2007 crash to be a key landscape shock or, borrowing a concept from Suarez and Oliva (2005), an “Avalanche change”. Although some authors argue that the subsequent economic crises since 2008 display a mix of regular, hyperturbulence, specific shocks, disruptive trends and avalanche (Loorbach, 2013), we argue that the economic sub-system of money and finance in fact went through disruptive changes in many dimensions simultaneously, and therefore categorized as “avalanche”. This financial avalanche created the conditions not only for niche innovations to breach into the market and gain their space and momentum, but also for the regime to be forced to adapt and look for new configurations. As Barbier rightly claims and Loorbach, cited here, concurs, “perhaps only radical systemic change (or at least the threat of such an event) can induce powerful interest groups to take the necessary steps for dealing with persistent unsustainability, given their vested interest and the high transaction costs of overcoming institutional lock-in” (Loorbach, 2013, p.5; Barbier, 2011, p.65).

The signs of this more radical change are many. In 2015, the new Icelandic government requested a study on sovereign money and discussed “A Better Monetary System for Iceland”. And in 2016, for the first time in 170 years, the British parliament discussed money creation and set a task force to investigate solutions and alternatives (KPMG, 2016). In Switzerland, a referendum was held in June 2018, to ask citizens if banks should continue to be allowed to create money. Malta recently became the first country in the world to have a specific regulatory framework for blockchain, cryptocurrency and distributed ledger technology. In a similar vein, the EU Parliament very recently approved its first resolution⁹ on distributed ledger technologies and blockchains: “Building trust with disintermediation”.

At the same time, traditional banks saw their market share fall while ethical banks – even in conservative markets - witnessed sustained growth (Callejas-Abinana, 2017).

⁹ <http://www.europarl.europa.eu/sides/getDoc.do?type=TA&reference=P8-TA-2018-0373&language=EN&ring=B8-2018-0397>

Likewise, the European Social and Responsible Investment market doubled from 2010 to 2016¹⁰. But the biggest changes did not come from existing market players or shifts in the market share of banks and investment firms - they came from new industry entrants with different rationales, behaviours and technologies. Most of the monetary, banking and financial innovation post-2008 did arguably not come from existing industry leaders, but from a multitude of new actors such as Transferwise, ripple, SEEDRS, Cyclos and Community Forge (see figure 5 below). These new actors are entering the market, boldly pushing multicurrency borderless accounts, low fee online banking practices, freeware for the development of digital community currencies, decentralized proof-of-account verification systems, direct investment in what the investor believes in, accountability and transparency in money transfers and allocations, and more.



Figure 5 – Leaders versus innovators (Source: Future of Financial Services, World Investment Forum (2015))

The 2007 landscape avalanche also opened the 'Pandora's Box' of digital and crypto currencies, which gained momentum, investment and increased acceptance in the aftermath of the crisis. A typical example is that of Bitcoin and blockchain technology. Having existed in the shadows since 1991, the decade since 2008 has seen an exponential growth in their use, profile and acceptance, having Satoshi Nakamoto's seminal paper introducing Bitcoin in 2008 as key tipping point. Blockchain is today widely recognized as a technology that will have a major role in the re-configuration of the money, banking and financial systems in the world (Tapscott & Tapscott, 2016; Iansiti & Lakhani, 2017). A potentially even greater disruptor is the meeting of digital crypto currencies, the GAPA giants (Google, Amazon, Paypal, and Apple), and worldwide crypto currencies that transcend nations, central banks, private banks, etc., become a reality. Such an initiative is already at our doorstep¹¹.

3.2 Transition pathways in monetary systems

As mentioned before, reforms, revolutions, re-alignments and even the collapse of complex systems can come from very different sources, with distinct natures and dynamics and affect the socio-technical regime in different ways. Understanding such dynamics of change then, is central for effective change-makers, policy-makers, anarchists and monetary reformists. This is so not only to understand the dynamics at play, but most

¹⁰ Source: <https://www.statista.com/topics/3973/ethical-investments-europe/>

¹¹ <https://initiativeq.com/>

importantly to help identify underlying barriers and hidden opportunities, threshold points, optimal leverage areas to steer the socio-technical transition towards sustainability, resilience and regeneration.

Figure 6 below offers a first categorization of the seven AMNEs according to their level of coordination (from unplanned/emergent to planned/vision-driven) and the nature of resources allocated and invested by the specific movement or experiment (internal or external to the regime). In this way we can differentiate from more top-down (Q2) to bottom-up dynamics (Q4) as well as between processes of endogenous renewal and reconfiguration and more emergent and transformative processes.

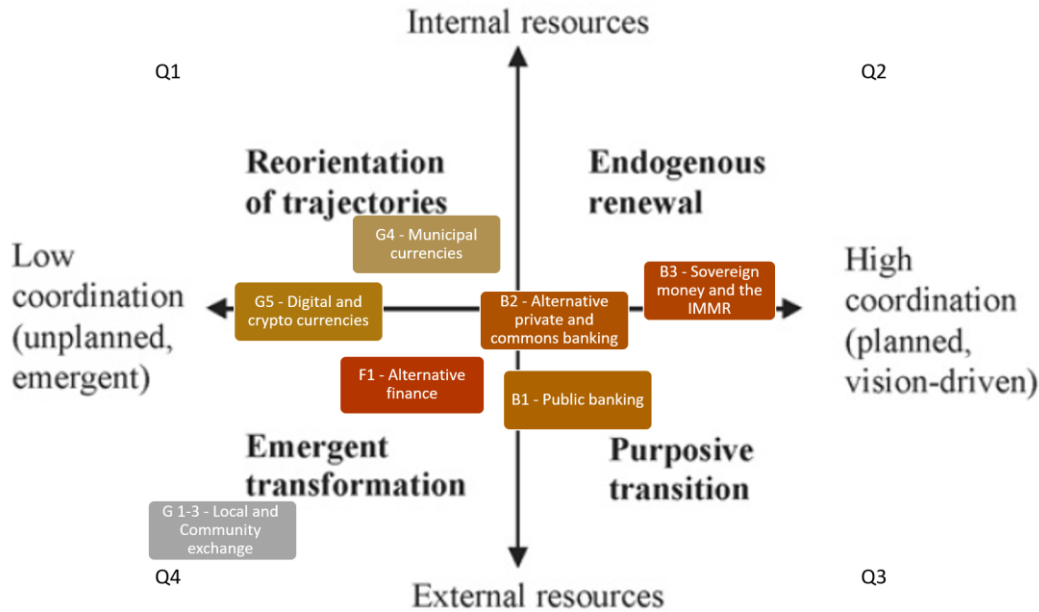


Figure 6 - Transition pathways and AMNEs, adapted from Geels and Schot, 2007

Following the definition of ‘alternative’ put forth earlier in this chapter, we would expect to find most AMNEs in the emergent quadrant due to their decentralized, low coordination, niche-innovation nature. However, this systematization allows a richer visualization of the different AMNEs, acknowledging that some have a clear top-down transformative (or purposive) vision demanding a high level of planning and coordination and using resources both external and internal to the socio-technical regime. Also important to acknowledge is the growing role of municipality-driven complementary currencies, which is happening within the administrative capacity of the regime in a semi-decentralized way and using mostly the internal resources of the system. In these cases we can refer to a ‘Reorientation of trajectories’ or a reconfiguration of the regime that uses the landscape shock to scan, test and absorb some niche innovations in order to continue pursuing its goals. We also argue that the place of Digital and Crypto currencies is between internal and external resources, since some of the biggest investors in such new technologies are current industry leaders, such as Goldman Sachs investments in Bitcoin or Paypal’s new initiative¹². Similarly, worldwide financial and governmental institutions are putting a lot of effort into regulating and creating markets for such technologies. Figure

¹² <https://www.bloomberg.com/news/articles/2018-10-01/institutional-investors-are-using-back-door-for-crypto-purchases?srnd=cryptocurrencies>

6 also allows us to see that the different AMNE clusters are located in different of socio-technical transition pathways, source their resources in different ways, and require different levels of coordination. This plurality of solutions and approaches might reveal itself a winning formula, avoiding direct competition while acting at multiple levels. However, it might also turn out to be ineffective in producing change if not correctly understood and to a certain degree managed.

3.3 The monetary transition from an MLP-TM framework

Figure 7 enables a first visualization of our working conceptual model, with the different AMNEs placed in an MLP chart according to their suggested nature and embedded dynamics. Here, we see the levels of landscape, regime and niche innovation on the y-axis, with time making up the x-axis, the landscape shock of 2007-2008, and the different clusters placed accordingly.

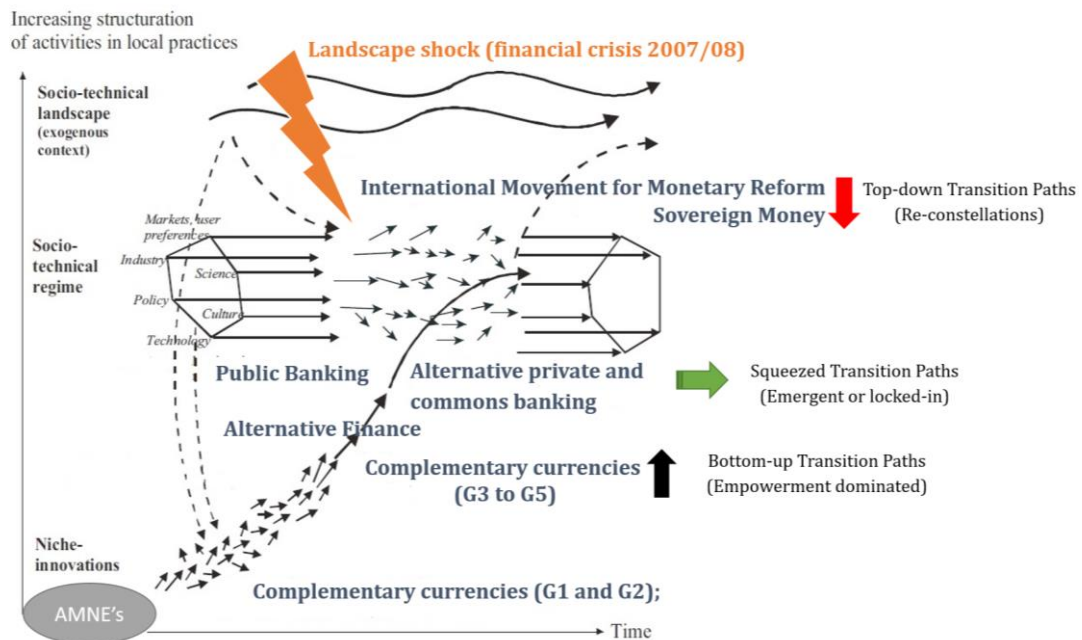


Figure 7 - MLP and the AMNE's: a first conceptualization

Starting from the bottom of the y-axis, we find complementary currencies G1 and G2 (LETS, other Mutual credits and Time Banks), reflecting their marginal socio-economic level of institutionalization and structuration within our current system. Other complementary currencies are placed further up in the y-axis because although they are unquestionably niche-innovations, we argue that the newer generations (Municipal and regional complementary currencies (G3 and G4); digital and cryptocurrencies G5) satisfy, to varying degrees, the four proxies for regime re-alignment potential: there are established dominant designs; there are powerful actors joining in; price/performance is increasing; and, the market niche and volume they represent is already statistically relevant. To add to this, most have the clear mission, or at least a willingness, to affect and transform the monetary system. One can argue that some of them already re-shaped that regime, such as in the case of the WIR in Switzerland, the C3 in South America, the Fureau Kippu in Japan or Bitcoin worldwide (Stodder, 2009; Lieater, 2013).

Further up on the y-axis we placed Alternative Finance. It is clear that many recent financial developments are niche-innovations that support or are supported by grassroots initiatives with a clear bottom-up dynamic. Many of these initiatives have also gone through a process of integration and regulation by existing monetary and political authorities. One example is crowdfunding, which is now fully regulated in most OECD economies. There are, however, also cases of alternative finance developments that follow a different pathway, one more in line with what in TM is called an emergent squeezed transition. A good example is Social Impact Investment – a mechanism to finance organizations that demonstrate their social impact, in partnership with public sector, private investors and very often third sector organizations. This is more than just an incremental improvement or adjustment. Rather, it is supported by a new paradigm of what finance is, what finance should be doing and which values to consider when making investment decisions.

Regarding alternative banking initiatives, such as the above-mentioned Bank of the Commons, Transferwise and JAK Bank, we argue here that they are clear cases of intrapreneurship and inside innovation, and therefore of movements within the regime itself, attempting to re-arrange part of its design to accommodate new market demands and spread risk. These are often initiatives that work within existing banking laws and regulations, but which explore the edges, gaps and the unexplored realms of those regulations in order to push the boundaries of the system and introduce new logics. They are distinct from the ethical and ecological incremental advancements in the industry – such as in the case of La Nef and TRIODOS Bank – and bring disruptive practices within the cultural norms of the regime. They surf on the landscape shocks that open the space for regime changes, while at the same time they also have their own momentum and agenda running parallel to both niche innovations and landscape changes. These are also initiatives that explore ground-breaking new technologies, and as early adopters of these gain competitive advantage over industry leaders. The evolution of Transferwise from a more efficient and cheaper platform for online money transfers to a new player in the banking industry with multicurrency bank accounts and a 100% online bank across borders is a great testimony to the power of innovation and early technology adoption.

Between alternative private banking initiatives and sovereign money proposals, we have the public banking. This is a growing movement within the U.S. as well as in Europe. We have placed it higher up in the y-axis as we primarily see it as a dormant piece of the old monetary regime that awakened after the 2007-08 avalanche and gained traction with the succeeding austerity measures that strongly limited the public sector's ability to respond to the economic crisis. It is not the core purpose of the movement to abolish private banking or to end the fractional reserve system and the money multiplier or even to promote currency plurality. Rather, it is to place the power of money creation back in public hands, for the financing of the economy and especially of public goods and within the public sphere. Public banking is not *per se* an innovation, neither a niche. It is being supported by grassroots initiatives and established political parties alike, both outside and inside in the socio-technical regime, and therefore categorized it as playing a role in an emergent squeezed transition.

Finally we have the International Movement for Monetary Reform (IMMR) and its founding member Positive Money UK. These, we have placed closer to the landscape level since their three key proposals aim for a major redesign of the banking and financial regime, with substantial socio-technical as well also socio-economic landscape impacts. This, we argue, is clearly within the scope of a top-down radical reform of the socio-

technological regime. Within the spectrum of top-down Transition Paths, there are also several other examples that we have not addressed here, but which serve to demonstrate the wide variety of experimentation at the level of the nation state. One such case is the Petro, a new currency in Venezuela indexed to oil prices. Two other, the proposals from Thomas Mayer and Yannis Varoufakis for a dual currency system in Greece using the “Geuro” or a revival of the Greek drachma, and the ongoing Zimbabwean multicurrency experiment operational since 2009.

Continuing our analysis of figure 7 above, but switching now to a Transition Management perspective, one can claim that the AMNEs better positioned to realize their transition pathways are complementary currencies (G3 to G5), particularly if working in tandem with the alternative banking and financial initiatives. This is because top-down reforms or revolutions within the political and socio-cultural context of Europe, the European Union and the Euro area can hardly be achieved in the short or medium term. Perhaps such reforms could happen in non-EMU or non-EU countries, but recent events, such as the results in the Swiss Vollgeld referendum¹³, the delay by the Icelandic Government in taking bold monetary action, the discouraging EU response to any ideas for a dual currency system in Greece in 2012, and the ECB’s negative response to a digital Euro aimed at directly financing the economy in a “helicopter money” proposal¹⁴, all indicate that the probabilities are quite low. Tight connections between the monetary socio-technical regime and the political socio-technical regime make it virtually impossible to enact any major changes or break-through at the moment unless a much wider and stronger socio-economic-political avalanche change takes place. The implementation of a dual currency system in an EMU member state, for example, would require amendments to European Treaties, approvals by the EU Parliament, the EU Council, the European Central Bank, the National Central Bank, National Parliament approvals, etc, in a never-ending political and bureaucratic loop which seems rather unlikely to come about. On another hand, a nation-wide, non-governmental crypto currency, implemented by an alliance of NGO’s, co-operatives, companies and even local public governments, could be implemented in an efficient and effective way in just days or weeks. For example, if you wanted to revive the Greek drachma in the midst of an economic crisis, the simplest, quickest and cheapest way to do so would likely not be through the Government, but by a coalition of private and public entities.

Similarly, we find that the pressures and movements for public banking also could be more effective if done at a regional or local scale and using complementary currency as an instrument. The city of Curitiba in Brazil is a great example of local public policies being implemented by the municipality using a local currency managed by a “public bank” (Lieater, 2013). These reinforcing complementarities between AMNE’s for sustainable transitions in the monetary socio-technical regime will be further explored and discussed in the next section.

4. Unpacking plurality and complementarity between AMNE’s

To foster the type of collaboration, cross-pollination and synergy between AMNEs that we just discussed, we believe that it is fundamental to unpack two key concepts: monetary complementarity and monetary plurality. Regarding the former, we see complementarity between AMNEs unfolding in a similar way to Blanc’s proposal for

¹³ The Swiss rejected by a significant majority (73%) the Sovereign Money proposal.

¹⁴ https://www.fidefundacion.es/dinero/Sobre-la-emision-de-un-euro-digital_a16.html

complementarity between monies: substitution; simultaneity; supplementary; and autonomy (Blanc, 2016). Focussing on a socio-technical transition, we will here look mostly into complementary relationships of simultaneity and supplementary, which share the characteristics of coincidence of spheres of use, and the potential for mutually beneficial linkages. Considering plurality, we aim to go beyond the limited and constrained concept of just “more-than-one” currency systems, and integrate different types of monies, different banks and different financial mechanisms as well as multiple combinations possible among them. As the thinker and philosopher Edward de Bono said, “The notion of multiple target currencies opens up a new way of thinking in economics... Multiple parallel systems, with permeable membranes between them, give very stable systems – as in the human body. This is a whole field which needs, and will get, attention.” (De Bono, 1994). Monetary plurality, then, is not only about breaking free from a single dominant currency system, but mainly about breaking out of a single dominant monetary architecture. With that, monetary plurality in fact becomes the unifying element of all AMNEs.

In many ways, the claim that monetary plurality can be a key unifying element with the AMNE sector, is a continuation and evolution of the famous works of Mundell (1961) and his currency zones, Polanyi’s (1957) ideas of “special purpose money”, Hayek’s (1976) denationalization of money, and Douthwaite’s (1995) proposals for Ecological Money systems. All of these authors propose multicurrency systems, beyond multiple debt-based national currencies, to provide not only economic efficiency but also resilience and economic justice. We argue that it is in this exploration of potential new monetary architectures that synergies and opportunities truly emerge. Figure 8 below thus provides a snapshot of the unfolding of monetary plurality and some of the possible combinations. For example, the possibility of different types of currencies with separate function, supported by different types of banks and ownership structures, and enhanced by different technologies that in turn allow for very different financial mechanisms. Instead of responding to the crisis and the unsustainability of our monetary system with a new currency, or a stronger bank or even a new type of green bonds or “sustainable” stock market, the invitation thus becomes to consider the monetary system as a whole, and explore the cross-benefits arising from this integral view. Wicked and persistent problems deeply embedded in a regime cannot be solved by single solutions. They require wicked and persistent solutions working in tandem and complementarity. What happens when we combine public banking ideas with municipal or regional complementary currencies? What happens when crypto-currencies meet with alternative banks or alternative finance? Or when the sovereign money proposals bypass the need to reform the current monetary system and instead focus on developing their own parallel national currency systems?

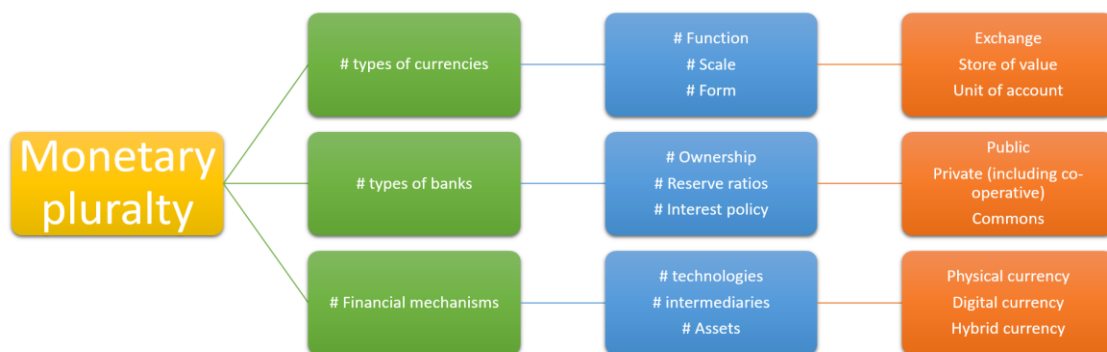


Figure 8 - Unpacking monetary plurality

These are the spaces of incredible potential for deeper transformations and reconfigurations of the monetary system. These meeting places between AMNEs are, if you will, where the magic happens and revolutions can take place. Furthermore, although the confluence areas between AMNEs are many, we argue that two areas are of particular interest and socio-technical relevance: municipal complementary currencies (MCC) and crypto currencies (CryC). As illustrated in figure 9 below, which further develops the graph in figure 7 above, municipal complementary currencies are a space where complementary currencies can meet public banking solutions, embrace a commons-focused governance system and alternative finance practices, and even apply some sovereign money principles at the local or regional scale. Crypto currencies, on the other hand, are a space where complementary currencies easily can meet with alternative banking practices and finance mechanisms. An example of the latter is the Faircoin, which was used in the financing and start-up of the Bank of the Commons, and has been adopted by several co-operative movements in Europe to finance a new economic system.

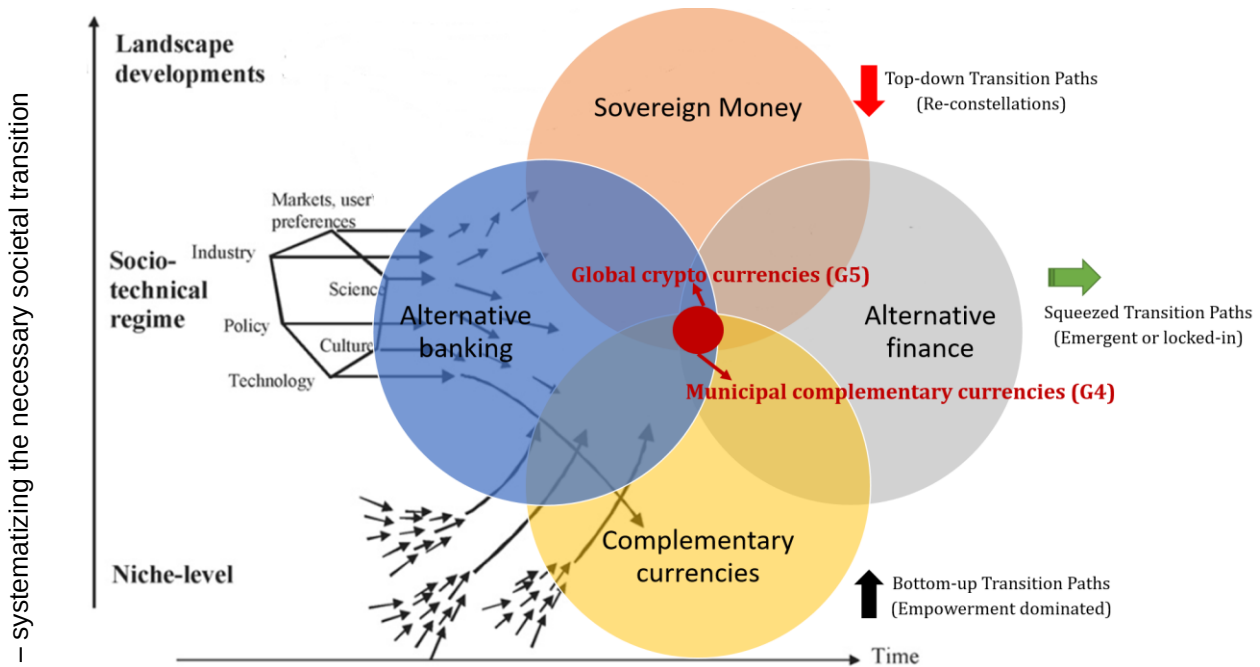


Figure 9 - Unpacking complementarity within the MLP-TM framework

The convergence place for MCC and CryC depicted figure 9 is of particular relevance to our argument not only because of the potential synergies between AMNEs, but more importantly because of the potential societal impact of their adoption in the short and medium-term. A local complementary currency might find it hard to gain social and economic traction and acceptance, as thousands of experiments all over the world have indeed showed (Schroeder et al, 2011). A Municipal currency validated and supported by the local government, on the other hand, can easily grow to a regional scale and have significant macro-economic impacts. An example is the E-portemonnee, which started in Limburg, Belgium, and now expanded to more than 10 municipalities in the region, reaching out to more than 850.000 people¹⁵. Similarly, a monetary or financial reform at a

¹⁵ <http://www.communitycurrenciesinaction.eu/e-portemonnee/>

global level to anchor money in the real economy, such as the Kilowatt Dollar proposal presented at the Rio 92 conference, might remain a utopia for decades, while a decentralized, global, blockchain-based solar energy incentive such as SolarCoin quickly achieved a very significant 48 million coins in circulation within a few years¹⁶.

The core issue here at stake is why? Why are municipal complementary currencies and crypto currencies the leverage points for a systems shift in the monetary regime, and what makes them so different from other AMNEs like Time Banks, Peer-to-peer lending or even Ethical Banks? Two key reasons: appropriate scale; and appropriate relationship with the existing regime. MCC are a great example of appropriate scale. Not too small, nor too big, they provide the benefits of a locally rooted currency without many of the acceptance and circulation issues – mostly solved by the backing of the municipality itself – and at the same time avoid having to face bigger and stronger systems, such as Central Banks, and heavy bureaucratic legal processes nation-wide. They can thrive in the legal, fiscal and political autonomy of the municipality, and keep local rootedness and accountability. CryCs are a great example of the relationship between regime institutions, cultures and laws. Transboundary in every way, decentralized, evolving quickly and multiplying even faster, they are hard to regulate and even harder to stop and/or control in an effective way. However, they do not pose any real threat to the regime, at least not in the short-term, and most of the times appear in complementarity. The invitation they extend to the existing regime is for more effective and efficient transactions, a more transparent and accountable system. And a more creative and innovative system beyond the next derivative and more towards the next Ecocoin or Recyclebank. So, in a way they do not pose a direct threat to the regime, like for example sovereign money does, and their creative technologies and solutions are far from being old or irrelevant, which can be the case with some Time Banks or local currencies. At the same time, they cannot easily be stopped or eliminated from the ecosystem. This does not leave much choice to the existing institutions but to adapt, reconfigure and reorganize. Through appropriate scale and relationships, MCC and CryC can thus bypass or transcend many of the limitations imposed on other AMNEs, and thrive within a post-avalanche ecosystem that is more open to change and welcoming of different solutions.

5. Conclusion

Throughout this chapter, we have argued that the financial ‘avalanche’ of 2007-08 is a landmark changing point in the overall direction of our monetary economies. It triggered, unlocked and gave rise to a multitude of alternative narratives, experiments, movements and innovations in the monetary field that are unprecedented and to a high degree also unstoppable and uncontrollable. We clustered these AMNEs in seven categories, and used Multi-level Perspective and Transition Management to better understand the nature, dynamics and potential of these different technologies, innovations and paradigms. We also aimed at exploring the synergies between them by unpacking the possibilities for complementarity and plurality within the monetary field. Our conclusion is that the strongest drivers for a reconfiguration and substitution of the current monetary system in Europe are the newer generations of complementary currencies, specifically crypto currencies and municipal/regional currencies. These bottom-up initiatives are squeezing their way into the existing monetary regime, exploring the fringes left open by the financial landscape shock, and forcing the existing institutions and cultures to adapt, reconfigure

¹⁶ <https://chainz.cryptoid.info/slr/> - Visited Nov 27th 2018

and even re-constellate. While not pushing for top-down reforms or revolutions, their potential impact within this transition period is very significant and is leading to a technology substitution – particularly with blockchain – and a culture of monetary plurality that might be the biggest step towards a more diverse and resilient, perhaps even sustainable, monetary system.

6. Bibliographic references

- Al-Suwailem, S. (2012), Complexity and endogenous instability, *Research in International Business and Finance*, <http://dx.doi.org/10.1016/j.ribaf.2012.08.002>.
- Alves, F. M. & Santos, R.F. (2018), IJCCR Publications - a literature review 2010-2016, *International Journal of Community Currency Research*, Vol. 23 (Summer), pp. 01-13
- Arestis, P. & Sawyer, M. (2006), *The Handbook of Alternative Monetary Economics*, Edward Elgar Publishing Limited, Cheltenham, UK
- Barbier, E.B. (2011), Transaction costs and the transition to environmentally sustainable development, *Environmental Innovation and Societal Transitions*, Vol. 1, pp. 58–69.
- Blanc, J. (2011), Classifying “CC’s”: Community, complementary, and local currencies types and generations, *International Journal of Community Currency Research*, Vol. 15, pp. 4-10
- De Bono, E. (1994), The IBM Dollar: a proposal for the wider use of “target” currencies, Special Report for the Center for the Study of Financial Innovation, United Kingdom
- Ferguson, N. (2008), *The Ascent of Money: A Financial History of the World*, Penguin Press, New York, USA
- Geels, W. F. & Schot, J. (2007), Typologies of sociotechnical transition pathways, *Research Policy*, Vol. 26, pp: 399-417
- Haan, J. & Rotmans, J. (2011), Patterns in transitions: Understanding complex chains of change, *Technological Forecasting & Social change*, Vol. 78, pp: 90-102
- Iansiti, M. & Lakhani, K. R. (2017), The truth about blockchain, *Harvard Business Review*, Jan-Feb 2017, USA.
- Loorbach, D.A. & Hufenreuter, R. L.s (2013), Exploring the economic crises from a transition management perspective, *Environmental Innovation and Societal Transitions*, Vol.6, pp: 35-46
- Loorbach, D. & Rotmans, J. (2010), The practice of transition management: Examples and lessons from four distinct cases, *Futures*, Vol. 42, pp: 237-246
- Laeven, L. & Valencia, F. (2008): “Systemic banking Crises: A New Database”, Working Paper IMF WP 08/224
- Michel, A. & Hudon, M. (2015), Community currencies and sustainable development: A systematic review, *Ecological Economics*, Vol.116, pp. 160-171
- Reinhart, C. & Rogoff, K. (2009), This Time is Different: Eight Centuries of Financial Folly, *Princeton University Press*, Princeton - USA
- Rösl, G. (2006), Regional Currency in Germany – local competition for the Euro, *Deutsche Bundesbank Discussion Paper Series 1*, Vol 43
- Schroeder, R., Miyasaki, Y. & Fare, M. (2011) ‘Community Currency Research: An analysis of the literature’, *International Journal of Community Currency Research*, 15 (A) 31-41
- Seyfang, G. & Longhurst, N. (2012), Grassroots innovation for sustainability: a niche analysis of community currencies, *Science Society and Sustainability*, 3s Working Paper 2012-10
- Seyfang, G. & Longhurst, N. (2013), Growing green money? Mapping community currencies for sustainable development, *Ecological Economics*, Vol. 86, pp. 65-77.
- Stodder, J. (2009), Complementary Credit Networks and Macro-Economic Stability: Switzerland’s Wirtschaftsring, *Journal of Economic Behaviour and Organization*, Vol 72.
- Suarez, F.F. & Oliva, R. (2005), Environmental change and organizational transformation, *Industrial and Corporate Change*, Vol 14 (6), p.p. 1017-1041.

- Tapscott, D. & Tapscott, A. (2016), *Blockchain Revolution: how the technology behind bitcoin is changing money, business and the world*, Penguin Random House LLC, New York, USA
- Telalbasic, I., (2017), Redesigning the concept of money: a service design perspective on complementary currency systems, *Journal of Design, Business and Society*, Vol. 3(1), pp. 21-44
- Tibbett, R.I (1997), Alternative currencies: A challenge to globalisation?, *New Political Economy*, 2:1,127-135, DOI: 10.1080/13563469708406290
- Ziegler, T.a et al (2017), *Expanding horizons – the 3rd European alternative finance industry report*, Cambridge Centre for Alternative Finance, University of Cambridge, UK