

Department of Geography University of Zurich

Master's Thesis GEO 511

**Negotiating Economic Alterity  
and Diversity – Alternative currencies  
as innovative forms of  
economic diversification?**

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## Summary

Alternative currencies in a broader sense are popping up in many places across the globe as alternatives for economic exchange are being sought for in the face of a globalised economy, the scope of which is unmet in scale. Alternative currencies in all their variations are, generally speaking, manifestations of a search for new ways of handling money or value. They can be seen as a quest for a new means to question, challenge and bypass the instruments of mainstream capitalism (corporate and national financial institutions).

The idea of creating local currencies (LCs) with which a local economic circle can be established and nurtured as a critique towards global economic competitiveness, is not a new idea, as local currencies have continuously been introduced over the past 80 years in various forms, e.g. community currencies, voucher systems, labour trading schemes. The overarching intention of LCs is to build up circles of economic practice, while strengthening interpersonal relations and identify with local interests of a community. LC schemes are being introduced in many places across the globe, in areas affected by the global financial crisis starting 2008 (Argentina and Greece), in metropolitan areas of finance (e.g. Brixton Pound in London), but also in middle-sized urban regions with strong socio-political movements such as in Bern and Basel.

Attempts to process the transaction of money as digital units or as virtual currencies are also no new phenomenon. There have been a number of undertakings to establish digital currencies since the 1990s. Some of the attempts were to process national currencies digitally, others were to process newly invented currency schemes. Bitcoin (BC) has been the first digital or virtual currency that has a proven 5-year record and has managed to establish itself on a large scale. It is designed as a decentralised peer-to-peer (P2P) system, with a steady but decreasing issuing rate, only takes a minimum of transaction fees and also can be accessed from mobile devices. These technological and monetary novelties have let antifederalists and market-liberals dream of more financial independence and currency activists, to envisage BC as a new tool of social empowerment. The hype surrounding BC has attracted investors and developers from around the world to Switzerland. In the Zug area, with its tolerant legal and accommodating tax laws, a new developer scene for digital currencies referred to as Crypto-Valley has appeared, attracting much media attention.

On the basis of the lack of existing comparative analyses of motives of the two types of alternative currency users, this thesis examines the landscape of alternative currencies in Switzerland by taking a comparative view of two different forms of alternative currency movements in Bern, Basel and Zurich. The term alternative currencies is chosen somewhat provocatively to underline the attempt to put the, at a first glance, diametrically opposed

ideological approaches of the studied alternative currencies, namely two LC movements (Bonobo (BB) in Bern and NetzBon (NB) in Basel) and a digital currency movement (BC in Zurich), in a discursively comparable context to each other. The common denominator in terms of the intellectual orientations of the currency's advocates is the simple aspiration of creating a 'better money'. This intellectual orientation stems from a general scepticism towards conventional money systems, i.e. national currency systems, which both camps of currency activists would subscribe to. However, there are also fields of interest which are not congruent for enthusiasts of digital currencies and LCs. This thesis addresses the common and disparate grounds of alternative currency activists by analysing the settings of the different currency movements with the assistance of qualitative and quantitative research methods, e.g. guided expert interviews, participant observation and document analysis.

In essence, this thesis demonstrates that two seemingly disparate currency movements, the digital currency BC in Zurich and the local currencies BB and NB in Bern and Basel, respectively, share common intellectual orientations, overarching objectives, with both currencies running on a similar scale. The concrete modes of action of the currencies are very different. On the one hand, the LC movements are very much focussed on democratic principles and strengthening local economic structures. On the other hand, BC enthusiasts are more interested in developing the technical side of the BC. However, there is a strong community spirit in both currency movements with efforts to expand and develop their currency as a real alternative for the future.

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## Abbreviations

BB	Bonobo
BC	Bitcoin
LC	Local currency
NB	NetzBon



# 1. Introduction

“Every time you spend money, you're casting a vote for the kind of world you want.”

Anna Lappé

In the past couple of years there has been an influx of emerging local currencies (LCs) and digital currencies across the globe. Some people are talking of a revolution of the financial system and believe it is only a question of time until some of the mechanisms of newly invented alternative currencies will lastingly reform the way the financial sector functions (Hassan 2015). The recent financial crisis starting in 2008 has raised questions about the problematic nature of our national money systems. Such questions are no novelty, as criticism towards global finances has a rich and long-standing tradition (Bachinger and Matis 2009, 456). The search for alternative modes of economic practice is a result of this scepticism and is mirrored in the emergence of alternative currencies and the negotiation of new money systems.

LCs have been around for a long time with varying degrees of success. Whereas in areas stricken by financial crises alternative currencies in form of local community currencies have proven to be a success, other LCs in areas less affected by financial upheavals have struggled to survive for longer periods. A prominent example of the successful implementation of LCs is Argentina, where during the economic crisis of the late 1990s many community currencies and local trading schemes were set up and managed to serve the financially insecure population in Argentina as a means of exchange (North 2005, 230). LCs in other areas such as in Great Britain have been less successful for a number of reasons, but foremost due to the absence of an economic crisis (*ibid.*). There have been numerous LCs set up across Europe in the past 150 years, usually founded on similar objectives but with varying success. The main premise has typically been to provide an alternative means of payment for local communities to cover their daily necessities. In Switzerland, there is small number of LCs and their influence and scope have been moderate up till now.

The digital currency Bitcoin (BC) has gained a lot of momentum since its introduction in 2009. Ever since its launching by a group of cryptographers searching for a digital currency free of transaction cost claiming middlemen, BC has become the flagship of digital currencies and acquired wide public attention and interest from the media. The innovation of BC is twofold. On the one hand there is the technical innovation of the decentralised public ledger and on the other hand there are the implications such a novel system could have for how money is negotiated in

the future. In Switzerland, BC is still only being used by a few, predominantly IT-aficionados, who have chipped into the idea and are starting to promote the new digital currency. However, in others areas across the globe, BC has become an important digital currency with a constantly growing user community. In Berlin, for example, it is possible to live for a week by only using BC to satisfy personal needs (Hefner 2015). BC in Switzerland has experienced a boom in the two years, with numerous BC-related businesses starting up in Zurich and the Zug area. Yet despite the media attention BC has had, BC remains a niche currency a small user base.

So far, there has been lot of research on LCs in England, Germany, Argentina, the States, Japan and more (Glover 1995; Kennedy and Lietaer 2004; Lietaer 2000; Maurer 2005; North 2005a; Thiel 2010) However, there has been little research specifically on Swiss LCs, although there are a number of Swiss researchers studying alternative currencies in general or in other countries (see (Blanc 2011; Martignoni 2012). An exception is considerable amount of research on the Swiss WIR complementary currency (Stodder 2009; Dubois 2014). For BC, as it is a very new phenomenon, there is quite a bit of very recent research on BC in general (Antonopoulos 2015; Ali et al. 2014; Bergstra 2015; Vigna and Casey 2015; Tschorsch and Scheuermann 2015; Maurer, Nelms, and Swartz 2013), but nothing substantial on BC in Switzerland. This is where this thesis positions itself and attempts to fill a void.

On the basis of the lack of existing comparative analyses of motives of the two types of alternative currency users, this thesis sets out to examine the landscape of alternative currencies in Switzerland by taking a comparative view of two different forms of alternative currency movements in chosen urban settings in Switzerland. The overarching assumption is that both digital and LC are envisaged as a criticism towards the status quo of the current financial systems. These new currencies have a multitude of different appearances and objectives. This thesis takes a closer look at the working ways of LCs and the digital currency Bitcoin (BC) in Switzerland in the cities of Basel, Bern, Zurich and the Zug area and assesses the similarities in terms of the intellectual orientations of the currency enthusiasts.

The two studied currencies, LCs and BC, are intentionally referred to as *alternative currencies* and laid out as alternative forms of economic practice. Alternative forms of economic practice can be placed within a rich tradition of scholars researching on alternative economic innovations and suggestions about how best to use and exchange capital and value (Gibson-Graham 2006b, xi). This decision to assess both forms of currencies as alternative currencies provides a perspective with which a comparative analysis of the mechanics of the two different forms of currencies can be viewed. The term *social movement* is also deliberately chosen to refer to the community character of the alternative currencies, as a “network of informal interactions between a plurality of individuals, groups and/or organizations, engaged in a political or cultural conflict, on the basis

of a shared collective identity” is a sociological definition of a social movement (Diani 1992, 19). This thesis attempts to outline the current situation in Switzerland with local social-movement currencies in two urban settings (Bern and Basel) on the one hand, and the development of the BC scene in Switzerland based on the Zurich meet-up scene and the newly arisen hotspot for crypto-finances in the Zug area, often referred to as Crypto-Valley, on the other hand. The comparison aims at questioning the intentions and intellectual orientations of the currency users and analysing their potential by viewing both currencies in a similar light – the light of a social or community movement striving to promote its ideas for reasons defined by the intellectual orientations of the promoters.

The thesis is built up in five chapters. After an introduction to the topic and the research questions in chapter one, the second chapter lays out the theoretical framework from different perspectives pertaining to the state of the art in the field of general money theory. Further, the establishment of national currencies and resulting problems, special monies and capitalist economies are addressed. Following on, the canon of research on economic alterity and diversity will be introduced, along with the embedding of BC and LCs in the discourse of alternative modes of economic practice. The final section of the theoretical chapter takes a look at possible stabilising effects of local or community currencies in national economies. The third chapter outlines the methodology of the empirical research, i.e. guided expert interviews, participant observation, document analysis, the transcription and coding of the interviews and the findings. The fourth chapter presents the findings of the empirical research, analysing the three currencies separately and in detail. The final and fifth chapter is a synthesis of the findings, bringing them together and contextualising in accordance to the initial research question(s) and the theoretical concepts. The outlook assesses the thesis and its reach, raising new questions, suggesting new fields of research and discussing areas that were not covered in this thesis.

## 1.2 Research Questions

Thus far, there has been no comprehensive empirical research on both local currencies and digital currencies in Switzerland. The comparative approach taken for this thesis allows for a new perspective on different types currencies as alternative modes of economic practice. Therefore, it is of interest to find out whether there is any common intellectual ground between these two emerging currency movements. This leads to the following overarching research question (RQ):

RQ1: What is the relation between the intellectual orientations of enthusiasts of alternative currencies and mainstream capitalism?

Subquestions relating to this main question are as follows:

RQ2: Do LC and BC activists share certain common grounds in terms of intellectual orientations, despite the existence of fundamental differences between the two forms of alternative currencies?

RQ3: What do users of the alternative currency activists in chosen Swiss focal points believe they are achieving when using their alternative currency?

RQ4: Can a clientele's intellectual orientation be categorised in such a way that a user profile can be created?

RQ5: Are the users of alternative currencies generally aware of other alternative payment systems and how do they view these?

The RQs are assessed by the following 6 hypotheses (Hs) which serve as an analytical framework:

H1: First investigations suggest that both LC and BC activists are attempting to achieve a similar goal with their forms of currencies. Therefore, with regards to RQ1, H1 states that the intellectual orientation of alternative currency activists plays an important role as a foundation for a critical engagement with mainstream capitalism.

H2: Still referring to RQ1, H2 postulates that by using and promoting an alternative currency LC and BC enthusiasts are making a political statement. The conscious decision to take part in a non-mainstream money system already positions the advocates within a certain socio-political/ideological framing.

- H3: Moving on from the overarching research question, H3 looks at RQ2. It titles that there are, despite obvious differences in terms of intellectual orientations, also very similar intellectual orientations at work. The shared intellectual orientations are a form of critique towards conventional modes of economic practice.
- H4: With regards to RQ 3, H4 is that the alternative currency activists in Switzerland are on a quest to promote their currency and enhance the belief in its value. At the same time they believe they are contributing to a greater cause by nurturing an alternative currency with far-reaching benefits.
- H5a: The fourth RQ is dealt with by the following H5, which consists of two argumentative parts: Firstly, H5 argues that with BC activists there is a tendency to an intellectual orientation which complies with libertarian, market-liberal values, emphasising the strength of BC as a freedom-granting and individualistically empowering currency.
- H5b: The second part of H5 refers to activists of the LCs that were studied in this thesis and claims that their foci are more on the social and small scale aspects of economies and are very critical of the endless growth maxims of globalised economies. Further, LC advocates are interested in reembedding local economics and creating resilient and sustainable and social cycles of commerce.
- H6: The fifth research question is assessed by H6, which is that the alternative currency advocates are very much focussed on their form of alternative currencies and often fail to see the bigger picture, i.e. that other alternative currencies are trying to tackle similar problems and share similar objectives.

In accordance to the research questions and the hypotheses mentioned above, the thesis evolves around establishing user profiles for the different user bases and assessing their motivations and aspirations for the respective currencies. En route, further questions such as whether there are any interfaces between cryptocurrencies and local currencies in Switzerland are addressed. In conformity with hypothesis 6, how users perceive other alternative currencies, i.e. whether they recognise the use of other currencies as something worth aspiring to, will also be focused on.

## 2. Theoretical Framework and State of Existing Research

### 2.1 Manifestations of Money

Money – what is money and how does it work? Attempting to even approach such a topic is to open Pandora’s box. However, this has been the overarching question which developed out of an intensive involvement with different forms of alternative currencies. In order to gain a better understanding of the criticism of modern capitalist systems, it is important to look at different theoretical approaches across different fields of research. However, digging into money theory opens a huge range of topics in economics, anthropology, sociology, geography and other human sciences. Thus, compromises had to be made and only a selection of money theoretical approaches in relation to alternative currencies could be chosen. This narrowed focus of trying to thematically stick to money theories closely related to alternative currencies, was impossible, as the question of money’s character or its manifestations lies at the core of all research on alternative currencies. Thus, this thesis chose a balancing act between picking up on theoretical approaches where useful and related to my research questions, and leaving out other approaches that were interesting enough, but not as central as others, where necessary. This results in an analysis of a combination of philosophical, anthropological and sociological approaches that are connected to how money works in various spheres.

Questions of what money is and how it works has occupied many philosophers, thinkers and prophets for thousands of years. Usually, it has been perceived as something negative and the source of all evil (Harari 2013, 228). Harari, however, sees money as the “peak of human tolerance” (ibid.). His argument is that money is more tolerant than any language, law, culture, religion and social behaviour. It does not discriminate or favour anyone. It is the only manmade system that disregards differentiations between religion, race, gender and age and thus enables strangers to cooperate and to exchange value without any problems or even without having to interact face to face (ibid.). This line of ideology or positive connotation is mirrored in chapter 5 of this thesis by some interviewees who also stress money’s entirely apolitical quality. However, and this is a big however, money, quite ironically, has its price, claims Harari (2013, 231). Harari observes what he perceives to be the Janus-faced character of money’s potential in the following manner: On the one hand he notes that money is based on two universal principles: 1. Universal exchangeability and 2. Universal trust. These two principles enable millions of people unknown to each other to cooperate effectively in production and trade (Harari 2013, 228). But precisely this form of open trust threatens other areas of human interaction on a smaller scale, such as

tradition, social relations and cultural values and replaces them with the “cold logic” of supply and demand (Harari 2013, 229). Or, as James Ferguson similarly puts it (2015, 133):

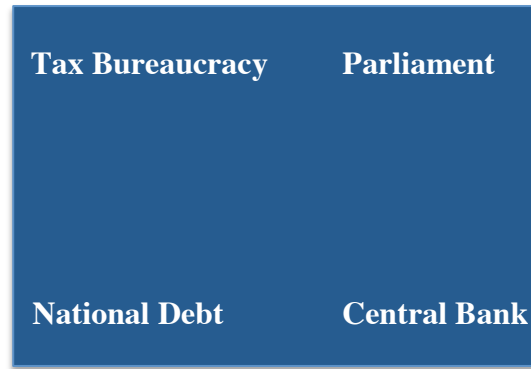
“Today, however, capitalism (neoliberalism, modernity, commodification, the world system - the villain changes with the times) tears apart these bonds and replaces them with the heartless logic of "the market."

However, Ferguson reflects on this undifferentiated statement and calls for a more detailed approach to the analysis of what could be called globalisation, arguing that a less moralising account is required to assess the problems in our globalised world. This differentiated call reflects Gibson-Graham’s approach on diverse economies (see 2.1.5 Economic Alterity and Diversity).

### **2.1.2 Ferguson’s Square of Power**

Harari’s aforementioned ambiguous approach to the money’s potential may appear somewhat superficial. By looking at Lietaer’s work, one can gain a more valuable and specific insight to current discourses evolving around money in a globalised world. Bernard Lietaer has been active in the world of financial markets and currencies for 40 years, working as a consultant and academic for various employers in the private and public sectors. He has done a lot of research on the impact and practicability of community currencies. Lietaer’s main credo is to challenge the status quo of a two level banking system and to achieve more sustainable and stable forms of currencies on smaller scales (Lietaer 2002, 37). Thus, his approach is already very much critical of how conventionally capitalist nation states function, which ties in with Polanyi’s critique of the rise of nation states. The mentioned approach stems from the Lietaer’s understanding that the monopoly of central banks might not be the optimal money supply for the whole world (Hankel 2000, 15). The two level banking system refers to the national central banks on the one hand, who possess the monopoly of a currency, and the dependent business and private banks on the other hand, who are in charge of credits, business and transfers of money. This duopoly can be dissected into a square of power, coined by Niall Ferguson. The square of power (see Figure 1) illustrates how modern nation state currencies relate with the economies they dictate (N. Ferguson 2001, 15).

## Government



## Financial Sector

Figure 1: The Square of Power taken from N. Ferguson (2001)

The square of power suggests how the currencies of modern nation states function and maintain their hold on the economies they form. Ferguson used this example as a framework to analyse how war finance had facilitated the establishment of modern state tetrarchies<sup>1</sup>. As a historian, whose key area of research was financial, economic and European history, Ferguson took his inspiration from how Britain had established its square of power after the Glorious Revolution (N. Ferguson 2001, 16). The square of power is made up of a cunning interplay between government and the financial sector. The game works as follows: In a first step, a government installs a system of professional tax-gatherers who tend to make a good profit from keeping some of the revenues (top left in Figure 1). Secondly, the parliamentary institutions instate laws to justify the raised taxes and in exchange tax gatherers are able to buy their way into legislation and the passing of beneficial budgetary processes (top right). Thirdly, a system of national debt is established (bottom left) which enabled states to regulate with taxes over a longer period in order to compensate for large expenditures (extreme situations, i.e. wars). Fourthly, a central bank is needed to manage debts and also to regulate the issuance of money within the system. Making the connection back to the top left, raising taxes contributes to the currencies value, as it represents a certain amount of output reflected in the currency, which is constantly being modified (N. Ferguson 2001, 15). On these principles, the square of power managed to establish and reproduce itself in many states across the world. In answer to this rigid but seemingly relentless financial structure of modern nation states, which have managed to establish themselves all across the globe, Lietaer elaborates on how complementary currencies can contribute to breaking with such structures, i.e. unbalancing the square of power (Lietaer 2015). In conclusion, this square of power concept serves as an explanation to possible reasons for the establishment and success of powerful national currencies. National currencies dominate the international trade, as most international commerce is financed by the leading world currencies.

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<sup>1</sup> Refers to a form of government divided between four powers (N. Ferguson 2001, 16).

<sup>2</sup> Term attributed to David Brower as an FOE (Friends of the Earth) slogan in 1969 ('Obituary David Brower' 2000).



### 2.1.3 Zelizer's Special Monies

Having discussed the some structural criticism on money and how financial constructions have coined the way money circulation works, in the following different qualities of money from a sociological perspective will be evaluated. As a starting point and already taking a look towards local currencies, Zelizers work on “The social meaning of money” (1994) serves well. Her approach sees money less as abstract market money and more as a socially and culturally multidimensional phenomena. This implies that there are many ‘special monies’ (Zelizer 1994, 344), as she calls them, which have specific ways and influences on how money is dealt with in connection which social relations and cultural values. Hence, the approach attempts to dissect the way money works differently in different contexts. Examples for this are laid out in Zelizer’s study of modes of action of money. This was conducted by assessing prostitutes specific usage of money they dealt with. The key insight gained from the study was that money can be coined differently depending on how it is earned and how it is spent. There, the point was made that sex workers in Norway differentiated between clean money they earned from “legal” activities and spent this accordingly, whereas money earned from non-legal activities would rather be spent on nightlife, drugs and alcohol. Thus, a distinction in both function and perception of money was made, shedding light on the different qualities and perceptions of what money can mean.

Elaborating on this concept, Zelizer’s four terms for assessing money’s usage – *intention, social context, meaning and effect* (Zelizer 1994, 18) – highlight perspectives that determine how money can be perceived differently. This idea leads into the discussion of a subjective perception of money. According to this premise, money can also be, apart from a functional entity of payment, an object of subjectivity. This points to the fact that alternative currency advocates and academics are interested in what more is achieved when a product changes hands, what is going on beyond a mere exchange of material value. The usage of money can take on a different and subjective *meaning* and can modify the *intention* for each user of a currency. This sighting allows for a more differentiated approach as to what money is and what it does. Hence, Zilizer’s analysis does not constitute a new sociological approach but contributes valuably to the discourse on money’s different contexts (Thiel 2010, 79). It can also be used to assess currency usage motives and deductively, how user profiles for the different currencies can be created.

After elaborating on these different modes of monies, Thiel’s work in *Das bessere Geld* (2010) will be discussed. It is a doctoral thesis and a substantial and comprehensive piece of research on regional currencies, mainly in Germany. Thiel’s starting point is a trajectory from the general to the specific, situated around the question of what money actually is and how it appears and

manifests itself in many forms. Thiel states (2010, 7) that money can exist as money, thing, symbol, institution, function, legal right, instrument of power or as an illusion. Important factors for the success of currencies and for how they developed historically is divisibility, portability, durability, storage and acceptance (30). Following up from the assumption that there is no 'money as such', Thiel attempts to contribute to the discourse by taking a closer look at private regional money from an ethno-economic perspective applying a systematic-empirical approach (ibid.). According to Thiel, up to now there has not been much research done on money from perspectives other than an economic one. He argues that on the one hand research on money was not 'sociological' enough for sociologists (27). Economists, on the other hand, find it hard to deal with money appropriately within theoretical frameworks (Aglietta 1993; in Thiel 2010, 27). This simplistic view of money or 'blindness for money', as Thiel normatively calls it, on behalf of economic theories is a big issue, as many socio-economic problems are ascribed to money as a motor for the destruction and objectification of jointly relationships and also for the individualisation of societies (Thiel 2010, 27). Blindness to money also translates into the idea that Douthwaite formulates, namely that currency users but also economists believe that there is only one type of money, "because one type is all they've ever known" (Douthwaite 1999, 9). According to Aglietta (1993, 12), this also leads to the fact that money is conceptualised by economic discourses as an emergency solution, as a 'neutral medium' that covers up the real exchange processes. This implies that the exchange of value between two entities in form of a certain amount of labour being traded for a similar amount of labour done by someone else, becomes substituted through the ability to purchase labour or services with money (ibid.). The notion of money as a neutral medium is a recurring topic in this thesis, as it ties in with some of the ideological stances encountered in the qualitative interviews with alternative currency users.

#### **2.1.4 Capitalist Economies**

The previous subchapter demonstrated a differentiation and specification of approaches to money in general. This links in with approaches that attempt to come to grips with vague concepts such as capitalism. As my research questions also considers the role of certain traits of globalised capitalistic economic practice, it is important to look at different concepts of what globalised capitalism can imply. Karl Polanyi's *The Great Transformation* (1946) offers a solid and still very relevant economical/anthropological framework for the emergence of capitalistic principles. The work assesses the development of capitalism in connection with the emergence of nation states and the potential dangers of such a fundamental transformation. According to Polanyi, the rise of the market economy was simultaneous with the rise of modern nation

statehood (Polanyi 2001, 65). He calls this new appearance a market society. It changed the way money was perceived and negotiated and how the market in general became manifested in people's minds as a rationalisation of economic commerce. With the rise of modern statehood, variables of economic production, such as land and labour, became goods (commodification) and started to be traded on the market. The market increasingly determined the prices in place of the previously important factors such as distribution, tradition or reciprocity. Polanyi also talks of 'fictitious commodities' (land, labour, money), as their return value is determined by the market (68). After the transformation with the institutionalisation of the markets (corporate companies, big businesses) a new logic spread – the logic of the new market based institutions (Polanyi 2001, 58). Powerful modern nation states emerged, changing the social order profoundly. This led to the subordination of society to the laws of the market and the emergence of a competitive capitalist society. The becoming independent of the economy detached from society is a problem for Polanyi, which can only be solved by protecting the social and ecological balance of society. This refers to the notion of 'double movement', a term coined by Polanyi to describe the fact that market societies are dominated by two opposing principles. On the one hand there is the laissez-faire movement pushed by the market liberals to ever expand the markets. On the other hand, and as a reaction to attempts to deregulate the market, a countermovement arose and established itself as a protest movement to re-embed the market. This constant tug of war has since defined the economic processes all over the globe (Block 1995, 28; in Polanyi 2001). These two opposing principles are closely linked to the gold standard – a highly valuable intellectual achievement, as Polanyi perceived – which was established in the 1870s and aimed at institutionalising a global market setting bound to a common gold price. This development had one target in sight, namely to enable a global self-regulation of the market. This lent weight to the national currencies bound to the gold price. In turn, nation states had to negotiate their currency's gold-value, which led to great turbulences in times of economic recessions. Thus, the gold standard as conceived never lived up to the market liberals' aspirations, as it failed to establish a free global market and instead led to two world wars (Block 1995, 30; in Polanyi 2001).

In conclusion, Polanyi's *The Great Transformation* is relevant to the research questions for two reasons. Firstly, the disembedding of the market from society is an appearance that advocates of local currencies are directly or indirectly addressing through their currencies, as the literature on local currencies explains (see 2.3 Alternative Currencies). Secondly, the gold standard concept was an attempt to create a global currency for a global market. BC enthusiasts have similar aspirations for BC, which they hope could in time become a global currency.

Also in line with Polanyi's work are many concepts related to the canon of alternative economic practice of later periods of the 20<sup>th</sup> century and the first decades of the 21<sup>st</sup> century such as barter

communities (Maurer 2005, Donildo 2011), the degrowth movement (Kallis und March 2014; Skidelsky et al. 2013), decoupling from globalised commerce, small cycles, regional development (Skidelsky et al. 2013; Harvey 2001; Wills und Lee 1997), and alternative economies and spaces (Hillebrand und Zademach 2013, North 2005). These concepts will be examined in greater detail in 2.1.5 Economic Alterity and Diversity. The reason being that all these concepts are embedded in the framing of economic alterity and diversity. The term alterity is related to the word alternative and serves as an expression of otherness. The term has been broadly used in philosophy and anthropology and has recently is found its way into discourses of other area such as economic geography (Jonas 2010, 6). All the mentioned approaches are a critique of capitalist principles, as they challenge the transformation processes which Polanyi describes.

Another noteworthy approach to the topic of capitalist principles ins David Harvey's work on *Spaces of Capital* (Harvey 2001). Harvey, a self-titled Marxist geographer, devoted a lot of his work to social processes and their connection to spatial forms. As reported by Harvey, this connection is regularly not made and social processes and spatial forms are often regarded separately. Harvey's spatial concept builds on the premise that all spaces are made up of interrelated objects that only exist, if they contain and represent relations to other objects in themselves. This adds up to a totality. This totality tries to modify all the parts to maintain the status quo – the totality. And this principle, according to Harvey, precisely reflects capitalist systems and how the whole build-up ensures that the system is maintained (Harvey 2001, 51). This understanding of the setup of capitalist principles is reflected in the previously introduced rigid financial structures of nation states (see square of power), how they dominate economies and how the structures are crafted to support and reproduce themselves. This leaves little room for means of payment other than national currencies, as the global economy is built up on international markets dominated by a set of national currencies (Willke 2006, 55).

In a general definition, capitalism can describe an economic and social order on the one hand and an age in economic history on the other hand (Bachinger and Matis 2009, 12). The first connotation of an economic and social order is defined by a system based on private ownership and means of production, where the market controls production and consumption. These processes are saturated by the key principle of the accumulation of capital and the maximisation of profits (Willke 2006, 15). As a stage in economic history, capitalism can be seen as an epoch that has endured until the present day, taking over from feudal systems or mercantilism (Berg 2014; Bachinger and Matis 2009, 37). This definition is of interest, as it gives a broader definition of what capitalism could infer and clearly denotes important underlying principles.

### 2.1.5 Economic Alterity and Diversity

Moving away from the more general realm of philosophical, socio-economic and anthropological approaches to fathoming money's ways and its tendencies in capitalist economies, this section takes a look at the discourse evolving around alternative forms of economic practice in relation to a confrontation of the problematic existence of certain social relations under capitalism. There has been myriad of research on many topics evolving around capitalist economic practices. Also, there is a rich canon, as Zadamach et al. state (2013, 9), that works on various aspects of alternatives to mainstream capitalism. In fact, this development has progressed to such an extent and in such plenitude, that doing research on alternatives to mainstream capitalism has become mainstream itself (ibid.). These "alternative modes to the organisation of social and economic interactions around the globe" have also found their way into human geographic discourses. Alternative modes are about different issues connected to an alternative way of thinking about mainstream capitalist economic practice (Fuller, Jonas, and Lee 2010, xvi). This has opened up new fields of research in social and human geography and social ecology such as cooperatives and other forms of associative production, non-money currencies (Ithaca Hours), Fairtrade or ethical trade, ethically aware credit-unions (e.g. Alternative Bank Schweiz), local exchange and trading schemes (social network trading platforms, e.g. Minuto (Martignoni 2012, 12), and the so-called social economy (Hillebrand and Zademach 2013, 9).

In *Alternative Economies and Spaces*, the authors sketch two strands of literature in the field. The first is 'the political economy approach' which juxtaposes alternative economies in relation to capitalism (Hillebrand and Zademach 2013, 13). This approach does not so much aim at distinguishing between alternative and mainstream economic practice, but to look at definitions of alternative and mainstream and assess the discourse of the two poles across space and time (14). This entails regarding the fact that the economy penetrates every area of people and society, but that in contrast, there are more variables in people's lives, such as social beliefs, objectives and values, that are not merely defined by economic achievement. The second strand looks at a poststructuralist approach of assessing diverse economies beyond capitalism by taking Gibson-Graham's 'diverse economies approach' into consideration.

Gibson-Graham made a name for themselves in the field of political economy for their diverse economies approach in *The end of capitalism (as we knew it): a feminist critique of political economy*, first published in 1996 (Gibson-Graham 2006a). They call for a differentiated concept of capitalism, discarding the dichotomy of capitalist and non-capitalist and opting for a more refined approach to capitalism(s). They criticise the often extreme language of globalisation consisting of a "radical Marxist jargon" (Fuller, Jonas, and Lee 2010, xii) and instead call for a new language of economic diversity. Gibson-Graham propose a theoretical framework for observing economic practice, as

can be seen in table 2.

	<b>Transactions</b>	<b>Labour</b>	<b>Enterprise</b>
1	1. Market	Paid	Capitalist
2	2. Alternative Market	Alternative Paid	Alternative Capitalist
3	3. Non-Market	Unpaid	Non-Capitalist

**Table 1: Diverse Economy Framing (Gibson-Graham 2006)**

The three categories, Transactions, Labour and Enterprise, show ways of conceiving economic practice by diversifying and categorising economies, pointing to the fact there are other forms of well-functioning enterprises that do not focus solely on the accumulation of surplus. Gibson-Graham's diverse economies framework is also proposed as a technique with which to cultivate ethical economies, i.e. environmentally orientated and socially just economies (R Lee, Leyshon, and Gibson-Graham 2010). Gibson-Graham's approach can therefore help in assessing to what extent the two currencies at hand can be perceived as alternatives forms of economic practice. Gibson-Graham suggest three areas of economic practice that can be diversified: Transactions, Labour and Enterprise. Hereby, a differentiation is made between conventional economic methods, alternative methods and methods that fall into neither category, as the following overview and explanation of table 2 shows:

Transactions: 1. Conventional methods for transactions entail exchanging value by using a national currency and the conventional banking systems. 2. Alternative market transactions contain alternative currencies, but also underground or fair-trade markets, co-op exchange and barter communities. 3. Nonmarket transactions involve all economic exchanges of possessions that are not connected to any markets, e.g. gifts, household flows, hunting, gathering, theft, and state appropriation.

Labour: 1. Paid labour refers to a regular salaried position. 2. Alternative paid labour refers to schemes of self-employment, cooperatives, reciprocal labour and work for welfare. Unpaid labour points to housework, volunteer work, caring work, self-provisioning labour, and slave work.

Enterprise: 1. Capitalist enterprises mean businesses using conventional models of invest and reward. 2. Alternative capitalist enterprises include state enterprises, green capitalist, socially

responsible firms and non-profit businesses. 3. Noncapitalist enterprises portend to communal, independent, feudal, and slave-like business structures.

The categorisation laid out above, differentiates between different forms of economic practice, allowing for a diversified approach to economic analyses. This approach will be readdressed in the synthesis chapter as an assessment of the studied currencies potential as diversified forms of economic practice.

Further research in the field of alternative economies and spaces contemplates other alternative movements such as the degrowth movement, which takes up many relevant ideas for LCs and potentially also for BC. Degrowth is a countermovement to the world economy with its maxims of growth. It is based on ecological economics, anti-consumerism and anti-capitalist principles (D'Alisa, Demaria, and Kallis 2014). Degrowth, can be seen as a call for the transformation of how capitalism and endless growth excesses are created, legitimised and structurally reproduced (D'Alisa, Demaria, and Kallis 2014, 1; Demaria et al. 2013). Degrowth was largely influenced by Nicholas Georgescu-Roegen, who deals with the problematic relation between the social order, ecology and economy, and Serge Latouche who addresses the unhealthiness of growth society. The fundamental idea behind degrowth is that there are limits to economic growth, taking into consideration that scarcity is socially produced, and that new ways must be found to deal with environmental hurdles. It also addresses politics in different fields in connection to scale issues in the process of a transition from capitalism (Kallis and March 2014, 1). These subjects pay tribute to sustainability but refute sustainable development as a political idea, as the concept of sustainable development relies on a mainstream approach of growth maxims and consumption, merely in a sustainable way, and this does not comply with the degrowth ideology (Lorek and Fuchs 2013).

The notion of limits to economic growth is on many an academic's lips at the moment, and in great variation, such as the noteworthy endeavour of Keynes-critical Skidelsky et al. (2013), who ambitiously ask the simple question of how much is enough for a good life. Another examples of work in the limits to economic growth discourse is the peak oil debate or the post-growth society, which stress the necessity to transition due to a scarcity of resources (Lexikon Der Nachhaltigkeit 2015). The degrowth concept taps in on many other discourse about decoupling from globalised cycles of commerce, creating smaller production circles and regional development in general.

This also falls in line with many similar ideas on ‘think globally, act locally’<sup>2</sup>, regional consumption, strengthening community ties and so forth. These ideas are intellectually very close to some of the supposed objectives of the LC advocates. Degrowth explicitly attempts to offer alternative modes of action against destructive capitalism. It consists of a criticism towards mainstream capitalist economic practices and thus falls in line with one basic objective of the LC currency activists, namely to challenge the status quo of current economic practices. The pillars of the degrowth philosophy are reflected in Swiss LC movements such as Sozialökonomie Basel, Tour de Lorraine Bern and will be discussed in the synthesis.

In conclusion, ideas on economic alterity and diversity have been around for a long time and have developed a rich tradition of research. Many of the advocates of social economy movements claim that the need for a 180-degree turn around is more relevant than ever, as the limits to economic growth are becoming ever more apparent. This is why a wide range of alternative modes of action are being envisaged, tested and debated.

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<sup>2</sup> Term attributed to David Brower as an FOE (Friends of the Earth) slogan in 1969 (‘Obituary David Brower’ 2000).



## 2.2 The Phenomenon Bitcoin

After having discussed the economic alterity and diversity approach, the following subchapters turn to the alternative currencies researched for this thesis. The next two BC subchapters look, firstly, at the phenomenon BC and what repercussions it has had for other fields and secondly, at BC-related research.

The central innovation of the BC system is its public ledger. This ledger system is built on a peer-to-peer (P2P) network of connected computers, all participating in running the BC protocol. The protocol is a description of how the algorithms that define the system are fabricated (Tschorsch and Scheuermann 2015, 2). The open source protocol, which BC de facto is (and this is why the following comparison is useful), can be compared to the Internet, which has become such a central principle of knowledge exchange and utterly integral part of everybody's lives.

The innovative character of this public ledger is that it is decentralised. All the P2P connected users can view every transaction that occurs between two computers. There is no central institution which approves of the transaction, as the protocol is 'a distributed system without a point of failure' (Nakamoto 2008), i.e. a system which through its setup cannot make a bookkeeping mistake. This is achieved by the 'proof of work' process which solves the problem of double spending, i.e. spending the same digital money twice (Tschorsch and Scheuermann 2015, 1). Thus, these two innovations, the decentralised public ledger and the solution of the double spending problem constitute the two integral reasons for BC's success.

The latest developments in technology (internet, mobile phones, hardware compression) have created platforms and possibilities to facilitate and revolutionise many areas of life on an unmet scale (Vigna und Casey 2015). Cryptocurrency enthusiasts believe that the invention of digital money will have a comparable effect on the world to what Gutenberg's invention of the printing press had. Therefore, many cryptocurrency users have started pondering and dreaming about how new technology might help to address and solve some fundamental problems or flaws of the status quo on monetary systems (ibid.). Consequently, six years after being brought to life, researchers are starting to take BC more seriously. There is a lot of optimism and hope for the new wonder-currency, the magic internet money (ibid.). Many voices are asking, whether BC could reform the way money is negotiated for good (Hassan 2015; Noizat 2012; Vigna and Casey 2015). Due to BC relative success story, providers of other e-payment services are closely eyeing BC development and tapping in on the knowledge, which has been created through work on BC (Ali et al. 2014, 3) (See 4.1 The Bitcoin Scene in Zurich and Crypt-Valley in Zug).

## 2.2.2 Technical Achievements of the Bitcoin Technology

In 2008 an unknown cryptographer using the pseudonym of Satoshi Nakamoto published the so-called 'White Paper' (Nakamoto 2008). This paper describes an electronic payment system based on a peer-to-peer (P2P) network that does not rely on a third party for proof of transaction (Vigna and Casey 2015, 41). Although BC was only created in 2009, there had been a considerable amount of work put into independent digital currencies starting in the 1980s and 90s. Nick Szabo first imagined a digital currency that called 'Bit Gold' (Szabo 2008). This currency already foreshadowed certain elements of BC but focused more on the 'double spending' problem rather than on privacy (Peck 2012). This double spending problem refers to the problem of how to prevent the counterfeiting of digital money. The problem was eventually solved through the creation of the block chain technology with BC (Vigna and Casey 2015, 120).

The block chain is a transaction processing system that runs on a decentralised peer-to-peer (P2P) network. This network resembles a public ledger system that needs no centralised verification, as all transactions are validated as they are processed and presented to the network, a distributed database. Hence, the decentralising and anonymising electronic validation system has been an inspiring model to create similar internet based validation systems (Ali et al. 2014, 10), e.g. Bitmessage, an anonymised and decentralised email service, or Namecoin, also a P2P-system that anonymises and administers Internet Domain Name Systems (Kopstein 2013). Another prominent example of how large players of the financial world are tapping in on the development of BC, is the fact that Visa have started to design a block chain remittance project (Rizzo 2015). This project also has taken adopted the block chain technology as a powerful tool for electronic payment options.

Consequently, BC's decentralised character comes as a curse and as a blessing. On the one hand, the more or less anonymised nature of BC implies a new form of empowerment and autonomy for the users and thus, a new form of value transfer in general. On the other hand, due to the lack of security precautions and cash backs, users or consumers have no protection and possibilities to control or reclaim their money, if they are unhappy with a service or a product. This is definitely an issue BC will have to look at, were it to become a trustworthy currency of global relevance.

Another key element of how BC works is its issuance or 'mining', as it is fittingly called. This is the reward for helping to process transactions in the block chain. Once a computer connected to the P2P network has accomplished a certain task, a BC is paid in reward. This feat is what gives value to the currency, as it takes large computational capacity to mine one BC. As a result, once

BC had acquired certain stability, a somewhat questionable development began, namely that investors started installing huge BC mining farms to earn more BC. Thus, they were able to mine huge amounts of BC and to outplay the standard P2P user with one PC manifold (Peck 2012, 3). Due to the concept of BC's predefined and systematically unalterable issuing rate (see Appendix V: Market Capitalisation), with the increase of competing computational capacity, earning BC becomes ever more laborious. This results in an advantage for larger mining farms and pushes miners with less operational and financial capacity to the margins. This has been questioned and criticised by some, as it falls in line with capitalistic principles of a system, which allows for the accumulation of capital (Egger 2015). In essence, the issuance of BC is coupled with financial power, which can enhance computing power, and this is again coupled with a certain amount of "other materialisms, infrastructure" (Maurer, Nelms, and Swartz 2013, 272) that support the whole system, e.g. capital and infrastructure for mining. This means that the setting for a functioning BC system is heavily reliant on external infrastructures and players making the system vulnerable to technical hiccoughs or centralised authorities, e.g. Internet service providers, electricity suppliers etc.

### **2.2.3 Bitcoin-Related Research**

Due to the relatively new emergence of BC (launch 2009), there is not a rich research culture for BC. There is a fair amount of material on the technicalities, the nitty gritty, of how BC works. There is also wealth of online material such as newspaper articles and blog posts, which does not necessarily meet academic standards. However, some renowned researchers have started to dedicate more thought to this new form of money transfer, due to its relative success<sup>3</sup>.

Due to the large number of researchers interested in the technicalities of the BC technology, there is a bulk of BC related literature on the practical aspects of BC (Ali et al. 2014; Antonopoulos 2015; Bergstra 2015; Maurer, Nelms, and Swartz 2013; Peck 2012; Tschorsch and Scheuermann 2015; Vigna and Casey 2015). However, there is only a moderate amount of literature on the potential of BC or the implications its creation has on how the working ways of money is negotiated (Benkler 2006; Bergstra 2015; Hassan 2015; Hefner 2015; Kestenbaum and Goldstein 2011; Maurer, Nelms, and Swartz 2013; Noizat 2012; Plaum 2012; Vigna and Casey 2015). Antonopoulos (2014) and Vigna & Casey (2015) offer a broad assessment of the phenomenon BC, how it works, its creation, the technicalities, but also about BC's implications for the future. They claim that BC has the potential to "take the power away from the centre – away from the banks, governments, lawyers [...] – and transfer it to the periphery, to We, the

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<sup>3</sup> Relative, in a sense that after having existed for only six years, BC's success can be seen as remarkable.

People” (Vigna and Casey 2015, 8). Further, Vigna and Casey state that BC has the potential to reinvent the global marketplace and grant millions of ‘unbanked’ individuals access to it (Vigna and Casey 2015, 294).

Another researcher who has continuously dedicated more thought to digital money is Bill Maurer, a social anthropologist interested in law, property, money and finances with a focus on technologies and social relations. His recent co-authorship *When perhaps the real problem is money itself: the practical materiality of Bitcoin* (Maurer, Nelms, and Swartz 2013), addresses the whole functionality of BC. Hereby, it covers semiotics of BC, looking at the materiality, trust issues and how BC relates to privacy, labour and value<sup>4</sup>. The paper outlines the virtues of BC, stressing its potential and the hype surrounding it. However, it also criticises the often too simplistic, libertarian-political view of some of the BC advocates, who stress the independent and subversive nature of BC, while neglecting the (ironic) fact that their third party bypassing technology is entirely dependent on government and corporate infrastructure (Maurer, Nelms, and Swartz 2013, 262). Other researchers have started also looking at the law enforcement side of BC and how it will be embedded in the financial settings of nation states (Extance 2015). Also, new forms of digital currencies have been introduced and have started being researched. In the computer game *Second Life* a private digital currency was introduced which could be accumulated within the computer game by fulfilling certain tasks (Kenny 2012, 2). The currency is transferable into national currencies. Facebook also introduced Facebook Credits, a virtual currency system, between 2009 and 2012. The currency units were not transferable into national currencies (ibid.). However, these private digital currencies never reached the masses. Thus, up to the present, digital currency other than BC have acquired nowhere near as much acceptance, public interest and, above all, users.

The latest developments in technology (internet, mobile phones, hardware compression) have created platforms and possibilities to facilitate and revolutionise many areas of life on an unmet scale (Vigna und Casey 2015). Cryptocurrency enthusiasts believe that the invention of digital money will have a comparable effect on the world to what Gutenberg’s invention of the printing press had. Therefore, many Cryptocurrency users have started pondering and dreaming about how new technology might help to address and solve some fundamental problems or flaws of the status quo on monetary systems (ibid.). Consequently, six years after being brought to life, researchers are starting to take BC more seriously. There is a lot of optimism and hope for the new wonder-currency, the magic Internet money. Many voices are asking, whether BC could reform the way money is negotiated for good (Hassan 2015; Noizat 2012; Vigna and Casey 2015).

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<sup>4</sup> These questions are often blinded out or viewed too simplistically by BC enthusiasts.

Due to BC relative success story, providers of other e-payment services are closely eyeing BC development and tapping in on the knowledge, which has been created through work on BC (Ali et al. 2014, 3).

#### **2.2.4 Social Movements Linked with the Age of Bitcoin**

The emergence of BC is connected to the emergence of the internet with its P2P networks and possibilities for anonymous communication. With the spread of the internet and a lot of internet-related communication “community-driven, non-commercial systems” came into the spotlight such as PGP, Hashcash and BitTorrent (Tschorsch and Scheuermann 2015, 1). BitTorrent was invented before BC and is based on a P2P network, as BC later was. Some enthusiasts believe in that the innovations in the organisation of information production have started to have radical impact. As Benkler (2006) states:

“Enabled by technological change, we are beginning to see a series of economic, social, and cultural adaptations that make possible a radical transformation of how we make the information environment we occupy as autonomous individuals, citizens, and members of cultural and social groups.”

The embracement of innovations in technology an information organisation have led to a permeation of political spheres in Germany, for example, but also in other countries (Plaum 2012, 14). This has resulted in the formation of political parties dedicated to increasing privacy for users and empowering people without access to the Internet, e.g. various pirate parties across the world or the Liberland-Project on the border between Serbia and Croatia<sup>5</sup>. The movement, also referred to as ‘E-democracy’, adheres to a notion of democratic participation through the medium of the internet (Jafarkarimi et al. 2012, 642). E-commerce, crowd-funding, sharing economy, P2P networks in general are further closely related manifestations of decentring movements that are reworking corporate capitalism (Müller-Hug 2015).

As with all currencies and already mentioned in the introduction on money as the pinnacle of tolerance, a currency must accumulate trust to be successful. Therefore, although BC has created a functioning system with which third-party institutions, i.e. banks or governments, can be bypassed, there still remains the task of building trust to attract further users and increase BC’s

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<sup>5</sup> Liberland is a state that was declared independent in 2015, when a group of self-described libertarians occupied an ownerless strip of Land on a Danube island between Serbia and Croatia. The nation has not been recognised by any other country, but the founders of the new state wish to establish a micro-nation, which grants maximum right for entrepreneurs and IT-related businesses (Betschart 2015; Nolan 2015).

credibility as a whole (Vigna and Casey 2015, 15). How this could be achieved and enhanced will be discussed in the findings chapter 4.1.2 on BC. What remains to be said here is that many BC advocates trust a decentralised ledger system or “the wisdom of the crowds” more than a group of corrupt politicians (Goldstein and Kastenbaum 2015; in Maurer, Nelms, and Swartz 2013, 274).

In conclusion, BC is a relatively new phenomenon that has hit the ground running. Until the beginning of 2013 one BC was only worth roughly 14 USD. Since then the value exploded, at times one BC cost 900 USD (peak in Dec. 2013). After that, its value fluctuated for some time and has settled at the price of roughly 430 USD for one BC (status 01.01.2016). At the moment there are 15.136.800 BCs in circulation. That is roughly 6.508.824.000 USD. The number of transactions worldwide is steadily at 225.000 per day, tendency rising. (see Appendix III: Number of BC Transactions per Day). The amount of value being transferred through the BC system is amazing. The remarkable development of the BC network has convinced many people working in various fields (financial, juridical companies, service providers, and others) to join the network. Thus, the BC scene has attracted interest from “goldbugs, hippies, anarchists, cyberpunks<sup>6</sup>, cryptographers, payment systems experts, currency activists, commodity traders, and the curious“ (Maurer, Nelms, and Swartz 2013, 262). It remains to be seen whether this new payment system has what it takes to revolutionise how money is negotiated. For that, a lot of work is still required to strengthen the security of the system, to increase its credibility and trust in the system, and to solve the capacity problems it will encounter, if the promising development continues at this rate. These issues are regularly being discussed and negotiated at BC meetings and forums across the globe. Leading thinkers and programmers are in a constant process of redesigning and elaborating on the BC protocol and how it can be made better (T. Lee 2015). This has resulted in the invention of hundreds of cryptocurrencies based on similar principles, such as Freecoin, Peercoin, Dogcoin, just to name a few.

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<sup>6</sup> Here, the authors probably meant Cypherpunks.

## 2.3 Alternative Currencies

Unlike with the relatively new phenomenon of BC with its limited research tradition, there has already been a considerable amount of research conducted on the potential benefits of local currencies across the globe. Hereby, the implications but also the preconditions and necessities for the success of an alternative currency have been discussed and negotiated to a great extent (Schroeder 2006; Thiel 2010; Hallsmith and Lietaer 2011; Mennen 2012).

Before proceeding to examine the research in the field of alternative currencies, it is worth taking a look at different definitions and categories of alternative currencies. There is an on-going debate on differentiations between complementary, community and local currencies. There have been attempts to make clear categorisations of what the different terms could refer to and to unify the categorisations in order to establish one general categorisation (Blanc 2011, 4). Jen's Martignoni has done likewise in his attempt to categorise complementary currencies (CC), as he calls them. His theoretical framework serves as a categorisation roster. Martignoni differentiates between the following four categories of CCs: 1. Purpose, 2. Trust, 3. Creation and 4. Circulation (Martignoni 2012, 9) and structures his analysis correspondingly. These categories can also serve as an assessment matrix for CCs. Martignoni examines 18 diverse types of currencies (non-national and national) across German speaking countries in Europe. Hence, his scope ranges from WIR (SUI), a cooperative bank for commercial, industrial and service enterprises, The Chiemgauer, a LC in Bavaria (GER), to Talent, an exchange ring in Vorarlberg (AUT). Martignoni's categories allow for a qualitative and quantitative comparison across CCs (where data is available). Hence, drawing on this assessment tool the researched currencies in this thesis can be classified and compared, in a similar fashion (see findings chapter, Table 4: Bitcoin Overview, Table 5: NetzBon Overview and Table 6: Bonobo Overview)

### 2.3.2 Research on LETS, PAR, Regio-Currencies and the WIR-Currency

The first local currencies with similar intentions as the current local currencies were created in England, France and USA after 1830 (North 2010, 59). Peter North's assessment of alternative currencies in *Scaling alternative economic practices? Some lessons from alternative currencies*, analyses the role scale plays in helping to establish alternative economies (North 2005b). North compares two LC movements and their contribution to alternative economies, the LETS (Local Exchange Trading Scheme) in Manchester, specifically, on the one hand and the similar local exchanging systems in

Argentina on the other hand. The conclusion he draws is that the scales at which both function are completely different, as the LETS in the UK schemes only ever involved close to 500 members in their prime (this was in Manchester), whereas the South American counterparts grew to a large-scale movement in the 1990s. The success of local trading schemes and alternative currencies in Argentina coincided with the course of financial recessions. PAR (Programma de Autosuficiencia Regional = Span. for Regional Self-Sufficiency Programme) contributed significantly to keeping people alive during a time of economic collapse, as these barter communities did not rely on the banks (North 2005b, 230). Thus, North concludes that the impact of local currencies is highly dependent on the economic setting in which a LC is implemented. The main verdict is that in struggling national economies a LC can be beneficial and have a larger impact, but in areas of structurally strong economies, local currencies stand no chance and are merely idealistic projects of “the politically motivated” (ibid.). There are, however, also examples that do not fit into this setting. The Brixton Pound, for example, a LC in the London suburb of Brixton, has managed to establish itself and has gained international acclamation (North 2010, 187). Another LC which has thrived, is the Bavarian Chiemgauer, a currency set up in a rural environment in south-eastern Germany (Kennedy and Lietaer 2004, 105). Both these currencies have had remarkable success despite being situated in areas of relative economic stability. The idea of politically motivated currencies is an interesting starting point when looking at this thesis’ analysis for currencies in Switzerland, as it can be expected that similar findings will apply to the local currencies in Basel and Bern. For BC, this correlation is not relevant to such an extent. This, due to the fact that BC is traded globally and was not created as a means to counter economic depressions. This argument must be treated cautiously, however, as it is hard to see the emergence of BC in 2009 in any other light than as a reaction to the global financial crisis which peaked in the same year.

Thiel’s assessment of the Chiemgauer and other ‘Regio’ currencies, as he calls them, revolves around similar issues. He identifies some common preconditions for the introduction of a LC. There always seems to be a pre-existing network of usually socially aware communities. The majority of introduced currencies in Germany are created within existing networks. These networks consist of idealistic pioneers and strong advocates of the currency, especially the business owners, who have to be prepared to offer some form of discount to the users. Also, in many instances, currencies are temporally deflationary, thus encouraging the users to spend the money within a certain time. The mechanism encouraging the users to spend with the Chiemgauer of Bavaria, for example, is established with a sticker system. If the money is not spent within three months, stickers have to be purchased and stuck to the notes to maintain their value. This idea ties in with the concept of Silvio Gesell who proposed a form of a currency with



a constantly decreasing value, the so-called *Schwundgeld*, or demurrage currency in English. Demurrage money, conceptualised by Pierre-Joseph Proudhon and Silvio Gesell, is a currency that devalues with time in order to encourage the circulation of money within a system (Bierl 2012, 163). This mechanism attempts to compensate for the imbalance that occurs between the loss in value of commodities and labour versus the fact that money can be stored for an indefinite time without losing its value. (Thiel 2010, 135)

North's assessment of the development of the LETS-Scheme, a LC, in Manchester, brought to light a similar finding as Thiel, namely that "self-selecting networks tend to reproduce themselves, not diversify" (North 2005b, 227). This results in fairly homogenous user bases, value and ideology-wise.

But what are the advantages of having a LC in the first place? The following passage will highlight three reasons advocates of the currencies view as advantages of local currencies in general, as North lines out in his work (North 2005, 224–225).

1. Relocalisation: the currency possesses a structuring function within a local surrounding, which enhances a relocalisation process. The circulating money only functions within a certain area, thus, limiting its usage. This in itself defines the scale of usage or rather, the scale can be determined by the movement's coordinators by negotiating both the spatial and ideological parameters of the LC.

2. A slower, more reflective economy: As a second factor, local currencies encourage the development of a slower, steady economy, as they work with the products currently being produced, avoiding a disembedding of production processes from a small area and also contributing to a relocalisation.

3. Resilient towards currency fluctuations due to small scale: local currencies are less likely to be affected by sudden external shocks. This is down to the fact that local currencies are organically organised and small scale. This infers that alternative currencies are also less vulnerable towards external investment, as they, and this already points to the concluding advantage, rely less on the investment of money. The system revolves around the creation of interdependencies between members of the network (North 2005b; Roger Lee and Smith 2011). Hence, local currencies can be embedded in the degrowth discourse, as they tap in on many overlapping concepts. However, there are always a lot of existential problems for local currencies, as they often struggle to maintain themselves over a longer period of time, as can be observed in the area of Basel, where many LC movements have appeared and disappeared again (Heimann 2015).

A problem of the LETS-scheme in Manchester is, according to North (2005b), that due to a lack of incentive to make compromises in terms of the ideological stances of the movement, it

hindered the currency from growing larger within the city. It failed to reach more than a few businesses, as other business could not identify with all of the network's activist's values and therefore could not see any advantages in joining the network (North 2005b, 226).

In Switzerland there has been a fair amount of research on alternative currencies. A special focus has been put on the WIR currency, a complementary currency system that has been around since the 1930s (Dubois 2014, 25). The WIR is a self-help organisation with cooperative structures for commercial, industrial and service enterprises (Martignoni 2012, 14). The *Wirtschaftsring* ('Economic Circle'), which is what WIR stands for, is a centralised credit system that offers credits to originally only to SMEs, but since 2000 also to private customers (Stodder 2009, 79). Stodder analyses the WIR-currency as a complementary currency and how it can have a stabilising effect on the national currency through credit grants in times of financial recessions. The WIR-currency has 62.000 members, is seen as the success story and taken as a showpiece for how an alternative currency can thrive alongside a strong national currency (Dubois 2014, 131). The WIR currency is an exception of the alternative currencies in Switzerland and will not be further discussed in this thesis, as it has been around for a long time, does not have a small-scale user base in that sense, and has been thoroughly analysed before.

### **2.3.3 A Multiplicity of Currencies Approach**

The previously stated concept of complementary currencies as a stabiliser for national currencies ties in with Lietaer's work on complementary currencies. Lietaer has worked with many financial institutions for 30 years and has done extensive research on the merits of complementary currencies, working the private sector, for national banks and as a lecturer at universities in The States and in Belgium. His main approach, which has been widely acclaimed, due to his international reputation and his many years in the field, is to create a multiplicity of complementary currencies, which coexist alongside the national currencies. His argumentation is that the function of every currency must be assessed. A national currency must be able to adapt to the economic situation of a whole country. In contrast, local currencies can be created to fulfil certain tasks on a smaller scale. Examples for this can be found in New Zealand and Australia, where local currencies were supported and promoted by the state in areas of high poverty and unemployment (Lietaer 2000, 333–334). The approach claims that complementary currencies can help to stabilise economies, as they do not necessarily compete against a national currency. In an ideal setting national and complementary currencies can serve as two equally valid currencies by covering overlapping market segments (Lietaer 2000, 345). According to Lietaer, complementary

currencies are inflation-neutral and therefore pose no additional threat towards national currencies (ibid). Increasing and strengthening the already existing currencies and creating a complementary currency culture, could help to solve many problems of modern nation states (ibid.). The analysis of regional currencies impact of national economies is addressed in Kennedy and Lietaer's *Regionalwährungen: neue Wege zu nachhaltigem Wohlstand*. The work suggests new ways to sustainable prosperity for regional economies through a diversification of forms of currencies (Kennedy and Lietaer 2004). The often-used analogy is that a healthy economy is as complex and diverse as a healthy organism, which relies on a varied mix of ingredients to survive (Kennedy and Lietaer 2004, 215). This topic is one important pillar of the objectives of LC networks, namely to strengthen regional or local economies through different forms of economic diversification.

In conclusion, there has been a lot of research on different forms and natures of alternative currencies. There is a bulk of literature on local and community currencies and what they imply and how they contribute to social causes. This corpora of literature also covers topics such as local re-embedding against global disembedding (Thorne 1996), "locally defined systems of value formation and distinctive moral economic geographies" (Roger Lee and Smith 2011; North 2005b) or Peter North's own earlier work on micropolitical challenges to capitalism (North 1999) all focus on the localness of alternative currencies.

Due to the underlying intellectual orientations associated with local currencies, the subject also links up with other fields of research such as barter communities (Maurer 2005, Donildo 2011), the degrowth movement (Kallis und March 2014; Skidelsky et al. 2013), decoupling from globalised commerce, small cycles, regional development (Skidelsky et al. 2013; Harvey 2001; Wills und Lee 1997), and alternative economies and spaces (Hillebrand und Zademach 2013, North 2005).

### **3. Methodology**

Using the general approach that inspired Thiel's work on regional currencies, namely to find out "what the hell is going on?" a question that Clifford Geertz first asked (Geertz and Luchesi 2012), my approach follows a similar line of investigation. The overarching question was how these currencies function in practice and to find out whether the 6 hypotheses related to the research questions could be confirmed by research in the field. The methodological approach to my thesis is based on grounded theory, which can apply to both qualitative and quantitative research and data. Grounded theory is a learning-by-doing approach, an inductive process of working from the particular to the general. This approach was institutionalised and propagated by Strauss and Corbin (2015) and focuses on developing theory around the gathered material and data (Martin 1986, 143). This method developed in the 1960s was the first substantial methodological-systematic approach to qualitative data analysis. The core principle is a repetitive coding of data in various cycles to develop a theory grounded on the data itself (Saldaña 2013, 51). As a result, abstract concepts and resulting theories and hypotheses can be developed in accordance with the material. Due to the lack of existing research in this specific chosen for this field, this approach serves well, as theory can be extracted from the results of the analysed data (Martin 1986, 143). The applied empirical research methods were mainly qualitative but with certain qualitative elements. Quantitative analyses serve as a supportive tool for the findings and synthesis. Analysing certain frequencies and data patterns can help shed light in certain assumptions and expected outcomes.

#### **3.2 Qualitative Analysis**

As the main part of my research questions possess a socio-ethnographic component, it is clear that my methodology would have a strong focus on qualitative research methods. The decision to focus thus was determined by the lack of existing research for alternative currencies in Switzerland. This is why the approach was adopted to gather information by direct interaction with the interviewees and advocates of the three movements that were focused on.

The three methodological tools I worked with for the qualitative analysis constitute as follows:

1. My document analysis served to research the state of the art, i.e. literature reviews, Internet research, document analysis.

2. Participant observation at alternative currency events and in alternative currency exchanges, i.e. opening a BC account, talking to advocates of the currencies, engaging in the movements, getting a feel for the nature of the movements.

3. Guided interviews are the applied interview form, as it encourages the interviewees to talk in a constant stream of conversation on the one hand and on the other hand, due to the structure of the interview, the interviewee can be prompted thematically if he/she falters. The guided interviews were made in accordance with the research questions.

### **3.2.1 Document Analysis**

The analysis of documents constitutes an important part for this thesis. Most of the information gathered for the engagement with this research topic stems from long hours of research on the Internet. Websites, documents, newspaper reports, book reviews, digitalised version of books, forums, biographical websites, blogs were some of the many formats of digital information that contributed to the knowledge compiled during the research process. In addition, many books, magazines and printed articles were drawn upon to complete and diversify (or complicate) the picture. This method of document analysis is key to “elicit meaning, gain understanding, and develop empirical knowledge” (Corbin and Strauss 2015; in Bowen 2009, 1). The rationale for document analysis is based on the idea that a triangulation of methods can assist in providing broader evidence to increase the credibility of a single method. A triangulation of methods refers to a combination of different methodologies to deal with a certain topic (Bowen 2009, 28). Hence, this can entail a twofold combination of document analysis, interviews and participant observation on the one hand, and the combination of the extraction of information across qualitative and quantitative sources on the other hand. And consequently, this is the approach which has been adopted for this thesis.

### **3.2.2 Participant Observation**

The most important information gained for this thesis, was extrapolated from discussion with experts, currency users, friends, family, supervisors etc. Therefore, participant observation was key to answering not only the relevant research questions but also to filling the gaps of my knowledge.

Before turning to the practical side of participant observation, it is important to determine what type of participant observation is to be applied. Spradley defines 5 types of participant

observation – from no contact with population or field of study to complete participation – which risks losing the objectivity, due to the complete involvement in a population of study (Spradley 1979). The taken stance for this thesis was ‘moderate participation’, which allows for a balance on behalf of the researcher between an insider and an outsider perspective; a good combination of “involvement and detachment” to assert a certain neutrality (DeWalt and DeWalt 2002, 263).

Turning to the more practical side, what did participant observation for this thesis involve? In a first phase there were a number of events, which I attended to, in order to stimulate my interest and get a feel for alternative currencies’ particulars. Therefore, different venues were visited for various events (see table 1). This entailed attending to presentations, talking to supporters of the movements, getting hold of potential interviewees and informally talking with experts and enthusiasts.

The following table shows the venues I visited and what the aim of these meetings was and what the gathered insights were:

#	Venues	Description	Date	Gained Insights
1	Bonobo Launching event, Café Kairo, Bern	Launching event for the Bernese LC Bonobo. Presentation of Bonobo and other local currencies with focus on a Madrid currency ‘Bonitas’	22.01.15	First contact with initiators; insights as to how different LC operate; reasons for creating a LC gained from a talk on a Madrid currency ‘Bonitas’; follow-up discussions on how money functions and how local currencies can be implemented
2	‘Magic Internet Money’, Digicomp AG, Zurich	Presentation by Bernhard Müller-Hug on BC. An introduction to how BC works, technically, and its implications for the future	03.03.15	First contact with BC enthusiasts; filling of gaps of knowledge on BC; how BC can be transferred from mobile to mobile, follow-up discussion of how BC technology could be implemented in other areas
3	Visit to Impact Hub, Zurich	Used a BC ATM in a hipster café to load first BC onto my mobile	13.03.15	Ill-informed shopkeeper had no idea how the machine works; the café received a commission for having the BC-ATM in their store, inserted a 10 SFr note into the machine and received approx. 0.036 BC
4	Visit to Q-Laden, Bern	Q-Laden is a the grocery shop and exchange centre for the Bonobo currency; talked with shopkeepers and exchanged Swiss Francs for Bonobo and used them	16.04.15	The movement is run at low key; shopkeepers were not well informed; first experience of using LC to purchase soft drinks

5	Tech-Talk BC Meet-up, Kaffi Schoffel, Zurich	Regular meet-ups of IT-cracks to discuss and exchange ideas concerning technical issues of cryptocurrencies and their potential	10.03.15 13.05.15 10.06.15	Contact with the 'BC scene' of Zurich; made personal contacts and identified possible interviewees; got a feel for the movement; moderate participant observation (joined in discussions etc. but often just observed from outside perspective)
7	Meeting with Isidor Wallimann, Biobistro, Basel	Introduction to money systems money theory; The principles and history behind the organisation 'Sozialökonomie Basel'	28.05.15	Insights as to what money is; how 'Sozialökonomie Basel' works and what role NetzBon, the LC, plays within the network; experienced NetzBon in action
8	Closing Conference on Community Currencies In Action (CCAI), Brussels	Conference hosted by NEF New Economics Foundation, an EU funded project to assess local and community currencies in European countries	20.05.15	Insights from presentation by Bernard Leitaer, an important researcher in the field; a lot of information on other forms of alternative currencies in France, Belgium, the Netherlands and the UK (e.g. local currencies, trading schemes, voucher systems etc.); funding of research collaborations
9	Visit to Crypto-Valley	Visit to Bitcoin Suisse AG in Baar; interview with company representative for guided interview but also to find out more about Crypto-Valley	02.10.15	Insights on the development of BC in Switzerland and the Crypto-Valley region (Zug/Baar); deeper understanding of BC-related service providers and of why there has been an influx of BC-related start-ups in the area (see findings chapter 5).

Table 2: Participant observation at different venues

In the table above, participant observation as a fieldwork method is documented. This process ran parallel to the theoretical work and flowed into the process of developing empirical knowledge.

### 3.2.3 Guided Interviews

Spradley's *The ethnographic interview* (1979) served as a guideline for the guided interviews, as it offers a good roster for interviews. Guided, qualitative or also explorative interviews are a frequently used method in qualitative social science, as they allow for a semi-structured form of interview with an open setting, but can be structured and directed by previously formulated interview sheets. In a semi-structured interview or problem-orientated interview, the main topics of the guide are developed deductively according to pre-given knowledge that was acquired throughout the data assessment, and the research question, but it remains open for an individual course of conversation (Reuber and Pfaffenbach 2005, 133).

According to this guideline, interview sheets were created in German and English. There had to be three different interview templates for the three different currencies in question. In order to

be able to deduct as much information as possible from each interview, the interview sheets within the currency categories were also specified. Hence, for each of the three currency categories, two versions of the interview sheet were designed. One template was intended for an average user of the currency, whereas a second template was intended for an expert, an advocate or someone especially engaged in the movement. Thus, there were six different interview sheets in two languages. The idea of creating bilingual interview sheets was in case of having to do interviews with English speakers (more likely for the BC movement) and also for compliance reason with this thesis' language. In the end, the guided interviews were all held in Swiss-German or German. For the content analysis of the interviews (establishing categories, coding, analysis, and presentation of results) certain quotes from the interviews were translated into English. The categories and codes were made in English on top of the High-German transcripts.

### **Design and Scope of the Guided Interviews**

In general, the interview questions were built up around the research questions. In addition, there were specific questions, as to the interviewees' biographical link to the topic and the development of the currency they were giving expert interviews on (see Appendix I: Interview Script for LC User – English). The questions were divided topically in the following manner:

1. User perspective: What do they buy with their currency, how often do they use it, how they decide, whether they use Swiss Francs or their alternative currency?
2. Reasons for using the currency: what do they believe to be achieving?
3. Political affiliation: is there a political agenda or political value connected with the currency?
4. Limits to growth: Where are the limits to their movement? How do they see the development of their currency long term? What is the economic perspective of their currency?
5. User profiles: What user groups can be made out (age and orientation)?
6. Other alternative currencies: Which other currencies are they aware of, do they use them and why?
7. How do they want their social movement to be perceived?
8. Professional background: How is their professional background connected to their involvement in the social movement?

The planned interview duration was 45- 60 min. In reality, the interviews took between 30 min. and 1,5 hours depending on the quality of the discussions.

All the interviewees gave their consent to use the material and were assured that their statements would be completely anonymised.



Overall, 13 guided interviews were conducted, 4 for the BC community, 4 for the Bonobo movement in Bern and 5 for the NetzBon initiative in Basel (see Table 3: List of Interviewees with their Connection to the Currency.). The rationale behind this was to have 4 or more interviews per examined alternative currency. One of the Bonobo interviews was conducted with two interviewees at the same time. Each interviewee was given the chance to answer to each question and to elaborate or complement on the content, when deemed helpful and/or necessary. One of the NetzBon interviews was a completely open interview, which took two hours, and served more as a live form of gathering information on every aspect of the currency and its history and foundation. The choice of interviewees was defined by detecting experts and average users, who could tell something interesting about the movement, beyond information gathered from document analysis. This meant going to different venues talking to people, finding out who had something to say and enquiring about further contacts from the interviewees. In terms of finding the ‘right’ interviewees it was a juggling act between who was deemed to be interesting and promising for an interview on the one hand, and who was available for an interview on the other hand. All the possible interviewees were listed in an Excel sheet with contact details and other information. This sheet served as a planning device, as the status of the progress with finding a date for interviewees and the following transcription of the interviews could be documented there. The following table provides an overview of all the interviewees and their involvement in the respective movements.

#	NetzBon, Basel	Date
1	Visiting research professor, founder and board member of currency	28.05.15
2	Shopkeeper, propagator of the currency	17.09.15
3	Unemployment committee, founder and board member of currency	09.06.15
4	Manager of a planning office, currency enthusiast	05.06.15
5	Consultant und psychologist, currency enthusiast	04.06.15
Bonobo, Bern		
6	Member of the ‘Bonobo Society’	01.05.15
7	Initiator and board member of Bonobo Society	01.05.15
8	Board member of ‘Bonobo Society’	01.05.15
9	Student of Social Work, Bonobo enthusiast	01.05.15
Bitcoin		
10	Presenter at event, BC enthusiast and propagator, programmer	13.05.15
11	Organiser of BC events, libertarian, programmer	08.05.15
12	Programmer and BC enthusiast, IT student	10.06.15
13	Analyst working for a BC service provider, enthusiast, economics student	02.10.15

Table 3: List of Interviewees with their Connection to the Currency.

As can be seen in the above table, some of the interviewees have a double or triple function (more could be attributed). This already points to the fact that a clear distinction between users and promoters is hard to make. All of the interviewees could be categorized as users, but most of them also played other roles within the movement and had more to say. Therefore, it must be stated here, that the users of the currencies were all exclusively conscious consumers, rather than mere users of a currency. To them, spending money, regardless of the circumstance, was already a conscious act of thinking about one's influence as a consumer. This notion will be elaborated in the finding chapters.

### **3.2.4 Documentation of Interviews**

The interviews were recorded using a Dictaphone. The recorded interviews were then transferred onto a computer and converted from WMA-format into mp3-format for the transcription. The transcription was completed using the programme 'F5-Audiotranskription', which proved to be very helpful, as its auto correction function is well developed and the slick design and simple interface is easily accessible. 11 out of 13 interviews were held in Swiss-German, two in High German. Hence, apart from the High German interviews, the remaining 11 interviews had to be translated into a form of High German. The strategy applied for this was to only edit the content marginally to stay as close as possible to the spoken language but to translate the spoken language into a conclusive and understandable written form. The finished transcripts were loaded into Maxqda12, coding software, to start with the coding process.

### **3.2.5 Planning the Coding**

Coding the interviews was the next step in order to start processing the transcribed interviews. This stage was undertaken according to a canon of theoretical approaches to the qualitative analysis of empirically gathered data. For this analysis a number of coding approaches were taken into consideration. Coding can be conducted as an inductive process, and deductive process or based on Grounded Theory (Kuckartz 2012, 59). For this thesis, a blend of different forms of qualitative approaches was used following principles of inductive-deductive coding (Kuckartz 2012). This twofold approach, due to the fact that the collected data was already biased or penetrated by underlying theoretical concepts and structures and the interviews designed accordingly. Hence, the approach applied draws on inductive principles to generalise certain insights gained from the close analysis of the guided interviews on the one

hand, but the form of interviews and the scope of the whole thesis is of course based on certain theoretical preconceptions and expectations, which, on the other hand, adheres to a more deductive approach (ibid.).

Another important consideration is the analytical phases of qualitative content analysis. Kuckartz outlines five steps in the process of qualitative content analysis, which are constantly reassessed through feedback and cognitive loops (Kuckartz 2012, 49). This is to guarantee that the data collection and interpretation processes are always reflected on and new insights can flow into a circular mode of content analysis. Hence, *literature review, establishing categories, coding, analysis and presentation of the results* are the five steps that should be continuously re-evaluated and reassessed to unveil new underlying structures within the qualitative material (Kuckartz 2012, 50).

### 3.2.6 Coding

The actual coding process was designed according to the research questions. Hence, each interview was ploughed through and coded in an initial round to identify certain recurring theories and concepts that could be of relevance to provide answers to the research questions. This involved a constant reassessment of the research questions, so as not to be distracted by, although interesting statements and remarks by the interviewees, not entirely relevant comments or elaborations. The result was a constant reduction of codes and sub-codes. The coding programme's user-friendly user interface, allows for categories to be sorted according to different attributes. Thus, codes can be structured and sorted according to colours, emoticons, and other graphical elements, which facilitates the analysis and organisation of the codes.

Turning to the actual coding process, in a first cycle of coding the categories were built according to the 8 topics highlighted in chapter (0 on the design and scope of the guided interviews). The "first cycle coding method", as Saldaña calls it, applied was *descriptive coding* also referred to as *topic coding* (Saldaña 2013, 88). Accordingly, all the interviews were scanned for relevant information in connection with the 8 categories of topics. Each topic was then diversified and broken down into further subtopics and categories. This resulted in a web of different interconnected categories and subcategories, sometimes with topical overlaps. In the following example, an overlap of categories can be made out (this is the answer the interviewee gave on the question of why he/she uses NetzBon, quite generally):

"Well, there are two things: One is, it's local and that it has a sphere of influence. And in order to have an impact, the whole thing must be small-scale. This is a problem, that one can drift off into local Chauvinism. We don't want that. We are open and cosmopolitan. We don't want to build new borders. We want an open society that is permeable. We say, if we are organised in a cooperative and in a democratic manner,

we are open. And we can't., actually, the common interest is always central. And common interest is easiest to organise locally, but including all the relations and ties one has (...)"

NB Interviewee #4, 09.06.2015<sup>7</sup>

In the above quote, the interviewee's intellectual orientation and the interviewee's belief of what he/she is achieving, when using his/her LC overlap to some extent. This is a problem one runs into and has two possible explanations. One is that the pre-formulated question the interviewee is giving response to, is topically similar to another question or too general. The other explanation is that the responder has drifted off, to some extent, and is mixing up two lines of questioning. In the chosen quote above, the former explanation seems to be applicable, as asking about for reasons of using a certain currency can imply both the ideological/intellectual orientation and the concrete impact the user believes his/her actions have.

During the first coding cycle the 8 topical categories according to the research questions were constantly diversified and broken down, creating new subcategories along the way. Due to the detailed overview that was already there, as a result of a deep engagement with the interviews and the transcripts, the created codes, categories and subcategories were already fairly clear. In the end there were 105 different codes grouped in different categories and subcategories.

After a first coding cycle a frequency check was performed. Due to the used software's properties, all statements on a certain topic, if coded accordingly, can be viewed in lists across all the interviews. This is helpful for gathering information on specific questions, as the corpus of data can be quickly scanned. Hence, this enabled gathering information on the more straightforward questions such as questions on user bases, purchases, using frequencies and professional backgrounds. The other categories of questions needed further attention, as the answers were divided up into many subcategories.

In conclusion, the guided or explorative interviews constitute a central part of my empirical work and hence, were one of the more time-consuming activities for this thesis. However, this part of the work was the most interesting part, as it helped to gather knowledge and fill gaps of information. This is a very rewarding experience, speaking one-on-one with experts in their fields. This also helped to understand the areas of research in other, broader contexts, since the interviews often shed light on aspects not directly related to the research questions but which, nonetheless helped in completing the picture. Some of the gained information from the guided interview also flowed into the qualitative analysis (see next chapter).

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<sup>7</sup> Freely translated from the German transcript.

### 3.3 Quantitative Analysis

After having assessed the bulk of the empirical research for this topic, which was qualitative research, the following chapter will look at the quantitative aspects relevant for the thesis. The quantitative methods cannot be neglected, as, nowadays, using both qualitative and quantitative methods is part of the trade (Creswell 2003, 4). Hence, for the quantitative analysis three following methodological tools were drawn upon:

1. Internet research to establish the state of the art and to understand how certain developments had come about using comparative strategies to deduct change over time.
2. Direct interaction with the enthusiasts of the respective movements to gather quantitative information and to verify the information through follow-up enquiries and email exchanges.
3. Analysis of the quantitative data extrapolated from the guided interviews, although due to the small data set, this was not especially significant but interesting all the same, for argumentative support.

As already mentioned in the introduction quantitative analyses serve as a supportive tool for the findings and synthesis. Thus, there was an assessment of qualitative data BC charts, for example (see appendices) where some calculations were required. Also, quantitative comparisons can shed light on qualitative findings. Hence, although due to the statistically insignificant number of research objects, i.e. interviewees, quantitative comparisons were made and implicitly used to hint at possible connections and correlations (again not statistical ones).

## 4. Findings

This part of the thesis discusses the findings which emerged from the analysis of the guided interviews, the document analysis and participant observation. In a first section, the general findings will be presented, gathered from document analysis, participant observation and information gained from the expert interviews. In a second subchapter the content of the interviews will be focussed on.

In order to provide a clearly arranged overview of the studied currencies, a table was made according to Martignoni's suggestion for a categorisation and analysis (Martignoni 2012, 12–14). As already mentioned in the methodology chapter, 13 guided expert interviews were held with a disperse selection of interview partners. Thus, there were 5 interviewees for NetzBon, 4 interviewees for Bonobo and 4 interviewees for BC. In the following chapter, first BC, then NB and finally BB will be analysed separately with regard to the categories of research questions. In this part, the focus is not on the comparative analysis, but rather on the interviewee's opinions and insights and bringing them together.

The findings of the interviews are broken down into paragraphs according to the eight groups of interview questions mentioned in the methodology chapter. Thus each paragraph is the treatment of one topical category of questions (see Design and Scope of the Guided Interviews).

### 4.1 The Bitcoin Scene in Zürich and Crypto-Valley in the Zug Area

After having assessed the findings for the local currencies, this section looks at the BC scene in Zurich and the often-cited Crypto-Valley in the Zug area. Starting off, a look at the following Table 4: Bitcoin Overview gives an overview of BC’s attributes. The tables is created using information from blockchain.info, coinmap.org and btc.blockr.io, since there is no official website for BC, as nobody owns BC as such. The qualitative data on BC’s turnover was calculated in Excel using date from coinmap.org.

<b>Bitcoin</b>	
Organisation	No organisation, decentralised
Currency	1 BC equals \$332.95 (14.11.2015)
Members/Users	unknown/worldwide
Turnover	23'159'832'297 USD for 2014 At the moment the daily issuance rate is roughly 3525 BC with 92m transactions taking place per day (14.11.2015)
Origin	White Paper published under pseudonym of Satoshi Nakamoto, 24.05.2009
Purpose	A purely peer-to-peer version of electronic cash, allowing online payments to be sent directly from one party to another without going through a financial institution
Trust	Does not rely on trust, due to decentralised public ledger
Creation	BC units can be acquired through mining: 25 BC per block (approx. every ten minutes) until mid 2016, and then afterwards 12.5 BC per block for 4 years until next halving. This halving continues until 2140 when 21 million BC will have been issued.
Circulation	14,842,950 BC

Table 4: Bitcoin Overview

BC has made a name for itself on a global scale, but in Switzerland it is still very much a low-key phenomenon. Due to its relative young age of 6 years, it comes as no surprise that it has failed to reach the masses as such. The Swiss Federal Council has even stated that BC is too “insignificant” for legislation for the time being (Spaven 2014). It was made clear by the release of a statement from the The Swiss Financial Market Supervisory Authority (FINMA) that at the time (June 2014), BC was not in a “legal vacuum” but fell under the law of the Anti-Money Laundering Act. (ibid). Another important development for BC in Switzerland was the decision not to tax it, as it is not to be treated as a “delivery of goods or a service subject to a VAT”, but as a method of payment (Maras 2015). Hence, although the turnover in Switzerland is relatively low, there is a number of BC businesses and service providers in Switzerland. There has been an increase of its value since its introduction in 2009 (see Appendix V: Market Capitalisation Also, the number of

BC businesses has continuously increased. A glance at the following map highlights the regional distribution of BC businesses and service providers in Switzerland:



Figure 2: Map of BC businesses in Switzerland taken from coinmap.org

As can be viewed on the map, there are evident clusters of BC-related businesses in some of the larger conurbations (numbers in blue circles), especially around Zürich, but also in Geneva, Basel and Biel. Not every company automatically features on this map. Accordingly, the Zug area is somewhat underrepresented. This may be due to the choice of BC-related companies not to register on this site or because other companies in the Zug area that have gained recent publicity are not directly related to BC itself and therefore do not appear in this BC directory.

Due to my educational connection to Zurich and the fact that Zurich hosts a relatively large number of BC-related businesses the decision was made to investigate the BC scene in Zurich. The Zug area is also of relevance as, especially in the last couple of years, a range of BC affiliated companies have relocated in the wider area (Hedinger 2015a).

Another important event, not only for the Swiss BC scene, but also for crypto-finance entrepreneurs in general, took place on the 23<sup>rd</sup> of September 2015. The term crypto-finance describes both cryptocurrencies themselves and the technology and financial interests behind them. The conference was held in Zurich and supported by UBS and Swisscom, notably. Key contributions were on the founding of the first BC bank in Switzerland and the block chain technology and its implications for the financial industry in general. Hence, the field of crypto-



finance is a rapidly growing and dynamic industry, which is attracting a lot of interest and capital (Gschweng 2015). This is creating an internal dynamic, contributing to a hype of interest in the development. A similar situation already occurred in 2011 when BC's value peaked, due to a surge of investment in BC-related businesses. The BC course crashed again afterwards but has since acquired a certain stability (see Appendix IV: Market Price in USD since 2009).

The Kaffi Schoffel in Zurich serves as a meeting point for Cryptocurrency enthusiasts on a fortnightly basis. Every second Wednesday, a bunch of 10-12 men (they're all men) gather in the café to discuss what they call tech-talk for a couple of hours. At the venue there is a colourful bunch of programmers, hardware developers, currency activists, commodity traders, libertarians and people who are just interested. In these sessions they exchange ideas and problems with the block chain protocols, discuss areas of improvement for software and hardware wallets, the latest developments in the cryptocurrency world, and also what types of new currencies could materialise. Hence, the meet-ups in Zurich have thrown up new ideas for currencies such as Freecoin, Peercoin and Group-Currency, which take up ideas such of Gesell's *Freigeld* (see chapter 2.1), or socially organised currencies (Peercoin) or an unconditional income-based currency (Group Currency). Also, some of the regular meet-up members are active in the liberal thinking movement called *Liberal Institute*, which hosts regular presentations and panel discussions on liberal issues. Hence, in March 2015 there was an event at the Liberal Institute in Zurich, where BC was introduced and the implications for the state's involvement and personal freedom and autonomy of finances. At the meet-up events there was a lot of talk of liberal and libertarian values and the call for less state regulation.

Another topic, which has received a considerable amount of attention in the media in the past year, is Crypto-Valley. This name refers to the greater Zug area and the influx of new cryptocurrency-related businesses in the region. Thus, in the process of the relocation and founding of numerous start-ups the Zug area, a crowd-funded software start-up called Ethereum, as an example, launched their business, backed by 14m SFr (Sander 2014). The business model is based on the block chain technology, using it to transfer digital data via a decentralised platform. 14m is a large sum for a software start-up, which indicates that this new technological development is being taken seriously and has aroused a lot of interest.

#### **4.1.2 Findings of the BC Interviews**

Turning to the BC interviews, four interviewees were chosen, all highly motivated, as they believed they had something of importance to tell. 3 of the 4 interviewees were recruited at the

meet-ups at Kaffi Schoffel in Zurich (see Table 2: Participant observation at different venues). The 4<sup>th</sup> interviewee is an employee for a BC-related business in the Zug area.

The basic question of why the interviewees use BC yielded diverse answers with very different motivations and intentions. As with the LC interviewees, the BC interviewees equally share a sceptical take on the existing financial systems. One interviewee notes that BC is the “freest currency that exists up till now and that it requires the least trust towards other people” (BC Interview #12 2015). The interviewer sees the freedom of choice of a currency as a valuable good which should be aspired to, as it challenges the status quo of “financial institutions that are heavily subjected to criminal influences” (ibid.). Interviewee #10 also sees the freedom aspects of BC as central:

“[BC] is something with potential to make people freer and to enable freer interaction. It’s a bit like the right to communicate. [...] and what the internet has done for freedom of information, BC has tied in and done similarly for monetary freedom” (BC Interview #10 2015)

This statement reflects a strong stance on monetary freedom and against the existing financial systems. It is similar to interviewee #11’s take on nation states and “their monopoly to control the finances and thus the economy. [...] In effect, you get dispossessed without a choice” (BC Interview #11 2015). As an example the SNB’s purchasing of Apple and Exxon Mobile shares to stabilise the SFr., was referred to, which results in the involuntary support of the concerned companies for all the users of the SFr. (ibid.). Interviewee #13 also shared a similarly sceptical view of global finances and legitimates his scepticism with the argument that the “Iraq, Afghanistan and Vietnam wars would not have been possible, if there had been fixed financial limits and one couldn’t have randomly printed more money to finance wars” (BC Interview #13 2015). Thus, it can be stated that the BC interviewees all share a general distrust in and criticism of the financial systems of the status quo. Their usage and promotion of BC is a statement for the development of alternative monetary systems.

The question of when and where to spend BC or not was similarly answered by the four BC interviewees. As with the local currencies, BC also has the problem of a low amount of available services and businesses that accept BC in Switzerland. Businesses accepting BC are very diverse and specialised. In Zurich, for example, there are only three places, where food or beverages can be purchased with BC. As the map of Switzerland shows (Figure 2: Map of BC businesses in Switzerland taken from coinmap.org), there are more BC-related businesses within the Zurich area, but they are more into offering different services connected to BC in a broad sense. The

interviewees all claimed to be prepared to pay a little extra to support businesses that accept BC. Already the act of paying with a mobile phone to demonstrate BC's functionality was a reason for one interviewee to visit the Café Schoffel, for example (BC Interview #10 2015). All the interviewees shared this readiness. They felt that by using the currency they were contributing to increasing the currency's credibility and thus, strengthening the network (ibid.). This process is very important to the interviewees, since the acceptance of BC is not yet widespread, although it has increased steadily in Switzerland. Interviewee #10 explains that: "BC is still a niche appearance. Recent development shows that the acceptance is growing. [...] Last year in March there were 58 shops in Switzerland, if I'm right. Now we're roughly at 120 shops. The amount has doubled" (ibid.). Interviewee #11 reports having bought a flights and hotels with BC (BC Interview #11 2015). This is made possible due to online portals that buy products and then resell them for BC. "It is possible to buy almost everything with BC, states interviewee #11, provided one is prepared to search a little longer for a certain product" (ibid.). One interviewee noted that drugs such as weed can also be comfortably purchased with BC, as BC has a relatively high level of anonymity. Also the porn industry has picked up on BC, for the same privacy reasons and through the success of BC as a payment system, it has contributed to a broader acceptance (BC Interview #10 2015). Due to the fact that BC was founded by IT-specialists and so far still attracts mostly IT-interested clientele, there are many BC products that have to do with software or hardware (BC Interview #12 2015). Hence, software services such as server space, product licence fees and mini computer games on the one hand, but also all sorts of hardware products can be bought with BC.

The average usage of BC is once every two weeks. Those professionally involved with BC, use it more frequently. The frequency is similar to the frequencies of usage elaborated from the LC interviews in Basel and Bern. The BC network is spread out in Switzerland and also across the globe, whereas the LCs only function on a small scale. Nonetheless the frequencies of the usage of the currencies are similar, which suggests that LCs and BC in Switzerland are running at a comparable pace. The users are estimated to be between 20 and 40 and predominantly computer-affine. Another noteworthy fact is that there are mostly men at the BC events (BC Interview #10 2015). Participant observation revealed one woman, compared to roughly 200 men that were encountered in the course of the thesis.

When asked about political affiliations connected with BC, all the interviewees mentioned the word libertarian or liberal of their own accord. This connection between the currency and a political ideology is part of the discourse around BC and has obviously left its mark on some

interviewees. Rephrasing the question and asking what why BC has a libertarian touch, revealed following response: “It’s clear that if you use BC, you’re undermining the monopoly of the state. That’s why it’s clearly liberal, so classic liberal. Not like the FDP, but really liberal or libertarian, as one probably says nowadays” (BC Interview #11 2015). Quite evidently, interviewee #11, who calls himself an anarcho-capitalist, has a clear idea about the user’s political ideologies. Interviewees #12 and #13 see the users in a similar light, mentioning the users want of “less influence from the state and more personal freedom” (Interviewee #13), or that the users can be affiliated with “Cypherpunks, hackers and the libertarian anarchist-scene” (Interviewee #12). Interviewee #10 however, differentiates and states the following as to whether BC has a political agenda:

“Yes and no. For me personally, actually, no. BC is agnostic. It’s a technology. It’s like asking if the wheel the wing have a political agenda. [...] Scientifically regarded, BC is only mathematics and insofar, agnostic and apolitical. [...] Of course there are people who can identify with BC and it fits their political agenda. [...] The BC community may well be made compiled like that, but technology is technology and you can do good things and bad things with it, for political things and apolitical things, just like with the wheel and the wing” (BC Interview #10 2015).

Interviewee #13 reasons similarly, noting that the BC itself does not have a political agenda because “it is just like gold, which is also apolitical in that sense” (Interviewee #13). As the interviewees confirm, the currency does have an attraction for certain political ideologies, but not only for libertarian or market-liberal thinkers, but for many thinkers interested in new forms of currencies. “But without doubt”, as interviewee #10 constitutes, “there is a tenor that is relatively popular in the BC scene of liberally and autonomously thinking people”.

As already mentioned, there are other currencies built on the BC principles such as Peercoin, Freecoin and Group Coin, that have taken up social ideas, e.g. equal distribution to all network members, demurrage money or basic income. Also for BC, there are social aspects of the currency that the interviewees underline. An example for a social component of BC is remittances that are becoming popular to pay via BC, as interviewee #13 reports. Another example is a crowd-funding platform called Lighthouse that “exclusively works with BC. [...] It’s Open Source software that takes 0% instead of 10% like with Kickstarter. It’s like BC. It’s released, you can use it, you can develop it. [...] It’s quite a social breakthrough, I find” (BC Interview #10 2015). In summary, the BC enthusiasts are interested in more than just the digital currency from a game theory perspective, as one interviewee noted BC could be perceived from, or as a means to make money.

Turning to the social component of the BC scene, all the interviewees were interested in money systems in general, especially in the technicalities of BC, but also in the social implications of BC and the community aspects of BC. Interviewee #12 states that he is willing to spend a little bit more BC, if he knows it goes back into the community. He continues: “BC is after all a P2P network. It relies on community and on giving something back, in a way. Well, you don’t have to, but you should” (BC Interview #12 2015). Thus, BC enthusiasts are equally conscious of the community character of their network, conscious consumption and a critical discussion on how currencies should function, as LC users. There are differences, however, in the political stances, as there is a tendency towards market liberal ideologies with the BC community and a socio-political and democratic tendency for LCs. However, there is also a lot of hope for BC’s potential as a tool of social empowerment. As interviewee #13 calls attention to, BC is being used as a tool for remittances, which has developed an industry in Sri Lanka, for example, where many everyday products can be purchased with BC (BC Interview #13 2015). Another possibility for BC of social empowerment is being able to pay with the mobile phone. This could prove to be essential for people in poor countries who could now “enter into an economic relation with anybody via the internet. [...] I think this will bring significant welfare gains” (ibid.).

Interestingly enough, the interviewees rated the limits to BC for Switzerland similarly to the assessment of limits for LCs in Basel and Bern by the LC activists. The BC interviewees judged the potential for Switzerland to be relatively low. This is due to various reasons. Interviewee #10 sees the Switzerland-specific problem of everybody in Switzerland having numerous possibilities for financial affairs (credit cards, e-banking accounts, contacts to financial institutions) and that consequently, having no need for BC. Another problem is that BC has not spread to a great extent. “The Café Schoffel, for example”, as interviewee #12 points out, “has been accepting BC for a long time and it has not spread at all”. He sees potential for BC in Zurich, if anywhere, in the online domain (ibid.). Interviewee #10 also mentions the computer industry as a potential area of growth for BC, due to the Zurich as a location for international companies like Google or the research university ETH and a general influx of people with a lot of technological knowhow (BC Interview #10 2015). Interviewee #11 agrees that the potential for Switzerland is not great for the next couple of years, but “maybe in due time. I’m banking on other countries where it will work better than here, such as the Ukraine or Argentina” (BC Interview #11 2015). There is a scenario for an increase in potential for BC, if large financial institutions join the game and start offering BC-related services, as interviewee #10 claims, and that “then it could change rapidly, especially with the publicity it would gain” (BC Interview #10 2015). Another important issue is the regulation side of things mentioned in section 4.1 (BC Scene). There is a common fear among

BC enthusiasts that authorities could put an end to digital currencies, if they start to compete with national currencies. And indeed, in some countries BC is forbidden or has an uncertain status. For two interviewees, BC itself is impossible to forbid, because reducing a BC transaction to what it actually is – a transfer of electronic data – is very hard to completely prohibit (BC Interview #11 2015). And even if the usage of BC is completely forbidden, now that the technology is born, it cannot be undone again, like with the previously mentioned invention of the wheel (BC Interview #10 2015).

These results show that the interviewees share a realistic approach to the reach of their currency. All of them were on a mission to underline the positives and to promote BC in order to increase the user base and enhance trust in the digital currency. This motivation is born out of the idea of strengthening the network for everyone's benefit. Interviewee #10 makes it clear that “there is no marketing division, BC isn't a company or a corporation, [...] It's something that grows organically and so, it generates the value of the brand” (ibid.). Interviewee #11 also uses a similar image speaking of an “ecosystem” of BC that profits from growth in other countries (Interviewee #11 2015).

The question of economic potential was already brushed upon in the previous paragraphs. The interviewees for BC see economic potential for BC, especially in the software domain. In particular in 2012 there was a huge speculation bubble with BC, where the amount of public interest and financial investment skewed the value of BC. The BC interviewees do not see anything categorically wrong in speculation with BC. “I think you need speculation so that the markets remain solvent. That's also kind of the purpose”, argues interviewee #12. “For me it's totally normal that when something is useful or valuable, that people trade with it and speculate (BC Interview #10). The problem with BC's value is that it is highly volatile, also due to the fluctuating demand and the relatively small size of the market (BC Interview #11 2015). As interviewee #11 explains, it takes time and compared to two years ago, there has been a huge technical step forward and the fluctuations have also decreased (ibid.). “And with a receding issuing rate and a increasing demand, the price should also rise. But, of course, it's hard to predict” (ibid). In summary, the interviewees see a lot of positives for the BC scene and thus a lot of economic potential for their currency. This all depends on increasing the credibility and belief in the currency. “After all, notes interviewee #11, it's all a question of belief. [...] BC is like gold. Gold is only valuable to those that believe it's valuable, and not because it is useful. [...] One has to believe in its usefulness as well” (ibid.).

The BC interviewees demonstrated a lot of knowledge on different types of digital currencies.

They were also relatively well informed on money theory and the history of currencies. Interviewee #10, for example, spoke about historic currencies consisting of shells, stones, feathers, jewellery, spearheads, salt bricks and tea bricks, but also about more recent currencies such as Liberty Dollars<sup>8</sup> and the WIR currency (BC Interview #10). The WIR currency was also mentioned by interviewee #11 along with other alternative currencies. He sees little promise for local currencies, due to their centralised character, inflation problems and a surplus of notes on the market (Interviewee #11). Furthermore, he argues that “without the incentive to hoard, there’s also no incentive to accept a currency” (ibid.). This attitude is in line with neo-liberal market maxims. In summary, the BC interviewees have a solid knowledge base on different forms of currencies and money systems and reflect a lot on what money is and means for its users.

The professional background of the BC interviewees is quite diverse. Three interviewees are involved in technical side of BC, e.g. experimenting, mining, and developing). Their professions background is fairly different. One is a biologist, one a programmer and the third, an IT student at a Swiss university. The fourth interviewee is an economy student who found out about BC and decided to look for a job in the rapidly developing BC landscape. Thus, the interviewees all have slightly different backgrounds, but share an affiliation for modern technology, for progress and, above all, for their common passion BC.

In conclusion, this findings chapter sketched out a general image of the three currencies NetzBon, Bonobo and BC. It elaborated on the history and the present states of the currencies and on what type of previously existing network the currencies were built on. Also, the types of interaction patterns among the users were highlighted and in addition, how the alternative currencies are organised and what the important sites of the currencies look like. In the analysis of the guided interviews, intentions, motives and objectives of the enthusiasts to take part in the promotion of their currencies were carved out. In the process, political stances, perceptions and predictions for the future and the general state of the movements were elaborated. The following synthesis attempts to bring the analysis of the different forms of currencies together with theoretical concepts to help answer the research questions and to discuss their relevance for field of research.

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<sup>8</sup> A private currency introduced in the United States in 1998 and forbidden in 2009 (Vigna and Casey 2015, 38).

## 4.2 Sozialökonomie Basel and the NetzBon

The Association Sozialökonomie Basel, a socio-political movement, has been around for quite a while. The idea dates back to the 1970s. The currency *NetzBon*, previously called *BonNetzBon*, was instated in 2002 on the basis of the already existing network of cooperatives, which make up the network *Genossenschaft Netz Soziale Ökonomie*, which translates as “cooperatives network social economy”. The network of cooperatives is made up of 17 independent member cooperatives who have decided to join come together to function as the operative core of the social economy. The cooperative of the cooperatives organises the economic, social and cultural exchange between the different stakeholders and establishes a collective infrastructure. The members of the cooperative *Genossenschaft Netz Soziale Ökonomie* must fulfil certain requirements. They have to have democratic company structures, commit to social, ecological and cultural values and “secure equity capital on a long-term basis for all participants” (‘Statues of the Association Sozialökonomie Basel’ 2007).

As can be seen in the table below, created according to Martignoni’s typology of community currencies, the currency was founded in 2002 (Martignoni 2012, 11).

<b>NetzBon</b>	
<b>Organisation</b>	Verein Sozialökonomie Basel, Basel <a href="http://www.sozialeoekonomie.org">www.sozialeoekonomie.org</a>
<b>Currency</b>	NetzBon, 1 NB equals 1 SFr.
<b>Businesses/Users</b>	120 Businesses / Local users
<b>Turnover</b>	Not recorded
<b>Origin</b>	Founded 2002
<b>Purpose</b>	To promote local and regional exchange patterns promoting local economic wellbeing while simultaneously enhancing social and ecological sustainability
<b>Trust</b>	Basically guaranteed by belief in the Sozialökonomie Association and the other NB users
<b>Creation</b>	Five versions of notes have been introduced over the years, distributed at launching events or purchased at one of the exchange sites; notes expire after three years; 10% discount given as incentive to exchange (100 SFr. = 110 NB)
<b>Circulation</b>	26,605 NB

Table 5: NetzBon Overview

It was introduced as a further special feature of integration and identification with the social-economic movement. The idea of creating an own LC was to have a tangible medium that also visually and physically transported the message of the association to the broader public. Hence, the currency was introduced as a functioning method of value transfer, but also as a PR-strategy to draw attention to the greater cause. Another PR gag involved a reversed bank robbery, where hooded volunteers ran into a café (a member of the cooperative) with a large bag of money.



Instead of asking for money however, the perpetrators took advantage of the attention they had arrested and briefly informed the onlookers about their association and the new currency, throwing notes of the recently redesigned currency into the crowd.

A further authority of the association is to grant loans for certain project. The loans can be paid back 50/50 in NB and SFr. This strengthens the credibility of the network as certain members can apply for loans to finance larger projects. It also leads to a reinforcement of the initial network and its goal of creating a supportive framework for a local social economy.

Lately, the associations website was revamped along with the currency's individual website. The association meets up once a month to discuss operational strategies, vote on new agreements and bridge and bond. Thus, the movement is ever changing and evidently still has a core team which is striving to reassess, reinvent and adapt to new challenges. There is also a two-monthly newsletter that can be subscribed to.

#### **4.2.2 Findings of the NetzBon Interviews**

Turning to the interviews, the overarching reason for using an alternative currency in the first place is fairly diverse but at the same time clear on one level. There is a common agreement amongst the LC users that the way international finances work is majorly flawed. One interviewee sees general problems in connection with financing and her involvement with the NB as a social critique: "I generally have the feeling it can't go on like this forever. I also don't exactly know what can be done against it. Just change the small things that you can. That's the only thing you can do." (NB Interview #4 2015) Others are critical of the size and methods of nation states: "I find governing bodies such as nation states way too big. Small, local, regional associations are more appropriate, also more democratic and controllable" (NB Interview #2 2015). Diverse as the different motivations to participate in the currency movement may be, all the interviewees shared the same vision of creating a currency as a countermovement to how national currencies work. There is a mutual agreement that the status quo is unsustainable and will sooner or later result in financial recessions.

The interviewees' usage of NB varies and is based on their needs and the availability of NB and certain goods and services. NB can be exchanged at two counters in Basel at a rate of 1 SFr. to 1.1 NB. There are quite a number of services and products that can be purchased. There are electricians, craftspeople, restaurants and cafés, a garden centre, a bookstore, clothing shops, barbers, a backpackers hostel, a print shop and many more in the network. A main focal point of the NB, a place where the gravity of money (NB Interview #2 2015) becomes visible, is at the

aforementioned printing shop. By gravity of money, interviewee #2 refers to the fact that money often ends up at a certain point in the network. In Basel, the printing business often ends up with a lot of NB, as many NB members use their NB to pay for printing jobs.

“I think [that with most of my NB] I pay for printing services at the print shop, then consummation in Hirscheneck [a café], concerts and coffee, and lunch at the Biobistro (restaurant). Other than that it’s only vegetables at the market and that’s it” (NB Interview #2 2015).

This is a problem caused by the small scale of the network. The network only provides a small range of services that only cover part of the needs of its users. This leads to a concentration of capital in focal points of the network where, for example, one service such as the printing shop ends up with a lot of NBs. In turn, the print shop is left stranded with a large amount of NBs and has nowhere to spend such amounts, as wages of employees, for example, are not allowed to be paid with NBs. There are also very few places in Basel, where rent can be paid with NBs. The network does not provide for printing accessories, otherwise the circulation of money could possibly continue beyond the print shop (NB Interview #3 2015). Another interviewee state to the interviewee’s usage of NB, all of the interviewees mentioned that they pay with NB whenever and wherever they can. Thus, the question of paying with SFr.. or NB is decided by the range of services and available goods within the network. One interviewee’s approach for spending NB is shown as follows:

“It’s an economy that’s local and also the values connected to the NB are important to me. That’s why I always take some NB with me when I do something. Then I have an incentive to go to places where I can spend NB” (BB Interview #6 2015).

Others always end up using their NBs at the same places: “I would use them [NBs] wherever I can but actually, the only thing I really need is groceries. Apart from that I don’t buy much anyway” (NB Interview #5 2015). This interviewee goes on to state that it is “too tedious to get them” and, due to a dense schedule, is not always an option. This points to issues of practicality and simplicity of NB. One always has to go to the issuing centres (there are two) to obtain NB.

The frequency of the usage of NB is quite moderate. It ranges from weekly to monthly depending on whether NB is spent by a user on the one hand or a shopkeeper or business person on the other hand. Hence, even if some people try to use it frequently, the reality check suggests that an average usage of once a week, generously speaking, is probably.

In general terms, the user groups are made up of socially, ecologically aware people who can be described as “the alternative lot”, e.g. the “alternative Greens and the Lefties” and the generation of the 68 movement, mostly of an older generation (NB Interview #5 2015; BB Interview #6 2015). Hence, the majority of the users are older people, but also, since the financial crisis, more young people, e.g. students or the like. This intergenerational connection has rejuvenated the NB network to some extent. This development is described as follows:

“Now, it is mainly older consumers that have seen that the system really is damaging and the financial system. And they really want to try out alternatives. These are rather older age groups. Now, after the financial crisis, also young people are starting to deal with the topic, young people with ideas of Transition – how to change society, transitions to better systems. And that’s where I think it’s really interesting that also young people feel attracted [to NB].”  
(NB Interview #4 2015)

Hence, the users of the NB tend to belong to the older generation, but through the network association Soziale Ökonomie, and their including Urban Agriculture Basel as a member, a bridge has been built to an association run by a young dynamic group of people interested in similar ideological ideas and principles.

All of the NB interviewees play a double role as currency users, as they figure as consumers but also as service providers and active board members at the same time. In general, the interviewees all believed in the value of the network and, as consumers, were prepared to pay a little bit more for a good cause. The key principle for the network is the local setting and the idea of a circle. By choosing to spend money in businesses belonging to the network, the members of the association are contributing to and strengthening the whole cause. As NB interviewee #6 states:

“One of the things that happens is networking and this is strengthened by people with a similar philosophy about what makes life worth living – really very ehm idealistic values.”

This ideological perspective is of course connected to and created by certain socio-political principles stated in chapter 2.3 **Alternative Currencies**. Thus, social, and ecological sustainability, the awareness for the greater cause, a strengthening of democratic and cooperative principles are key motives. These are the main factors mentioned in the interviews. These principles point to a very conscious user base, which clearly has put thought into how money circulates and what positive and negative effects can be distinguished on different scales of economic practice.

One of the questions asked to the interviewees was the question of a political affiliation or more precisely, whether the currency possesses a political agenda. The answers were quite similar. Three interviewees saw an evident connection to a socio-critical movement. The organisation is not bound politically, but is politically active in a sense of wanting to “make a point against globalisation”(NB Interview #4 2015). One interviewee specified, saying: “[political agenda], yes, definitely, but not party political” (NB Interview #5 2015), “as the political parties tend to not list such topics on their agendas” (ibid.). NB interviewee #5 continues, stating that “there are some people fighting for basic income and the *Vollgeldinitiative*, [a public initiative in Switzerland] – at least there are attempts to show that other possibilities exist.” Another interviewee supports this claim stating that on the level of everything being political, NB is, of course, political. But the aspects important to NB, are definitely not party political, as they are not politically constructed, says interviewee #2, declaring that “[NB] takes sides for the people, takes sides for wellbeing and self-government and also for a relocalisation”(NB Interview #2 2015). Hence, the overall opinion is that the currency is clearly political in its goals and its guiding principles, but that it does not have a party political affiliation.

Most of the interviewees are realistic and see the limits to their currency. They are long-standing members of the association and have been able to follow the development of NB over a longer period. Thus, the focus of the currency is on sustainability, also in terms of growth and network expansion. The interviewed board members made it clear that they never sold their souls for the sake of a few more members.

“I think it’s a subcutaneous thing. There never was a big campaign. It’s just in the consciousness of the broader population that there’s a NB. It also always disappeared again.”  
(NB Interview #2 2015)

In a sense, the maxim for the association’s sustainable growth strategy can be described using the words of interviewee #5: “Constant dripping wears the stone” (from the German: *steter Tropfen höhlt den Stein*). Thus, the association trusts that there will always be a solid core of members who bring along a certain reflectiveness and awareness for the big picture. As interviewee #3 states:

“[...] companies come and go. One has to guarantee a certain balance, so that enough money is spent [...] to attract new companies. [...] The idea is to grow so that there is a wide range of offers but that, at the same time, there are consumers to spend it.” (NB Interview #3 2015)

All the interviewees would like to see the network grow and for the currency to receive more public attention. But the idea is that the NB is supposed to be used consciously and thus, not just as any currency that might be convenient, but as a democratic, social and ecological currency. Thus, the emphasis is on sustainable growth for the network itself. There have been ideas to team up with other social movements in Switzerland, but these attempts have never progressed beyond a conceptual phase. There are forms of collaboration on a larger scale, e.g. the collaboration with ABS (Alternative Bank Schweiz), as the association's Swiss Francs can be transferred via an ABS account. Also, there has been contact with other currency movements in Switzerland (some of the NB members consulted the Bonobo founders for the conceptualisation of their currency) (NB Interview #1 2015).

The potential for growth is limited due to the aforementioned intellectual orientation (not wanting to expand per se, but to grow organically), which goes hand in hand with the currency. Some interviewees conceive the whole idea merely as a test for the case of a financial recession or a total collapse of economic commerce. One user sees the whole movement as a serious alternative currency quite sceptically and as follows: "As long as this system doesn't collapse there will be no chance for all this" (NB Interview #4 2015). The only scenario for a LC to succeed on a larger scale would be "in the case of a crisis." (ibid.) This mode of thought falls in line with other interviewees who acknowledge the fact that local currencies work better in countries affected by recession:

"Potential is always tied to economic development. In times of a crisis such as in Argentina in 2001, currencies like this are the only thing that will pull the car out of the muck – local exchange trading schemes and such currencies. That's what they had there. Within a short time, currencies arose together with the Local Exchange Trading schemes (LETS) and the economy was revived, at first very small and locally" (NB Interview #2 2015).

This quotation resonates with North's conclusion on the effectiveness of LC schemes and that they only really function or prosper in regions struck by recession or financial instability (see ).

The economic perspective of the currency is moderate. The question of whether economic benefits could be made by taking part in the movement was answered unanimously. Due to the currency's small scale, there can be no talk of businesses profiting on a large scale from the movement to gain extra publicity. For a participating business being part of the network is already making a sacrifice, as the bookkeeping of a LC and informing and training the employees on how to use it is time and work intensive in itself. The effect of the NB movement being a label, which the partaking companies can use as a publicity tool, is overestimated. The advertising

contribution the NB makes is insignificant, as it the amount of NB annually spent at interviewee #2's Gelateria, for example, accounts for 0.5% of annual revenue. Interviewee states:

“[the annual sum] ...is peanuts. [...] There's no big potential of thousands of addressees [for the newsletter] ... I think it [the advertising effect] has a small influence, rather modest. [...] If your business is not successful with SFr., it won't save you if you accept NB.” (NB Interview #2 2015)

The interviewees were adequately informed about other existing local currencies, but not so much about digital currencies. All the users knew of other existing local currencies such as in France (Radis, Alsace), England (Brixton Pound, London), Germany (Chiemgauer (Bavaria), Wiesentaler, Dreiländer (both in the Basel area)), Austria (Talent), and Argentina (various barter communities). They had had personal contact with some of the currencies from the region of Basel. Other currencies did not seem important to the interviewees. None of them had dealt with BC before, although some had heard of it. Thus, it is fair to say that all the interviewees had not thought of common denominators between local currencies and digital currencies.

The professional backgrounds of the chosen interviewees were widely ranged. There was a spatial planner, a visiting research professor for sociology and environmental studies, a life and company coach, a social worker working with unemployed people and a café business manager. Hence, there was a widespread variation of occupations and all the interviewees had discovered NB usually through their involvement in social networking projects, such as Sozialökonomie Basel. Others just stated a general interest in financing building or planning projects and that through a conscious engagement with cooperative structures, which led to the association Sozialökonomie Basel and the members. As interviewee #4 notes:

“My occupational background is insofar relevant as that I'm always dealing with financing issues, trying to make financing possible for my customers so that they can build. And that's how I get in contact with cooperatives but also with alternative financial institutions such as the Alternative Bank Schweiz. At some point you're in the system and suck up things here and there.” (NB Interview #4 2015)

Interviewee #5 states that by working in certain socio-political circles in Basel one automatically gets acquainted with people in different networks all working on similar projects. This is how most of the interviewees got drawn into the NB network.

In conclusion, the interviewees providing information on the NB network all have similar intellectual orientations. The well-connected socio-political networks in Basel allow for a deeper engagement with many different economic initiatives and thus, provide breeding ground numerous social movements.

### 4.3 Tour de Lorraine and the Bonobo in Bern

On a cold and rainy 1<sup>st</sup> of May 2015, huddled behind a covered stall on the Federal Square in Bern, stand two of the Bonobo (BB) founding members, with leaflets and brochures of the newly launched currency BB in their hands, waiting for interested parties and by passers, who can be targeted, informed and potentially win over new members for the Bonobo movement.

But what is the currency all about? The following table offers an overview of some key elements. The table was created according to Martignoni’s typology of community currencies (2012, 11–14).

<b>Bonobo</b>		
<b>Organisation</b>	Verein Alternativwährung Bonobo	<a href="http://www.bonobo-bern.ch/">www.bonobo-bern.ch/</a>
<b>Currency</b>	1 Bonobo equals 1 SFr..	
<b>Business / Users</b>	30 Businesses	
<b>Turnover</b>	Not recorded as yet	
<b>Origin</b>	Founded 2015	
<b>Purpose</b>	Democratically organised, social and sustainably functioning non-profit organisation aiming at supporting cultural, social and ecological projects	
<b>Trust</b>	Basically guaranteed by belief in the <i>Verein Alternativwährung Bonobo</i> and the other BNB users	
<b>Creation</b>	Distributed and sold at launching event and among members of the association; notes expire after three years	
<b>Circulation</b>	13,000 Bonobo	

Table 6: Bonobo Overview

The BB movement is a relatively new phenomenon. It was launched on 22<sup>nd</sup> January 2015 in Bern. The pre-existing organisation *Tour de Lorraine*, which is a spin-off of an annual WEF-critical anti-globalisation campaign, served as a launching platform for the currency (Gschweng 2015).

The *Tour de Lorraine Association* has profited from and been supported by a young, socially aware event hosting movement. The Tour de Lorraine dedicates one topical theme to each year’s event programme. The themes are usually of a socio-critical nature. In 2014 the theme was money and thus, the core team came up with the idea of creating a LC. The chosen name *Bonobo* originates from the name given to a socially complex but peaceful chimpanzee one the one hand and on the other hand, it is an abbreviation of “Bon ohne Boss” (Deo 2015), which is Swiss-German for “voucher without boss”. The general purpose of the currency’s purpose is to use it as a tool to “convey sustainable alternative forms of economic practice and also nurture an economy based on wellbeing”<sup>9</sup> (Statues of the Bonobo Association’ 2014). A second official commitment is to use this tool to support cultural, social and ecological projects and thirdly, to not pursue any commercial goals, as the association is a non-profit organisation (ibid.).

<sup>9</sup> Taken from the organisation’s articles and freely translated into English.



There is a central exchange office set up at the Q-Laden, a groceries shop in the Lorraine district, where the BB can be swapped 1:1 for SFr. At the time of the launching event 17,000 BBs were distributed into the system. The members of the association, who pay a membership fee, received an amount of BBs corresponding to the membership fee, as did the participants of the launching event in return for purchasing a ticket for the event. After the Tour de Lorraine 2015, 4,000 BBs had been spent and thus, already flowed back to the central coordination office. As of such, the set up of BB does not allow for a quantitative investigation of the money flows of the currency beyond the previously mentioned knowledge of how much money was released into the system. Hence, the only way of assessing the currency's health is by collecting feedback from the partaking businesses. The gathered feedback is to be published in an annual report.

#### **4.3.2 Findings of the Bonobo in Bern**

The findings from the guided interviews for BB in Bern are in many regards similar to those of the NB in Basel. This is understandable due to their similar settings and motives. However, the BB in Bern is a very new emergence and therefore still has a tentative touch to it and many question marks. The users are very optimistic but at the same time realistic about what their currency should stand for and what it can achieve.

The BB movement is still very small with 30 partaking businesses. This means that the services on offer are moderate. The usage of BB is presently confined to the Q-Laden, some bars and cafés and a print shop, like in Basel. As with the NB in Basel, the print shop in Bern also receives a lot of BB for larger orders and has the problem of not being able to pass on the BBs. Thus, as with the print shop in Basel, the print shop in Bern also has a special deal with the LC operators to change BB back in SFr..

The frequency of usage ranges between once a week and once a month, depending on the interviewee and whether BB is used for private purchases or for a work related order. Interviewee #6, for example, works as an accountant for an event organiser and purchases some material for the office at the print shop. Another interviewee, #9, a student of social work, only consumes beverages and the like using BB, due to his conviction and belief that using the LC is “building or rather maintaining identity – there already is a lot there, especially in the Lorraine district, the whole left scene is quite well connected in Bern [...] – and strengthening these structures” (BB Interview #9 2015).

The response to the question of age and user groups was striking. There was a tenor for the age

groups between 20 and 50 years of age. One interviewee noted that age is not a decisive factor when it comes to user groups. The decisive factor is whether one is interested in how money works in any way and this is not related to age (BB Interview #8 2015). “When you start dealing with such topics, you automatically come in contact with things like that” (ibid.). The same interviewee indicated that people who do not earn a living or pay taxes are probably not likely to show much interest in a LC. Interviewee #9 goes a step further claiming that thinking about money requires “a certain experience of life, a certain, level of education would be a bit pretentious, but a certain willingness to deal with the topic” (BB Interview #9 2015). Hence, the overwhelming understanding is that the usage of BB cannot be attributed to a certain age group, as there are other factors that play a more important role.

By other factors, the interviewees were referring to political or ideological stances. In response to question whether BB possesses a political agenda, the answers were similar. They all saw their currency as a socio-political statement against “capitalism and profit-maximisation”, as Interviewee #7 formulated it (BB Interview #7 2015), and contributing to a “social and solidary economy” (ibid.). Interviewee #8 sees it in a similar light:

“For me, it’s very clearly political. It is an anti-capitalist alternative, of course not one that will topple the whole system. [...] It’s a test, a strengthening of structures, and it’s very much political, but it doesn’t have a dogmatic political agenda. [...] There are apolitical members and political activists as members. We’re explicitly open to all – but we don’t have a political agenda in that sense” (BB Interview #8 2015).

Hence, the interviewees agreed that BB’s users can be classified in the predominantly alternative socio-political spectrum, but that the currency in itself is free of a political agenda and open for everybody’s usage.

The BB interviewees also shared pragmatic stances on the reach of their currency. As already mentioned in the previous paragraph, one interviewee sees the currency as a test. Another does not believe in the BB as substitute currency: “you can use it like SFr.. but it will never replace them. It will remain complementary, in a way” (BB Interview #9 2015). This perception reflects a realistic take on what the currency can achieve and how high the expectations of the advocates are.

The question of economic motivations to take part in the movement was judged to be non-existent. The movement is still at such an early stage with so few participating businesses that a

perspective of an economic gain can be discarded. Moreover, the BB and the whole scene is closely linked to other alternative movements within Bern, as Interviewee #9 points out, especially in the Lorraine district. Interviewee #9 believes that the motivations to take part are everything but economic ones.

The knowledge of other forms of currencies among the interviewees varied. 3 of 4 interviewees had heard of other currencies, both digital and local forms. One interviewee even had a strong opinion on BC. For Interviewee #8 cryptocurrencies, as he referred to them, are not interesting, due to the following reasons:

“They are coupled with energy consumption [...] and with the probabilities and the processing power, the amount of BCs can be calculated. That’s an ancient capitalist thought. [...] I find that the greatest weakness. The rest of BC, the cycle and so forth, and that’s it’s not bound to another currency, is interesting. [...] And then there’s also the problem with the fluctuation of BC’s value, which is not feasible for the real economy”. (BB Interview #8 2015)

As the citation shows, interviewee #8 had given BC and the idea behind it a considerable amount of thought. This statement was the clearest and most reflected statement of all of the LC interviewees on BC. It showed a high level of understanding for BC and some of its fundamental issues, which were also discussed by some of the BC enthusiasts, e.g. fluctuation of BC’s value, real economy suitability. The statement was insofar central as that it brings together some of this thesis’ objectives, namely to assess certain parameters with both local and digital currencies and to determine strengths and weaknesses of the currencies in the light of what a task or service a currency should fulfil. Interviewee #8’s verdict was clear due to one aspect of BC, the issuing mechanism, which depends on the amount of computing power. This aspect renders the other aspects insignificant, as the central problem of BC’s issuing appears to outweigh the other aspects.

The educational background of the BB interviewees was widespread. 3 of 4 interviewees claimed that their vocational background had little to do with their involvement with BB. An accountant, a programmer, a polytechnician and a student of social work, were the four professions of the interviewees. Only the student of social work had become aware of the BB movement through his education. The accountant’s interest in other forms of money is given by the motivation to use a “clean money, an incorrupt money, also a type of innocent money” (BB Interview #6 2015). This consideration reflects a general criticism towards national currencies and suggests that they are unclean, corrupt and not innocent. The software developer was sensitised to the subject

through Open-Source software in the IT-world, a general interest in alternative economic models and the need for concrete alternatives that function. The polytechnician stumbled across the topic through friends and warmed to the BB movement due to possibilities to meet new people and to be part of a whole. In conclusion, the motives and the incentives to join the BB movement have no clear-cut connection and demonstrate an appeal to different people with diverse interests. The common denominator for all interviewees is the idea of creating a new, social, sustainable and LC as a countermovement to conventional and unreflecting currencies.

## 5. Synthesis

This synthesis chapter brings the empirical findings together and contextualises the theoretical concepts. The overarching framework for the synthesis chapter is the analysis of the 6 hypotheses (Hs) on the basis of the empirical findings in the light of the theoretical concepts. Hereby, the following theoretical concepts introduced in chapter 2 will be assessed: Zelizer's special monies concept with the four categories *intention, social context, meaning and effect*, N. Ferguson's square of power, Harvey's self-reproducing capitalist structures, Harari's findings on trust issues, Thiel's notion of a 'better money', Polanyi's world currency, the connection between LCs and the degrowth movement and finally, Gibson-Grahams' diverse economies approach, Kennedy and Lietaer's suggestion of a multiplicity of complementary currencies.

In accordance to the main research question concerning the currency enthusiasts' relation to mainstream capitalism it was expected that the intellectual orientations play a vital role for a critical engagement with mainstream capitalism (Hypothesis 1, see Research Questions). H1 can only be partially confirmed. The BC enthusiasts' intellectual orientation plays a role in the choice to deal with an alternative currency, but a somewhat subordinate role. The interest in the alternative currency BC is not just political, or ideological, but also can have other backgrounds. As an interviewee states, there are also game theorists and IT-enthusiasts (Int.#10), who are just interested in the mechanics of BC and the fund side of possibilities it has created. Thus, a serious engagement with mainstream capitalist modes of economic practice is not at the top of every digital currency enthusiast's agenda.

As for the LC enthusiasts, their intellectual orientations differ considerably compared to those of the BC enthusiasts. H1 can be confirmed to a greater extent for LC enthusiasts. The intellectual orientations do play a central role and determine their approach to the topic of alternative currency movements. However, also with the LC enthusiasts, there are some less reflected and politicised opinions and motivations to use and promote the currency. A BB enthusiast had little to say about intellectual orientations but was passionate about the idea of "clean, incorrupt and innocent money", suggesting that conventional money is the opposite. This understanding portrays a general distrust towards the status quo of national currencies.

In conclusion, the intellectual orientations of alternative currency movements are very important to some enthusiasts, but intellectual orientation is not the key aspect for all the enthusiasts as to why they use a certain currency.

The second hypothesis, H2, claims that by using and promoting an alternative currency the LC and BC enthusiasts are making a political statement. H2 could be largely confirmed. At this point it has to be noted that the differentiation between users and promoters of the alternative currencies becomes problematic. The reason being that all the interviewees for this thesis were users and promoters of their currencies, as they were prepared to give insights on their currency and felt they had something of importance to share. The argumentation to support this finding is that taking part in an alternative currency movement is already a very conscious and deliberate decision connected to an extra effort. This conscious decision translates into a political statement, which is why it also assists in contributing to H2. All the LC interviewees had a lot to say about what they believed to be achieving when using their currency and also about the cause of their currency and its relevance for a social matter. There was a willingness to spend a little extra money for the good cause. This also applies to the BC enthusiasts who mentioned the readiness to spend more or to purchase a product that could be paid for with BC, just because it was possible to pay in BC. The interviewees were interested in the bigger picture, in supporting an alternative currency and the promotion of this currency by using it and thus strengthening the network and helping it to grow. This clear motive and *intention* behind the usage of a currency can be brought together with Zelizer's 'social meaning of money' which distinguishes the characteristics *intention, social context, meaning and effect*. These categories can serve as a tool of analysis to assess 'special monies', as Zelizer states (Zelizer 1994, 344). Thus, the intention of the alternative currency enthusiasts is a key factor.

The intentions for LC enthusiasts are to promote a transparent currency that does the following:

1. Puts sustainable alternative forms of local economic practice to the test
2. Supports cultural and social projects
3. Negates commercial goals
4. Encourage the establishment of democratic structures

These four principles can be found in North's analysis of LC movements in other areas (see chapter 2), where the formulations are somewhat different but point in the same direction. North carves out the advantages of LCs: localisation, slower reflective economies, and resilience towards external shocks (North 2005, 224–225). These principles are reflected in the intentions of the LC enthusiasts in Basel and Bern. The localisation efforts are supporting local economic produce and projects. The reflective economy is the focus on cultural and social projects while nurturing democratic business structures. Finally, the resilience towards external shocks is envisaged by the ambitions to create sustainable circles of economic practice.

Turning to BC, the question of intention is not so straightforward. BC was created without a political intention other than the aim of being a decentralised digital payment system. An overt political intention was never formulated by BC's designer (Nakamoto 2008). The BC interviewees themselves clearly negated a connection between the currency and a political agenda. For them the currency itself is apolitical, just like gold as a raw material is apolitical. Only, its enthusiasts can be assigned to certain political corners, as the idea of creating an autonomous, decentralised currency quite evidently appeals to many thinkers of market-liberal ideals, amongst others. Thus, as with any currency, the currency itself is apolitical – the coins and the units can be seen as pieces of metal, as numbers or, in BC's case, as long chains of digits. The exchange of value and the storage of its units can be broken down and perceived as a factual affair. This is why Harari (2013, 228) underlines the qualities of money to overcome social barriers such as religion, race, gender and age, because it disregards social components and breaks the fruit of human labour down to an exchange of value. However, the implications every purchase with any currency has are a political statement per definition, as Lappé's quote claims (see introductory quote, (Lappé 2003)). Further, the political statement one is making, whenever one uses a currency, already blurs the boundary between *intention* and the *social context*, which will be discussed later.

Moving on to H3, the supposed common intellectual ground between LC and BC enthusiasts is assessed. Although, as previously mentioned there are strong differences in terms of goals and intentions of alternative currency enthusiasts, there are also some congruent objectives of LC and BC advocates. This is why H3 can be verified. The common ground of the intellectual orientations of alternative currency enthusiasts is a general critique of how conventional money systems work. This critique is born out of a critical reflection of what money is and what it is supposed to do. Both LC and BC enthusiasts acknowledge that the current national currencies profit from people's blind trust in them. The currencies that dominate our everyday lives are exclusive and "instruments of power", as Interviewee #2, a LC activist, states. There is a sense of "helplessness and powerlessness" apparent towards the "state monopoly", which can dispossess you, due to its power, as Interviewee #11, a BC enthusiast, notes. These allusions to power relations precisely reflect the claim that Lietaer makes with his critical interpretation of Niall Ferguson's 'square of power'. The square of power is an explanation of how nation states created rigid currency monopolies by setting up a sophisticated game of a two level banking system (see 2.1.2 Ferguson's Square of Power). These national currency systems are, although unstable in some ways (financial crises), very stable in terms of longevity. This is what Harvey implies with his description of capitalist structures and how they manifest and reproduce

themselves (Harvey 2001, 51). Alternative currency movements are openly challenging this system by trying to introduce monetary alternatives.

In sum, the critique shared by LC and BC activists is the critical take on the international squares of power that dominate every sphere of our lives. There are also other political/ideological overlaps. One LC activist calls for an anarchist approach to “create a money that serves people’s needs and nurtures self-administration” (Interviewee #2). In turn, a BC activist mentions a group of BC aficionados that call themselves anarcho-communists and are against state and private ownership (Int #11). These two statements demonstrate that certain ideas on money systems are circulating in both camps. However, it must be stated that, unlike LC enthusiasts, BC enthusiasts are, generally speaking, less interested in alternative modes of economic practice and more in creating a new money system. Having said that, one passionate BC enthusiast reported on a number of new internet based on P2P networks and Open Source software. These ideas are built on the BC the basis of BC technology. Therefore, depending on how narrowly one defines the term alternative modes of economic practice, these innovative forms of internet cooperation can be seen as that and analysed as forms of economic diversification. This ties in with Gibson and Graham’ diversification approach which will be discussed in the final section of this synthesis chapter.

H4 argued that alternative currency activists in Switzerland are on a quest to promote their currency and enhance the belief in its value. At the same time they believe they are contributing to a greater cause by nurturing an alternative currency with far-reaching benefits. H4 can be confirmed. As many interviewees noted, the community character of the network is very important to them, both for the LC and for BC. The aspiration of building something new, of creating a network and of meeting new people interested in similar topics was apparent across all the examined movements. Thus, the *meaning* variable of Zelizer’s analysis is a central aspect for the movements’ participants. For BC enthusiasts, using BC and promoting BC signifies a strengthening of the whole network, an objective all the interviewees deemed beneficial for themselves, for the BC community and the general BC principles. Therefore, it becomes clear that the existence of a sort of BC community, which was initially nurtured und cultivated through internet communication (forums, chats etc.), means a lot to the currency’s users. The BC community evidently provides the enthusiasts with a meaningful cause with which an identity can be formed. This common cause also defines the *social context* (Zelizer 1994, 18) of alternative currency movements. The common causes are the driving forces of the alternative currency movements. These causes are carried by similarly thinking and acting currency advocates. The



social context appears to be vital for the development of ideas and concepts for the ways forward for the alternative currencies. They rely on a strong social cohesion of the enthusiasts within the network and to carry the idea to the outside.

Overall, both alternative currency enthusiasts are very particular about their engagement with their currency and invest a lot of thought and time in their cause. Some BC enthusiasts, on the one hand, see the promotion of their currency as an act of emancipation and dream of BC as a new world currency. This enthusiasm is similar to how Polanyi initially conceived the idea of the gold standard as a global currency (Block 1995, 30; in Polanyi 2001). LC activists, on the other hand see their currency as an example of what could become a necessity in times of economic crises.

H5a argues that with BC activists there is a tendency to an intellectual orientation which complies with libertarian, market-liberal values, emphasising the strength of BC as a freedom-granting and individualistically empowering currency. H5 can be verified as expected. All the interviewees were aware of the connotation of BC with libertarian values, undermining the state monopoly and financial autonomy and mentioned these concepts of their own accord. However, what was somewhat unexpected was the extent of awareness for the social implications of BC by some of the interviewees. In this regard, the community aspects of BC were mentioned, the possibilities of social empowerment (i.e. remittances, financial emancipation of the oppressed), and also digital currencies attempting to incorporate social ideas such as basic income, equal distribution of mined currency units, and demurrage money. Thus, the tendency to certain assumed market-liberal intellectual orientations of BC enthusiasts is certainly there, but there are also a number of other intellectual orientations interested in other aspect of the currency.

H5b assessed LC activists' foci, predicting them to be interested in small-scale aspects of economies and having a critical take on growth maxims of globalised economies. This assumption could also be confirmed, as all the interviewees for LC stated their criticism towards the current economic system with its currencies. The LC enthusiasts also situated their clientele on the alternative left of the political spectrum. This comes as no surprise, due to the fact the LC are built on the basis of already existing networks, which usually deal with socio-political topics. Interestingly enough, there were some LC advocates who shared some intellectual orientations with BC ideas, as the previously mentioned comparison of anarchist ideas across the currencies demonstrated.

H6 suggests that the alternative currency activists are very much focussed on their own problems and fail to see that other alternative currencies are trying to tackle similar problems and share similar objectives. This impression is predominantly confirmed by the findings. As already mentioned in the findings chapter, some LC interviewees knew a bit about digital currencies, but claimed not to have the capacity to pursue the matter further, due to time constraints or ideological conflicts with the nature of some traits of digital currencies. The issuing of BC is connected to computational power, which can be increased with more capital. This is an issue which Maurer draws attention to (2005, 271). For two LC advocates, this rendered BC a currency built on profit maximising principles and hence, working with capitalist modes, which poses a problem. Another barrier between LC and BC could be the age difference of the interviewees. The LC enthusiasts were, by the majority, older than the BC enthusiasts and therefore presumably less versed with the new internet technology. This could also be a reason why the interviewees for the LC were less knowledgeable and therefore less open for the possibilities of digital currencies.

After having tested the Hs and discussed, the following passage will look at some central observations not treated directly through the assessment of the Hs. One observation is the user profiles. The findings show that alternative currency users belong to a specific type consumers, very much aware of the impact of an acquisition. The age groups of the alternative currency users were also fairly similar across the different forms of currencies. There was consensus that a certain degree of maturity must be apparent for somebody to become interested in an alternative currency. Hence, a certain minimal age was defined which requires that the person in question has had to deal with money and taxes in this way has started to question money. There was not upper age limit – for BC enthusiasts a younger, computer-affine clientele was expected.

Having examined the Hs in great detail, the next two paragraphs deal with topics that were not directly dealt with in the discussion of the Hs, but are still of interest as valuable insights for this thesis and serve as suitable comparisons as a closure.

The two forms of alternative currencies will be reassessed in the following, according to Gibson-Grahams diverse economies approach (2006). Table 7 offers a visualisation of the possible placement of LCs and BC within the diverse economies framework.





	Transactions	Labour	Enterprise
1	Market	Paid	Capitalist
2	Alternative Market  	Alternative Paid 	Alternative Capitalist 
3	Non-Market	Unpaid	Non-Capitalist

Table 7: LCs (squares) and BC (triangle) assessed in the Diverse Economy Framing (Gibson-Graham 2006)

BC is hard to place in any other category other than the Transactions category. BC is viewed as belonging to the Alternative Market, as it is not directly linked with conventional transaction systems but still involves monetary exchange, unlike the non-market category. As Labour and Enterprise are not directly connected to BC’s setup, it is not possible to assess BC for these categories. Forms of labour and enterprise for businesses that deal with BC could be from any of the above categories.

For LCs there is more potential for a diverse economies analysis. All the alternative categories can be applied to the studied LCs NB and BB. The currency movements use alternative currencies, which qualifies their Transactions as alternative market. Labour for LC movements is often volunteer work, cooperative and reciprocal. Further, the work for the currency networks is partially also paid in the alternative currency. Finally, the alternative capitalist category can be applied to LCs for their forms of Enterprise, as the network firms are built on democratic principles of socially responsible non-profit business structures.

In conclusion the diverse economies framework is an important theoretical tool for assessing diverse forms of economic practice with the focus on differentiating grades of capitalist and non-capitalist practice. It also is proposed as a guideline with which environmentally orientated and socially just economies can be cultivated. Thus, decision makers of alternative currency movements could also use it to calibrate the moral compass of their movement, by assessing the different possibilities of diverse economic practice.

Moving on, final section of the synthesis rounds off Zelizer's 'social money' approach by addressing the impact or *effect* the alternative currencies have had on their surroundings in the Swiss focal points researched for this thesis, first for the LCs and then for BC. The LC movements receive a fairly sobering verdict. There is no available data on annual revenues and the numbers of participating businesses are steady but not increasing. The NB movement in Basel is more established and larger than the Bonobo movement in Bern. This has several possible explanations. One is that the association *Sozialökonomie Basel* has been around for a long time and therefore has a strong and well-established network as a foundation. In Bern, such longevity is still an image of the distant future. In a first step, more businesses have to be convinced of the idea of BB and more supporters have to be attracted. Another factor could be that the network in Bern is a network of anti-globalisation event organisers, who have developed BB as a form of criticism of current economic practices. It almost has the feel of a publicity gag, of making a point by stating that anyone can make his or her own currency. Plus, there is the air of a credibility problem. Another factor is that both the NB and the BB are not trying to reach out to the masses per se. They are attempting to win over more businesses and services for their networks in order to strengthen the structures and gradually let the movement grow. However, these goals are not set in stone and there is a lack of urgency about them. The LCs both want sustainable growth but at minimal cost. The lack of resources poses a threat to becoming a well-functioning and fungible currency. Both LC movements cannot afford to employ people full-time for administrative and promotional work. This also makes a monitoring of the flows of the currencies and its effect on the economic cycles within the network unfeasible.

The effect or impact BC is having is quite different. There has been a boom since its introduction, also in Switzerland, and the numbers of businesses and services are growing. A lot of BC-related businesses have relocated in the Zug area and the media attention has been consistent. There are also possible effects of social empowerment, as an example from Bitcoin Suisse AG shows with remittance payments. The company has had a considerable amount of clients who swap SFr. for BC to send remittances back to their families or friends in other countries. There are transaction fees of 5% to change SFr. into BC at Bitcoin Suisse AG, but compared to the 10.8% other payment systems charge together with the negligible transaction fees of BC (no more than 0.001%), it appears to be a lucrative opportunity. As a consequence, in Sri Lanka there are communities that already accept BC as a means of payment (Hedinger 2015b). The majority of BC enthusiasts and all the interviewees feel that BC will exist for a long time, whether it is forbidden (regulated) or not. For as long as data transfers are possible, a BC-like currency can always exist. The idea for this being that due to the simplicity of BC and

compatibility across devices and technology of BC, it is possible for the most vulnerable and destitute members of society to gain access to a globally spanning currency void of tyrannical middlemen bagging high fees for “rather simple task” of transferring mere data (Maurer, Nelms, and Swartz 2013, 265). Another possible reason for the long-term success of BC is its divisibility, portability and relatively storage. “The only ingredient missing for BC to be a greater success is its acceptance”, claims interviewee #10.

In conclusion, as suggested in 2.3.3 A Multiplicity of Currencies Approach, a diversity of different forms of currencies can have a strengthening and stabilising effect on national economies and cover the needs of all the effected parties. One currency alone, claims Lietaer, cannot cover the needs of all its users, as economies are very fragmented with widespread needs of its constituents (Lietaer 2000, 345). A multiplicity of currencies can have a stabilising effect on economies and level social imbalances, which why is alternative currencies should be supported (Kennedy and Lietaer 2004, 34). This is also why this thesis attempts to make a comparative analysis across different forms of alternative currencies. This finding reflects the objective of this thesis, namely to assess the manifestations of different alternative currencies and their potential as forms of economic diversification.

## 5.2 Conclusion and Further Research

As this thesis has shown, the two studied forms of alternative currencies have common denominators in terms of what the currency sets out to achieve. However, the methods to reach the partially similar objectives are quite different. BC enthusiasts tend to focus on their currency as a mere exchange of value and to neglect certain system-critical aspects of globalised economies. However, there are a number of social and political considerations being made by BC enthusiasts in attempts to improve certain systematic defects, mainly connected to unjustified interferences of money or state monopolies. LC enthusiasts' approaches to systematic problems with world finances are treated holistically by suggesting and testing a broad palette of alternative modes of economic practice. This approach has yielded many new forms of small-scale economic collaborations, the support of democratic business models, the introduction of economic guidelines for sustainable cycles of commerce based on a commitment to social, ecological and cultural values, and last but not least, the launch of LCs to serve as a financial framework for all these innovations.

Both forms of alternative currencies in Switzerland have not yet managed to succeed as true and feasible alternatives to mainstream currencies, as the findings of this thesis show. For a greater success in the sense of the currency enthusiasts' objectives, a lot of work still needs to be put in to promote the currencies and build up the belief and acceptance in the alternative currencies. The belief in a currency does not only consist of the technical and mechanical side of a currency, i.e. whether it works, how easy it is to use, how big the supply of goods and services are. It also consists of the ideological aspects, i.e. what the alternative currency is designed to achieve. If the combination of these two factors (mechanics and ideology) can be combined in a useful way, I am sure that both studied forms of alternative currencies can have a future perspective.

Thus far, the advocates of the studied currencies have not really made the connection between the different types of currencies and seen the possibilities the two different streams of ideological thought could create, if brought together in a meaningful way. This may be down to the fact that for the IT-interested sustainable and socially just cycles of economy may not be on the top of the agenda. The foci of the meet-up groups in the Zurich area were mainly on technicalities and practicability. The LC activists were, if knowledgeable about BC, sceptical towards its setup, due to its lack of ecological or social objectives. However, what the LC advocates fail to see are the positive aspects of BC, namely the decentralised public ledger which guarantees a no-control system from a higher authority and the omission of any unnecessary middlemen for transactional assistance. Hence, BC possesses two key features which should be taken seriously and seen as a chance to change the way money in general is perceived and negotiated. Even if the two different

ideological stances and currency setups cannot be unified, the enthusiasts on both sides should keep their eyes open for new possibilities, as both currencies face similar problems.

The ideas behind LCs are strongly coupled with an understanding that the economies we live in are very fragile and unsustainable. The alternative modes of commerce are meaningful and valid future projections, but at present have not yet managed to win over a larger section of the general public. As long as the economic situation in Switzerland provides its population with a solid basis to live in, alternative movements such as the BB and NB currency movements struggle to make a big impression. But, as some interviewees stated, the LC are also exemplary ideas for how local economies could be organised in financially difficult times.

BC is at a very early stage and still a lot of work has to be put into the technical side but also into the promotion of BC. There are still many open questions for BC – questions such as whether BC will survive, whether it can deal with the capacity problems pronounced growth could entail, whether enough people will place their trust in the algorithm and the BC technology, or whether it could be banned altogether, due to its uncertain legal status.

The potential for scientific research for BC is still great. More research is required on the security of the network, on the scale of the network and dealing with its limits, on the decentralisation and whether it really is completely decentralised. For Switzerland, a quantitative and qualitative analysis of BC's economic impact, could offer interesting insights on the development and the potential of BC for Switzerland. Another interesting development in the BC scene that requires further attention is other digital currencies that are being conceptualised – currencies that provide every participant with a basic income, demurrage currencies and other experimental currencies. This also could provide interesting research questions in areas of economic and socio-anthropological research. A final interesting topic for BC, which could be assessed in human geographic research, is an extensive study on the potential of BC as a possibility for social empowerment.

For the LCs Bonobo and Netzbö in Bern and Basel, respectively, more detail on the quantitative and qualitative performance of the currencies could be researched in an economic analysis. Also, the potential to reach out to the public and connected marketing strategies. Another interesting area of research would be the cooperation capacity between socio-political movements in Switzerland and how they could be improved and developed. This could be of interest in connection with modern technology, as self-organising across space is becoming more easy and accessible. Thus, I feel that LC activists should be thinking about introducing electronic payment systems. The interviewees were somewhat reluctant towards the idea of using e-technology to administer their currency. This may be due to two factors: 1. There is always a lack of funds for the implementation of an electronic payment system. 2. The majority of the LC

enthusiasts belong to a rather older generation that might not possess sufficient computational literacy to rig up an e-payment system. In other countries there have been ambitious efforts and progress in digitalise LCs. In Barcelona, a combination of the two forms of alternative currencies – a local digital currency – is being thought as a means to stimulate the local economy. This is a very interesting undertaking in the light of this thesis, as it brings the two studied research objects, LCs and BC together.

In conclusion, there is still a lot of potential for both currencies in Switzerland. It has been of great interest to analyse the different motives and clientele of two very different forms of alternative currencies. The fundamental achievement of the studied currencies in my view is their critical confrontation with our current forms of monetary exchange and the innovative approaches that challenge the status quo of global finances. These manifestations of a critical engagement with how money works and what its function is, contribute to a discourse on money systems and point a strong finger to the fact that money is a form of human communication, a expression of negotiating value, and something that can be cultivated and developed and to serve a meaningful purpose.



## 6. References

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## 6.2 Guided Interviews

- NB Interview #1. 2015 Transcript.
- NB Interview #2. 2015 Transcript.
- NB Interview #3. 2015 Transcript.
- NB Interview #4. 2015 Transcript.
- NB Interview #5. 2015 Transcript.
- BB Interview #6. 2015 Transcript.
- BB Interview #7. 2015 Transcript.
- BB Interview #8. 2015 Transcript.
- BB Interview #9. 2015 Transcript.
- BC Interview #10. 2015 Transcript.
- BC Interview #11. 2015 Transcript.
- BC Interview #12. 2015 Transcript.
- BC Interview #13. 2015 Transcript.

## 7. Appendices

### Appendix I: Interview Script for LC User

Introduction:

A few words about myself: My name is Christoph Mani, I'm a student at Zürich University doing my master's thesis on alternative currencies. I'm interested in alternative currencies, how people use them and why they use them. Thereby, I am focussing on two local currencies (Bonobo, Bern und BonNetzBon, Basel) and on the digital currency bitcoin. I would like to find out, what type of alternativeness is at work and what connections there are between these two forms of alternative currencies.

There are 12 questions for this interview with some subquestions. It will take roughly 45-60 min. And of course, feel free to interrupt me and you can always ask if something is unclear? Is it ok, if I record this interview? The material will be treated with complete anonymity and confidentiality. Ok, let's go then.

1. What is important for you when you use your local currency? How do you decide whether to use CHF or alternative currency? How do you choose between businesses accepting alternative currency and those that do not?
2. What do you purchase with your local currency?
3. How often do you use it?
4. Why do you use your local currency? What do you believe you are achieving by using it?
5. There are only a limited amount of places where you can spend your currency. Would you appreciate a wider selection of consumer goods and services? How do you see this constraint in the long run?
6. Do you feel this currency has a political agenda?
7. Are there limits to the movement? How would you like this movement to develop? Where do you see it in 5 years? Do you think it will ever become a mass phenomenon?

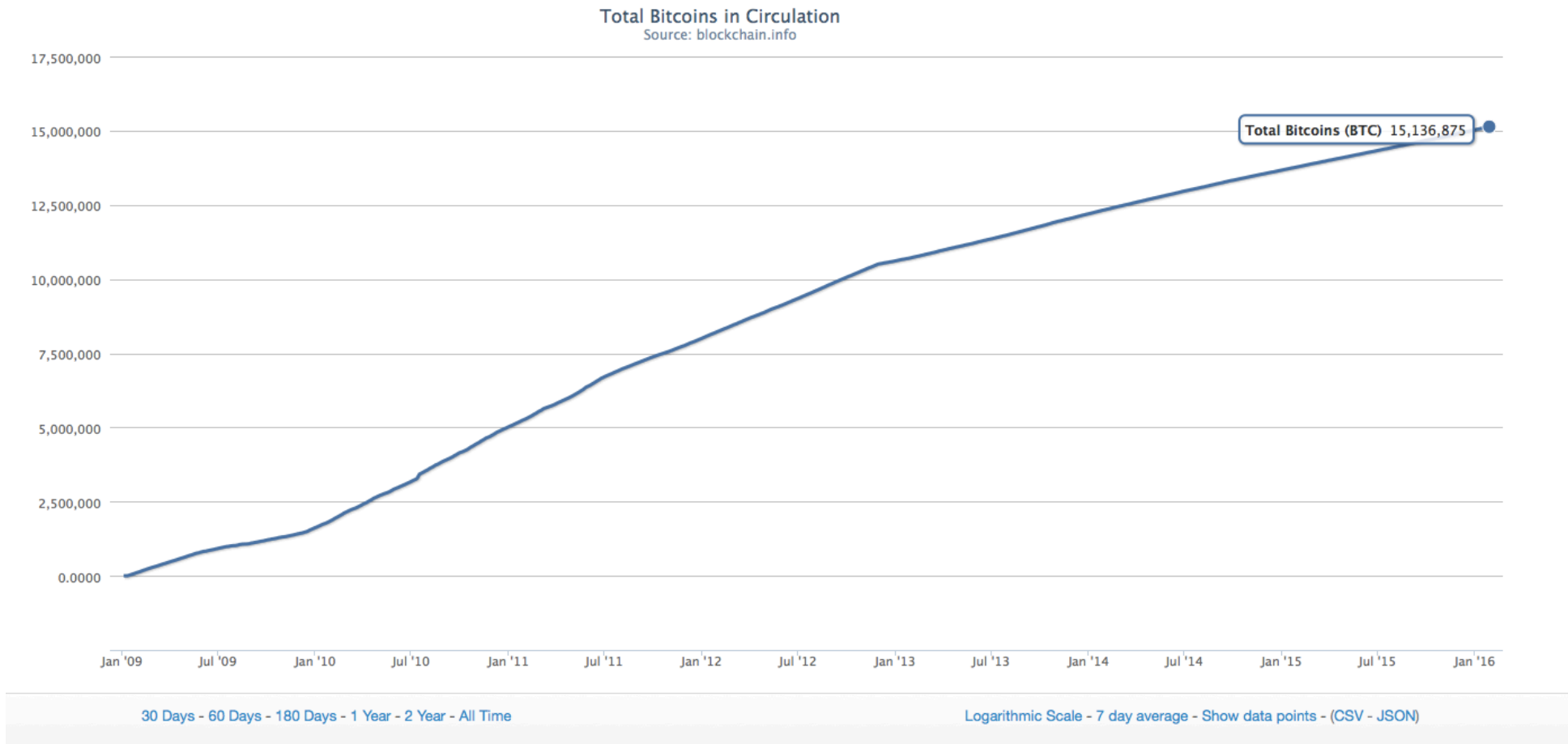


8. In Q4 you mentioned that your motivations are abc... Do you also see that there could be other motivations or political values connected with this movement?
9. Are you aware of other alternative currencies and do you use them? How are they related to your take on how money should work?
10. What types of people do you think are most attracted to this currency? What sort of age groups do you think use it?
11. How about the economic motivations of such a currency?
12. Maybe now, to round things up: What is your educational background – tell us how you ended up in this career?

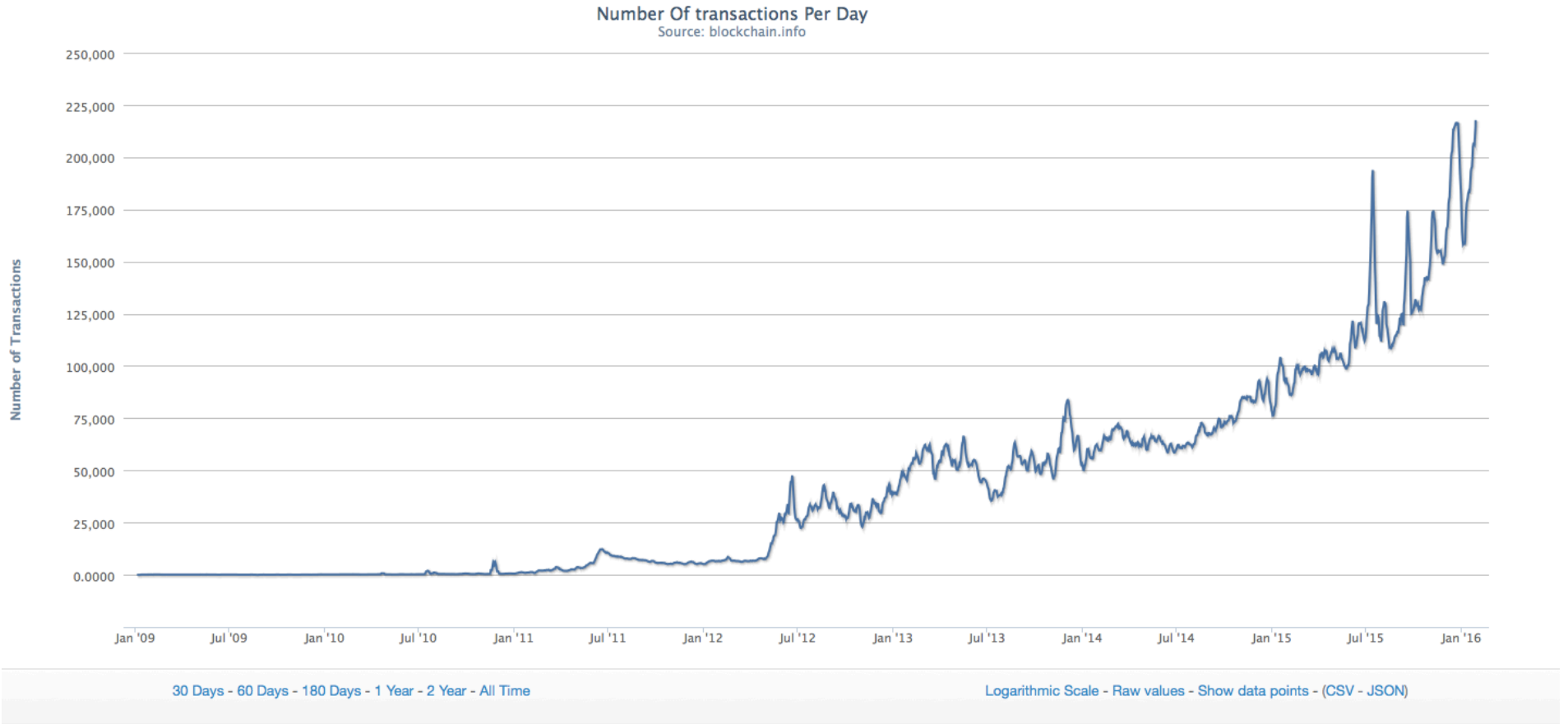
Is there anything I haven't asked you about that you think is important to mention?

Ok, that's it then. Thanks a lot for your interest and time.

## Appendix II: Total Bitcoins in Circulation (27.01.16)

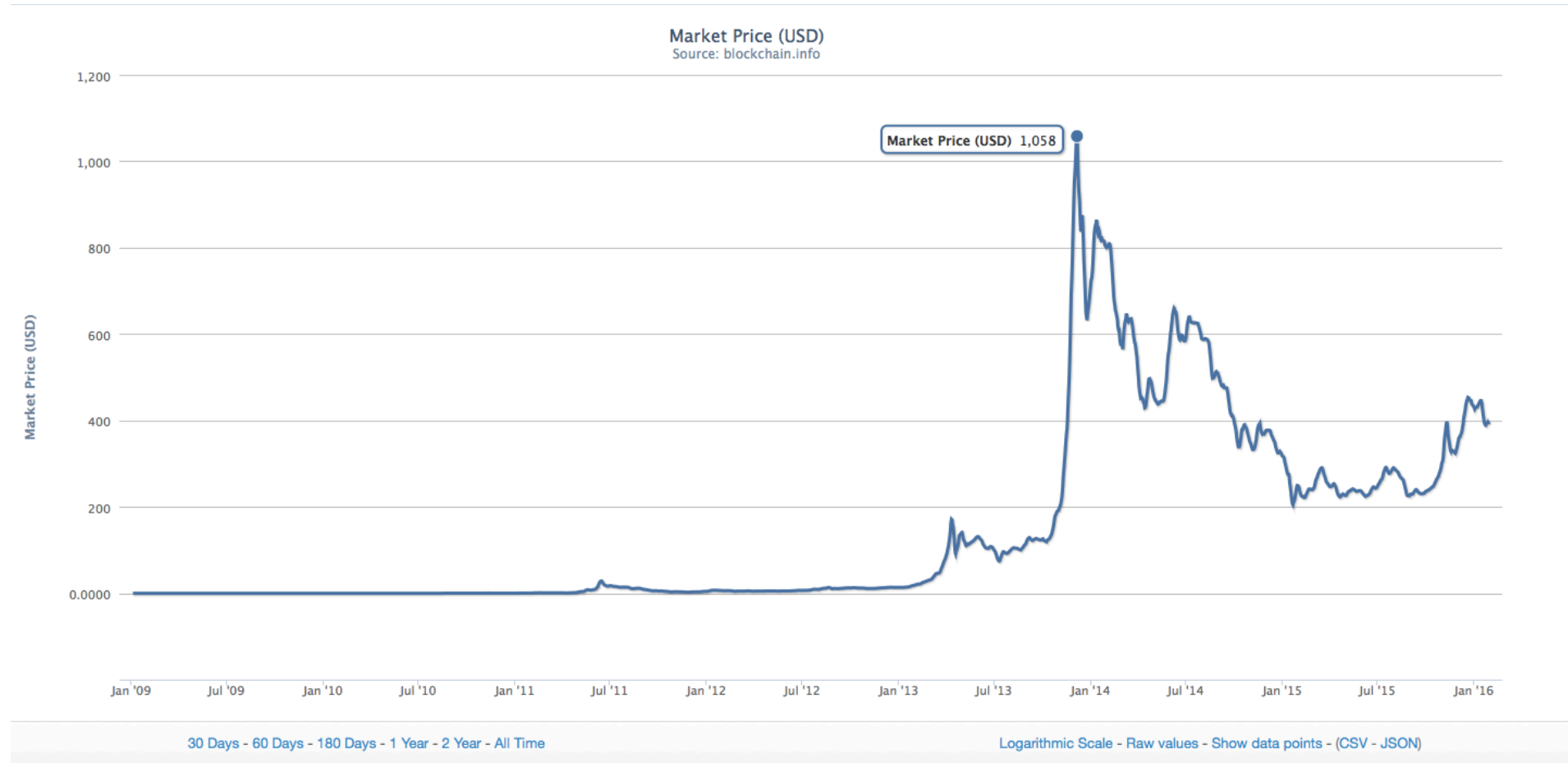


### Appendix III: Number of BC Transactions per Day (27.01.16)



## Appendix IV: Market Price in USD since 2009

(27.01.16)



## Appendix V: Market Capitalisation (27.01.16)



## Appendix VI: History and Technicalities of Bitcoin

The White Paper ((Nakamoto 2008) is the founding document of BC that describes the protocol. It was posted on a mailing list for cryptographers and went on to become the first example of the BC-protocol of how it exists today. Hereafter, Satoshi Nakamoto was seen as the founding father of BC, although his/her real name has never been clarified satisfactorily (Vigna and Casey 2015, 41; Maurer, Nelms, and Swartz 2013, 262). Since, something of a personality cult has been created around the founder of BC.

The idea of a digital internet currency has been around for quite some time. Groups from different areas had already worked on encryption ideas for more privacy for sending digital messages in the 1990s (Peck 2012). The development in this sphere led to the coining of the word “Cypherpunks”, a term that still recurs in BC related circles, a term which alludes to a group of digital privacy activists operating in the 90s, who saw it as their responsibility to defend “privacy across the digital world” (Peck 2012).

BC users communicate via the internet across many devices using the BC protocol. This protocol runs as an open source programme. Each user has a certain key, which he/she can use to testify that they have made a transaction. This key is stored in a digital wallet on any computational device. All the computers connected to the network can download certain fragments of the coded transaction and search for a solution of a query posed by the code of a transaction. This validating process, which is based on sophisticated algorithm, has also solved the “double spending” problem, which digital currencies are otherwise exposed to. This is achieved by giving every spender a private key which can be used to create a public key, which is then saved in the decentralised public ledger (block chain). The solution is called a cryptographic hash and when deciphered, it can be uploaded into the *block chain*. Uploading this hash completes a block in the block chain. block chain is the name of the decentralised peer-to-peer ledger of the system. This whole process is called mining. It is the revolutionary principle of BC. This decentralised system is completely public and cannot be tampered with by any centralised institution. The innovative character of the block chain has inspired many entrepreneurs to think big for new usages. Hence, new ideas are popping up in many BC connected areas. An example mentioned by a BC enthusiast at a Bitocin event was a solution to timestamp e-mails via a block chain, thus verifying the emails as legally binding and bypassing a trip to a notary. The amount of money released into the system is determined by the originally designed protocol. Every 4 years, the number of BC released per block is halved. Thus when launched in 2008, 50 BC per block were injected into the system. At the moment the injection rate is 25 BC per bloc.

Due to the steady injection rate, BC is a stable currency in the sense that it cannot be manipulated by a central bank. Every user of the BC protocol stack (deciphering task) knows exactly how much money will be on the market at a certain time. Already in the 1990s attempts were made to create digital currencies or ways of processing money transfers digitally. But many endeavours failed due to encryption and credibility problems, e.g. the Liberty Dollar, which was shut down due to criminal charges against the initiator for embezzlement. Another example is payments conducted on Paypal. With Paypal, if something appears to be dubious to Paypal, the central system can freeze an account. This cannot happen with BC, which comes a curse and a blessing. Thus, with BC the money flows cannot be controlled and therefore they can be used to purchase absolutely anything.<sup>10</sup>

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<sup>10</sup> Information about Bitcoin and its creation extracted from the Bernhard Müller-Hugs's presentation „Magic Internet Money“ at Digicomp in Zürich on 3rd. March 2015 and from various online sources.

## **Appendix VII: Personal Declaration**

I hereby declare that the submitted thesis is the result of my own, independent work. All external sources are explicitly acknowledged in the thesis.

Basel, 28.01.2016

Christoph Mani