Regional Complementary Currencies and the EU's Strive for Regional Development and Economic Cohesion

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Abstract

Local currencies, currencies used in a NUTS3 area, have been an important part of the European economy since the rise of money economy. They have contributed to the regional patterns of trade in general and to the development and stabilization of regions hit by financial crisis, in particular. The demands of rulers to secure their empires have led to a steady rejection and decline of local currencies. Similarly, as part of the European Monetary Union (EMU), the national currencies of the member states were replaced by the Euro as the common currency. With the introduction of the Euro, the members of the eurozone have lost the ability to utilize monetary and fiscal measure to their advantage. This loss in sovereignty is especially detrimental for the nation states in times of crisis, because the traditional measures turned to when facing state insolvency are no longer an option. The recent financial crisis has revealed what has been one main issue from the beginning of the EMU: most of the member states are not compatible in their economic cycles and patterns. The differences in economic standards and development have been targeted by EU regional policy since the 1970s. The EU Structural Funds were created to support regional programs targeted at the economic development of the specific regions. The EU sets general rules for the use of these funds and the member states, together with their regional authorities and local stakeholders, develop the specific rules for the funds and chose the programs eligible for funding. In the framework of EU regional policy, this paper looks at complementary currencies and in particular at regional complementary currencies (RCCs), that is currencies used parallel to the official currency in a particular region with a use of a geographic dimension of a NUTS3 or in few cases a NUTS2 region. RCCs, the successor of local currencies in time of advanced monetary aggregation, have proven to have the capacity of being an effective tool for regional economic development. This paper asks if and how RCCs qualify as regional economic development programs eligible for funding under the EU Structural Funds.

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II. Table of Abbreviations

CSG	Community Strategic Guidelines
DG	Directorate-General
EC	European Commission
ECB	European Central Bank
EMFF	European Maritime and Fisheries Fund
EMU	European Monetary Union
ERDF	European Regional Development Fund
ERDF 2006 Regulation	Regulation (EC) No 1080/2006 of the European Parliament and of the Council of 5 July 2006 on the European Regional Development Fund and repealing Regulation (EC) No 1783/1999
ESF	European Social Fund
ETC	European Territorial Cooperation
EU	European Union
EUCO	European Council
GDP	Gross Domestic Product
GEMU	genuine economic and monetary union
GNI	Gross National Income
HUF	Hungarian Forint
ibid	the same
ICT	Information and Communication Technology
IPE	International Political Economy
IMF	International Monetary Fond
LETS	Local exchange trading system
MLG	Multi-level Governance
NSRF	National Strategic Reference Framework
NUTS	Nomenclature of territorial units for statistics
ÖROK	Österreichischen Raumordnungskonferenz (Austrian Conference on Spatial Planning)
OP	operational program
p.a.	per annum - per year
PA	Partnership Agreement
QSN	Quadro Strategicy Nazionale (the Italian NSRF)
R&D	research and development
RCC	Regional complementary currency
SEA	Single European Act
SGP	Stability and Growth Pact
SME	Small and medium enterprises
Strat.at	the Austrian NSRF
TEU	Treaty on the European Union
TFEU	Treaty on the Functioning of the European Union
US	United States

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1. INTRODUCTION

A complementary currency is a common agreement within a community to accept something else than the official legal means of payment for exchange of goods and services (Kennedy & Lietaer, 2004, p. 69). In most cases, complementary currencies do not serve any commercial objectives and are thus also referred to as community, local or common tender. They are called complementary currency because they usually exist parallel to the official currency. Being complementary does not mean that the complementary currencies make any attempt at replacing the official currency, it simply means that the existence of the two currencies depends on the other but without being causally linked (ibid.). In the literature, there is no concrete definition of complementary currencies or regional complementary currencies, let alone a persistent differentiation between the two. For this paper, regional complementary currencies (RCCs) are complementary currencies that are used in one specific geographic region usually with geographic dimension of a NUTS3 or in few cases a NUTS2 region. The main point of a RCC is that because it is centered on one region, the border of this region, in the sense of the geographic dimensions of the use of the complementary currency, can be clearly identified. A complementary currency that is used in one large region (NUTS2 or NUTS1) with different levels of usage across the region and no visible center does not qualify as a RCC.

Complementary currencies exist in many forms, depending on the function they should fulfil being money and their geographic delimitations (Preissing, 2009). Money has four different functions - everything that fulfills at least one of these functions is money: First, money facilitates exchanges of goods and services. Second, money can also be used as a payment medium, in this function it does not only facilitates exchange of goods and services but it can also liquidate liabilities. Third, money is a medium to store value. Depending on how fast the money devaluates, this function will be more or less beneficial. Finally, money is a unit of account which is especially useful when it is used for exchange. Usually an official currency, such as the Euro, fulfils all four functions. It can be used as a medium of exchange equally as one can enter or liquidate liabilities, depending on the interest rate and the inflation rate it will yield profit when invested effectively and it is also a unit of account that puts in relation the values of goods, services, human capital etc. (Issing, 2011).

Other currencies however, do not necessarily fulfil all of these functions. “Primitive money (Einzig, 1966, p. 317) such as the cowrie shells of Yorúbà in West Africa and the shell-money used in Papua New Guinea are used as an exchange medium and as a unit of account. Both functions are strongly determined by the traditions of the communities which means that there social functions are much larger than they are in an average official currency (Kennedy & Lietaer, 2004). Some complementary currencies are concerned with enabling an exchange of services, such as hours of care for elderly people in Japan (Fureai Kippu), or goods or a mixture of both, for example in the various Genossenschaften in Austria and Germany. RCCs can present all money functions listed above, however the majority does explicitly exclude the third function concerning value storage - interest is not part of complementary currency systems. On the contrary, RCCs use a high devaluation rate in order to ensure a high circulation rate of the money. Examples for such RCCs are emergency currencies. An emergency currency is a form of money that is distributed by non-financial institutions such as provinces, cities, communes, communities or private persons in times of crisis and in particular in times of high inflation. An emergency currency is usually broadly accepted during a limited period in time and it is not necessary recognized as legal by the state. Emergency money has been used during the great depression in the US, in Wörgl in Austria and in Argentina during its collapse in 2000 (Preissing, 2009).

Most supporters of complementary currencies do not point towards the benefits of a regional currency in terms of traditional monetary tools. They find that a regional complementary currency, whether it may take the form of a Euro-close currency or any other, should primarily aim at a sustainable and socially acceptable improvement of the regional economy. Most find that the four money functions only take into account money only as an economic phenomenon and not as an at least partly social one. Primitive money, for example, may serve the preservation of traditions and social values rather than fulfilling purely the functions listed above. These arguments leave an extensive ground for discussion on the interpretation of the money functions. After all, one may argue that a currency used as a medium to perform traditions that reward and promote specific social activities or circumstances fulfils function one and four because it is used as a medium of exchange in the form of remuneration and it serves as a unit of value that is wired to the traditional value system rather than the modern market system.

The definitions of complementary currency and RCC are not well differentiated in the literature, as pointed out already above, which leads to a mix-up of the characteristics and the effects of each of them. In this sense, what Kennedy & Lietaer (2004) have summarized as the objectives that complementary currencies can support, may have to be picked apart and re-organized according to the specific complementary currency referred to:

1. Decoupling of the regional economy from the global economy.
2. Establishment of a sustainable financial system that is crisis-resistant.
3. Create liquidity for SME in the region and consequently enhance their productivity.
4. Lower the unemployment rate by keeping promoting production in the region.
5. Establish a closer network between consumers and companies and consequently lower transport distance and energy consumption.
6. Re-regionalize the ownership of infrastructure facilities such as drinking water, transport system and waste management.
7. Strengthen the regional identity to promote changes in migration and capital transfer.

What can be extracted from this list is that RCCs claim to promote the development of the economy of their region of use. One may differentiate here between their purely economic claims to increase investment (7.), production (3.) and employment (4.) and the rather environmental and social claims of promoting local sourcing (5.) and deposit-guaranteed financing (2.) as well as re-regionalizing ownership of infrastructure and vital resources (6.). Because RCCs claim to have these effects on NUTS3 (and NUTS2) regions, they seem to be an effective tool for EU regional policy.

Regional Policy has been one main topic for the EU since its beginning. The Unions commitment to regional policy was already enshrined in the Treaty of Rome (Armstrong, 2007). The more numerous the EU member states and the closer integration of the EU become, the more important becomes the objective of economic cohesion for the Union for two main reasons. First, the Union is striving to be a strong economic force and it can only be that when all its resources are well utilized. Second, the economic compatibility of its regions determines the stability of the European Monetary Union (EMU) and the Euro (Armstrong, 2007). The tools used within the framework of EU regional policy to promote the development and growth of regions are diverse. There are three main factors in regional policy: The legal framework of the EU and the member states defining regional policy, the specific characteristics of the region and the parties involved in creating and choosing the final projects and tools.

As privately initiated projects RCCs are already used in several European regions and in form of several different models with the aim to strengthen regional economies. As a tool within EU regional policy, which means initiated and created by parties participating in a regional development project funded by the Structural Funds, they have been, as far as can be drawn from data available, used only in recent years and only in a limited number of cases. Due to the increased necessity of effective and diverse regional policy tools and the effects RCCs claim to have on regional economies, one could justify the study of RCCs in the framework of EU regional policy.

In the following sections, this paper will compare the objectives of the EU's regional policy to the effects that RCCs have on regional economies in order to answer two questions:

1. In what way can a regional complementary currency support the EU's regional policy goals in areas eligible for the EU's structural funds?
2. What factors that are currently preventing for the EU's structural funds to be used for the creation of regional complementary currencies can be identified?

2. METHODOLOGY

There are two main subjects studied in this paper. The first is the EU's regional policy and the second are regional complementary currencies. In order to fully understand these two phenomena, monetary theories have been studied. Because this paper focuses on the use of regional currencies in the EU, the development and functioning of the EMU were found to be an integrative part of this paper.

Two exploratory research methods have been conducted for this paper. On the one hand, secondary research was used to gain background information on the two main subjects studied in this paper, the EU's regional policy and regional complementary currencies. For EU regional policy and the EMU mostly general literature was used, EU regional policy was intensively studied by means of the legal framework concerning the EU Structural Funds. The latter was necessary because the legal framework of the Funds provides the most detailed information on what is expected of regional development projects within EU regional policy. For the complementary currencies, some general literature was found as well as some articles. With the available data in general and the data on complementary currencies in particular, several complications became visible:

First, it became clear that there is a large pool of data on EU regional policy and on complementary currencies, however, there is very limited data available that links both phenomena together. In detail, there is no data on if, where, in which form and how often complementary currencies have been used as tools or part of projects under EU regional policy. Because this data gap has to be filled in order to answer the research questions, a large part of this paper may underlie a subjective bias of the author. One can aim at preventing such a bias by relying on data that is considered to be largely objective such as numerical data and work as close to the original wording of law texts as possible. Such an approach should also ensure that the conclusion drawn are reproducible by others.

This leads to the second complications that was encountered during secondary research. There is a vast amount of data available on EU regional policy. In this paper, most data used on EU regional policy consist of pieces of EU law that establish the framework for the use of the EU Structural Funds. This means that the data used on EU regional policy can be considered "objective". On complementary currencies however, objective data available is limited. In detail this means that while there are some recognized experts who have conducted research on complementary currencies that most probably fulfills all requirements one could place on the methodology of similar research, this cannot be said for the majority of research on complementary currencies. This may be due to the fact that in order to comprehensively research complementary currencies, one has to take into account monetary, fiscal, economic and social factors at the same time.

While the social effect of complementary currencies can be identified relatively easy, by means of questionnaires for example, compared to actual social interaction etc., establishing the monetary and economic effects of complementary currencies on particular regions seems to be highly complicated. Especially when the complementary currency has not become an integrative part of the local economy, the effects of the currency can be hardly identified within the complex nets of economic linkages between the companies and the consumers of the region. Which percentage of the total money transactions in the region must be processed in RCC in order for the RCC's impact to be considered detectable is not determined. Also, in order to draw a conclusion on the effects of a complementary currency, one has to somehow compare the development of the local economy with the complementary currency to some kind of hypothetical local economy without the complementary currency or the "average local economy" from before the complementary currency was introduced. Both approaches make the research on the monetary and economic effects of complementary currencies an open target for critique.

Because the largest part of the secondary data available was focused only on one or the other subject studied, interviews were conducted with two people that were identified by the specific institution contacted as the expert in the specific area. These two people are Vissi András, Scardobona Consulting Kft. and Josef Wallenberger, Wallenberger & Linhard Regionalberatung GmbH.

Finding interviewee who are able to talk about the effects of RCCs in economically underdeveloped regions and how EU funding is or could contribute to the well-functioning of the RCCs was an integrative part of analyzing RCCs in the EU in general and the search for a regional currency that was created by or in any way supported by EU regional policy measures, in particular. In this process, national and regional authorities handling the EU Structural Funds were contacted and identifiable RCC institutions were analyzed on the internet, in literature or, in case both did not lead to any results, contacted as well. First of all, it has to be said that there is no comprehensive list or database of all RCCs existing in the EU. There are some homepages that have created some kind of database where many complementary currencies are listed[1], however they rightfully do not claim that their database is complete. This means that it cannot be said how many complementary currencies exist in Austria and neither in each Bundesland which made the research very random. The RCCs looked at during this process, were following:

Germany:	**Austria:**
Regiogeld e. V. (trans-regional)	Waldviertler (Waldviertel, Niederösterreich)
Ampertaler (Dachau, Bayern)	Gösingtaler (Gösing, Steiermark)
Augusta (Göttingen, Niedersachsen)	Tiroler Stunde (Tirol)
Bethel-Euro (Bielefeld, Nordrhein-Westfalens)	**Hungary:**
Carlo (Karlsruhe, Baden-Württemberg)	Blaufrank / Kékfrank (border regions Austria and Hungary)
Chiemgauer (Chiemgau, Bayern)	**Switzerland:**
Havelblüte (Potsdam, Brandenburg)	WIR (all over Switzerland)
Landmark of the Wirtschaftsringes Reinstädter Landmarkt (Southeast of Thüringen)	**Italy:**
Lindentaler (Leipzig/Halle, Sachsen)	Sardex (Sardinia)
Realo (München, Bayern)	
UrstromTaler (Sachsen-Anhalt, Güsen)	

In what concerned the RCCs it became obvious that the majority of them is privately managed and far from any involvement of national or Union authorities and funds. Furthermore, most of

[1] For example: http://www.complementarycurrency.org/ccDatabase/.

them did not know that funds are potentially available for RCCs and they did not seem to have the intention of applying for financial support. When calling the national and regional authorities in charge of distributing the EU Structural Funds it proved to be very difficult to even find the person that could be considered responsible for deciding on EU Structural Funds for RCCs or similar projects. In fact, many had never heard of RCCs and even when it was obvious that there was some level of agency involvement in a RCC funded by EU Structural Funds, it was still not always possible to find the person overseeing the specific project. In the case of the Sardex for example, there is a department or person concerned with EU-Sardex issues according to the people that were reached at the authority, however that department or person could not be identified in the course of more than 10 referrals to different departments and people. In sum, it proved to be very difficult to find even one RCC that had been created or in any way funded by EU regional policy.

Mr. Wallenberger and Mr. Viss were found to be well suited for this paper because both are in similar positions and in comparable economic surroundings. Both are part of regional development agencies and as such they have both extensive knowledge of their respective regions, namely the Austrian-Czech and the Austrian-Hungarian border regions[2], and what measures were taken for regional development under EU regional policy. In addition, they both had experience with RCCs: Mr. Wallenberger has in the Waldviertler the RCC Waldvierter and Mr. Viss has in Sopron and surrounding area the RCC Blaufrank.

The Waldviertel in Lower Austria has been a region that was characterized for a long time by negative migration and connected to that, sinking investments and loss of employment. The Burgenland as a whole federal state and its neighboring Hungarian regions, i.e. Sopron, were declared to receive the highest EU funding available under the EU structural funds because of its low economic performance. Both regions have developed over the last years and have increasingly faced the challenge of being border regions – in the Austrian border regions GDP is about 132% of the EU-25 average, in the Czech border regions it is at 62% (EC, 2014a). Both regional currencies have, are used in regions that lie in close proximity to Vienna, one of Europe's main centers of industry, trade and tourism. Furthermore, the RCCs in the regoins, the Waldviertler and the Blaufrank, are of similar dimension. The Waldviertler was founded in 2005, the Blaufrank in 2009; both have approximately the same amount of members, of complementary currency circulating and use of the regional currency in percent of the capital transactions, namely between 10 and 20% (kekfrank.hu, 2010; Waldviertler-regional.at, 2014). Both were selected to be Austrian or close to its border because of the travel distance to their regions of employment.

The interviews were conducted in person and via Skype. The questions that were predefined were few and they were open-ended. The predefined questions were:

1. Do you think that regional currencies are a useful tool to promote regional economic development?
2. In your view, what are the main benefits of/limitations to regional currencies used as a regional economic development tool?
3. What can/could EU regional policy and funding add to the success of regional currencies to promote regional economic growth?

This method was chosen because a predefined questionnaire was seen to limit the information obtainable by the experts interviewed since their approach to the topic was expected to be different. By having only few points fixed in the interview, the experts interviewed were able to speak freely about their experiences and knowledge. The output of the interviews will be integrated in the discussion of the effects of complementary currencies and in the final discussion of the overall paper.

In order to establish a closer link between EU regional policy and RCCs, it was decided to closer analyze one Platform for Regional Cooperation Management that functions under the European Territorial Cooperation (ETC) Objective of the ERDF and under which RCCs have been developed and created:

During the interview with Mr. Vissi, although it was initially meant to be about the Blaufrank, Mr. Vissi brought examples of RCCs that he had developed in the framework of a project called REGIONET aktiv in the border regions of Austria and Hungary. Based on this information and further research the platform “creating the future – Cross-border Cooperation Programme Austria - Hungary 2007-2013”[3] was identified as an umbrella platform for several ETC projects. Listed as one of its project, the Regional Cooperation Management HU-AT (RECOM HU-AT) provides assistance for ETC programs in the region in form of finding partners, providing multilingual guidance, public relations and the development of know-how management network between Austria and Hungary to enable the development of cross-border project ideas (at-hu.net, 2014). On both platforms the project REGIONET aktiv was found and identified as the project responsible for the creation and further development of RCCs in the AT-HU border region. REGIONET aktiv was found to be a good case for this paper because it includes RCCs that have been developed or created under EU regional policy and because it took on RCCs at different stages of their development: The Jogllandgutschein (in English: Joglland-voucher) was successfully implemented under the project. The Blaufrank, which had been established by a private initiative, was supported in crossing the border and being established also in Austria. Additionally it was not possible to find other RCCs that had been developed within the framework of EU regional policy.

With the two interviewee and the RCCs in their regions experts’ opinions on two similar RCCs was obtainable. With the RCCs incorporated in REGIONET aktiv it was possible to see how RCCs fit

[3] See: http://www.at-hu.net/at-hu/en/index.php.

into EU regional policy, at least within the framework of ETC. However, the RCCs that were established under REGIONET aktiv and the Waldviertler and the Blaufrank all are relatively limited in their geographic dimension. And while the Jogllandgutschein has a relatively large amount of support in the region, the Waldviertler and the Blaufrank have such a limited level of penetration of the regional economy that their effects on the regional economy, as discussed above, are hard to define let alone quantify.

Based on these reflections, another RCC, namely the Sardex, was chosen. It incorporates one other, if not more complementary currency models. The Sardex is the RCC of Sardinia, founded in 2010 currently has circa 2500 companies participating and exchanging approximately 1,5 Million Euro in Sardex per month. Because of its dimension and its effectiveness the Sardex was found to be a good example to complement the other RCCs studied in this paper in order to establish a comprehensive picture of the functioning of RCCs.

With the decision to include the Sardex as one central example of a RCC, it was also decided to look at the framework of EU regional policy that concerns Sardinia. The reason behind this was that comparing the regulative framework that allowed RCCs to be used under EU regional policy in the border region of Austria with the framework that has not allowed for the Sardex to be supported by EU Structural Funds, could lead to some insights in the functioning of EU regional policy at the national, regional and local level. Also, because the region under the REGIONET aktiv is one that comprises many different regions at NUTS3 level from two different states, looking at EU regional policy in Sardinia was found fitting because Sardinia is an island and thus a much relatively coherent region. This differences in territory and thus also economic patterns was seen to be contributing to a broader insight in EU regional policy at regional level.

Figure 1: Territory of the operational Program "Austria – Hungary" (EC, 2014e)

In this paper, only a limited part of the EU regional policy framework will be analyzed. First, this paper will focus on the regional policy framework of 2007-13. This means that the paper has analyzed the strategic frameworks, rules and regulations pertinent to this specific regional policy framework and does not look at the different frameworks to create an in-depth comparison. Second, the paper will limit its main focus on to two different regional programs, namely the one of Sardinia and of the Austrian-Hungarian border region of the 2007-13 regional policy framework. This means, that only the regulations, rules and frameworks pertinent to these two regional programs were looked at. In detail, this paper only included the objectives of the Lisbon Strategy of 2005, the main provision on funding of the ERDF 2006 regulation with special considerations of the Competitiveness and Employment Objective and the Territorial Cooperation Objective, the NSRF of Austria and Italia for the period 2007-13 and the two OPs AT-HU and Sardinia. Second, this paper has limited its scope. It is possible that within the other Structural Funds and the other financial instruments such as Cohesion Fund, the position of complementary currencies within EU regional policy is a completely different one as identified by this paper. Since this paper has not only limited its scope in what concerns the Union's legislation on EU regional policy, but it has also selected a specific national and regional focus , it could be that the findings of the paper may not be enough to clearly position regional complementary currencies within the EU regional policy framework.

After having conducted and established findings of the largest part of the exploratory research, it became possible to define the research questions. This was mainly due to the fact that there is only limited data about the link between the EU's cohesion policy and regional currencies.

The theories used in this paper, will be explained in the next sections.

A. Theory

Complementary currencies are positioned somewhere between four main actors: First, the society is currently the main initiator of complementary currencies. Second, the economy determines the specific position and functioning of each complementary currency. Third, politicians at national level are in charge of the laws enabling or prohibiting complementary currencies and at EU level they define EU regional policy. Finally, the regional and local authorities play an important role in promoting or hinder the functioning of complementary currencies and in deciding on the final projects implemented under EU regional policy programs. Because of these different stakeholders, this paper integrates three different areas of theoretical research. First, complementary currencies fundamentally touch upon monetary theories. Second, the reciprocal effects between society, economy and politics are studied within the field of International Political Economy. Finally, how and by whom policies are developed and implemented at the different national and Union levels is studied within concept of Multi-level Governance.

In the next section, a description of the theoretical concepts in these areas are given.

1. Theoretical considerations behind complementary currencies

Concerning complementary currencies, many theoretical models have been developed mainly due to the regional circumstances the theorists were and are facing. In other words, there is neither a theory nor a model of "the" complementary currency (Kennedy & Lietaer, 2004).

There is one theoretical model, however, that builds on functions drawn from monetary theory and has become the fundament of many complementary currencies. This model, the Freigeld ("free money") was created by Silvio Gesell (1862–1930). Gesell's main argument is that money should have no storage benefits over goods; instead of yielding interest, money should "rust" like any other good. In his view, money should thus be maintained by a monetary authority to keep its spending power at a specific rate, namely a devaluation rate that is high enough to ensure a high circulation rate of the money (5.3% p.a.). In other words, the money should have an inflation rate of 5.5% per year. Furthermore, it should also be convertible into other currencies and localized (Onken, 1997). This idea, that a currency should be interest free, has been adopted by the majority of complementary currencies. Equally, at least for the complementary currencies that use a currency that is very close to the official currency, such as the Waldviertler and the Blaufrank, the devaluation rate is an integrative characteristic.

Other models are not so much concerned with theoretical economic functions but focus on creating a model that is capable of providing functions that the official currency cannot fulfil. Which function is taken up by the complementary currency usually depends on the culture of the people in the region and in particular on the values and principles they attribute to a currency (Preissing, 2009). One claim that is common to most of complementary currencies is that they want to establish a "social" currency that does not run in accordance with broad economic strategies set by experts but that mainly takes into consideration the specific needs of the region. Furthermore, complementary currencies are not set up to facilitate for members to accumulate capital but to have a currency that circulates fast enough for members to be able to live, and in the best case, to invest and grow in a sustainable and socially beneficial way. In other words, most complementary currencies have as the main objective strengthening of social behavior and decision-making of the people in one region in order to achieve a sustainable and mutually beneficial growth (Preissing, 2009).

2. Economics

Economics is defined differently in literature. Alfred Marshall (1842-1924), one of the most influential economists of his time, defined wrote that "Political Economy or Economics is a study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of wellbeing." (Marshall, 1920, p. 4). In the SAGE Glossary of the Social and Behavioral Sciences economics is defined as the "study of how individuals, households, and societies choose to use their scarce resources efficiently in order to satisfy their diverse wants" (Sullivan, 2009, p. 168). Tsoulfidis defines economics as a "scientific discipline originated with the emergence of capitalism, that is, the system that solves the problems of organization of production and distribution through the generalized functioning of markets." (Tsoulfidis, Lefteris, 2009, p. 1).

These different definitions reflect on the one hand the development of the concept of economics and on the other hand how differently it can be used. Alfred Marshall, one of the founding members of neoclassical economics, understand economics as a social or behavioral science that studies human behavior in an economic environment. In the SAGE Glossary economics is not positioned within an economic environment but it is limited to the choices made by humans in order to satisfy diverse wants concerning the use of scarce resources, namely land and human and financial capital (Sullivan, 2009). Finally, Tsouldidis argues that economics is essentially linked to capitalism because social thinkers before the industrial revolution dealt with economic questions concerning markets that operate systematically and determine the economic outcomes by competition. He also does not integrate any link to humans or individuals, he defines economics at a macro-economic level (Tsoulfidis, Lefteris, 2009).

Under the concept of economics, many theories have been developed: Monetary theories focus on how money functions within a market, if and how people's reactions to economic performance impact on market and money functions and if and how governments should interfere with the market or not (Issing, 2011). International political economy (IPE) research is focused on how public and private powers decide on the allocation of scarce resources, which powers have more influence on the decision and why (Woods & Ngaire, 2011). What all economic theories have in common is that they are all a set of beliefs concerning individual and group behavior. This means that they are built on assumptions of the behavior of people in general, and in particular of the behavior of the people in the specific situations, circumstances and environments outlined in the theories.

In what concerns the behavior of people, there are two main streams of assumptions made. The neoclassical approach to economic, on the on hand, is situated within the rational-choice model and based on three main assumptions: People act independently on the basis of full and relevant information; people have rational preferences, and individuals maximize utility. Out of this neoclassical assumptions, the calculating, unemotional maximizer "Homo economicus" was created (Tsoulfidis, Lefteris, 2009).

Behavioural economics, on the other hand, were created because researchers claimed that the neoclassical model misses many behavioral traits of people since it did not incorporate the findings of psychology and sociology. This was not true for the economists that first developed the neoclassical approach, Adam Smith for example, discussed a number of psychological insights in his book The Theory of Moral Sentiments of 1759. The same can be said for Jeremy Bentham, the economist that introduced the concept of utility to economics (Bowles, 2004).

Herbert Simon (1916-2001) was one of the earliest critics of the idea that people have unlimited or unbounded information-processing capabilities; he suggested that people have "bounded rationality" (Thaler & Mullainathan, 2008). Behavioral economics also argues that people are not always in control of their preferences. Here, behavioral economics refer not only to socio-constructivist and institutionalists' models but simply to the fact that humans are not always equally attentive and capable of making decisions when they drink alcohol or sleep irregularly and similar. Finally, behavioral economics find that individuals are not only driven by selfishness. Neoclassical theorists argue that when individuals are expected to contribute to the public good, free-riding will occur unless the contribution increases their private welfare. Behavioral theorist counter this argument with a wide-range of statistical evidence that people give money to charities and conduct charitable work also without gaining as an individual (ibid.). Behavioral economics do not only comprise the analysis and discussion of economic phenomena, but also the fields of evolutionary biology and cognitive neuroscience. Because of this wide range of different fields incorporated under one approach, behavioral economics have been criticized for as an ad hoc and random collection of observations. Due to that, many economists argue that it has no underlying uniform theoretical foundation (Wilkinson & Klaes, 2012).

In the next sections, the different economic theories that fit with the two main phenomena of this paper, EU regional policy and complementary currencies, will be shortly introduced. After that, there will be a short discussion on how the theories will be used in this paper and why.

a) Monetary Theories

Complementary currencies, as illustrated in the introduction, incorporate the different functions of money. Due to that, monetary theories were found to be an integrative part of this paper.

With the emergence of the money economy came several theoretical considerations on the functioning of money in an economy. Three main streams of monetary theory have been developed, namely the quantity theory of money, Keynesian theory and monetarism. In the next section, an overview of these three theories will be given. The descriptions of the theories are summarized in such a way that the reader should get a general notion of the attitude the supporters of the theories have towards the functioning and the place of money in an economy. This approach was taken since a detailed description would not contribute to this paper. Furthermore, monetary theories are complex structures and their respective validity is widely discussed. Hayek argued that monetary theories are best described as models that imply certain inevitable reactions to specific economic and monetary occurrences. They are to be handled with care, since they do not explain real phenomena in full and without error (Hayek, 1976). One reason for this may be that theories are usually built on past experience which may give them relevance for these specific period in time but not for the future. Also, theories may be incorporating the ideological and political values of their founders which may limit their objective validity (Dieter, 1978).

The quantity theory of money was the first monetary theory. Its main characteristic is the argument that the total amount of money in circulation on average in an economy during a certain period and its velocity of circulation determine the price level of the aggregated transactions and the real value of aggregate transactions. In other words, quantity theorists of money think that the amount of money and its rate of circulation in an economy is directly linked to the value and amount of real economic output in the economy (Issing, 2011). The quantity theory of money was particularly popular in Europe during the episode of mercantilism. During this period in time, states were focused on accumulating as much valuable metals in their country as possible. Also, imports were restricted because any export of money was seen to be harmful to economic growth in the country. Finally, when crisis hit despite all measures adopted, the storing of money was illegalized (Hoffman, 1966). Critiques of the quantity theory of money find that since not all money is always circulating, the connection is missing important values. They also argue that the equation as a whole was based on the idea that money equal wealth and cannot be applied to an economy without gold-linked currency and with modern financial assets (Issing, 2011).

The Keneysian theory argues that stabilization measures adopted by the state are necessary to ensure economic growth (Dieter, 1978). There are several reasons for this argument. First, especially in the short run it is the aggregated demand that determined economic performance. The aggregated demand however depends heavily on the decision taken by the individual consumers in the economy which can act erratically because they are influenced by various factors. This means that secondly, depending on the expected development of the economy and interest rate levels, people will differ in the behavior concerning holding liquid assets and savings and requesting loans. When people expect the economy to stagger or to stagnate, they will use an additional quantity of money to increase their savings and not to increase investments. And thirdly, wages are not completely flexible. Wages tend to rise when prices rise, even when it is only a nominal and not a real rise, because workers feel underpaid and request a pay-rise. However, because labor contracts are usually long-term agreements and labor-unions are unwilling to agree to lower wages, wages are not reduced when prices fall which tends to destabilize the economy (Issing, 2011).

The main critique of Keynes come from monetarists. Monetarism is mainly associated with Milton Friedman (1912 - 2006). According to Friedman, he took as a reference the quantity theory of money and created a neo-model that incorporated thoughts developed at the University of Chicago. Others, such as Patinkin, found more connections to the Keneysian theory (Dieter, 1978). Friedman believed that an economy remains stable on its own and that the controlling variable in the economy is the quantity of money. In the view of monetarists, governments should not interfere with the economy, in particular fiscal policy will only produce short-term consequences which will be deteriorating rather than helpful for the economy. If governments wish to interfere with the economic development, monetary policy in form of changes in the amount of money circulating in the economy, is the only way to achieve long-term consequences. Monetarists find that the economy remains stable on its own because wages are flexible even though they may seem inflexible, and because people will in general react to a rise in the quantity of money by increasing investments (Issing, 2011). Critiques of monetarism find i.e. that even when the quantity of money remains stable, economic growth is not. In other words, in order to determining economic growth, controlling the quantity of money is not enough (Modigliani, 1978).

b) International Political Economy

Because complementary currencies have as one aim the equal and fair distribution of benefits gained with the use of the currency, the main approaches to International political economy (IPE) will illustrated in this section since IPE research is focused on the interrelationship between public and private powers in the allocation of scarce resources. The term power is used in the sense of in relationships or the capacity of one actor to change the behavior of another, and in the capacity of an actor to set agendas and the rules of the relations. In other words, IPE tries to understand how it is decided who gets more and who less. There are three principal theoretical approaches to IPE: (1) liberalism, (2) nationalism, also called mercantilism, realism or Statism and (3) Marxism, also referred to as radical, critical, structuralism. In this paper the terms used for the three approaches will be liberalism, mercantilism and Marxism (Ravenhill, John, 2011). Next to these main approaches to IPE, there are also several contemporary ones. These will be presented in the paper, when they are used. The main approaches are presented here to illustrate how IPE theories generally approach economics, politics and society.

The claim of mercantilism is that politics should not only control economics, but they should use the market for the purpose of state. Political market regulation is necessary because states define their position in the world economy by their wealth and independence. This is because international relations and economic growth is seen as a zero-sum game – the gains of one state cannot be the gains of another. Each state tries to become more powerful in relation to the others. Mercantilism does not focus on individual politics, it is based on the assumption that the world economy is an arena of competition between states seeking power maximization. The most powerful states define the rules of the system by hegemony, alliances and balance of power (Walter, 2003).

Marxism argues that economics determine politics because economics create, affect, and influence political power. Marxists see capitalism as the driving force of the economy – power is defined in terms of possession of capital. Economy-politics relation are determined by two main classes: capitalists and the working class. There is a continuous struggle between these two classes because the capitalists own the means of production and are interested in expanding their power and wealth while the working class wants to be paid fairly and live well. Which means that economic relations are determined by exploitation, inequality and a fight against both (Hobden, et al., 2011). Marx argued that in capitalism workers are exploited because they receive a wage that suffices only to buy enough to live (Tsoulfidis, Lefteris, 2009).

Liberalism argues that economics have an autonomous and independent role: the market has dynamics, logic and rationality of its own. In this sense, the free market with voluntary exchange is considered as the most efficient and morally desirable. Free trade and movement of capital will enable capital to flow where it is most profitable to invest, it will lead to comparative advantages between the countries and an equitable distribution of goods and services. Liberalists argue that capital will flow also to underdeveloped regions because the maximal gains are the highest there. Governments should leave the market to balance itself and should only interfere when the functioning of the market is at risk. Politics are assumed to be relatively unrestrained in their choices which means that if they fail to make good choices than they are corrupt or ignorant (Woods & Ngaire, 2011).

3. Policy-making in the EU

Since EU regional policy and in particular the way its implementation at regional and local level comes to be are central points in this paper, theories that aim at explaining the development of EU policy in general and regional policy in particular were studied. Theories on policy-making in the EU are as diverse as the models of policy-making processes and the actors involved in each process. What they all have in common is their drive to understand who has how much power and why in one process of policy-making in the EU. The actors involved are, depending on the specific policy, the EU and its institutions, the national governments and regional and local authorities, and interest groups. The different theories recognized the involvement of these actors differently. The traditional European integration theories are based on a two-level game theoretical model which is applicable to countries that are interdependent, yet sovereign. The two-level game theorists argue that the main actors in international negotiations and agreements are two actors namely the national governments and domestic interest groups. At national level, the interest groups pursue their interests by pressuring the government to adopt policies that are beneficial for these interests. The politicians try to increase their power by constructing coalitions among those groups. At the international level, national governments try to influence policy in such a way that it suits the domestic pressures and counters adverse consequences of foreign developments (Putnam, 1988).

In the sense of the two-level game theory, Intergovernmentalism and Liberal-Intergovernmentalism claim that it is the national governments that define the cohesion policies made. National preferences are determined in the nation state by aggregation of the interests of the different domestic actors (economics, parties and institutions), the executives' own interests (ideological) and geopolitical concerns, and articulated towards the EU (Schimmelfenning, 2004; Pollack, 2010).

Multi-level governance (MLG) has been created because of the arising evidence that the EU policy-process is not a purely European or national one but one that penetrates both levels to, depending on specific the policy area, varying degrees. With this assumption, it departures sharply from the two-level game theorists. It argues that the decision-making power has shifted away from national level to European and subnational level, leaving a wide range of public and private actors with an authoritative position in the policy-making process. Furthermore, MLG argues that the dispersion of authority between the different actors is fluid, which means that depending on the specific policy and the prevailing circumstances, different actors will play more or less important roles in the policy-making process (Rosamond, 2007).

4. Interrelations between the theories

On the one hand, one could argue that the monetary, IPE and policy-making theories presented are first of all part of three independent theoretical approaches to economics and policy-making and secondly, each theory is to be considered as an independent explanation of specific phenomena studied. In other words, one may argue that there are no links or interrelations between the theories since they study different elements of this world and because each of them can claim to be as true as each other.

On the other hand, one could find that especially the economic theories, since they are in fact all part of economics, must be interrelated with each other. This argument can be supported by the fact that all economics is essentially the study of the behavior of people in an economic environment. Of course, since the different theories and approaches are based on different assumptions or empirical research on human behavior, there compatibility may be relatively small. But then again, one could argue that equally as the theories in economics and policy-making have developed over time, so has the understanding and the view on human behavior. After all, first human behavior was not found to be an important part of economics because, as explained above, under mercantile systems the market was seen as consisting of the entire population that was to produce for the country leaders. In other words, people were elements of production and did not have a voice in economics; their attribution to the market was a passive one and not an active one. Later, with advanced research in psychology and sociology, human behavior became a more integrative part of economic theories. Also, with the introduction of democracy and more liberal markets, individuals gained a position in the economy that was recognized as determining market functions (Tsoulfidis, Lefteris, 2009). Due to that, Keynes' monetary theory is based on studies of the behavior of people concerning holding liquidity, investing or bargaining for higher wages in the face of changes in the market. With Keynes's theory and monetarism, the notion of the homo oeconomicus was adopted as the main perception of human behavior in economics. Monetarism removes more or less any requirement of a state to control the market; the market, or in other words the people participating in the economy, are considered to regulate themselves. But then, the behavioral approach to economics was created, arguing that the neoclassical model may perhaps hold some truth, however it does not capture economic human behavior at its full extent. Indeed, behavioral economists argue that the neoclassical approach to economy was adopted because with such a human model, economic models can be explained much easier (Bowles, 2004). One may argue that with the specific market models developing all over the world, perhaps it is necessary to base the theories on a wide range of assumptions because otherwise the theoretical framework would have be too extensive to be useful. In other words, without the neoclassical model of human behavior the newer economic theories might not be existent. In this sense, behavioral economics may be a valuable part of neoclassical models because it does not necessarily dismiss the entire monetary theories created under neoclassical assumptions but it simply works on verifying the neoclassical assumptions with the newest behavioral research available. Especially research in the field of cognitive neuroscience should contribute to this task. Of course, there is always the argument that when the assumptions that a theory is based on are wrong then the entire theory is useless. However, since theoretical assumptions in the field of economics tend to stand their grounds even though they may contradicted by recent research, it will most probably still be a longer time until the neoclassical model, or the behavioral model in that respect, may be undermined by the respectively other approach. All in all, one could argue that there is evidence of interrelations and even interdependence of different approaches and theories. This argument is the fundament of the discussions in the next pages of the theories described before. This discussion should first of all support the argument brought above of the interrelations of the theories and secondly, it should provide an overview of the approach to theories that this paper takes:

Liberalism, for example, holds an argument that has developed in monetary theories and economic theory over time: states are not supposed to control or interfere with the market because it best regulates itself. This represents a change in the perspective of the dimension of state authority and the functioning of markets. While the quantity theory of money and mercantilism of IPE are based on the idea that the state is the central controlling element of the market, monetarism has nearly entirely excluded this notion. Neo-liberalists had strengthened these arguments in the area of international cooperation. They argue that actors would enter into cooperative agreements if and because the gains are evenly shared. Furthermore, they see international institutions as instruments to facilitate agreements and monitor their compliance (Dunne, 2011).

These claims have been taken up by approach to IPE created by Antonin Gramsci (1891-1937). Gramsci's theory focuses on the process by which consent for a social and political system is produced and reduced through the operation of hegemony. He argues that hegemony gives the dominant actor the ability to dispersed ideas and ideologies in such a way that they become widely accepted (Hobden, et al., 2011). In addition to that, Neo-gramscians argue that the dominant powers achieve their goals by ensuring the consent of the actors within the economic system. They create or infiltrate institutions with their ideologies and ideas so as to widely disperse them all around the world. The US for example created an important position in research universities and used the IMF and language to promote neo-liberal market. This again would mean that the states that have entered into trade agreements with the US have not necessarily done so because they were neo-liberal from the beginning or because they expected mutual gains but potentially also or only because the US succeeded to infuse neo-liberal ideas into the politicians and the national and international pressure groups. After all, underdeveloped countries currently find themselves between the international pressure to open their trade barriers and the awareness that the majority of the national economy will be exploited by international competition if not protected by trade barriers.

The arguments by Gramsci and Neo-gramscians could be seen as an integrative part of theoretical considerations of Marx. He argued that ideas play an important part in shaping policy agendas, helping states to reach agreements and legitimizing structures. Similarly to Marx, Max Weber argued that ideas define range of policies that states consider and provide a focal point in agreements. Based Weber's theoretical models, constructivist developed the argument that ideas define actors' perceptions of their interest and identities. In other words, interests and identities are created and not given, as argued by rational-choice theorists (Ravenhill, John, 2011). Social-constructivists argue further that politics are affected by historical and sociological factors. The way politics understand their own preferences depends heavily upon prevailing beliefs and patterns of thinking in the world economy, many of which are embodied in institutions (Pollack, 2010).

In contrary to Weber and the Socio-constructivists, institutionalists in IPE use the rational choice logic to analyze states in their interaction with other. They argue that states create institutions and delegate power to then in order to maximize utility within the constraints of world markets and politics (Ravenhill, John, 2011). In this sense, the member states created the EU and its institutions to be sure that the other member states would be held responsible for any free-riding not compatible with the Treaties and EU regulations. By studying the European Union, some institutionalists have developed into different forms of neo-institutionalism. The three main forms of neo-institutionalism is rational-choice, sociological and historical institutionalism. The rational version is close to liberal-intergovernmentalism, the sociological form is concerned with norms, ideas, discourse, organizational culture and the psychology of politics and the historical form is situated between the two and focuses on how institutions influence or constrain the behavior of the actors who created them over time (Bulmer, 2007; Rosamond, 2007; Pollack, 2010). Depending on their specific approach, all of the institutionalisms could most probably contribute to the arguments of Gramsci and the Neo-gramscians by studying the functioning of institutions and their impact on human behavior.

The rational choice, neo-utilitarian, or political economy approach to IPE focuses on the incentive structure of decision-makers. Within the main assumptions of rational-choice – that interests are given, that actors are always able to make choices rationally and that they are only concerned about realizing their interests – they argue that especially interest groups influence politicians which then make the decisions according to the groups' interests. With these assumptions they explain why, for example, the banks are able to expose the public to such risks without having to face appropriate consequences (Woods & Ngaire, 2011). These are also the core arguments of liberal-intergovernmentalism which is focused on explaining European integration and policy-making (Pollack, 2010). Coming back to markets, Marxist theory seems to contribute to the understanding of the quantity theory of money when it comes to its class-claim. During the period of mercantilism people were paid just enough to ensure that they survive and that they will have to continue working. When the system started to fail, holding savings was officially forbidden, as explained above. These measure were due to the facts that firstly the state was determined to accumulate as much capital as possible and that the level of unemployment was still much higher than it is today. In other words, people had to accept being paid little because there were so many people looking for work that the owners of the companies and factories had no need to better remunerate the work. The struggle of the people against this policy was visible in the numerous revolts (Blum, 1982). On the other hand, the struggle of the working class to be paid well, can also be seen within the Keneysian theory when it argues that whenever there is an increases in prices workers will try to increase wages because they feel paid less even when the price increase is only a nominal and not a real rise. In the states with strong labor unions the bargaining over rises in wages even tends to occur periodically.

Karl Paul Polanyi (1886-1964) took the interplay of market and society one step further and argues that there is a transition from a society with markets to a market society. First, there is a separation between the relations of economic actors and institutions and the non-economic relations. Then, due to a transition, the social relations become embedded in the economy. This leads to a constant struggle between the economic focus on expansion of market and capital and its consequent dehumanization, and people's demand to discipline the market and re-humanize capital (Ravenhill, John, 2011).

The aspect of regional disparities was also taken up by theorists. In what concerns currencies, the theory of optimum currency areas claims that the costs of a monetary union the greater for the states involved the less the states' economic development and cycles are harmonized (De Grauwe, 2000). This theory supports the aim of EU regional policy to establish a coherent market. In international relations, the Marxist' class relation notion was transformed within dependency theory into a version that uses different variables. Dependency theorists describe the relationship between the core and periphery countries, i.e. industrialized and developing countries, and the unequal exchange between the two. They explain the core-periphery phenomenon in terms of different economic, social and political structures which are influenced by international economic relations. Dependency theory was created as a reaction to modernization theory. Modernization theory is a theory of development which argues that all societies progress through similar stages of development. In other words, today's underdeveloped areas are in a similar situation to the one in which today's developed areas were at some time in the past. Modernization theory argued that underdeveloped countries should be led along the same path of development that the developed countries went through, and with the same tools. Investment, technology transfers, and closer integration into the world market are seen as main tools for such a development. Dependency theory rejects this view and argues that underdeveloped countries have unique features and structures of their own and cannot be treated as primitive versions of developed countries. For example, that they are the weaker members in today's world market economy puts them into a completely different position to the one that today's developed countries were in at their early stages of development (Ferraro, 2008).

One could argue that modernization and dependency theory were created to understand differences in development of countries. However, one could also argue that especially when it comes to economic and monetary union like the EU and the EMU, the theories could be equally applied to the different regions. This argument is based on the argument that in the unions the countries have lost their sovereign standing in various economic areas to varying degrees, to a higher degree in what concerns the internal market and to a lower degree in the area of labor, and have merged into the unions. Due to that, if one want to apply the modernization or dependency theory to such union, one could find that applying it to different regions rather than national territories also lies within the idea of the theories. When used in such a way it could be used in combination with the theory of circular and cumulative causation (CCC). It is based on the argument that multiple changes are set in motion by one single event which express themselves in a circular manner around the point of origin. These changes may be positive or negative, i.e. the creation of a new business may generate more jobs and more investment opportunities, if a business closed, the effects will be the reverse of the ones of the opening of a new business (O'Hara, 2009).

In this paper, the theories will be used in exactly the same way as presented in this section – by linking them together and trying to focus on their complementary abilities rather than their specific points and arguments. This approach is chosen for two reasons. First, as the last pages show, one can use the theories in a complementing manner. Whether the findings drawn from using theories in such a way are more or less useful and true than when theories are used independently from each other and in detail, this is a claim that this paper cannot make. Which leads to the second reason: Complementary currencies are positioned in between theories concerning people's behavior, money, economy and politics. First, complementary currencies are money. The different models of complementary currencies draw to a certain extend all on monetary theories. Second, because most of them, especially the RCCs focused on in this paper, aim at becoming an integrative part of the regional economy, they have to be concerned with the functions of the economy. Third, since a complementary currency is positioned in between monetary and economic issues, it finds itself in the interaction zone of politics and economists, making it a part of the political economy. Four, the specific features of a complementary currency depend on the characteristics of the regional economy and the mentality, values and perspectives people in the region have concerning currencies and the regional economy. This means that theories that concerns the importance of ideas, values and preferences are an integrative part of the study of complementary currencies. In particular, since most complementary currencies aim at creating a social currency, complementary currencies may have to promote a behavioral approach to money over neoclassical perceptions in the region. Five, since complementary currencies depend in general on the European and national legal framework on money and financial institutions and in this paper in particular on the EU regional policy framework, theories on policy-making are essentially linked to complementary currencies.

In sum, due to the fact that links between the theories introduced can be found, but mainly because complementary currencies are such complex phenomena, integrating many different areas of research, in this paper the theories will be used in an integrative and complementary manner.

3. EXPERIMENTAL

A. COMPLEMENTARY CURRENCIES

1. Defining complementary and regional complementary currencies

A complementary currency is a common agreement within a community to accept something else than the official legal means of payment for exchange of goods and services (Kennedy & Lietaer, 2004, p. 69). They are called complementary currency because they usually exist parallel to the official currency. In the literature, there is no concrete definition of complementary currencies or regional complementary currencies, let alone a persistent differentiation between the two. For this paper, regional complementary currencies (RCCs) are complementary currencies that are used in one specific geographic region usually with geographic dimension of a NUTS3 or in few cases a NUTS2 region. The main point of a RCC is that because it is centered on one region, the border of this region, in the sense of the geographic dimensions of the use of the complementary currency, can be clearly identified. A complementary currency that is used in one large region (NUTS2 or NUTS1) with different levels of usage across the region and no visible center does not qualify as a RCC.

Many different models of complementary currencies have been developed mainly due to the regional circumstances the initiators of the currencies were and are facing. There is neither a theory nor a model of "the" complementary currency (Kennedy & Lietaer, 2004). The only model that can be referred to as a theoretical model and that has become the fundament of many complementary currencies is the Freigeld by Silvio Gesell, as explained above. This idea, that a currency should be interest free and have a high devaluation rate has been adopted by the majority of complementary currencies.

Generally said, most complementary currencies models are concerned with providing functions that the official currency cannot fulfil. Which function is taken up by the complementary currency usually depends on the culture of the people in the region and in particular on the values and principles they attribute to a currency (Preissing, 2009). In some communities, complementary currencies that enable the exchange of microcredits may be requested (e.g. the Sardex), in others the focus is on enabling the exchange of social and community services (e.g. shell-money of the Torai and the Fureai Kippu) the or a combination of labor and goods (e.g. Genossenschaften) and others again may be established because people request a system that enables them to support the regional identity, production and employment (e.g. the Jogllandgutschein). The people in the region and their values and principles concerning a currency are also the elements that should be taken into account when determining the features of a complementary currency. These features of a complementary currency include:

- the material expression of the currency: shells, money notes, virtual accounts, e-cards etc.
- the monetary features: devaluation rate, exchange rate to the reference factor, cost of exchange from and back to the official currency, additional costs such as membership fees etc.
- the function: exchange of goods or services, remuneration for work, financial system, promotion of the region, etc.
- the targeted members: consumers, companies, state authorities, all people within a region etc.
- the underlying system: local exchange trading system with or without the use of the internet, one or more points of exchange in the region, private institutions only or cooperation with financial institutions and state authorities etc.

To illustrate how complementary currencies, even if using the same overall system, can differ fundamentally in all of their features: Some complementary currency systems make use of the new technologies, for example in form of a local exchange trading system (LETS). A LETS is a central hub that monitors and notes the exchanges between the members of the community. Modern LETSs use the internet to facilitate the exchanges by establishing an online platform detailing all the members and their offers and needs and to provide easy access for the members to their accounts. LETSs allow all kind of exchanges, including the exchange of services or hours of work. Most importantly however, they enable the members to grant each other interest-free loans (Kennedy & Lietaer, 2004).

In Japan, the Sawayaka Welfare Foundation uses a LETS since 1973 to manage the exchange of hours of care for elderly people all over Japan. This currency called Fureai Kippu, is the largest time currency in the world with more than 3 Million members. The members receive a certain amount of deposit calculated in hours added to their accounts, varying according to the activity and the time of day. They can then either use the deposit to pay people providing care services for their own family members or they can save it for later (Preissing, 2009). In Europe, the biggest LETS is the Sardex in Sardinia. The Sardex is an electronic point system linked to the Euro and made manageable in form of cards. The system is managed by Sardex.net which integrates all elements of a LETS listed above. The Sardex is continuously integrating more functions. It started off being a LETS enabling the Euro free exchange of goods, now also services can be exchanged and wages are being paid in Sardex. Currently, the founders of Sardex are working together with the different communes of Sardinia towards paying social benefits for certain groups in Sardex with some spending restrictions e.g. that people cannot buy drugs with the benefits (EC, 2014c).

2. Effects of regional complementary currencies on the regional economy

The effects regional currencies can have on the regional economy are debated strongly. Some find the idea of introducing a new currency to stimulate the regional economy a strange idea and prefer traditional tools such as providing start-up capital for enterprises and improving the transport and communication infrastructure. This may stem from the tendency in Europe to consolidate and harmonize currencies rather than disintegrate and multiply them (Kennedy & Lietaer, 2004). The matter of regional currencies have proven to be a controversial topic even for the chief economist of the main banks in Europe. In 1999, Otmar Issing, chief economist of the EZB from 1998 to 2006, stated that electronic complementary currencies would undermine the sovereignty of states over money and the function of the official currency as a unit of account (BIS, 1999). On the other hand, Thomas Mayer, chief economist of the Deutsche Bank from 2010 to 2012 was one main supporter of the introduction of a parallel currency, the “Geuro”, in Greece in order to stabilize the country after the crisis. Mayer argued that re-introducing a national complementary currency in Greece would enable the state to make use of the traditional tools of monetary policy which have proven to be effective in times of high level government deficits (DB, 2012).

Kennedy & Lietaer (2004) summarize the potential effects of complementary currencies:

1. Decoupling of the regional economy from the global economy.
2. Establishment of a sustainable financial system that will not cash in times of crisis.
3. Create liquidity for SME in the region and consequently enhance their productivity.
4. Lower the unemployment rate by keeping promoting production in the region.

5. Establish a closer network between consumers and companies and consequently lower transport distance and energy consumption.
6. Re-regionalize the ownership of infrastructure facilities such as drinking water, transport system and waste management.
7. Strengthen the regional identity to promote changes in migration and capital transfer.

As argued before, this list may not be equally applicable to all complementary currencies due to the missing differentiation of the different models in literature. Apart from this, one could also find that the list is incomplete. For example, already from the limited presentation of different models of complementary currencies one could deduct following objective(s) of complementary currencies: Complementary currencies may enable the exchange of services or goods which are either not recognized as exchangeable at all or at the "right" value by the official currency or for which the official currency does not provide an exchange medium or platform that has the characteristics that people interested in the exchange would require of it.

To illustrate this point: The official currency in Papua New Guinea does not recognize the obligatory community work as a service that should be remunerated. By paying the people with the shell money for the community work the commune leaders are able to confirm that the work is a highly valued services. Equally, the cost of ten fish of one specific kind may be defined by supply and demand and may thus, ceteris paribus, have a relatively stable price expressed in the official currency. With the shell money the Torai are able to change the price of the fish and by that provide financial support to the fisher when he is about to marry, for example. In this sense, the shells exchanges by the Torai for a good or a service can vary because the exchange does not only have a purely economic function but "it "builds" and "expresses" relationships with which the community is constructed (To Waninara, 2000).

In Japan, same as in most countries all over the world, care for elderly people is provided by different private institutions all over the country. In face of the growing portion of elderly people in Japan's population, the Sawayaka Welfare Foundation has created the complementary currency called Fureai Kippu, as explained above. The members of Fureai Kippu provide care services for elderly people and in return they receive a certain amount of deposit added to their accounts. They can then either use the deposit to pay people providing care services for their own family members or they can save it for later (Preissing, 2009). The Fureai Kippu has adapted the way care services were provided to the needs of the people by enabling a country wide exchange and by establishing a sustainable financial system that is crisis-resistant (see 3.). Organizing and completing the list of objectives that complementary currency models can support however does not lie within the scope of this paper. This paper will thus work with the list as defined by Kennedy & Lietaer (2004).

a) The Effects of the complementary currencies according to Kennedy & Lietaer

As explained before, complementary and regional currencies can take various forms. The effects of the complementary currency depends on the specific region and the characteristics of its population and economy. Taking into consideration these three elements and the objectives set for the complementary currency, a specific model of currency is chosen. These models can, as illustrated before, differ in nearly all of their aspects including in their effects (Kennedy & Lietaer, 2004).

Many regional currencies that use money notes are built with the expectation of results similar to the ones of the Freigeld used in Wörgl, Austria in 1932 and 1933. After the collapse of the Monarchy in 1922 and of the national banks in the beginning of the 1930s the production and industry crashed which led to an unemployment rate of 27% in 1933. Also, social benefits had been cut which meant that 40% of the unemployed had no claim for unemployment benefits. In face of these developments, the commune of Wörgl started to hand out work-confirmation notes to its employees and sold them to the other companies. All the notes were 100% backed by deposits in the local bank. There was a monthly fee or devaluation rate of 1% on the notes of which went to people in need of social benefits. The fee for changing the notes back to the commune was set at 2%. With this system, the Freigeld reached a rate of circulation of twice a week (104 time p.a). This means that one currency note changed hands twice a week which again means that people actually had money in their hands with which they could consume or produce. The commune used the notes to rebuild and improve the commune's infrastructure and public buildings which again improved the performance of private companies. The unemployment rate decreased by 25% in Wörgl while increasing everywhere else in the state. Furthermore, the commune was able to pay all its outstanding taxes and even accumulate deposits for future taxes payable (Schwarz, 1951). The Freigeld experiment in Wörld actually realized all seven effects identified by Kennedy & Lietaer.

Many RCCs in Europe that use money notes have a similar system. The Waldviertler devaluates at 2% every three months and there is a fee of 5% when the Waldviertler is exchanged back into Euro. Of these 5% receives 3% a socially-oriented program or association in the region that is chosen by the respective person and 2% go to the association that manages the Waldviertler (Waldviertler-regional.at, 2014). Similarly, the Chiemgauer in Germany has a devaluation rate of 2% every 3 month and when it is changed back, a fee of 5% is charged and every time Euro is changed into Chiemgauer notes, 3% of the exchange sum are transferred to a socially-oriented association in the region chosen by the respective person (Gelleri, 2013). These currencies could potentially realize all seven effects, however currently they do not fully realize effect one, because the economy of the regions is integrated in and dependent on the surrounding regions, two, because they are not backed by a sustainable financial system, and six, because they do not focus on infrastructure facilities but on socially-oriented programs in the region.

One very successful modern example for a similar model of regional currency is the Sardex. As explained before, the Sardex is a RCC in form of a LETS in Sardinia. The Sardex is an electronic point system that calculates 1 Sardex = 1 Euro. One main benefit of the Sardex is that because it is an electronic point system, it enables the participants to easily provide interest-free micro-credits to each other. In other words, it integrates effect number three of Kennedy & Lietaer. In practice this means that the companies participating do not have to go to the bank and take out a loan for every few hundreds of Euros that they are missing in the working capital, but they can go in debt in Sardex and use the sum to produce. Within one year they can pay back the debt with Sardex by selling their goods and services to other companies in the Sardex system. After one year they have to pay the outstanding amount in Euros without interest charges.

Interest-free micro-credits are vital especially for SMEs. This is due to, on the one hand, the fact that the interest on short-term bank deposits, which usually constitutes the working capital of SMEs, have decreased in the recent years. Coupled with the inflation rate and the tax on interest profits, such deposits have become very unprofitable. On the other hand, interest on loans have increased, especially between 2007 and 2009, which means that during that time it became very difficult for SMEs because they had to face not only repaying the loan but also the high interest charges. Furthermore, during the crisis, also the conditions determining the eligibility of a company or a person for a loan became more restrictive which further limited the access to financing (EC, 2014d).

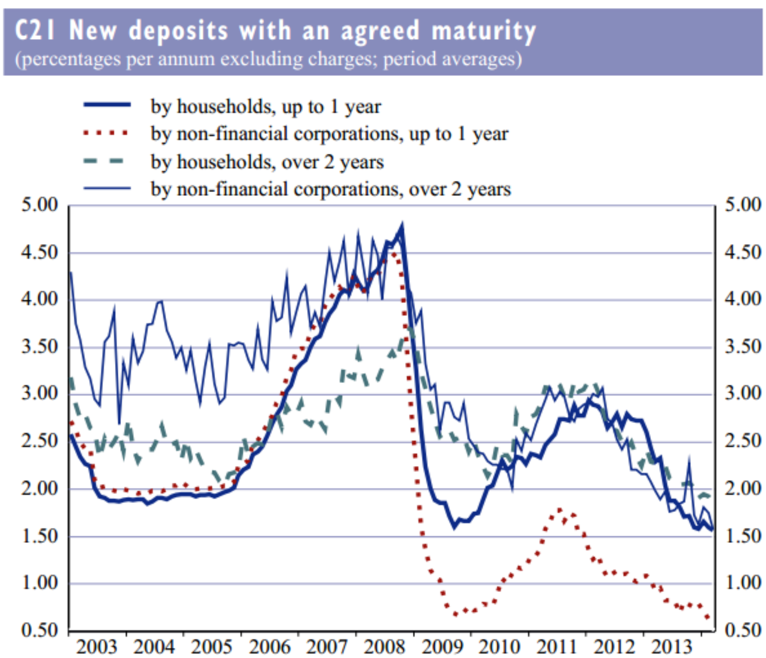


Figure 2: New deposits with an agreed maturity (% p.a. excl. charges; period averages) (ECB, 2014, p. 43)

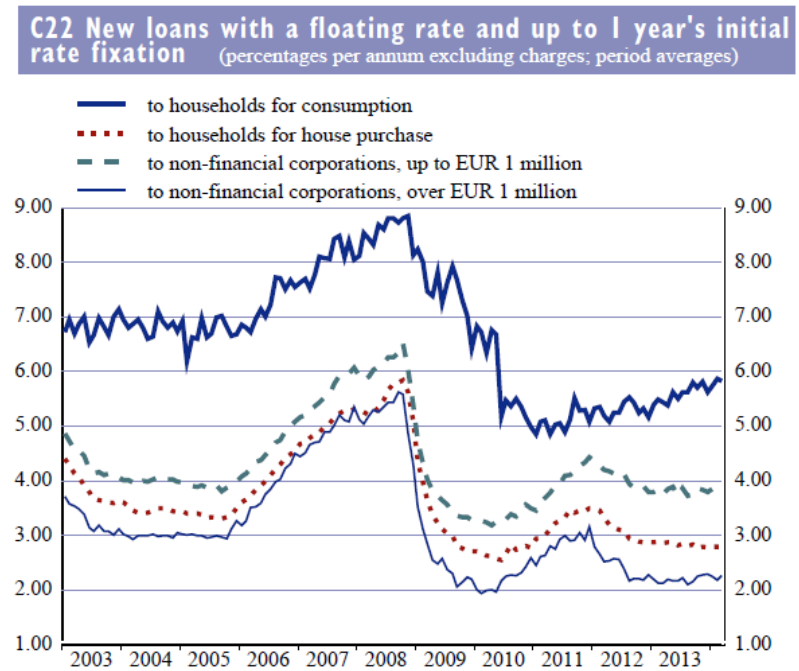


Figure 3: New loans with a floating rate and up to 1 year's initial rate fixation (% p.a. excl. charges; period averages) (ECB, 2014, p. 43)

After 2009, interest rate on loans relaxed and so did the conditionality. However, at this time most companies had used up their internal funds which made access to loans even more vital for them. But because the availability of internal funds determines the stability of companies, many found access to financing restricted because of the conditionality (EC, 2014d).

Currently, there are circa 2500 companies participating in the Sardex exchanging approximately 1.5 Million Euro in Sardex per month. The rate of circulation of the Sardex is much higher than the Euro in Sardinia which means that one Sardex generates 11 Euro of GDP, one Euro only 1,4 Euro of GDP (EC, 2014c).

Similarly to the Freigeld of Wörgl, the Sardex supports all seven effects listed above. Its effects include also the three that the Waldviertler and the Chiemgauer did not realize because: First, the introduction of an own currency on an island will most likely increase its economic independence. Second, the Sardex is a complex financial system with actual reserves that was built with the intention to not crash. And third, since Sardinia is an island and many infrastructure facilities are Sardinian and the Sardex is closely cooperating with regional and local authorities it will undoubtedly encourage a stronger regional and local ownership of infrastructure facilities.

Other models have different effects. The Fureai Kippu in Japan is aimed at facilitating the exchange services by establishing a central hub in form of an institution that manages the deposit of work hours (effect number two, the establishment of a sustainable financial system). The shell money of the Tolai of Papa New Guinea is used as a social institution to support traditional social culture and ensure the sustainability of the local infrastructure (Preissing, 2009). The shells exchanges by the Torai for a good or a service can vary because the exchange does not only have a purely economic function but “it “builds” and “expresses” relationships which the community, the only way to the fullness of life is constructed” (To Waninara, 2000). In practical terms this means that a fish may be exchanged for more shells when the seller is about to marry because the buyer feels culturally obliged to support the wedding of the seller (Kennedy & Lietaer, 2004). The main effects of the shell money of the Torai would be effects number six, the re-regionalization of infrastructure facilities, and seven, the strengthening of the regional identy.

The RCCs implemented under the REGIONET aktiv project constitute again different models. The Blaufrank was established by a private association in 2009. It uses money notes that correlate to the Hungarian Forint (HUF) in 1 HUF = 1 Blaufrank. There is a 2% fee when the Blaufrank is exchanged back to HUF or Euro. With REGIONET aktiv, also Austrian companies have adopted the Blaufrank which means that it is now a currency that operates parallel to the Euro and the HUF. Equally to the Waldviertler and the Chiemgauer, the Blaufrank should mainly encourage people to invest their capital in the region. In what concerns the Blaufrank, there is no data on its rate of circulation or the amount of additional wealth that is has created for the region.

The Jogllandgutschein that was initiated by REGIONET aktiv in 2009 is a RCC in form of vouchers with the same main objective the Blaufrank has. The vouchers are set at a fixed Euro-rate, namely 10 Euros and they are sold at 50 different locations namely banks and communes, and are accepted in more than 200 companies in the region. The vouchers are bought by private persons and they are given to the employees of the companies in the regions as Christmas presents and similar. The Jogllandgutschein was so popular already at start-up that within its first 4 months that it led to an additional volume of sales of 120.000 Euro for the companies in the region.

All in all, both the Blaufrank and the Jogllandgutschein have the same effects as the Waldviertler and the Chiemgauer.

Especially these last RCCs prove that a complementary currency can also be classified as a marketing tool. A RCC, especially one that is build up by professionals and thus with an extensive marketing and promotion campaign, can improve the people’s awareness of their region and their support to the region. If such a campaign is missing completely or not effectively executed, a RCC will most probably only succeed when the people in the region have a well-suiting mentality or when the RCC provides benefits that are large and visible enough for the people to be drawn to the RCC. Positive examples of a successful campaign would be the Jogllandgutschein and the Sardex. The implementation of the Waldviertler and the Blaufrank were and are not supported by an effective promotion campaign which is probably the main reason for the low demand for the two RCCs (Wallenberger, 2014; Vissi, 2014). If RCCs are subject of an EU regional policy project, they are likely to have a very effective and well-executed implementation and consequently a higher rate of success in following years. Successfully implemented RCCs that aim on improving the attractiveness of products and services in the region that are also demanded by tourists, will most likely lead to an increase in tourism in the region. This means that an effective communication of the benefits of a RCC will not only encourage people from the region to support their regional economy but it will also encourage an increase in external capital inflow. This strongly supports the effects number three, four and in particular seven of the list of Kennedy & Lietaer.

Mr. Viss and Mr. Wallenberger stated that despite the use of tools that can alter people's perspectives on RCCs, such as a promotion campaign described before, it is very likely that the culture and mentality of people in a region may still be an important factor determining the level of usage of a RCC. In other words, if people in a region are not interested in investing in the region but prefer to buy goods online from international corporations or similar, then a RCC cannot be successful in the region. Mr. Viss found that the mentality of people towards the way in which they spend their money may correlate with the level of economic development of a region and the level of wealth of the people. This perhaps could explain why the majority of RCCs in the EU are in Competitiveness Regions. Only when people have a certain level of wealth and availability of capital, they start to make more cognitive investment choices because they do not have to focus on finding the cheapest offer.

On the contrary to that, RCCs are still a famous tool to improve the economy of regions hit by financial crises. This may be because in times of crises people have less funds to travel, they are more restricted to the region and they thus start to focus more on their neighbors. Companies that operate on a multinational bases can adapt to an increase in price and a decline in demand much easier than SMEs because they can transfer their production to other, more profitable regions. The majority of SMEs depend on the regional economy in which they are situated; if the demand in the region declines, the SMEs will face financial limitations and will have to reduce their workforce, for example. These arguments can be supported by the fact that the main incentive of the founder of the Sardex was the fact that so many SMEs were going bankrupt in Sardinia and one main incentive for the companies to join the Sardex is the access to interest-free micro-credits (EC, 2014c).

This leads to what Mr. Viss and Mr. Wallenberger identified to be the largest problem that RCCs face in the EU: the trans-regionalization and internationalization of trade flows. The more the companies in a region are set up to sell their products to consumers and companies outside the region, the less successful will be a RCC that is established in the region. The Blaufrank and the Waldviertler are two RCCs that face this problem. If these two RCCs would incorporate also the trading flows to Budapest and Vienna, then they would most probably acquire a much larger member base than they have now. It may be that the Sardex is successful and effective because Sardinia is an island and the majority of the companies there, the SMEs especially, provide their products and services to consumers in Sardinia. Equally, the Jogllandgutschein could only be as successful as it is because its companies are active mainly in the tourism sector which means that their activity outside the region is limited. This discussion leads back to the first effect that Kennedy & Lietaer (2004) listed, namely decoupling of the regional economy from the global economy. This is obviously an effect that can hardly be compatible with EU regional policy, since it runs counter the further development of the internal market. However, as the examples brought above show, in order for RCCs to be a success it may be necessary for the region to be decoupled to some extend from the external economy. This may be the reason why the Waldviertler and the Blaufrank, for example, are used by only a small percentage of the population and only for a small percentage of capital transfers.

In sum, what can be said about the effects of complementary currencies is that they can have all effects identified by Kennedy & Lietaer. However, the effects they have on the regional economy depends on the model and on the level of penetration they achieve in the regional economy.

B. EU REGIONAL POLICY

Regional policy has been one main topic for the EU since its beginning. The Unions commitment to regional policy was enshrined already in the Treaty of Rome (Armstrong, 2007). Already at that time, the national leaders recognized that economies provide different opportunities in different places and at different time. Urban areas, for example, are generally wealthier than rural areas which creates an economic pressure that interferes with balanced development within a region (McCormick, 2011).

In 1970, the differences in economic performance and patterns in the different member countries was one main reason for the uncertainty of the economic and financial leaders when deciding on if and how to proceed with a monetary union. At that time, the answer to the question of whether such a union would be a cost or a benefit for the countries involved was far from being decided upon (Giersch, 1970). The "theory of optimum currency areas" (De Grauwe, 2000, p. 5), developed in 1960s, argues to be able to determine the costs of a monetary union and also, to a lesser extent, the benefits. The costs of a monetary union refer to the fact that when a country gives up its national currency, it gives up also the ability to conduct national monetary policy (Schuppan, 2014). Such costs are considered the greater for the states involved the less the states' economic development and cycles are harmonized. In the best case, countries should be economically and politically aligned before entering in one monetary union. The reason for this is that when a region has homogenous economic characteristics, the monetary policy applied to the entire region will have the same effects in all its parts. When the regions of the union differ strongly in their economic characteristics, monetary policy that is applied to the entire region of the Union will be beneficial for some parts and possibly detrimental for others parts (Mayes, 2007).

While the theory of optimum currency area was developed to explain the functioning of monetary unions only, one may argue that the claims it makes concerning the necessity of economic (and political) convergence between the member states, can also be applied to an economic union like the EU. After all, the stability and strength of a currency is mainly determined by the performance of the economy and by the monetary and fiscal decisions of the government. Both were and arguable still are the core elements of the EU. The EU was founded, next to its ideological reasons, with the idea of creating a single market or an economic union. With the further integration of the EU the national and European leaders realized that in order to realize the single market and ensure its functioning, the way that the member states deal with their economies and their public spending has to be harmonized to a certain extend. This awareness has led to the creation of EU laws that should ensure a certain degree in harmonization of the economic policies in the member states. In 1992, the Treaty on the European Union introduced the 3% limit for government's budget deficits (Hodson, 2010). The Growth and Stability Pact of 1997 repeated the requirement that public deficit must not exceed 3% of GDP and introduced the rule that public debt must not exceed 60% of GDP. These rules were reinforced by the Treaty on the Functioning of the European Union (TFEU). These rules were established by agreement of all the EU members and not only by the member states of the euro-area, although some parts of their reformed versions are only applicable to members of the euro-area. Based on that, one could argue that in the EU and in the EMU there is a tendency to further harmonize the economies of the member states. Just, in what concerns the EU, there is a group of member states that have integrated their economies further than others by adopting the Euro as a common currency. Essentially, both the members of the EU and the members of the EMU face instability of their Unions because of the different economic developments across the member states. Currently, for example, in some states economic growth is currently re-accelerating while in others GDP is expected to bottom out in late 2014.

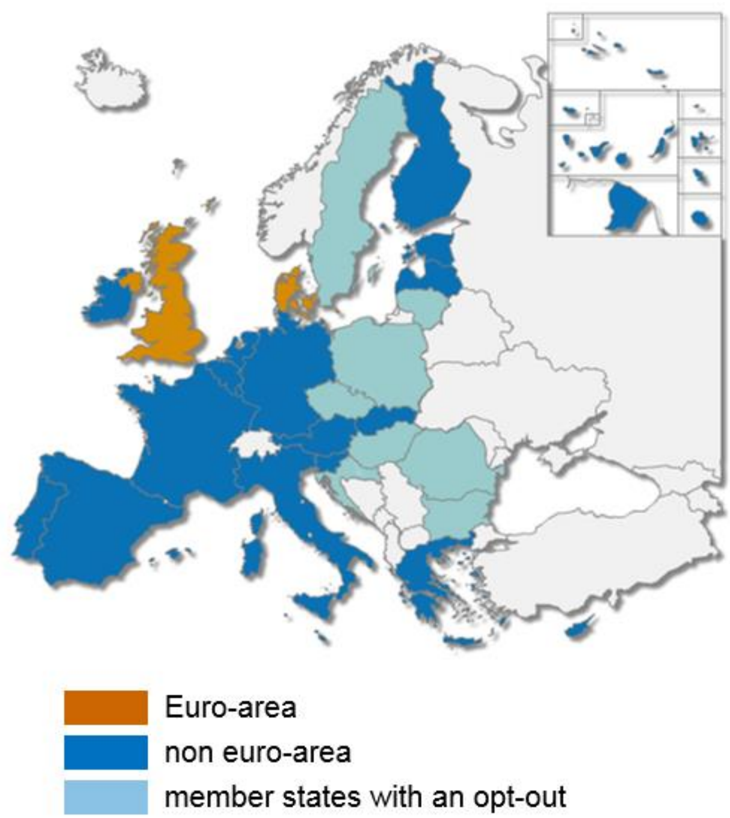


Figure 4: The EU member states and the Euro (EC, 2014b)

The problem with the requirements that the theory of optimum currency area sets for costs to be low, is that they are very difficult to fulfill when a regions is formed by integrating states that have a well-established national identity, currency and market (De Grauwe, 2000). The countries that were included into the EU and the EMU, with the exception of Germany and Austria, were all economically independent and different (Giersch, 1970). Regional policy has become more important than ever with the last enlargement rounds that have led to the inclusion of 12 new states into the EU and even more so when the financial crisis hit. Regional disparities in economic output and income in the EU have become far more extreme than in similar economies such as the US or Japan. The primary dimension of regional income disparities in the EU remains East-West, the secondary dimensions being North-South and core-periphery pattern at both EU and national levels respectively (EC, 2008).

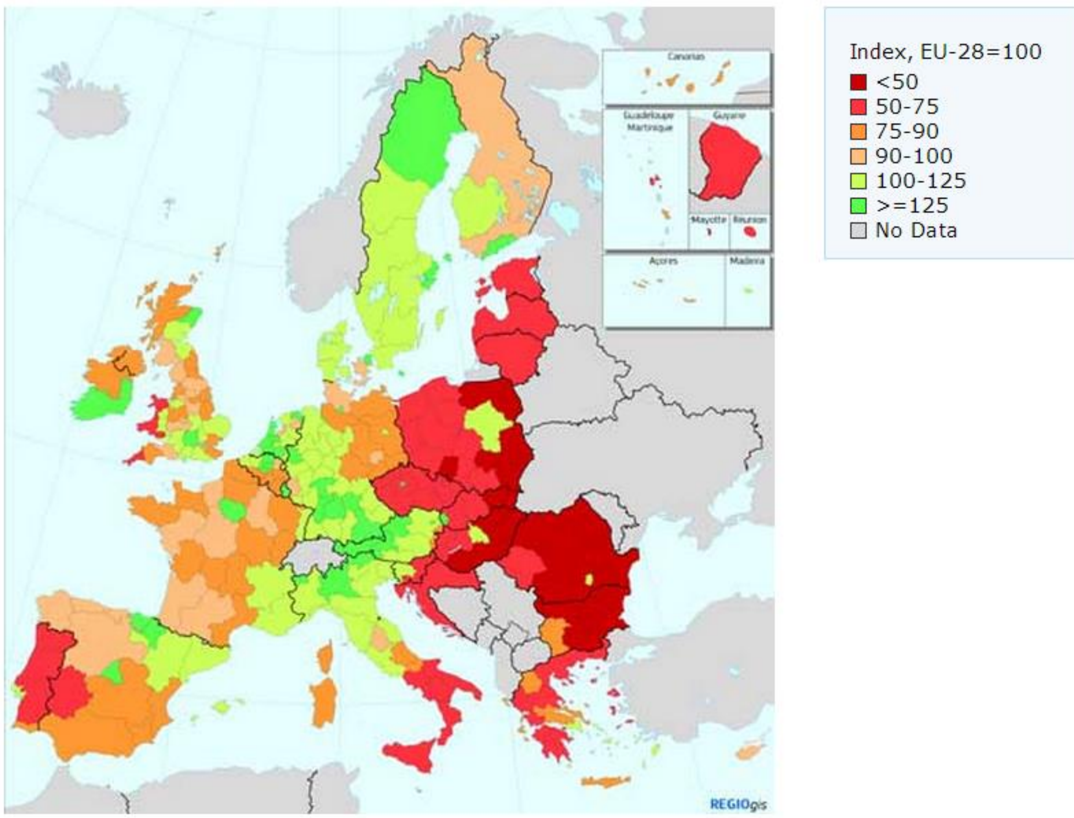


Figure 5: Regional Disparities across EU28 GDP per head in PPS in 2010 (EC, 2014f)

These regional differences in the EU reflect themselves, as pointed out before, in the way the single market can function, stability of the Euro and how the Union's monetary policy affects the regional economies: Currently, the policies of the ECB are constructed to keep inflation down - price stability has always been the ECB's main objective - and interests rates as low as possible to stimulate investments and money circulation. This policy is beneficial for countries with stronger economies like Germany and Austria, for example, but they have detrimental effects for countries with weaker economies like Spain, Greece and Portugal, for example. While the

Germany is functioning without great deterrence, Spain, Portugal and Greece face high unemployment rates and even state bankruptcy.

The more member states the EU and the EMU have and the closer integration of the Unions, the more important regional policy has become. In the next sections, the focus is on explaining what EU regional policy is and how it works with a particular focus on what are to rules concerning the use of the Funds and who develops these rules.

1. Introduction to EU Regional Policy

In this paper, the term "EU regional policy" will be used for all EU policy targeted at promoting the development of regions in the EU that are economically underdeveloped in comparison to the EU average.

According to Article 4 paragraph 2 letter c of the TFEU, the area of economic, social and territorial cohesion is one in which the Union shares competences with the member states (EC, 2014d). Article 174 of the TFEU (EU, 2012) states the purpose of regional policy:

In order to promote its overall harmonious development, the Union shall develop and pursue its actions leading to the strengthening of its economic, social and territorial cohesion.

In particular, the Union shall aim at reducing disparities between the levels of development of the various regions and the backwardness of the least favored regions.

Among the regions concerned, particular attention shall be paid to rural areas, areas affected by industrial transition, and regions which suffer from severe and permanent natural or demographic handicaps such as the northernmost regions with very low population density and island, cross-border and mountain regions.

Article 175 of the TFEU postulates that all of the Union's policies, in particular those designed to implement the internal market, must not only take into account the objectives set out in Article 174 but shall also contribute to their achievement. The Union should use, amongst other existing financial Instruments, the Structural Funds to support the achievement of these objectives (EU, 2012).

The European Regional Development Fund (ERDF) was created in 1975. At that time, it was the national states that determined which projects were funded by the ERDF on the respective national territory. The focus was on facilitating a balance between the payments and the amounts received by the different member states. This meant that richer member states often received more funding than other that were poorer and more in need of funding. In the following 20 years regional policy was reformed. The national leaders recognized that the financial costs of the single market were compensated within the first financial perspective (Allen, 2010). Consequently, the funding expenditure was doubled to 1/3 of the EU budget and the Single European Act called for "strengthening the economic and social cohesion" of the Union (McCormick, J., 2011a). In 1989 the introduction of the single market was incorporated in the policy framework and the previously separate EU funding mechanisms under the "Structural Funds". In 1994, policy was further reformed to accompany the steps towards the EMU and the European Agricultural Guidance and Guarantee Fund (EAGGF) and the Cohesion Fund were established (Armstrong, 2007).

Despite the strong position of intergovernmental bargaining in regional policy, the Commission was able to establish the concept of cohesion in the Single European Act (SEA) and to include further policy packages in the financial perspectives of 1993, 1999 and 2006. It also established a set of underlying principles for the implementation of the Funds. The principles are:

- programming: allocation of the Funds to programs not projects
- concentration: limiting the eligibility for the Funds to regions in actual need of them by means of setting regional policy objectives
- additionality: the national expenditure should not be reduced due to EU funding
- partnership: include partners from all levels
- proportionality: limit the amounts of the Funds that is used for the administration, control and monitoring the programs
- subsidiarity
- co-financing: private sector involvement and public spending should be encouraged
- Lisbonization: the Funds should be used to pursue the aims of the Lisbon Agenda

By setting these principles, the Commission has defined the regional policy-making process as one that includes actors in all levels of the EU and its member states, making it fundamentally multi-level governance (Allen, 2010).

Until 2013, regional policy has operated mainly on basis of the reform of 1989 (Armstrong, 2007). Because of the extensive enlargements in the last years, regional policy reform has become necessary again. The biggest focus of this reform was on the improvement of strategic coherence of regional policy which in practice means a closer cooperation between European and regional authorities and a stronger link between cohesion programs and national reform programs (DG IPOL, 2011). Furthermore, since 2008 the focus of economic governance has been on improving fiscal discipline and macroeconomic stability. In the financial sector the supervision competences have increasingly shifted from the member states to the EU. The ECB and the EC have assumed more responsibilities and the European Council a more explicit leadership role (DG IPOL, 2014). These changes in inter-institutional relations in economic governance have a currently widely undefinable impact on regional policy, especially concerning the room of maneuver left for the national and sub-national governance institutions. This is mainly due to missing clarifications and competence-coordination. Whether the new instruments of the EMU will effectively complement regional policy instruments and not cause confusion between the different governance functions remains questionable (DG IPOL, 2014).

Stronger coordination, convergence and enforcement of structural policies are seen by the Council as an essential part in the development of the EMU into a genuine economic and monetary union (GEMU). In particular, the implementation of the policies should be dealt with on a case-by-case basis, ensuring that the financial support is targeted and flexible (EUCO, 2012).

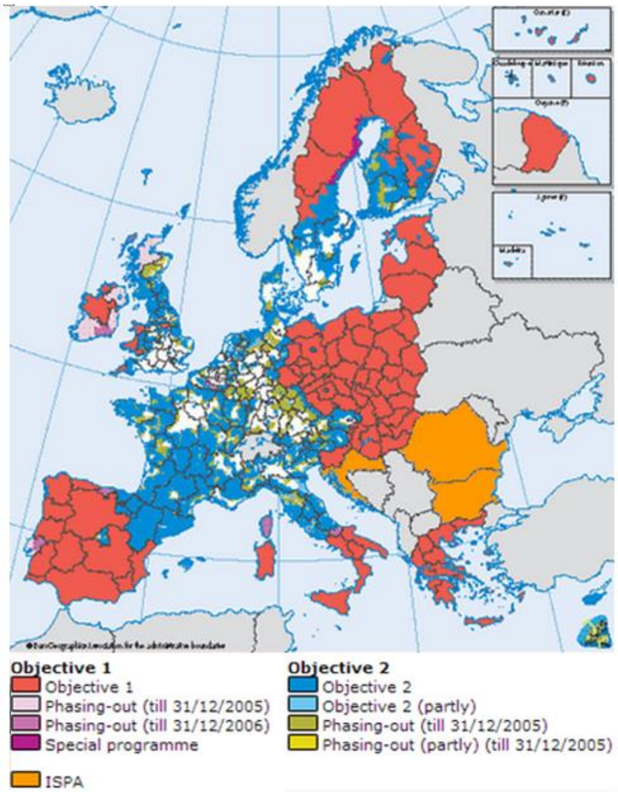
2. Funding of EU regional policy

Regional policy is funded by the EU through the Structural Funds and the Cohesion Fund. The Structural Funds comprise of the ERDF, the European Social Fund (ESF), the EAGGF and the European Maritime and Fisheries Fund (EMFF). The ERDF supports programs addressing regional development for a sustainable increased competitiveness with core points such as research innovation and environmental protection (EU, 2013a). The ESF supports programs with the objectives to increase the inclusion of marginalized groups such as migrating populations, women and people with disabilities, to the labor market (EU, 2013b). The Cohesion Fund supports programs for environmental protection and trans-European infrastructure (EU, 2013).

Funding is allocated to the regions depending on their economic backwardness in comparison to the EU average and according to the importance of each regional policy objective. In the period 2007-13, the member states had to allocate 60% of the ERDF expenditure on the Convergence Objective and 75% of that to the Competitiveness and Employment Objective. The objectives are set in the Funds' regulations and in the strategic frameworks such as the Lisbon Strategy, or now the Europe 2020 Strategy. Funding eligibility is set by the EU and not by the member states. In some cases, specific regions remain in the same category although they do not fulfil the category criteria anymore e.g. northern parts of Sweden and Finland exceed the criteria for convergence regions but are still in the same category because of their extremely remote geographic location (EU, 2011). In other cases, although parts of the region may fit into a criteria of higher levels of funding, the region is set in a lower category because its overall performance does not fit the criteria of the higher category. This is the case because the funding category is set according to level 2 of the Nomenclature of territorial units for statistics (NUTS) which refers to the basic administrative regions (EU, 2014).

In the period 2007-2013, 350 billion Euro was allocated to the Funds. The biggest recipients were the eastern member states and Portugal, Greece and Spain. In absolute terms, Poland received nearly 20% of all Structural Funds spending and in per capita terms, Estonia received the most (McCormick, J., 2011a).

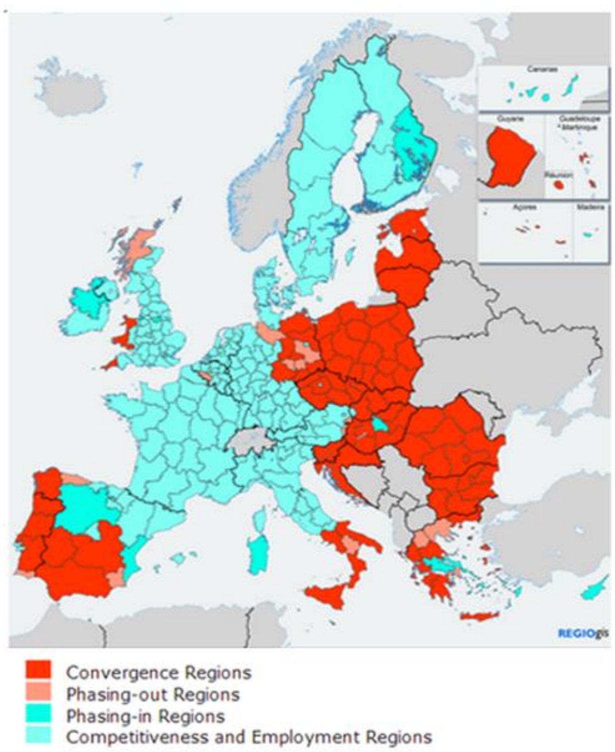
The following figures show the regions eligibility for the Structural Funds for the periods 2000-06, 2007-13 and 2013-20 and the respective objectives of EU regional policy.



Objective 1: regions with a GDP/capita <75% of the EU average (with exceptions)
Objective 2: socio-economic conversion of industrial, urban or rural zones or zones which are dependent on fisheries
Objective 3: education, training and job opportunities; funding for the regions not covered by the other objectives

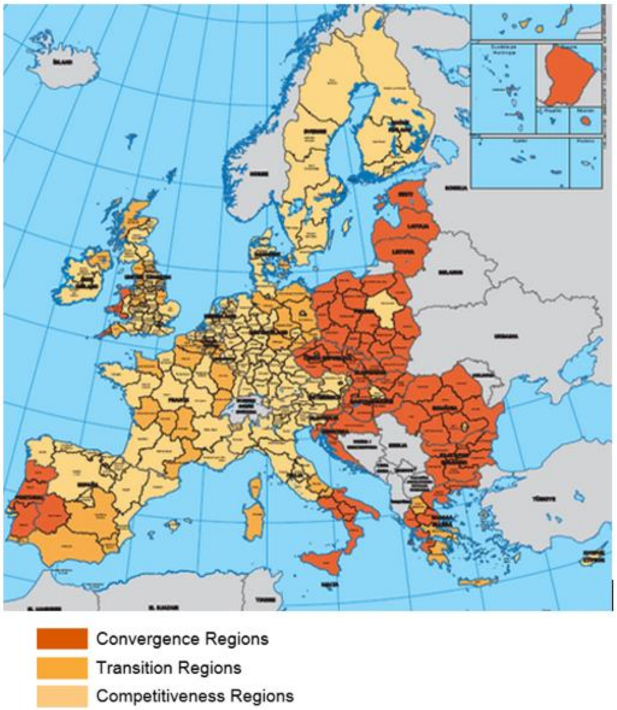
Plus: Community initiatives which encourage cross-border, transnational and interregional cooperation

Figure 6: Structural Funds: Eligible areas in EU25 for Objective 1 and 2 between 2000 and 2006 (EC, 2006a; McCormick, J., 2011a)



Convergence Objective: growth an djob creation, provides phasing-out funds for states and regions that would have remained eligible if the tresholds had remained at 90% and 75% of GDP/capita repectively of the EU15 average but were no longer eligible for the same tresholds with the EU25 average
Competitiveness and Employment Objective: Funding for all regions not covered by the Convergence Objective and those who would be eligible for Objective of in 2000-06 but whose GDP/capita now exceeds 75% of the EU15 average
European Territorial Cooperation: cross-border and trans-national cooperation for NUTS3 regions

Figure 7: Eligible areas in the EU under the Convergence Objective and the European Competitiveness and Employment Objective (EC, 2013; McCormick, J., 2011a)



Convergence regions: GDP/head < 75% of EU-27 average
Transtition Regions: GDP/head 75 – 90% of EU-27 average
Competitiveness Regions: GDP/head >/= 90% of EU-27 average

11 different thematic objectives, summarised they focus on:
R&D and innovation, infrastructure, competitiveness of SMEs and underdeveloped sectors, environmental protection, employment, labour mobility; education, social inclusion, public institutional capacity

Figure 8: Structural Funds (ERDF and ESF) eligibility 2014 – 2020 (EC, 2014)

3. The effectiveness of EU regional policy

The opinion on the effectiveness of EU regional policy and Structural Fund spending are divided. The main reason for this is that in economic matters, the cause-effect links are difficult to determine. In what concerns regional policy, it is an integrated system of economic policies, changes in the economic environment and the redistribution of wealth that determine the outcome. In this system it is hard to isolate if and which effects EU cohesion spending has. As pointed out before, not being able to determine their exact effects is one main issue that complementary currency systems face as well.

In terms of developing, the member states have shown different patterns: Ireland, Greece and Spain have experienced a more rapid growth than the EU average, while Portugal did not. Furthermore, of the 50 regions that qualified for the highest funding, were still in the same category in 2004. This means that regional disparities within both the original EU15 and the new members have remained significant (Allen, 2010).

The European marketplace has also failed to reverse the high rates of unemployment in the EU. After the recession in 1970s the unemployment rates in Europe steadily increased with German, France and Italy reaching 11-12% and Spain nearly 19%. By 2007, the employment rate had improved, but the eurozone was still at 7.1% unemployment, compared to 4.5% in the US. With the crisis in 2007, unemployment rose again in the eurozone, peaking at 12% in 2013 (ibid.).

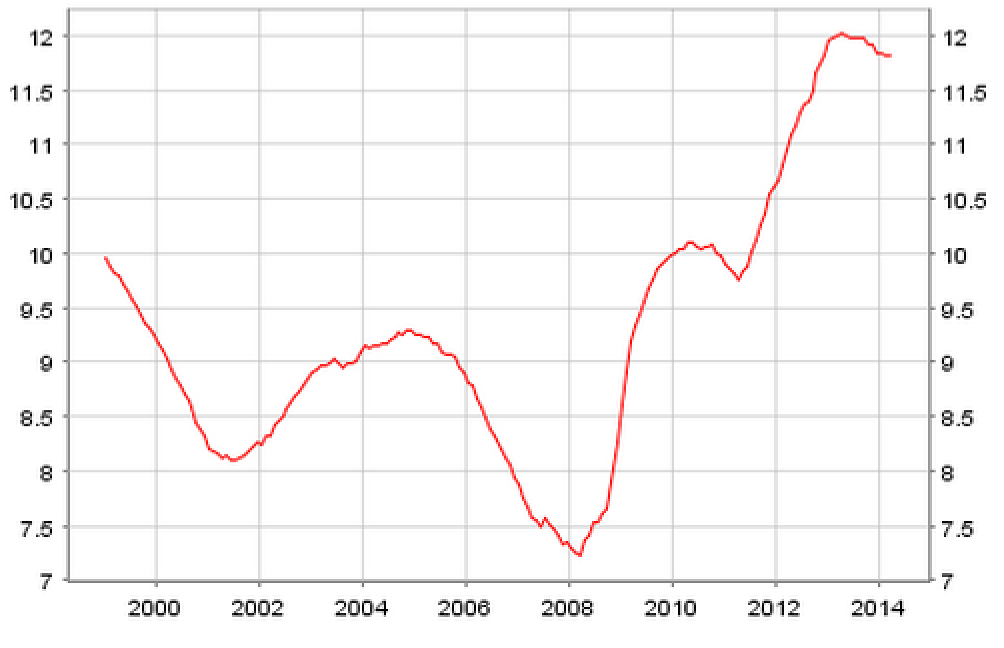


Figure 9: Unemployment rate (% of labor force) 2000-2014 (ECB, 2014a)

The reason for the high unemployment rates in EU member states have been long debated. Apart form the economic crisis and economic developments leading up to it, it is the limited qualification of about 1/3 of the European labor force, that the jobs that have been created are mainly temporary or part-time jobs and the enforced protection against dismissal for the workers that are seen as main reasons. In the Treaty of Amsterdam, employment was finally introduced to the treaty-framework. Although competences remained in the hands of the member states, the call for a coordinated employment policy led to the development of the European Employment Strategy (EES) and further on to the Lisbon Strategy (McCormick, J., 2011a). As stated before, the Lisbon Strategy has been used as a strategic framework to be achieved by regional policy which makes employment one main element of EU regional policy.

4. The process of EU regional policy in detail

In this section, the analysis of EU regional policy will be focused on the part of the framework that directly concerns the two OPs chosen. Based on that, the main emphasis will be on the overarching strategies determining regional policy in the period 2007-13 and the ERDF regulations that are applicable to the OPs.

The member states have limited financial resources and the disparities between the levels of development of the various regions are large. This implies that a sustainable development of the

Union by promoting economic, social and territorial cohesion of the Union can be better achieved at the Union's level. According to the principle of subsidiarity the Union may, in accordance with the principle of proportionality, adopt measures for regional policy (EU, 2013c).The cohesion policy framework is established for a period of 7 years, currently 2014 – 2020. The principles and priorities of regional policy are created through a process of consultation between the Commission and the EU countries (DG IPOL, 2011):

First, the Commission and the Council establish a strategic framework with overall goals to be achieved with regional policy. These Community Strategic Guidelines (CSGs) are aimed at strengthening the synergy between the Union's priorities and the national priorities of regional policy. Next to the overall strategic objectives, the CSGs state general provisions and for the national regional policy programs such as non-discrimination, for example. The 2007 – 2013 CSG was particularly focused on delivering the objectives of the renewed Lisbon strategy of 2005:

1. "improving the attractiveness of Member States, regions and cities by improving accessibility, ensuring adequate quality and level of services, and preserving their environmental potential;
2. encouraging innovation, entrepreneurship and the growth of the knowledge economy by research and innovation capacities, including new information and communication technologies; and
3. creating more and better jobs by attracting more people into employment entrepreneurial activity, improving adaptability of workers and enterprises and increasing investment in human capital" (EC, 2005; EUCO, 2006).

Second, the European Commission proposes the budget and the rules for regional policy. The European Parliament and the Council define, by means of the ordinary legislative procedure and by consulting the Economic and Social Committee and the Committee of the Regions, the tasks, priorities, objectives and the organization of the Structural Funds. Following the same procedure, they also define the general rules applicable to the Funds and the provisions necessary to ensure their effectiveness and the coordination of the Funds with one another and with the other existing Financial Instruments. Finally, always following the same procedure, they define the implementation regulations for the ERDF (Article 178), the ESC (Article 164) and the EAGGF (Article 43) (EU, 2012). Usually, there are common rules applying for the Structural Funds as well as specific ones for each Fund. The Union can only set the regulatory framework for the Funds insofar it can demand competencies according to the principle of subsidiarity. The regulatory framework clarifies the legal boundaries within which the Funds can be used by the member states (DG IPOL, 2014).

In detail this means that one common regulation for all Funds is established, detailing objectives for the funds. In 2007-2013 these objectives were threefold namely Convergence, Regional Competitiveness and Employment, and European Territorial Cooperation. These objectives are then broken down into thematic priorities which are detailed in the Fund-specific regulations.

In the EDRF Regulation 2006 (EC, 2006) the eligibility for the Fund is further limited by setting a "range of investments and measures":

1. contribute to creating and safeguarding sustainable jobs, primarily in form of direct aid to investment and to SMEs
2. investment in infrastructure
3. development of endogenous potential by measures which support regional and local development: support for and services to enterprises, in particular SMEs, creation and development of financing instruments, networking, cooperation and exchange of experience between regions, towns, and relevant social, economic and environmental actors;
4. technical assistance

These four points constitute a framework of areas of investment and measures that can be funded by the ERDF and by which means the thematic priorities can be implemented.

Article 4 of the Regulation on the rules of the Funds of the ERDF (further called "ERDF 2006 Regulation"), regulating the Convergence Objective, states that the ERDF shall focus its funding on "supporting sustainable integrated regional and local economic development and employment by mobilizing and strengthening endogenous capacity through operational programs aimed at the modernization and diversification of economic structures and at the creation and safeguarding of sustainable jobs" (EC, 2006). There are eleven priorities for ERDF funding under the convergence objective.

Article 5 of the ERDF 2006 Regulation lists the priorities for ERDF funding under the Regional Competitiveness and Employment Objective:

1. innovation and the knowledge economy: e.g. the creation and strengthening of efficient regional innovation economies by stimulating innovation and entrepreneurship in all sectors of the regional and local economy by supporting the introduction of new or improved products, processes and services onto the market by SMEs; improving access to finance by SMEs,

2. environment and risk prevention, and in particular: e.g. stimulating investment for the rehabilitation of the physical environment; stimulating energy efficiency, the protection and enhancement of the natural and cultural heritage and the development of sustainable tourism;

3. access to transport and telecommunication services of general economic interest: e.g. strengthening secondary transport networks; promoting access to, take up, and efficient use of ICTs by SMEs (EC, 2006).

Article 5 of the ERDF 2006 Regulation details the priorities for the European Territorial Cooperation Objective:

1. the development of cross-border economic, social and environmental activities through joint strategies for sustainable territorial development: e.g. encouraging entrepreneurship, in

particular the development of SMEs, tourism, culture, and cross-border trade; supporting links between urban and rural areas and developing collaboration, capacity and joint use of infrastructures;

2. the establishment and development of transnational cooperation by financing networks and actions conducive to integrated territorial development within the areas of innovation, environment, accessibility and sustainable urban development;

3. reinforcement of the effectiveness of regional policy: e.g. promoting interregional cooperation focusing on innovation and the knowledge economy and exchanges of experience concerning (EC, 2006).

Third, on basis of the Union's rules and strategic priorities, the member states develop the National Strategic Reference Framework (NSRF) as it was called in 2007-2013, now it is called Partnership Agreement (PA), which constitutes the framework for preparing operational programs. It should outline the country's strategy and proposed programs. These programs can include cooperation programs in border regions involving more than one country. In addition to the NSRF /PA, each member states presents the list of operational programs (OP) under the specific priorities. The information on the OPs listed in the NSRF should include the specific region, the priorities and the organizational structure of each OP. It is the member states' responsibility to organize for each NSRF/PA and each program a partnership with the representatives of competent regional, local, and other public authorities as well as economic and social partners and other relevant stakeholders. The member states should identify the most representative relevant partners, which should include institutions, organizations and groups which are capable of influencing the preparation or could be affected by the preparation and implementation of the programs. The partnership should ensure that the principles of multi-level governance and of subsidiarity and proportionality are respected, the specificities of the member states' different institutional and legal frameworks as well as the experience and the know-how of relevant actors integrated, and the ownership of planned interventions retained by the stakeholders. The Commission negotiates the final versions of the NSRF/PA. Other groups such as workers, employers and civil society bodies can participate in the development and management of the OPs (EU, 2013c).

Concerning the REGIONET aktiv, this means that the responsible Austrian authority, the Austrian Conference on Spatial Planning (Österreichischen Raumordnungskonferenz - ÖROK), drafted the NSRF (in Austria named Strat.at). The Strat.at was created in a process of dialogue between all relevant partner at the Federal and the Länder level. The partner involved were the representative of the ministries, the Länder, the cities and communes and the social and industry partners that are responsible for the conception and implementation of the EU regional policy programs. Furthermore, representative of the state agencies or non-governmental institutions on gender mainstreaming and environment, as well as representative of regional management institutions and experts were included in the process. The Strat.at lists 5 main national priorities:

1. Regional knowledge basis and innovation: Improving the R&D activities and innovation in enterprises, especially of SMEs, services, products and institutions of vital importance for the industry such as infrastructure. Facilitate and strengthen cross-border economic activities
2. Attractive regions and quality of location: Develop the regions in accordance with their specific characteristics; facilitate the adjustment of enterprises in border regions to the structural differences of the bordering state; improve infrastructure and logistics with an imperative on reducing negative impact on the environment; improve resource consumption and protection
3. Employment growth and qualification: improve qualification of the workforce and reduce barriers to employment such as discrimination
4. Territorial cooperation: all activities listed under priorities 1.-3. as well as cross-border, transnational and interregional cooperation.
5. Governance as an implementation strategy: improve the implementation of the other four priorities by an improving cooperation, knowledge management and innovation

Furthermore, the Strat.at provides the goals and basic strategic framework for 8 OPs under the Regional competitiveness and employment objective, one Convergence-Phasing-Out program for Burgenland, one national program on Employment growth and for several regional programs under the Territorial cooperation objective (ÖROK, 2006a). The OP Territorial cooperation AT-HU comprises eight NUTS 3 regions: the Austrian regions Wien, Wiener Umland - Südteil, Nord-, Mittel- and Südburgenland and the Hungarian regions Győr-Moson-Sopron, Vas and Zala. The NUTS 3 regions Niederösterreich Süd and Oststeiermark are so called adjoining regions. The OP lists one overarching strategy, namely to "foster the economical, social, environmental and cultural development of the border region and to reduce regional disparities by means of cross-border co-operation. By supporting the implementation of joint activities and the sustainable use of endogenous resources the CBC-program will contribute to the establishment of a prosperous region with cultural and ecological diversity and a high quality of life for its inhabitants (ÖROK, 2006, p. 27)". The OP also sets three objectives that are to support the achievement of the overall strategy, these are:

1. Innovation, integration and competitiveness: promote economic co-operation, increase the sustained growth of labor and improve social infrastructure and public services (ÖROK, 2006, p. 44)
2. Sustainable development and accessibility: improve eco-mobility, transport and regional accessibility; enhance the cross-border governance system and improve the management of natural resources (ÖROK, 2006, p. 49)
3. Technical assistance: support the Program's implementation

In comparison to that, the Italian NSRF- Quadro Strategico Nazionale (QSN) provides following objectives:

1. Develop knowledge networks: Improve human capital and promote, improve and expand research and development, innovation and competitiveness
2. Improve quality of life, security and social inclusion: sustainable and efficient use of resources for development, social inclusion and services important for quality of life and regional attractiveness
3. Improve production capacity, services and competitiveness: improving the use of natural and cultural resources important for attractiveness and development, transport infrastructure and the competitiveness of production and employment and the attractiveness of urban regions
4. Internationalization and modernization: internationalization and attractiveness of investment, consumption and resources; governance, institutional capacity and competitiveness and efficacy of markets (CIPE, 2007)

Within the framework of the QSN, the Operational Program “Sardinia” established under the Regional Competitiveness and Employment objective. It comprises the entire NUTS 2 region of Sardinia and lists following priorities:

1. Information Society: improve the quality and accessibility of information and communication technologies (ICTs)
2. Inclusion, Social Services, Education and Lawfulness: reducing the risk of social exclusion and improving non-discrimination
3. Energy: promote sustainable development
4. Environment, Attractiveness of Natural and Cultural Resources, Tourism: efficient and sustainable use of environmental resources and development of natural and cultural resources to improve attractiveness for tourism
5. Urban Development: reducing internal development disparities and improving living standards and the quality of life to increase the attractiveness and competitiveness of the region
6. Competitiveness: supporting research and innovation among enterprises and promoting cooperation between universities, research centers and businesses
7. Technical Assistance: improve the effectiveness and efficiency of the Program’s implementation (EC, 2014)

Fourth, the programs are implemented by the national and regional “managing” authorities of the member states. These managing authorities evaluate, select and monitor the different projects. In order to ensure an equal processing of the funds by all national managing authorities, the member states develop rules that bind the authorities. These rules specify the regulatory framework set by the Union further and can only be set within the boundaries of the Union’s rules (DG IPOL, 2014).

Concerning the REGIONET aktiv, it was different regional authorities of the Burgenland, Lower Austria, Styria, Vienna and Hungary as well as partners of regional management institutions and industry partners that established the program “creating the future – Cross-border Cooperation

Programme Austria - Hungary 2007-2013". These people, together with the members of the program Regional Cooperation Management HU-AT (RECOM HU-AT) then decided on the specific projects, one of which was REGIONET aktiv. REGIONET aktiv is managed and implemented by again different regional authorities and members of regional management institutions, namely: Regionalverband Industrieviertel, Regionalmanagement Oststeiermark, Regionalmanagement Burgenland GmbH, Merzweckverband der Kleinregion Felsö-Repce Mente, Mehrzweckverband der Kleinregion Kapuvar-Beledi, Mehrzweckverband der Kleinregion Köszeg und Umgebung, Mehrzweckverband der Keinregion Sopron-Fertöd, Industrie- und Handelskammer Vas, Stiftung Wirtschaftsentwicklung Kisalföld. Because the ERDF is a co-funding instrument, REGIONET aktiv is funded by different institutions. In detail, these are the Republic of Hungary, the Austrian Ministry for Economy, Family and Youth, the Economic Chambers of Lower Austria and the Burgenland and the Spatial planning section of the government of Styria.

Finally, the Commission signs off the funding and, same as each member state, it monitors each program and submits report throughout the implementation periods of the programs. It submits a report to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions every three years on the progress made towards achieving economic, social and territorial cohesion. Specific actions outside the Funds and of measures within the other Union policies may be adopted if necessary by the European Parliament and the Council acting in accordance with the ordinary legislative procedure and after consulting the Economic and Social Committee and the Committee of the Regions (EU, 2013c).

a) Complementary currencies within the EU regional policy framework

In the following table, all the rules, regulations, NSRFs and OPs analyzed in the last section, with their respective objectives and priorities, are put together. The priorities and objectives are put into the table by fitting them to the priorities and objectives of the frameworks, rules and regulations that determine them. This means that the objectives of the Lisbon Strategy are at the highest level, they give the three-field reference framework for the other input. According to the objectives of the Lisbon Strategy, the ERDF range of investments and measures ("ERDF investment range") has been added to the table. Then the two ERDF objectives are fit into the table, always in reference to the objectives of the Lisbon Strategy and the ERDF investment rules. In accordance with the objectives of the Lisbon Strategy, the ERDF investment range and the priorities of the ERDF objectives, the NSRFs of Austria and Italy are added. Then, in reference to the objectives of the Lisbon Strategy, the ERDF Objective concerned with the specific OP and the applicable NSRF, the objectives of the OPs are added. Finally, the seven points of the list of effects of the complementary currencies created by Kennedy & Lietaer are added.

Lisbon Strategy	**attractiveness (1)**	**innovation, entrepreneurship, knowledge economy (2)**	**jobs (3)**
			jobs (1)
	infrastructure (2)		

<table>
<tr><td rowspan="1">ERDF range of investments and measures</td><td colspan="2">endogenous potential (3)</td><td></td></tr>
<tr><td rowspan="3">Objective Competitiveness and Employment</td><td></td><td colspan="2">innovation and knowledge economy (1)</td></tr>
<tr><td colspan="2">environment (2)</td><td></td></tr>
<tr><td colspan="2">infrastructure (3)</td><td></td></tr>
<tr><td rowspan="3">Objective European Territorial Cooperation</td><td colspan="3">cross-border activities (1)</td></tr>
<tr><td colspan="2">transnational cooperation (2)</td><td></td></tr>
<tr><td></td><td>effectiveness (3)</td><td></td></tr>
<tr><td rowspan="4">QSN</td><td></td><td colspan="2">knowledge networks (1)</td></tr>
<tr><td>quality of life and inclusion (2)</td><td colspan="2"></td></tr>
<tr><td colspan="2">production, services and competitiveness (3)</td><td></td></tr>
<tr><td colspan="2">internationalization and modernization (3)</td><td></td></tr>
<tr><td rowspan="4">Strat.at</td><td colspan="2">knowledge and innovation (1)</td><td></td></tr>
<tr><td colspan="2">attractiveness and quality (2)</td><td></td></tr>
<tr><td colspan="2"></td><td>employment and qualification (3)</td></tr>
<tr><td colspan="3">territorial cooperation (4)</td></tr>
<tr><td rowspan="6">OP Sardinia</td><td></td><td>information society (1)</td><td></td></tr>
<tr><td colspan="2"></td><td>inclusion (2)</td></tr>
<tr><td>energy (3)</td><td colspan="2"></td></tr>
<tr><td>environment (4)</td><td colspan="2"></td></tr>
<tr><td colspan="2">urban development (5)</td><td></td></tr>
<tr><td></td><td>competitiveness (6)</td><td></td></tr>
<tr><td rowspan="4">OP AT-HU</td><td colspan="2">regional knowledge basis and innovation (1)</td><td></td></tr>
<tr><td colspan="2">attractive and quality region (2)</td><td></td></tr>
<tr><td colspan="2"></td><td>employment (3)</td></tr>
<tr><td colspan="3">territorial cooperation (4)</td></tr>
<tr><td rowspan="4">Effects of CCs</td><td colspan="2">liquidity for SME (3)</td><td></td></tr>
<tr><td colspan="3">employment (4)</td></tr>
<tr><td colspan="2">transport and energy (5)</td><td></td></tr>
<tr><td colspan="2">migration and capital (7)</td><td></td></tr>
</table>

What becomes visible in this table is how the strategic frameworks and the NSRFs are integrated, how the OPs fit into these instruments, and how the CCs fit into all of elements analyzed in the last section.

The first thing that can be seen is that not all of the effects of complementary currencies as listed by Kennedy & Lietaer fit into the framework. The effects that do not fit are following:

- Decoupling of the regional economy from the global economy (1)

The need of recognizing and working with the specific regional characteristics is underlined within the objectives of the ERDF investment range and Strat.at respectively, which fits with effect number seven of the list on complementary currencies, there is no indication of a wanted "decoupling" of the region. Indeed, the EU regional policy should contribute to the implementation of the single market. This means that decoupling of regions, which in most cases is only possible by establishing some kind of trade barriers, counters the fundamental aim of regional policy. This potential effect of complementary currencies is thus not compatible with EU regional policy.

Concerning the same kind of process, effect number six does not lie within the aims of EU regional policy:

- Re-regionalize the ownership of infrastructure facilities such as drinking water, transport system and waste management (6)

While the EU recognizes the importance of regional and local actors to be the main stakeholders of regional development programs, which also include the development of infrastructure, this does not mean that these regional and local actors should gain actual and long-term ownership of the project outcomes. It is very likely that a re-regionalization of infrastructure facilities is not only impossible in many cases – drinking water for example, cannot be found in all regions – but would also reduce efficacy and functionality of the systems. Transport systems, for example, should not only be available within the region but should also connect different regions. Equally, waste management is likely to be more efficient, especially in what concerns the cost management, when there is one larger provider covering several regions.

- Establishment of a sustainable financial system that will not cash in times of crisis (2)

Whether effect number two fits the aims of EU regional policy, is debatable. On the one hand, one could argue that "financing instruments" lie within the ERDF financing frame and under the Employment and Competitiveness Objective there is the call for more access to finances for SMEs. Although there is no explicit mentioning of a sustainable financing system, there are definitely indications that some kind of a financing system could be in compliance with the ERDF rules. On the other hand, one could argue that these two example simple show that the creation of financing possibilities for enterprises are in line with EU regional policy aims. This does not mean that a sustainable system, which is essentially a long-term institution, should be established. However, such financing possibilities are already covered under the effect number 3 which renders effect number two obsolete also in this perspective. Based on the latter argument it was decided to not include effect number two.

The four remaining effects fit well with the aims of EU regional policy:

- Create liquidity for SME in the region and consequently enhance their productivity (3)

As explained above, there is a definite call for an increase in financing available for enterprises and in particular SMEs. Due to that, effect number three is in accordance with the ERDF rules.

- Lower the unemployment rate by promoting production in the region (4)

The necessity of increasing employment is recognized by the Lisbon Strategy, the ERDF financing range, the Competitiveness and Employment Objective and both NSRFs. Effect number four lies thus at the core of EU regional policy.

- Establish a closer network between consumers and companies and consequently lower transport distance and energy consumption (5)

The call for a more efficient use of resources and sustainable development is included in all of the analyzed frameworks, rules and regulation. Equally, the improvement of cooperation and exchange networks between the participants of the regional economy are supported by all frameworks, rules and regulations. This puts effect number 5 also at the core of EU regional policy.

- Strengthen the regional identity to promote changes in migration and capital transfer (7)

As discussed already with effect number one, the ERDF investment range recognized explicitly the need of the development of "endogenous potential" which is also referred to by the Strat.at. Furthermore, there is a call for improving the attractiveness and competitiveness of the regions in the Lisbon Strategy and in both NSRFs and OPs respectively. A regional identity becomes stronger when the region's specific characteristics are identified and a distinct identity is built that can be communicated easily. Such a strategy usually makes a region more popular not only amongst potential and actual external clients and investors but also amongst the people in the region. This process will ensure the attractiveness of the region and the more attractive the region, the more competitive it becomes. All in all, effect number seven fits well with the aims of EU regional policy.

However, in what concerns the complementary currencies especially, this table is to a certain extend misleading. What the table shows is that that four of the complementary currencies' effects fit well into this framework. However, in what concerns the fit of the complementary currencies with the OPs this table creates a certain illusion. The different objectives of the OPs are fitted into the table because their objectives are compared to their respective NSRF, the ERDF regulations and the objectives of the Lisbon Strategy. This means that they fit within one or more of the three fields, fitting in one field does not mean that they necessarily fill the field with their range. In other words, some of the objective of the OPs do not compare in their content and range to other objectives filling the same field in the table. For example, the fifth objective of the OP Sardinia is filling the same fields as the second objective of the OP At-HU. Yet, the Italian objective of "Urban Development" is focused on reducing development disparities, improving living standards and the quality of life to increase the attractiveness and competitiveness of the region, while the Austrian "Attractive region and quality of location" is focused on developing the regions in accordance with their specific characteristics, facilitating the adjustment of enterprises to structural differences in the border region, improve infrastructure and logistics and the consumption and protection of resources in the region. This means that although both are essentially aimed to achieve very similar outcomes, they focus on different strategies and tools to get there. This may be a good because it could reflect the specific regional needs and potentials.

On the other hand, this means that although the objectives of the OPs fit into the table and so do the effects of the complementary currencies, this does not mean that they match. Points three and five and seven of the list by Kennedy & Lietaer fit well with the Austrian objective of "Attractive region and quality of location". For a structural adjustment the enterprises will need liquidity (5), this is supported by strengthening the regional identity (7) which again encourages the acceptance and promotion of the specific characteristics of the region, and finally improving transport and efficient use of resources (5) is clearly part of this OP objective. In what concerns the "Urban Development" objective of the Italian OP, none of the effects of the complementary currencies of the list by Kennedy & Lietaer fit well and that although four of them are in the same fields as the chosen OP objective.

In fact, when comparing the effects of the complementary currencies and the objectives of the OP Sardinia one could argue that although they effects of the complementary currencies cover many of the objectives of the Lisbon Strategy and the ERFD, they are not compatible to the objectives of the OP Sardinia. Although the OP Sardinia was established within the Competitiveness and Employment Objective of the ERDF and the priorities of this objective cover all four effects of complementary currencies included in the table above, the objectives of the OP Sardinia do not cover these effects. While the OP AT – HU sets priorities that aim at economic cooperation and growth of labor (1. priority), the OP Sardinia does not call for such developments. The OP Sardinia defines its priorities very narrowly which means that although the Jogllandgutschein has also increased the attractiveness of the Joglland, it could not be established within priority 4 or 5 because the first is strictly focused on environmental issues and the second on living standards and quality of life. Equally, the competiveness priority (6) does not allow for complementary currencies because it is aimed at increasing the cooperation in research and knowledge management and not in economic terms. One could of course argue that if the four effects of complementary currencies are combined they could improve living standards and quality of life in the region. After all, complementary currencies are mainly seen as a social instrument. This means that it may be possible determine complementary currencies to be compatible with the objectives of an OP depending on the effects one expects of the currency.

4. Results

In this section, the findings of the previous sections will be summarized and discussed within the theoretical framework presented in the second part of this paper.

Overall, this paper is aimed at answering two research questions:

1. In what way can a regional complementary currency support the EU's regional policy goals in areas eligible for the EU's structural funds?
2. What factors that are currently preventing for the EU's structural funds to be used for the creation of regional complementary currencies can be identified?

In order to answer the first research questions, this paper has taken a list of potential effects of complementary currencies established by Kennedy & Lietaer as the main tool to establish a link with EU regional policy. In the first section of the third part of this paper, the list has been compared to actual examples of complementary currencies and further discussed. Overall, it seems to depend on the model of the specific complementary currencies whether it will support one or more of the effects of the list. Out of the seven effects listed by Kennedy y & Lietaer, Viss and Wallenberger both argued that especially as a marketing tool (effect number seven) complementary currencies could be very useful. The first effect identified by Kennedy & Lietaer - decoupling of the regional economy from the global economy – is arguably an integrative feature of RCCs and that it cannot be realized by most RCCs because the economy of most regions is dependent and interlinked with the economy of the surrounding regions, was seen by both Viss and Wallenberger as the biggest problem that most RCCs encounter.

After having verified and discussed the effects listed by Kennedy & Lietaer, EU regional policy was analyzed. Overall, in this paper the process of EU regional policy was presented: The objectives of regional policy are set by the Union by means of the Regulations of the Funds and the Community Strategic Guidelines. Then, within the framework of the Union's objectives, the member state establish their own national strategic framework detailing state- and region-specific objectives and priorities. In addition, the member states may establish national laws on how the Funds are to be distributed. The member states also present the Operational Programs (OPs) for which they want to use the Union's funds. The OPs are again constructed within certain priorities which are set specifically for each respective OP. Ultimately, it is the priorities set by the national state and in particular the ones set in the OP that determine the projects that can be and are chosen within a program.

In this paper, only a limited part of the EU regional policy framework was analyzed. First, the paper focuses on the regional policy framework of 2007-13. This means that the paper has analyzed the strategic frameworks, rules and regulations pertinent to this specific regional policy framework and has not looked at the different frameworks to create an in-depth comparison. Second, this paper has limited its scope to two different OPs, namely the OP Sardinia and the OP AT-HU of the 2007-13 regional policy framework. This means this paper did not focus on analyzing all of the regulations of the Union's financial instruments used to support regional policy. It is possible that within the other Structural Funds and the other financial instruments such as Cohesion Fund, the position of complementary currencies within EU regional policy is a completely different one as identified by this paper. In detail, this paper only included the objectives of the Lisbon Strategy of 2005, the main provision on funding of the ERDF 2006 regulation with special considerations of the Competitiveness and Employment Objective and the Territorial Cooperation Objective, the NSRF of Austria and Italia for the period 2007-13 and the two OPs AT-HU and Sardinia. This means that this paper has not only limited its scope in what concerns the Union's legislation on EU regional policy, but it has also selected a specific national and regional focus. Such a limited scope could suggest that the findings of the paper may not be enough to clearly position complementary currencies within the EU regional policy framework.

By analyzing the frameworks, rules and regulations selected for this paper, four effects of complementary currencies listed by Kennedy & Lietaer were identified that are compatible with EU regional policy:

- Create liquidity for SMEs in the region and consequently enhance their productivity (3)
- Lower the unemployment rate by promoting production in the region (4)
- Establish a closer network between consumers and companies and consequently lower transport distance and energy consumption (5)
- Strengthen the regional identity to promote changes in migration and capital transfer (7)

Regional complementary currencies can thus support EU regional policy by creating financing for enterprises, in particular SMEs, which again can lead to an increase in the ability of the enterprises to employ more workers. Because it is the people in the region that support the enterprises, they are likely to try improving their cooperation with and offer to these people which is likely to encourage even more regional consumption. In sum, successful and effective complementary currencies have a large potential to increase the attractiveness and competitiveness of the region.

For the second research question, two different ways of answering it were identified. First, one could simply look at the regulative data on EU regional policy and the effects of the complementary currencies and see which effects do not fit within the EU regional policy framework and how this misfit is realized. In other words, one could look at what are the regulations of the frameworks determining EU regional policy that are not compatible with the effects of complementary currencies. Or the other way round, one could look at the effects of complementary currencies and analyze which ones are not compatible with the EU regional policy framework. Finally, one could also draw upon the interviews conducted with the two experts to find general problems that complementary currencies face in the current European economy.

Based on this approach, one would find that although RCCs may fit with the objectives, priorities and regulations set at the higher level of EU regional policy, they still may not be compatible with the implementation of the policy at regional and local level. This is due to the fact that at each level of EU regional policy, there are actors that have a certain level of authority to narrower define the rules and objectives set at the higher level. While the Strat.at kept the objectives relatively broad, the QSN defined its priorities very narrowly. For the two OPs analyzed this meant that the OP AT-HU could set objectives that allow the use of many different measures and tools while the OP Sardinia limited the aims of EU regional policy even further and left very little room for regional and local actors to choose different implementation measures. Furthermore, the success of RCCs can be limited by the level of trans-regionalization and internationalization of the trade in the region. Also, the mentality of the people in the region, in particular their perspective on the functions that money should incorporate, may determine the success of a RCC. There is however evidence that the latter can be changed in favor of the RCCs with promotion tools such as a marketing campaign.

Thus, the factors identifiable that are currently preventing RCCs to be used more extensively to implement EU regional policy goals are on the one hand the actors involved in setting up the EU regional policy framework from European to local level. From the frameworks analyzed in this paper, it can be said that it depends especially on the national and regional program frameworks whether RCCs can be used as a regional development tool or not. On the other hand, there is evidence that the people in the region have to have a certain mentality in order for RCCs to be successfully implemented in the region. It could be that while in Germany many RCCs have been accepted by the people and in Sardinia the Sardex proved to be a success, this may not be the case in other regions of the EU. Finally, it may be the probably inherent necessity of RCCs to effectively function only in a region that has a region-centered economy rather than a trans-regional and international one that prevents RCCs to be implemented in a more extensive way in the EU.

Next to this approach to answering the second research question, one could also draw on different theories that touch both EU regional policy and complementary currencies and try to discuss the findings from above within the theoretical framework presented in the second part of this paper. This could lead to a better understanding of the findings drawn from this paper with the first approach explained before. It could also enable one to discuss the findings from different perspective which may lead to further findings.

As explained in the second part of this paper, the theories of economics especially but also the theories on policy-making presented in this paper are seen as being interrelated. This approach to the theories was mainly based on the finding that complementary currencies integrate theories from different fields and of different content. As discussed already before, this approach could be criticized for various reasons including that the scope of the different theories cannot be ignored and that the underlying assumptions of the theories are a vital part of the theories which again limits their adaptability to arguably similar circumstances and variables. Despite many arguments against it, in this paper the theories are seen and used as complementing each other. The discussion of the findings in the next pages will be based on this approach to the theories:

Being money systems, complementary currencies find themselves in the interplay of European and national monetary and economic policies and preferences. One could argue that since complementary systems are not traditional elements of the economies, they are very unlikely influenced by changes in monetary and economic policies. However, it is a fact that complementary currencies depend on the content of regulations setting the framework for currencies and financial systems in the Union and in the national states. Currently, complementary currencies have so limited importance and support at European and national level that in most countries it is either illegal to create one or the legal framework is yet to be clarified. These framework are very likely to incorporate the perspectives of the European and national leaders on currencies and financial systems. Based on this, one could argue that the preferences states have, in what concerns IPE, will impact on the likeliness of complementary currencies to be created and on their rate of success. For example currently, somewhat counter liberalistic arguments that states are not supposed to control or interfere with the market, several policies with macroeconomic and fiscal conditionality have been adopted by the EU. This could point towards an increasing request of the EU to better control the economies of the member states and the Euro. If however the nation states have decided on further harmonizing their economic and monetary policies, it may be that they will also increasingly see complementary currencies as systems that counter their preferences and drive towards more harmonization. This would mean that establishing complementary currencies in general and in particular within EU regional policy may become less popular and increasingly difficult.

Now, one could argue that the Gramscian theories can only be applied to interstate relations under hegemony. On the other hand, one could also argue that even in the EU there is a clear power distribution between the national states and the EU, in the sense that although there might not be a state achieving hegemony, certain leaders can be identified as more influential on policy-outcome than others. Of course, the states' power positions in the EU might vary depending on the policy area, economic and political developments and timing in the European integration process. But in general, in what concerns complementary currencies, these arguments might point to the ability of national or European leaders and institutions, the ECB for example, to use their powers in order to disperse their views on complementary currencies. This could mean that it is task of the national and European leaders to establish awareness of and support for complementary currencies. Also sociological institutionalists find that values, ideas and even practices become integrated in institutions and then form the perceptions and the interests of the actors within these institutions. If now some European and national leaders would promote complementary currencies, the idea that complementary currencies are beneficial could potentially be taken on by other European and national leaders and could also disperse within sub-national levels.

Based on these argument, if the perspective on complementary currencies is as negative as described above, it may be very unlikely that complementary currencies will be used more extensively in the years to come. So one could argue that there might need to be a change in economic and monetary perspective at the highest European and national level. However, this may be a very long term and difficult process according to historical institutionalists, since they find that institutions incorporate the values and preferences of the actors that built them over time and then become so rigid that they constrain the action and policy choices of their actors. Historical institutionalists argue that it takes a very effective impact to change the direction an institution drives the actors influenced by it (Bulmer, 2007).

In contrary that, institutionalists in IPE argue that states create institutions and delegate power to them in order to maximize utility and limit the possibility of free-riding. These rational-choice institutionalists argue that institutions do not change or influence preferences, but may only limit the ways in which the actors try to pursue those preferences (Rosamond, 2007). This would mean that the European and national leaders should be perfectly capable of promoting complementary currencies and the establishment of an economic and monetary legal framework that enables and facilitates the creation complementary currencies. Then, one could argue it could either be that European and national leaders are not aware of complementary currencies and their effects or complementary currencies do not fit with their interests and preferences. In what concerns the first argument, neoclassical economists could argue that the actors in the economy have the full and relevant information. Behavioral economics and socio-constructivists are likely to counter this argument by pointing out that firstly people are very unlikely to possess full information and secondly, they is evidence that they are influenced by values, ideas and preferences of their environment. Both would thus support that it is possible that European and national leaders may not be aware of complementary currencies. Socio-constructivists would even be able to explain why the level at which European and national leaders concern themselves with complementary currencies seems to be equally low in most member states.

In what concerns the second argument, rational-choice theorists could agree with it. In the view of the neoclassical model of human behavior this could mean that complementary currencies may lie outside of the interests of all or at least the majority of European and national leaders, since each individual is fully capable of making independent choices. This could mean that in order for complementary currencies to be stronger supported by European and national leaders, a change in leadership is necessary. However, it is very likely that, in order for the European and national leaders to support complementary currencies they would also have to have a more social perspective of money which is inherently counter the claims of the neoclassical approach. In other words, it might be necessary for the behavioral approach to economics to become stronger established in the highest levels of the Union and its member states in order for complementary currencies to be stronger supported by them.

The political economy approach to IPE argues, similar to liberal-intergovernmentalism, that it is especially interest groups that influence politicians which then make the decisions according to the groups' interests. Always concerning the same line of argument, these theorists could argue that counter to the discussion of a potential top-down influence, European and national leaders act on the interests of the most powerful groups in the respective country and in the Union. This would mean that it is actually not the leaders that restrict the use of complementary currencies but part of the society. This could mean that, as argued by Viss and Wallenberger, it is indeed the mentality, values and perspectives of the general people that determine the success of complementary currencies. However, Viss and Wallenberger wanted to express with this argument only that people in the region will decide the fate of a complementary currency with the level of their support. Meanwhile, one could argue that the theories would support that the peoples' perceptions on money in general and complementary currencies in particular, are the factors that also determine monetary and economic policy and thus also the legal framework that enables or prohibits complementary currencies. In other words, in order for the people to be able to use complementary currencies in some regions in the EU, they may first have to proactively achieve a change of law.

That it is the society that inherits the claim for a more social money, is also part of the theory of Karl Paul Polanyi. He argued that there is a constant struggle between the economic focus on expansion of market and capital and its consequent dehumanization, and people's demand to discipline the market and re-humanize capital. The latter part is one core objective of most complementary currencies. As explained above, most complementary currencies are not expected to take up the same functions as the official currency, but they should constitute a more social currency that enables the creation of a regional economy based on rules of respect, reciprocity and mutual gains. Complementary currencies thus inherit the claim of behavioral economics that the homo oeconomicus does not reflect the behavior of people in an economy. Concerning Polanyi, one could argue that since regional complementary currencies have been used already when the control of the economy was still firmly in the hands of governments, there may always be some element of market society in an economy. In other words, his model may be correct when one sees it as a constant transition process. This transition process may be closely interlinked with the political powers at work in the country – mercantile powers will press towards a separation between society and market, socialistic powers will drive to achieve the reverse. In what concerns current times, seen that society has most probably a relatively large influence on the markets in the European countries compared to times before the 20th century, Polanyis arguments could indeed explain the emergence of many complementary currencies in Europe. In contrary to that, the emergence of RCCs in the EU could also be linked to the staggering development of underdeveloped regions in the Union. In other words, people might find it better to be proactive rather than wait for economists at national and European level to find a solution. That people tend to be proactive when it comes to the create more fairness in capital distribution in the market, even if it is based only on nominal and not real disparities, is also one claim that Keynes made in his monetary theory when explaining the functioning of wages.

In what concerns EU regional policy development and implementation, one could argue that there is evidence that at its beginning it was strongly driven by intergovernmental bargains. After all, at first the funding was distributed according to the contributions the states made to the Union and not depending on the level of development in the different states and regions. However, one could also argue that there is also evidence that, at least after the period of initial bargaining, the Commission has used its power to shape and implement the detail of cohesion policy, including the multi-level governance. This could mean that it is the Commission that is now in charge of defining EU regional policy. Then again, it is the Commission and the Council that create the regulations concerning the Funds, for example, which means that the national government still have a central position in the development of EU regional policy.

Similarly, one could argue that intergovernmentalism and liberal-intergovernmentalism may still be useful to explain the decisions made on the overall size of Structural Funds allocations to the different member states. Governments could be using their powers to securing a certain level of Structural Funding for their state by intergovernmental bargaining that ultimately is incorporated in EU regional policy. Here, on could argue on basis of historical institutionalism that the fact that the Commission has achieved to design the principles of regional policy could mean that it has achieved a powerful position in this area by which it is able to influence the national leaders. Sociological institutionalists might find that due to this, it is probably the Commission that is mainly defining EU regional policy, not the national governments. That the Commission may have established a powerful position in EU regional policy could even be supported by liberal-intergovernmentalism: It may be in the interests of the member states that are net contributors to have the Commission oversee the spending performance of net recipient states.

In contrary to that, one could argue that multi-level governance is one main feature of EU regional policy and the Commission is pressing for regional and local authorities to be included further into the process. This, and the fact that the Commission is the main supervision authority, would support that EU regional policy may not be determined by intergovernmental bargaining but actually be a multi-level policy. Concerning this perspective, one can argue that it may be likely that the governments of the EU member states differ in their ability to control, manipulate and cooperate with sub-level authorities. In other words, some governments may be able to consolidate rather than weaken their authority, while others may lose their authority to regional and local authorities due to multi-level policy processes. Based on this, one could argue that at European level, intergovernmental bargaining may indeed be the defining element of EU regional policy but in what concerns the implementation of the policy, the powers may be of all levels. Also, this would mean that while the multi-level governance may be fully implemented according to the Commission's idea in some countries, in others it may be more symbolism than reality. This could perhaps explain why the Austrian Strat.at is very extensive in content and includes very detailed information concerning all levels of EU regional policy, while the Italian QSN lists only a very little amount of details on the national strategies and the OP Sardinia. It might be that in Austria, partners from all levels were indeed included and recognized equally when establishing the Strat.at which would have brought with them all the details down to the local level. In Italy, the detailed information may be missing because partners were included that either are not of all levels or that have different levels of power in the EU regional policy implementation process in Italy. One could also find, that the differences in detailed information in the two NSRFs might be due to the lack of active participation and contribution by the sub-level partners.

Coming to economic theories, dependency theorists describe the relationship between the core and periphery countries, i.e. industrialized and developing countries, and the unequal exchange between the two. It argues that underdeveloped countries have unique features and structures of their own and cannot be treated as primitive versions of developed countries. Dependency theory stands in confront to Modernization theory that argues that underdeveloped countries should be led along the same path of development that the developed countries went through, and with the same tools. As explained in the second section of this paper, modernization and

Dependency theory are originally targeted at explaining the differences in development of countries. Despite this, one still argue that applying it to different regions rather than national territories when it comes to an economic or a monetary union, could also lie within the idea of the theories. Based on the latter, in what concerns regions in the EU, modernization theory might claim that complementary currencies are not useful for economic development because they have not been an important part of the development of the currently developed states. Contrary to that, dependency theory might find that complementary currencies are a good development tool because they enable to target the specific characteristics of the region. The argument of the modernization theorists could be one additional explanation for why complementary currencies are not supported by European and National leaders: First, when the European and National leaders are in support of modernization theory, they might be reluctant to encourage complementary currencies because they are not traditional and popular development tools. And second, it might indeed be their unpopularity that is the reason for missing awareness of European and national leaders of complementary currencies and their effects.

Equally, modernization theorists may argue that RCCs could not be beneficial for the region because they run counter the notion of internationalization and opening of the market. This touches upon what Mr. Viss and Mr. Wallenberger have identified as the main problem that complementary currencies are facing in the European market, namely that most regions have a trans-regional and international economy. And while RCCs may need a certain level of regional-intern economy, the potential of RCCs to lead to a decoupling of the regional economy from the global economy was identified to one effect that runs counter EU regional policy. On the contrary to that, dependency theorists could support the argument that with a RCC, a regional economic center could be created and then expanded into the surrounding area thus building on the region's features and opening the regional economy according to its actual independent competitiveness. That regional development should built on the specific feature of the region and that the development should be sustainable, are two main objective of EU regional policy. The last argument could also be supported by the theory of circular and cumulative causation (CCC). CCC is based on the argument that multiple changes are set in motion by one single event which express themselves in a circular manner around the point of origin. If a region achieves to establish an own economic center with higher levels of production and employment, these positive effects are likely to spread to the surrounding territory. Having a RCC is also likely to provide a sustainable flow of capital in the region, as argued by Kennedy & Lietaer, which is likely to uphold positive effects especially when the popularity of the RCC spreads to the surrounding territories due to exactly these effects.

Conclusion

This paper has looked at complementary currencies with a particular focus on regional complementary currencies and has tried to understand how they fit within EU regional policy. In detail, this paper has tried to answer to research questions:

1. In what way can a regional complementary currency support the EU's regional policy goals in areas eligible for the EU's structural funds?
2. What factors that are currently preventing for the EU's structural funds to be used for the creation of regional complementary currencies can be identified?

Several theories were identified that could contribute to the understanding of EU regional policy and complementary currencies on their own and the interplay between. The seven effects of complementary currencies as listed by Kennedy & Lietaer (2004) were verified by analyzing examples of complementary currencies. Furthermore, two experts were interviewed and asked about their views on regional complementary currencies and on how they find the currencies fit with EU regional policy. Then, EU regional policy was looked at, limited down to the frameworks and regulations that directly determine the two regional programs chosen. The effects of the complementary currencies verified were compared to the EU regional policy and differentiated between those effects that fit within the policy's framework and which do not. Finally, the results were presented and further discussed also within the theoretical framework established for this paper.

Out of this, concerning the first question, following answer can be derived: Regional complementary currencies can support EU regional policy by creating financing for enterprises, in particular SMEs, which again can lead to an increase in the ability of the enterprises to employ more workers and thus to a lower unemployment rate. Because it is the people in the region that support the enterprises, they are likely to try improving their cooperation with and offer to these people which is likely to reduce transport and its negative environmental impact and encourage even more regional consumption. In sum, successful and effective complementary currencies have a large potential to increase the attractiveness and competitiveness of the region.

The second question was answered by drawing on the interviews and the comparison between the effects of the complementary currencies verified and the EU regional policy framework analyzed. These findings were then discussed within the theoretical framework established in the paper. Out of the first part of the findings, three main factors were identified that are currently limiting the more extensive use of regional complementary currencies: The actors involved setting up the EU regional policy framework, in particular the national and sub-national actors, the mentality and perceptions people in the region have concerning the functions money should incorporate, and the degree of internationalization of the economy of the regions.

When discussed within the theoretical framework it became clear the first, it may be the fact that complementary currencies are not a traditional development tool and thus not very well known among the decision-makers at European, national and sub-national levels equally as among the population. This means that there is no support from the highest levels which is expressed in laws that do not allow complementary currencies. It also means that the regional and local partners in the EU regional policy framework are not likely to choose RCCs to implement the regional policy. Finally, the people play a very important role in establishing the success of a complementary currency however, the discussion has also pointed towards the possibility that it is them that ultimately determines the topics European and national leaders are concerned about and how the legal framework looks like in the different states. Whether the influences and the process determining the awareness and popularity of complementary currencies is top-down or bottom-up was not clearly identifiable. Also, whether there are any strong horizontal processes or whether the process is a multi-directional one.

All in all, the field of complementary currencies has been the focus of only a limited amount of studies, especially in what concerns integrating it into a European legal framework. Much more research needs to be done to achieve a clearer understanding of the place complementary currencies have in the European economy and the opportunities they offer for EU's regional development aims.

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