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TRANSFORMING OR REPRODUCING AN UNEQUAL ECONOMY? SOLIDARITY AND INEQUALITY IN A COMMUNITY CURRENCY

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ABSTRACT

Building on empirical material from 6 months ethnographically inspired fieldwork in Málaga Común, a mutual credit community currency in Southern Spain, the paper uses Ostrom's (1991) theoretical framework on common-pool resources to look deeper into the provision and appropriation dynamics in the currency scheme. Particular attention is put into the sources of inequality in members' provision and appropriation capacities. Findings suggest that, embedded as community currencies are in the conventional economy, the sources of inequality from the conventional economy are also brought into the community currency. More particularly, private ownership and specialised complex skills lie behind members' unequal capacity to earn community currency in relation to their spending needs. The paper ends by outlining some elements that would need attention when designing the governance institutions of community currency schemes that aim to overcome the inequality brought in by these currencies' embeddedness in the conventional economy.

KEYWORDS

Mutual credit currency, inequality, Ostrom, resource system vs. flow of resource units; provision/appropriation ratio, common-pool resource.

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1. INTRODUCTION

Practitioners and researchers of community currencies praise these monetary schemes for their potential to construct "economies of solidarity" (Powell 2002). Valuing everybody's time equally (Collom & Lasker, 2012), appreciating care and community work not remunerated in the conventional money system (Seyfang, 2010) and driven by an ethos of reciprocity (Werner, 2015), community currencies are seen as tools to mobilise the capacities of communities (Cato & Dodd, 2015), as well as to provide alternative livelihoods (Williams et al., 2001).

Without contending such solidarity and reciprocity claims, scholars critical of community currencies, however, argue that these forms of monies risk exacerbating the socio-economic inequalities they are a response to (Ingham, 2004:185; Seygfang, 2003). Local currency users, the argument goes, enter the community currency scheme under unequal economic conditions. Unequally positioned in the conventional economy, some members of community currencies are unemployed and impoverished whereas others belong to the self-employed middle-class (North, 2017; Gómez, 2009). Currency users, that is, have different access to the traditional resources of a capitalist economy: land, labour, capital (in the form of accumulated balances in the community currency). As a result, they enter the community economy under different relations of production: some can earn local currency units under the form of rent, whereas other enter a wage-based relationship. That is, the time users need to spend to earn local currency varies with the forms of production they engage in. In other words, members' different production and appropriation capacities risk reproducing the inequality of the conventional capitalist economy inside the community economy.

While the debate on the transformational potential of community currencies for capitalism is not new (see Powell, 2002; Sotiropoulou, 2017; Ahmed, 2018), this paper aims to add some nuance. It uses Ostrom's (1991) theoretical framework on common-pool resources to look deeper into the provision and appropriation dynamics of a community currency in Southern Spain. Empirical material comes from six months participating in el común, a mutual credit currency in the city of Málaga. Particular attention is put into the sources of inequality in members' provision and appropriation capacities. Findings suggest that, embedded as community currencies are in the conventional economy, the sources of inequality from the conventional economy are also brought into the community currency. More particularly, ownership and specialised complex skills lie behind members' unequal capacity to earn community currency in relation to their spending needs. Yet, findings also suggest that the reproduction of inequality notwithstanding, the community currency scheme also nourishes practices of solidarity among currency members. This, the paper argues, may plant the seeds for transformation to alternative forms of capitalism. The paper concludes by considering several principles that need to be attended to when designing the governance institutions of community currency schemes that aim to overcome the inequality brought in by the embeddedness of these currencies in the conventional economy.

2. MUTUAL CREDIT COMMUNITY CURRENCIES AND THE COMMONS

In the aftermath of the financial crisis that swept across the world in 2008, a wealth of citizen-driven initiatives are experimenting with various approaches to address economic hardship and social fragmentation. From micro-credits (Barinaga, 2014) to community currencies, from time-banks to mutual credit systems, neighbourhoods and communities are suggesting bottom-up economic and financial alternatives to give access to funding to populations that are often regarded as non-bankable. Driven by an ethos of reciprocity and valuing everybody's time equally (Collom & Lasker, 2012), these initiatives offer solutions to the scarcity of money that traps large population groups in poverty and to the lack of access to credit that reproduces social and economic inequality.

Among these grassroots innovations, community currencies have become particularly prominent. Over 400 community currency schemes were set in Spain alone during the economic recession (Hughes, 2015) and partly funded by the EU's Interreg project "Community Currencies In Action", community currencies have been introduced in the UK, Belgium, the Netherlands and France (Cato & Dodd, 2015) for various economic and social purposes.

Research on community currencies has been swift in pointing at the role these kinds of monies play in developing survival strategies for the poor at the interstices of the economy, in promoting local economic development as well as in transforming the qualitative nature of economic exchanges (Gómez, 2009; Vallet, 2016). These aspects have been discussed particularly in relation to community currencies based on mutual credit systems (or LETS).

Building on the idea of time-banks, in which hours of work are credited in the worker's and debited in the receiver's accounts, Local Exchange Trade System (LETS) are mutual credit systems through which users trade not only services but also goods. When a user sells an hour of work, rents out her car, or sells a bike, the amount agreed by buyer and seller is credited in the seller's account. The same amount is debited in the buyer's account, regardless of whether she had that amount or not in her account. That is, a mutual credit system solves synchronisation constraints of monetary systems by allowing users to spend first and earn later.

The seller can then spend the accumulated credit in any service and product offered in the LETS network. If the buyer, on the other hand, bought for more than she had credit for, then her account will show a negative figure. This is however no debt to the buyer, as she has already paid for the services/products exchanged, but a sign that she has contributed to the economic activity of the network and a compromise to the community to offer services or products equivalent to the debt she has incurred.

These two traits, the possibility to buy on credit and the community compromise, necessarily build on relations of trust and proximity, and are important aspects contributing to re-embed the economy (local and limited in size as it may be) in the social relations of the community. As buyer and seller initiate a mutual credit at the moment of transaction, mutual credit currencies bind its users to the community through both relations of trust and through a shared recognition of the exchange-value of such monies. In other words, mutual credit currencies have the potential to serve as instruments to re-think and re-make the economic commons on which communities rest.

With "economic commons" I make reference to Elinor Ostrom's (1991) work on common-pool resources, "a natural or man-made resource system that is sufficiently large as to make it costly (but not impossible) to exclude potential beneficiaries from obtaining benefits from its use" (ibid., p.30). While a few scholars have explicitly used the framework of the commons to analyse community currencies (see Meyer & Hudon, 2017; Schraven, 2001), there is still much room for developing such an analysis. Indeed, Elinor Ostrom's design principles of successful self-governing common-pool resource organizations have been applied to understand Brazil's community development banks (Hudon & Meyer, 2016) as well as to think through how to overcome the risk of opportunistic behaviour in mutual credit currency systems (Schraven, 2001). Yet, as these analysis conceive the monetary units of the community currency as the common resource itself, they remain oblivious of a distinction key in Ostrom's understanding of the commons: that between resource system and flow of resource units. Elinor Ostrom points to this confusion as an usual one concerning definitions and analysis of common-pool resources. She writes:

> *In regard to common-pool resources, the resource system […] is what generates a flow of resource units or benefits over time. […] Common-pool resource [systems] may also be facilities that are constructed for joint use, such as mainframe computers and the Internet. […] The resource units from a complex facility like the Internet may be the data packets or the computer files. (Hess & Ostrom, 2003:121)*[i]

In other words, a "resource system" refers to the structure that is capable of "producing a maximum quantity of a flow variable without harming […] the resource system itself" (Ostrom, 1991:30). In contrast, "resource units are what individuals appropriate or use from resource systems" (ibid.). This distinction is relevant, Ostrom argues. While the predictability of the flow of resource units depends on the conditions of the resource system, their relationship is not always direct. Some flows are more erratic than others, setting the requirements for how the community manages both the resource system and the flow of resource units (Ostrom, 2002).

A cultural habit to see value in money (thus stressing the function of money as storage of value) may be at the root of a confusion between resource system and flow of resource units concerning community currencies. And yet, currency users of Málaga's Común (the case here studied) did not relate to this type of money as if it was a resource in itself. They related to it because of the access the complementary currency gave them to the services and products provided in the network. That is, the mutual credit system facilitated the generation of a flow of services and products that would otherwise not be available (neither to currency users, nor to society in general). In the words of one of the founders of Málaga Común:

> *The problem with 'crises' is that money doesn't move, and that jobs are lost. That doesn't mean that people without a job do not have anything to offer to society. It means that there is no money to pay for their services. Today, Internet*

helps us there. It is a great way to get goods and services without spending money, and yet paying with all the good things that we can offer (our work, our abilities, our companionship…)

If we apply Ostrom's distinction between resource system and flow of resource units to complementary currencies based on mutual credit systems, the resource system would be the mutual credit system itself, whereas the resource units would be the services and products thus generated. This differs from previous applications of Ostrom's framework to community currencies (see Hudon & Meyer, 2016; Meyer & Hudon, 2017; Schraven, 2001) that have seen monetary units as resource units. Instead, in this article, monetary units become tokens symbolising the value of what is exchanged (thus adhering to a chartalist theory of money). In this line, individual account balances symbolise one's relation (of debt or credit) towards the community that backs the mutual credit system. This change in perspective allows to move value away from money and return it to the products and services exchanged in the community economy.

When framed this way, the products and services traded within the complementary currency network fulfil the requirements of common-pool resources: One, resource unit subtractability, "in the sense that a resource unit withdrawn or harvested by one individual is not fully available to another individual" (Gardner et al., 1990:336). The solar oven bought by a currency user cannot be bought by another user. The massage hour consumed by a comunero cannot be consumed by another. Two, system exclusion, in the sense that "it is costly (but not necessarily impossible) to exclude potential beneficiaries from obtaining benefits from their use" (Gardner et al., 1990:335). Exclusion of members from Málaga Común was costly as it needed constant monitoring in search of users that systematically appropriated resource units (bought products or services) without providing (selling services or products) to the system to the same extent.

As we will see, the distinction between the resource system and the flow of resource units is particularly useful in connection to mutual credit community currencies based on mutual credit, where it is possible to observe the production and circulation of resource units. As long as individuals keep balanced ratios of provision/appropriation of resource units, a mutual credit currency is able to generate and sustain an economic commons over time. Further, the distinction between system and flow will allow us to observe the form the tragedy of the commons adopts in mutual credit community currencies.

3. METHOD

Taking place over half a year, from January to June 2016, the study used various fieldwork techniques to gain an understanding of the relational dynamics at work in a mutual credit community currency in Southern Spain. First, participation was conducted in the regular activities of the currency network. These activities ranged from the weekly communal lunch (Eco-medor) to more or less formal workshops (on community currencies, Silvio Gesell, or bike repairing). At all of these occasions I took field notes that were developed immediately after into fuller descriptions.

Further, my own use of the currency system gave me not only an everyday knowledge of Málaga Común. It also gave me access to the more intimate spheres of currency users. During the six months of fieldwork, I provided (sold) english classes and one economy workshop, and appropriated (bought), car rental, home-made food, and dance lessons. The classes, whether received or taught, offered particularly good occasions to discuss users' relation to the community currency.

Finally, I gathered written material from the currency website, newsletter with demands and offerings in the network, official presentations, blogs, newspaper's clips, meeting minutes, and a varied array of other texts.

To analyse the empirical material, I took an inductive approach, in line with Glaser's and Strauss' grounded theory (Glaser and Strauss, 1967). I proceeded in three steps (for more detail, see Charmaz, 2006). First, I meticulously read and scrutinised transcripts, written material and field notes in order to generate categories and code the text accordingly. For each category, I opened a file with all the quotes, anecdotes and descriptions coded under that category. These files were re-read several times in an attempt to confirm, reject, or modify coded categories. Many of the categories referred to debt – at times through allusions to 'balances' and 'shame' – as well as to community contribution. The second step for the analysis of empirical material implied generating a frame of interpretation. The relevant files were then read again in search of underlying themes. The provision/appropriation dynamic

slowly emerged as a central theme in which topics such as debt and provision challenges were particularly relevant. In the third and final step, I re-read still once more the categorised material looking for examples and exceptions that could help me modify, refute or nuance the frames of interpretation.

4. SETTING: MÁLAGA COMÚN

With an economy based mostly on tourism and the building sector, the world-wide economic crisis of 2007-8 hit Spain with force. The property-led growth of the previous decade was brought to a sudden halt, resulting in a strong economic downturn, bankruptcies of both major companies and small enterprises, a severe increase in unemployment and mass emigration. The speed and virulence of what has been called The Great Spanish Depression took many observers by surprise. Total unemployment went from 8% in 2007 to 18% two years later, 20% in 2010 and 26% at the height of the depression, 2013. And unemployment among the youth reached incomprehensible levels: from 18% in 2007, to 38% in 2009, 42% in 2010 and 56% in 2013[ii].

Málaga, a province in Southern Spain heavily reliant on tourism was hit particularly violently. Total unemployment reached 36% in 2013 and youth unemployment went up to 67% in 2013[iii].

It was against this background that, in 2010, a group of friends decided to start a local community currency in the city of Málaga. David Chapman[iv] – an English man who had lived in Spain for the previous 20 years –, and Paco Puche – a central figure in Málaga's environmental movement –, had attended an information meeting at La Invisible, an abandoned old building in the touristy city centre that had recently been occupied by local civil society organisations. A lively discussion after the meeting and a couple of beers had helped them realise that they could combine their interest in ecology and their own economic needs through a community currency.

With the name of the new currency, Común, the founders wanted to express the spirit of solidarity – towards each other and towards the environment – that they thought was needed to reform the current capitalist system. By 2012, over 200 citizens used comunes to buy services and products as varied as solar ovens and solar driers, car and house rentals, house renovation work, bike repair, computer programming, or English and dance lessons. In mid 2016, at the time of this study, the number of registered users was around 400 and were spread throughout the whole province.

Not surprisingly, given its founding circumstances, the motivations for currency users – or comuneros, as they lovingly called themselves – to join Málaga Común varied. Many saw it as a tool to achieve the goals of the ecology and de-growth movements. "Reduce, reuse, recycle" was their leitmotif. Others, the well-educated youth and the middle-class impoverished by the economic crisis, looked for alternative ways to make ends meet. Raquel was a good example of these users:

> *I learnt about Málaga Común in a very tough moment of my life. We were both unemployed and with two daughters, we couldn't see how we could do. We had lost all hope and we couldn't see a way out. Málaga Común gave me hope back. It helped me see that there are alternatives, that one can subsist without money, that there are other ways of organising and relating to each other*[v].

Still, for a few, it was a way to meet different people, to enrich their social life. Despite their varied motivations, as we will see, the comuneros had an ethics of solidarity and a desire to share work, skills, hobbies, companionship and good spirits.

5. RELATIONSHIP BETWEEN USERS AND THE ECONOMIC COMMONS

Analysis of the empirical material highlights the centrality of distinguishing two types of relations between currency users on the one side and, on the other side, the economic commons enacted by the community currency. One, users' relation to the resource system: values of equality and fairness shaped this relation and were strengthened through this relation. Users' relation to the community currency system played out at the moment of getting access to the digital platform as well as during the general assemblies when discussing and making decisions concerning the governance and limits of the system. Two, users' relation to the resource units: these relations take the form of appropriation (buying) and provision (selling) of products and services through the currency system. While equality characterises users' relation to the resource system, inequality inadvertently sneaked

into the late through users' unequal capacities to provide to the flow of resource units. The different capacity of users to contribute to the flow of resource units resulted in unequal account balances; some having difficulties to get out of debt, others having difficulties in spending their steadily increasing credits. And, although solidarity practices were promoted among currency users to even out balance differences, the source of inequality at the origin of those balance differences persisted, thus making inequality endemic to the currency system.

More particularly, the unequal distribution of land and knowledge/skills in the conventional economy translated into an unequal capacity to maintain a balanced provision/appropriation ratios. Land and property owners could rent out property; that is, with no time investment, they relied on a regular flow of currency units which gave them a strong purchase/appropriation capacity in the system. Similarly, those with complex skills rare in the currency network, such as programming and IT-maintenance, had guaranteed a stream of currency units. In other words, ownership and knowledge – or land and skilled labour (scarce in the currency network) – anchored in the conventional economy and traditional sources of inequality, assured a stronger capacity to appropriate resource units without necessarily providing the same variety and number of services and products as users without property or specialised knowledge did.

5.1. Relationship to the resource system: Equality of access and decision-making

Users' relation to the currency system manifested mainly at two types of events: Gaining membership into the community currency network and participating at the General Assembly. Gaining access to the community currency resource system was relatively easy. All one was required to do when registering into Málaga Común's digital platform was to: 1. fill one's contact information; 2. suggest areas of knowledge and labour skills one could offer as well as one was interested on; and 3. post an offering to the currency network. This digital demand to post a service one was already offering to provide was also a common conversation prompt when meeting, physically, new members. Indeed, "What do you have to offer to Málaga Común?" was an often heard question in informal social gatherings.

This openness and equality of access also marked decision-making processes in the currency system. Decisions concerning the community currency, whether monetary – such as the monthly fee, the entry bonus, and individual exceptions to the general debit limit –, or organisational – such as whether, when and how to organise trade fairs and training workshops –, were made by open vote in general assemblies held every two months at which all registered members were invited to participate.

Decisions regarding how to use the comunes accumulated in the community fund were also taken by democratic vote. Those funds came from members' monthly fees as well as voluntary donations. The community fund worked as an investment bank to boost particular projects. Although in 2016 the funds were invested in community projects (such as the recent renovation of their Eco-shop and buying equipment for the weekly communal lunch – Eco-medor), the intention was to offer micro-credits free of interest to boost the business projects of individual users.

In sum, both access to the currency/resource system and participation in its governance structures were characterised by equality (at least in principle, more research would be needed to understand the relative power positions between founders of the currency, monetary experts and users with other, more social, motivations).

5.2. Relationship to resource units: Renting vs Labouring

To recall from above, in a mutual credit currency, 'resource units' refers not to the monetary units but to the flow of products and services made available through the community currency. To study a user's relation to the flow of resource units, one needs to look both at her provision capacity (her ability to gain currency units by selling products and services) in relation to her appropriation capacity (her ability to spend currency units by buying products and services) as well as to her account balance. Comparison between the provision/appropriation ratios in relation to the account balance of the various users gives us an insight into users' unequal capacity to participate in the currency system.

The following information was retrieved on January 12, 2018.

	Provisi-si-on/Appropriation Ratio	Account Balance	Main source of income (provision capacity)	Main expenses (appropriation capacity)
Diego	332/206 = 1.61	883	Land – rent (of accommodation) Labour (specialised) – production of solar ovens – produce from his land (eggs, veggies)	Labour (non-specialised) – hiring manual work for repairing his property and keeping the farm, web update.
Noelia	84/50 = 1.68	-700	Labour (specialised) – massages Labour (non-specialised) – web updates	Renting accommodation (2015-6), food,
Oscar	169/196 = 0.86	257	Labour (specialised) – repair work (bike repair, electricity systems, plumbing, etc.) Labour (non-specialised) – farm work, light home repair	Labour – agricultural produce, cooked food, solar ovens, hair-dresser, cloth mending, Transportation (car pooling).
Blanca	168/114 = 1.47	-55	Labour (non-specialised) – cooking, farm work – biscuits and buns	Labour (specialised) – hair-dresser, plumbing, solar oven. Commodities – Clothes, cell phone, bike, food, back-pack, table-clothes, books
Roberto	115/79 = 1.45	186	Labour (specialised) – products from own land (almonds, honey) Labour (non-specialised) – home-made cakes – dish-washing for communal lunches	Capital – Furniture and home utensils Labour – food (beer, bread, buns, lunch), arts and crafts, hair-dresser, cosmetic products from the common urban garden, participation in workshops (reading circle, drawing), bike repair

Some clarifications on notation. The provision/appropriation ratio gives an indication of the particular currency user's contribution to the currency system. A ratio bigger than 1 indicates that the user provides more services or products than she appropriates (consumes). A ratio inferior to 1 indicates the user consumes a larger number of services/products than she is providing the network with. Note that this measure however doesn't account for the value of the service/product provided. It only accounts the number of services provided relative to those appropriated.

It is the provision/appropriation ratio relative to the user's account balance that gives us an indication of the value of the services/products provided by the user. Comparing users with similar ratios yet different account balances (surplus vs. debt) gives us an idea of the users' different economic capacities in the community. Looking closer, such differences originate in the factor being sold. While land (or property) gives its owner a passive income – in the sense that there is no need to invest time in providing it –, a similar value of labour requires much time to produce before getting the monetary compensation.

Although all labour was sold at the same rate – one hour of work being paid at 10 comunes regardless the nature of the work – some types of labour were more rare in the network. These were skilled competences such as pro-

gramming and computer skills or, because of the scarcity of agricultural products in the network, the labour involved in producing one's vegetables and fruits for selling to the currency network. Instead, labour such as doing the dishes, moving help, or farming someone else's land was of a kind that any could offer given the need to earn comunes. As a result, those with labour skills scarce in the network guaranteed a more regular income stream than those with non-specialised labour skills, which quickly manifested in their account balances. That is, the source of their income or, in the terms preferred in this article, a user's provision capacity shaped her relationship to the flow of resource units.

Let us look closer into five currency users, as each illustrate a different relationship to the flow of resource units. These users have been selected based on the nature of the services and products they were able to provide to the system: 1. land; 2. specialised labour; 3. non-specialised labour.

5.2.1. Diego: Renting land

Diego was one of the members with largest account balances. He lived in a cottage in Málaga's countryside. Renting out several rooms and selling eggs weekly from the hens in his backyard granted him a large and steady stream of comunes. This constant flow allowed him to be a frequent and strong consumer (appropriator) in the Málaga Común currency system. He invested his purchasing power to repair the rental rooms, farm the land, or update his website, all of which further secured him income in the local currency. He also used his balances to buy other services such as cloth mending or products such as computer screens.

Diego tried to use this buying position evenly, distributing comunes across many members. In an effort to ease newcomers' entrance into the system, Diego was particularly keen to buy from newcomers.

5.2.2. Noelia: Labouring

One of the comuneros that needed particular assistance to generate comunes was Noelia. A tenant in Diego's cottage, the rental fee was debited to her account at a speed and regularity she had difficulties to keep up with. Although with a provision/appropriation ratio at par with Diego's – providing a larger number of services/products than she appropriated – her account balance was the opposite to his. While Diego had a sizeable credit, Noelia couldn't get out of debt.

A trained physiotherapist, she had entered Málaga Común by offering massage sessions. Soon, her challenges became visible to members of the currency network. As a response, many comuneros had started to buy weekly one-hour massage sessions from Noelia.

5.2.3. Oscar: Specialised and flexible labour

Appropriating about 16% more than he provided and yet with a comfortable account balance, Oscar's economic capacity built on specialised repair and maintenance knowledge of electronic and wind energy systems as well as bike mending.

One of the first things he bought as he joined Málaga Común was a solar oven for 100 comunes (100c) that he hadn't yet earned. He was able to earn that money quickly though, repairing bikes and other electronic equipment, as well as selling food cooked in his new solar oven. He quickly understood what the network needed and easily adapted his labouring skills to those needs.

Soon he had a regular income of comunes that he spent at the network's grocery store and hair-dresser. In an effort to circulate his comunes, which he accumulated at a faster speed than he could spend, for the most benefit of the community, at times he would check on other members' accounts to see who had a negative balance (and thus needed to earn comunes). To help that member earn comunes, Oscar would then buy whatever service or product that person was offering to the network.

5.2.4. Blanca & Roberto: Non-specialised vs. Specialised labouring

Blanca's case is interesting in comparison to Roberto's. With a similar provision/appropriation ratio – both providing more than they appropriated – they however had diametrically different account balances. Blanca owed the community while Roberto was in a relation of credit.

The difference in earning capacities had its source in the varied nature of the labour they provided. Blanca earned her comunes offering labour time that many others also readily offered. Farming was easily available in the currency network. And so did biscuits. Roberto, on the other hand, offered agricultural products from his own land, something that was scarce in the network. The labour invested in producing the biscuits compared to home-growing the vegetables was thus differently remunerated, resulting in divergent balances despite a similar degree of provision and appropriation.

A clarification is due here. Specialised and non-specialised labour refers not to skills that are seen as complex and unusual in the conventional economy. Rather, specialised labour refers to skills that are scarce in the community currency, and non-specialised refers to those that are common. As such, although web design and maintenance is often considered skilled labour in the conventional economy, given the large number of community users offering such kind of labour, it can be considered non-specialised labour in the currency network (for a more nuanced discussion of goods in a community currency, see Gómez, 2015; Sotiropoulou, 2015).

In sum, the source of the difference in Diego's and Noelia's economic capacities can be located in the conventional economy – Diego rents land in comunes which property he obtained in the conventional economy. Similarly happens with the difference in Blanca's and Roberto's economic capacities, Roberto providing the products of the land that he acquired in the conventional economy.

To wrap up this first analytical section, findings suggest two community dynamics at work. First, the particular resource users bring from the conventional economy to the currency system allowed them to enter the community economy under different relations of production. Ownership of land/property gave a steady stream of currency units to the owner without a proportionate time investment. Similarly with specialised skills, which provision could be charged at higher rates than non-specialised skills. That is, resources obtained in the conventional economy, land and specialised skills, were at the root of the unequal capacity to provide – renting vs. labouring – and hence appropriate services and products without incurring debt. This leads to a relational dynamic that reproduces inequality within the community currency.

Yet, and this is a second community dynamic observed, practices of solidarity flourished among currency users. We observed them in the way members used their excess balances, trying to buy from newcomers as well as from those with standing debts, some members going as far as to buy services which they wouldn't have bought had not the seller been in debt (such is the case of members sudden demand for Noelia's massages).

These two dynamics differ from the economic practices dominant in the surrounding capitalist economy. While the conventional economy accepts private property and educational inequality as a condition for economic activity and makes no effort to rein it in, the community economy plants the seeds for an economic behaviour that is aware of the disastrous consequences of inequality for the individual. That is, the debate that was the starting point of this article – whether community currencies reproduce or transform capitalist economic practices – may have been nuanced, yet it remains unsolved.

6. THE TRAGEDY OF THE COMMONS IN MUTUAL CREDIT CURRENCIES

In common-pool resources, individuals have an incentive to harvest the flow of resource units. There is however no parallel individual incentive to make the investments necessary to maintain the resource system. This leads to what has been called 'the tragedy of the commons' (Hardin, 1968). Typical examples include fisheries and grazing fields. Fishers have an incentive to fish yet another fish; farmers have an incentive to let yet another cow graze an open field. Yet, there is a maximum number of fishes that can be fished without over-fishing. Similarly, there is a limit to the number of cows that can graze a field beyond which the amount harvested would exceed the self-recovery capacity of the field. The tragedy of the commons happens when there are individual incentives to over-use (appropriate) the resource system, yet the incentives to invest (provide) in its maintenance are diffused to the collectivity.

In a mutual credit currency, the tragedy of the commons takes a particular form. The possibility to create money at the very moment of the transaction allows users to incur debt. There is an individual incentive to spend money that one has not yet worked for, to appropriate the products and services offered in the network. There is however not a concurrent incentive for the individual to generate (provide) an amount of services and products valued equal to the amount appropriated.

The root of this unbalance may be due to a free-rider problem, when the user never had the intention to contribute to the community to the same extent as she was benefitting from it. This is the traditional tragedy of the commons. Such kind of appropriation dilemmas were addressed in Málaga Común as they usually are in common-pool resource systems, through a combination of formal rules and cultural norms. More particularly for the Málaga Común currency system:

- A debit limit programmed into the digital platform and discussed by the General Assembly for individual exceptions.

- Strong cultural norms of reciprocity were seen in the shame members felt for having debts, even if small. As Luisa phrased it during an economy workshop organised by the network: "I registered as inactive in Málaga Común because I was in negative figures and I didn't know what to offer. I didn't like the feeling. I have to feel that I contribute."

- Solidarity norms were visible when currency members considered the account balances of those they were spending their local money in. For example, as we saw earlier, when Oscar and Diego looked into the digital record of balances to buy from those that were in debt. Or, when attendants to the Eco-medor (Wednesday's communal lunch) decided to weekly buy that lunch from Blanca, even though each had been bringing their own lunch thus far. Or, when hearing about Noelia's financial problems, currency members started spending in regular massages.

In other words, strong cultural norms of reciprocity and solidarity made appropriation (or free-rider) dilemmas a limited problem in Málaga Común. In any case, in a mutual credit system, there needs to be users in debt for other users to be in credit[vi]. That is the principle on which the system is based, the total of account balances adding to zero. This implies that (individual) debt, per se, is no tragedy for the system. The tragedy for individual users may lie however in 1. the individual feeling of shame when incurring large debts for prolonged periods of time, and 2. the individual frustration when identifying users making no visible effort to contribute to the community with provision of services/products. That is, the free-rider problem (an appropriation dilemma) lies at members' individual level, not at the level of the currency system.

In Málaga Común, the tragedy of the commons took instead a somewhat different slant. Less connected to an excess of appropriation (as it is traditionally discussed in common-pool resource systems), the tragedy of the commons in this mutual credit currency had its origin in a poor collective provision capacity. Most currency members had similar skills and offered similar services, resulting in a narrow range of services and products provided through the community economy. It is the diversity of offerings, as much as its quantity, that becomes interesting in a mutual credit currency system. As Oscar put it when discussing the problems of Málaga Común:

For me, apart from an agile web or technology infrastructure, a currency that works needs to have many exchanges (Málaga Común has among the lowest number in Spain), many users (not ghost users as many in MC), and many offerings in all categories of products[vii].

While the number of members had increased steadily during the previous two years, and with them the number and variety of products and services available in comunes, basic products were still lacking. Most blatantly for a region with small but growing agricultural and farming sectors, food needs couldn't yet be covered. And although currency members had tried to organise a consumer group that could buy to local producers, they found it time-consuming to persuade enough producers.

This related to the low number of members active in Málaga Común. Sure, as of January 2018, 724 members were registered in the system, but some 500 were so-called "ghost users" either registered as inactive (404 on January 2018) or registered as active but without recording any exchange for over a year.

In an effort to enrol new users and thus increase the provision capacity of the network, active members had reached out to relatives, friends and the many networks of civic organisations and social movements in which they were involved. But as Adriana put it in one of the community currency workshops, "we are all the same in all these civic associations. We always meet the same people in all these places."[viii] Shared networks among members led to few potential newcomers.

In other words, the particular tragedy Málaga Común faced related not to appropriation but to provision challenges. That is, Málaga Commún's difficulties had to do with the production and maintenance of a plentiful and varied stream of products and services offered in the network (the flow of resource units). Yet, the governance structures in place in the community currency fell short of addressing such a challenge. To attest, besides the three rules outlined above, other rules and governance systems in place to guarantee the public benefit of the goods included:

- Well-delimited boundaries: Those registered as active in the digital platform. All that was needed to be able to register as a member was to write in an ability or service one was willing to offer to the community system.

- Transparency: Information about individual and community account balances was available to all members. This deterred individual users from profiting from the system by accumulating large debits. It also allowed members to monitor each other at no-cost. When looking into the account balance of a potential buyer, the seller could choose not to sell to a buyer that had shown no will to contribute to the community. There was however no incentive for the seller to do so as she would go loss the opportunity to earn comunes.

This set of rules left outside a design principle identified by Ostrom (1991) as critical for the stability of commons' governance institutions: Congruence between appropriation and provision rules and local conditions (see appendix for a list of Ostrom's eight design principles for stable common-pool resources governance institutions). While there were clear rules (credit limit) and cultural norms (solidarity) regulating the behaviour of appropriators, there were no strict rules regulating the provision/appropriation ratio (for a similar reasoning, see Gómez, 2009). A broadly felt shame when incurring debt (telling of a strong sense of reciprocity) and a digital prompt to enter what a member was to offer when registering into the system was all that reminded users of their obligation to contribute. There was however no control of the ratio at which individual users provided (in terms of both number and variety of services) in relation to what they appropriated, a ratio that tells of unequal conditions to contribute to and benefit from the community economy.

7. SYSTEMIC INEQUALITY & FLOW SOLIDARITY: CONSIDERATIONS FOR GOVERNING A MUTUAL CREDIT CURRENCY

In LETS systems, the free-rider problem is typically addressed by putting limits to the possibility of individual debits. However, as the analysis showed, Málaga Común's challenge was not a simple problem of overuse (an appropriation problem). It was fundamentally a problem of provision; or rather, a problem in the provision/appropriation ratio. That is, it was related to the production of an insufficient and varied amount of products and services relative to the variety and amount of resources users wished to appropriate. Or, as others would put it, a supply problem.

And, while Diego and Oscar – as well as other users with weak provision capacity (in terms of speed and ease to which they accumulated currency units) relative to their appropriation capacity – distributed their account credits solidarily – by buying from the economically weakest members or by donating to the currency's Community Fund, the sources of the different accumulation capacities remained. Having obtained land and specialised knowledge in the conventional economy, these were easily transferred into the community economy, thus moving the source of inequality into the currency system. This is the particular form taken by the tragedy of the commons in a mutual credit system.

As Elinor Ostrom argued after having observed many a common-pool resource being managed by communities, there is no magic formula for how to design institutions for the governance of the commons (Ostrom 2005; Ostrom and Cox 2010). The particular governance institutions of the collectively owned resources need to re-

spond to the particular commons dilemma, the characteristics of the common-pool resource, as well as to local conditions. Málaga Común, as many other mutual credit currencies, relied on a combination of formal rules and cultural norms for the governance of the currency system.

Yet, as we have seen in the case, one of the dilemmas in a mutual credit system is the difference in users' capacity to appropriate relative to their ability to provide, a difference that was based in the different access to the resources in the conventional capitalist economy: land and labour. Inequality in the community system originated from its embeddedness in the conventional economy. Individually and collectively, members tried to soften such systemic inequality by appropriating resource units solidarily. That is, while the community currency reproduced the inequality of the capitalist economy it was an answer to, it also nourished practices and norms of solidarity that may be able to plant the seeds for an alternative way to organise the economy.

Mutual credit communities that want to manage this sort of inequality while developing transformative economic practices of solidarity need to consider measures that soften the difference between users' provision/appropriation ratios. A suggestion may be to impose a "hoarding tax", a time-based fee calculated individually as a proportion of the account balances at given points in time, similar to the demurrage proposed by Gesell (1911) and advocated by Fisher (1933). Another suggestion would be to redistribute balances in the form of basic income internal to the currency system[ix]. Still another may be to consider some sort of tax on earnings based on property. While the particular details and combination would require a closer study of each specific currency system, these taxing systems – varied as they may be – would further develop the collective practices of solidarity that we have seen are incipient to the community using the currency scheme.

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APPENDIX: MÁLAGA COMÚN, OSTROM'S "DESIGN PRINCIPLES ILLUSTRATED BY LONG-ENDURING CPR INSTITUTIONS"

From Elinor Ostrom, 1990, Governing the Commons, p.90.

1. Clearly defined boundaries.

Individuals or households who have rights to withdraw resource units from the CPR must be clearly defined, as must the boundaries of the CPR itself.

2. Congruence between appropriation and provision rules and local conditions.

Appropriation rules restricting time, place, technology, and/or quantity of resource units are related to local conditions and to provision rules requiring labor, material, and/or money.

3. Collective-choice arrangements.

Most individuals affected by the operational rules can participate in modifying the operational rules.

4. Monitoring.

Monitors, who actively audit CPR conditions and appropriator behaviour, are accountable to the appropriators or are the appropriators.

5. Graduated sanctions.

Appropriators who violate operational rules are likely to be assessed graduated sanctions (depending on the seriousness and context of the offence) by other appropriators, by officials accountable to these appropriators and officials.

6. Conflict-resolution mechanisms.

Appropriators and their officials have rapid access to low-cost local arenas to resolve conflicts among appropriators or between appropriators and officials.

7. Minimal recognition of rights to organize.

The rights of appropriators to devise their own institutions are not challenged by external governmental authorities.

For CPRs that are parts of larger systems:

8. Nested enterprises.

Appropriation, provision, monitoring, enforcement, conflict resolution, and governance activities are organized in multiple layers of nested enterprises.

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[i] Entry in blog BlogSostenible in 2010 by one of the founders. Own translation.

[ii] Data from the International Labour Organization (ILO). Retrieved on January 12, 2018. It can be accessed here.

[iii] Figures come from the Spanish Statistical Institute (Instituto Nacional de Estadística, INE). Retrieved on September 16, 2016. Data can be consulted here.

[iv] Except for the founders of the community currency, all names of currency users have been anonymised throughout the article for confidentiality reasons.

[v] From fieldnotes, February 20, 2016. Own translation.

[vi] In January 12, 2018, the number of members with negative account balance was 265, while 197 had a positive account balance, and 262 had 0 comunes in their account balances.

[vii] From e-mail exchange on September 8, 2016.

[viii] Fieldnotes from February 17, 2016.

[ix] As done in the Demos community currency in Las Palmas de Gran Canaria, Spain.