

Correlation between currency consciousness among participants of community currency and its circulation

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Abstract:

This study investigated correlations between circulation state of community currency and people's money consciousness based on the concept of micro-meso-macro loop. Money consciousness is an attitude toward currency system. We surveyed people's money consciousness by a questionnaire consisting of 27 questions. A factor analysis of the questionnaire yielded three factors: "currency diversity" (F1), "fairness" (F2), and "profit orientation" (F3). From analysis of the results of our questionnaire, we found the followings: 1) The operators of community currencies tended to put more importance on "currency diversity" and "fairness" than the members of financial organizations. 2) The users of community currency with high circulation had higher "diversity" and "fairness" than those with low circulation. 3) The users of better understanding of community currency placed a high value on "currency diversity". We concluded that accepting "currency diversity" by many residents was important for circulation of community currency.

Keywords: Community currency, Money consciousness, Micro-meso-macro loop, Institutional ecology, Institutional design

1. Introduction

The 3418 local projects for community currencies are found in 23 countries, across 6 countries (Seyfang & Longhurst, 2013). Unfortunately, few community currencies succeed in circulation maintaining a certain economic scale over a prolonged period. A systematic schema for circulating community currency, even if it is settled beforehand, does not always work. We should consider not only the systematic schema but also people's thinking about money in order for community currency to be accepted in an area as a useful currency. We suppose, as an important underling structure of the currency system, there exists money consciousness which forms not only a standard for decision making in a given money system but also a standard of values for various currency systems.

We consider that the formation, establishment and change of social institution such as community currency are characterized by interaction loops among micro, meso, and macro levels. A micro-level consists of individuals' behavior and cognition. A macro-level consists of social consequence of such behavior and cognition. We think of social institution as lying in-between the micro and macro levels and mediating the two levels. This structural relation is called "micro-meso-macro loop" (Nishibe, 2012). Institutions not only regulate individuals' cognition and behavior but also are formed, maintained, changed, and disappeared by individuals' cognition and behavior. Further, the accumulation of people's cognition and behavior bring out social consequences and the social consequences affect the institutions. Namely, the mutually determining loops exist not only between social institutions and individuals' cognition and behavior, but also between institutions and social consequences.

Institutions regulate cognition and behavior of individuals at the micro-level by including influences from the macro-level, as well as depend on them. Institutions provide social consequences at the macro-level by including influences from the micro-level, as well as depend on the social consequences. Institutions also work as a field bringing interactions between the micro and macro levels. Thus, we place social institutions at the meso-level. They exist completely neither at the micro nor the macro levels, but present at the meso-level mediating interactions between the micro and macro levels.

While people at the micro-level possess values and norms individually, individuals' values and norms and institutions must affect mutually due to the interaction between the micro individuals and the meso

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institutions. When a particular value consciousness is common in a society, the value consciousness is also thought of as an institution. Although people’s value consciousness is neither an explicit law nor rule, it governs people’s thought and behavior. If we consider explicit law and rule as “external rule”, we can call values and norms “internal rules” that individuals hold (Nishibe, 2012). Therefore, the value consciousness is thought of as belonging to the meso-level and influences indirectly and mutually the external rules at the meso-level and consequences at the macro-level, which govern cognition and behavior of the micro actors. This complex interaction loop of “micro-meso-macro loop” is schematically shown in Figure 1.

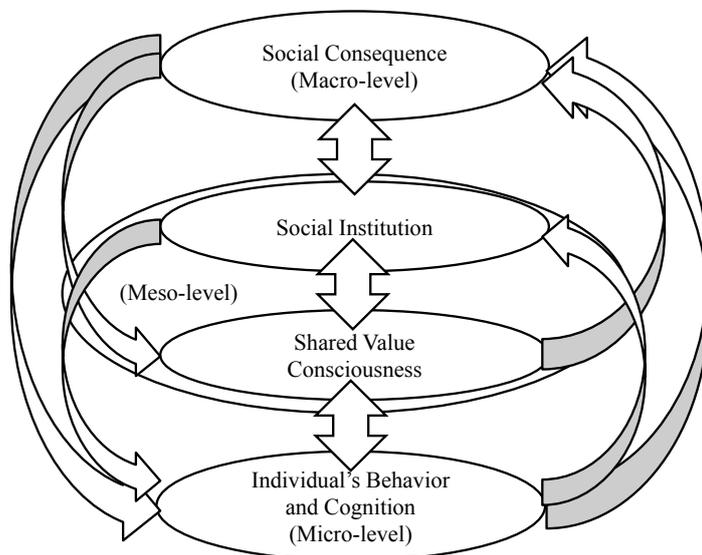


Figure 1 Micro-Meso-Macro loop including shared value consciousness

The community currency system is an instance of such social institution. A community currency system works because rules and value consciousness supporting community currency are accepted by many individuals and organizations at the micro-level. Individuals and organizations can buy or sell goods and services with community currency. Economic performance and pattern as social consequences at the macro-level emerge through “community currency” system and shared value consciousness at the meso-level from transactions at the micro-level. Emerged social consequence affects individual’s behavior, cognition and value consciousness. If introduction of community currency leads to a positive social consequence, people use more community currency and appreciate currency diversity.

In a society, various institutions, such as a nation state, laws, currency, and markets, coexist at the same time. These institutions form competitive and/or complementary relationships as results of interactions among people’s cognition and behavior, and change their ranges and scales of influences and operations. Such a system that several institutions coexist and develop or disappear through interactions among institutions is called “institutional ecology” (Hashimoto & Nishibe, 2005; 2012). Traditional views of institutions have focused exclusively on external rules in an attempt to understand institutions. Therefore, the existence and roles of internal rules have been ignored. However, as stated above, within the conceptualization of micro-meso-macro loop, understanding the interaction dynamics between external and internal rules is critical. There are many external rules such as laws and regulations, as well as internal rules such as customs, practices, and values that are shared among a relatively large number of individuals. In institutional ecology, relative frequency of people’s value consciousness produces a diversity of institutions. Two types of institutions, which interact within each type and also between two types, mutually support and induce changes one another.

Community currency is formed based on a variety of values and norms. Kobayashi & Nishibe (2010) pointed out that currency system can be an institutional ecology by referring to an example of the currency system in Argentina. Argentine peso collapsed due to government’s default in 2001, and then people’s consciousness about the credit of the currency and currency system changed in Argentina. Three large flows occurred as a transformation of the currency system by the Argentine peso shortage. 1) Argentine peso →

US dollar (key currency), 2) Argentine peso → Patacón or LECOP (bonds issued by government of province), 3) Argentine peso → Crédito (community currency issued by Global Exchange Network, RGT). After the default, alternative currency to Argentine peso had been developed for several years in Argentina. Four different currencies, key currency, national currency, bond currency and community currency, circulated in Argentina at the same time. Once a mutually complementary currencies system development, network externality by the single currency system did not work and then transaction cost by using different currencies in a market increased. Therefore, such situation that multiple currencies coexist cannot be explained by economic rationality such as convenience and efficiency. Supposing that a currency system reflects people's value consciousness that has diversity may be more reasonable.

However, in actual society, various and sustainable institutions corresponding to the diversity of value consciousness do not always exist. Kobayashi, Nishibe, et al (2010) proposed the following three reasons for such diversified social institutions are not continuously observed: 1) A society is locked in a dominant value such as economic efficiency, although people are aware of the diversity of value consciousness. 2) People are not fully conscious of the diversity of their own values. 3) There is no diversity of values. Thus, establishing a social institution implies that a particular value consciousness is shared by the most of the people and is apparent in the society. In understanding the formation and change of institutions, we should consider not only the relationships between the micro individual values and economic consequences at the macro-level but also the relationships between shared value consciousness at the meso-level and the micro and macro levels. We need to take the latter relationship into consideration when we think of the sustainability and change of community currency systems.

Money consciousness is one of such value consciousness placed at the meso-level and a standard of value for decision making in a currency system. Although micro individuals have various values consciousness related to money, a collective value consciousness related to money and shared among people is taken as "money consciousness" in this study. We aim at clarifying how money consciousness works for the community currency systems.

This paper is organized as follows. In section 2 research methods, money consciousness questionnaire is reported. Our hypotheses to be tested are also given. Two results of analysis of questionnaire survey are explained in section 3. One is the difference of money consciousness between community currency participants and financial organization participants. The other is the difference of money consciousness in different currency systems. We discuss these results in section 4 from the viewpoint of micro-meso-macro loop in the circulation test of community currencies. Finally our conclusion is delivered in section 5.

2. Research method

We investigated correlations between the circulation state of community currency and the money consciousness among participants of community currency. We developed a new questionnaire about people's attitude toward money and use it in areas where community currencies are introduced. Existing money attitude scales were developed to examine mainly people's attitude toward the intended use of the money (Yamauchi & Templer, 1982; Furnham, 1984). Our questionnaire consisting of 27 questions asks broader and latent value consciousness such as criteria to select an institution from plural options of currency systems, purposes and current status of issuing, steering, and distribution of currency, as well as the way to use money or what is possible by money (see appendix 1 for details). Our questionnaire contained a different response scale: a five-point Likert scale. We have conducted the questionnaire survey in Japan, Argentina, Brazil, and Italy. More than 500 people answered this questionnaire.

To achieve the purpose, we set two hypotheses to be tested:

1. There is a difference of money consciousness between participants of community currency and others.
2. There is a correlation between resident's money consciousness and circulation status of community currency.

To test the first hypothesis, we investigated correlations between social activities and money consciousness in the participants of community currencies and the members of financial organizations. The reason why we focused on these two types of people is the following. The participants of community currency

belong to a reciprocal community where they develop collaborative relationships. On the other hand, the member of financial organizations belongs to communities that pursue interests every day in a rough competitive environment. In our survey, 76.9% of community currency participants were collected in Buenos Aires, Argentina. They were users or operators of “Crédito”, a community currency in Buenos Aires. The members of financial organizations were Japanese and worked at a commercial bank or a security firm. Characteristics of the sample are reported in Table 1. “Working people” belong to neither the group of community currencies nor the group of financial organizations. In this analysis, we treat “working people”, “undergraduate students” and “graduate students” as one group, named “others”.

Table 1 Social activity of samples

Group	Sex			Sum
	Male	Female	Non-response	
Working people	17	11	0	28
Participants of CCs	18	7	1	26
Members of financial organization	12	14	1	27
Undergraduate students	34	5	0	39
Graduate students	22	12	0	34
Sum	103	49	2	154

To test the second hypothesis, we examined the difference of money consciousness among three areas in Japan, Brazil and Italy under each different currency system. Table 2 shows respondents to the survey. The first group is residents in Musashino-chuo area, Tokyo, Japan (n=85). Community currency “Mu-chu”⁴ was issued in Musashino-chuo area. The community currency was mainly used for compensation paid-volunteer. The area is a wealthy quarter in Japan, the average income of the residents was about \$50,000. The second group is the users and the operators of Banco Palmas⁵, in Palmeira, Fortaleza, Brazil (n=32). Banco Palmas operates a microcredit system by community currency “Palma” which has been used to purchase commodities in Palmeira. Finally, the third group is people who live in Turin or Milan, Italy (n=28). Italy is an eurozone nation, and the people had no idea of a community currency. Each sample in two tests is independent.

Table 2 Sample Characteristics among 3 areas

Area	Sex			Sum
	Male	Female	Non-response	
Musashino-chuo	15	67	3	85
Palmeira	13	18	1	32
North Italy	10	16	2	28
Sum	38	101	6	145

3. Results

3.1. Community Currency Participants VS Financial Organization Participants

A factor analysis was performed on the twenty seven items. The scree plot suggested a three-factor solution, included eighteen items and explained 45.5% of the variance in the data with eigenvalues greater than 1.0, and factor loadings greater than 0.35. A three-factor solution was attempted using Promax rotation. The first factor had an eigenvalue of 3.72, accounted for 23.2% of the variance and consisted of eight items. The second factor had an eigenvalue of 1.91, accounted for 12.0% of variance and consisted of seven items. The third factor had an eigenvalue of 1.75, accounted for 10.9% of variance and consisted of three items.

Factor pattern after Promax rotation was reported in Table 3. Items with a high loading of the first factor represented the people’s demand for diversity of money. Items with a high loading of the second factor relate to the equitable distribution of money. Items with a high loading of the third factor represented the worship of

⁴ For further details of “Mu-chu”, the reader should refer to (Kurita et al., 2012).

⁵ For further details of “Banco Palmas”, the reader should refer to (Jayo et al., 2009).

money. The three factors were named: Currency Diversity — F1, Fairness — F2, and Profit Orientation — F3. Reliability analysis was conducted to test the reliability and internal consistency of each factor. The results showed that the Alpha coefficients of F1 and F2 were 0.80 and 0.67, respectively, well above the minimum value of 0.50 that is considered acceptable as an indication of reliability for basic research. However, Alpha coefficient of F3 was 0.47 that had the low internal consistency.

Table 4 shows correlation among the three factors. The results only indicated a significant correlation between F1 and F2. Table 5 shows the correlation among three subscale scores with participants of community currency and the members of financial organizations. Scores of participants of community currency indicated a significant inverse correlation between F1 and F2 while score of the members of financial organizations showed a significant correlation between F1 and F2. The participants of community currency considered “currency diversity” and “profit orientation” as having opposite direction, while the members of financial organizations relate “currency diversity” closely to “profit orientation”. Both have little apparent connection between “currency diversity” and “fairness”.

Table 3 Factor analysis of money consciousness survey (factor pattern after Promax rotation)

	F1	F2	F3
22) Do you think it is good that we have different moneys from national currencies to live with?	.72	-.05	.04
4) Do you think it is good that money can be created or issued freely by people?	.71	.11	.00
25) Do you think it is good that money can be issued or created not only by the central bank or commercial banks, but also by people or communities?	.67	.12	-.11
23) Do you think it is good for money to be single?	-.64	.40	.14
8) Do you think it is good that money can be issued or created not only by the central bank or commercial banks, but also by the government?	.54	.14	.14
11) Do you think it is good that money can be something that mutually connects people?	.51	.02	.26
17) Do you think it is good that we can choose favorite ones out of different moneys?	.48	.17	.20
2) Do you think it is natural for money to be interest-bearing?	-.40	-.17	.24
10) Do you think the government should provide every adult beyond a certain age with basic income for their minimum standard of living?	.14	.60	-.05
19) Do you think it is good that we accommodate each other with money?	.15	.53	.02
13) Do you think moneylenders should not be in such financial institutions as commercial banks, but the government?	.10	.49	-.17
18) Do you think money should not concentrate in a tiny fraction of people, but disperse among them?	.05	.47	-.22
27) Do you think it is good for money to be able to be passable at any place and area?	-.05	.45	.43
21) Do you think it is good for money to be stable in its value?	-.21	.42	.01
20) Do you think it is good to lend your friend your money when they are in a financial need?	-.03	.39	-.06
7) Do you think it's good for the money to be able to buy anything you want?	.07	-.15	.63
12) Do you think it is good that money can be created or issued for the purpose of profit?	.26	-.19	.48
15) Do you think it is better to earn more money?	-.03	.00	.42

Table 4 Factor correlation, mean, and SD of subscale scores

	Currency diversity	Fairness	Profit orientation	Mean	SD
Currency diversity	—	.30**	-.02	2.78	.83
Fairness		—	-.09	3.47	.69
Profit orientaion			—	2.91	.90

** $p < .01$

**Table 5 Factor correlation of subscale scores
(The participants of CC and the members of financial organization)**

	Currency Diversity	Fairness	Profit orientation
Participants of community currency(n=26)			
Currency diversity	—	-.08	-.53 **
Fairness		—	-.31
Profit orientaion			—
Members of financial organization(n=27)			
Currency diversity	—	.02	.40 *
Fairness		—	-.15
Profit orientaion			—

** $p < .01$ * $p < .05$

Table 6 ANOVA among 3 groups

	Participants of CCs	Members of financial	Others	p -value
Currency Diversity	3.41(1.15)	2.14(.50)	2.76(.57)	.00
Fairness	4.28(.45)	3.06(.58)	3.37(.60)	.00
Profit orientaion	2.72(1.14)	2.80(.82)	2.98(.84)	.33
Mean(SD)				

We classified samples into 3 groups on such affiliation (the participants of community currency, the members of financial organizations and others). ANOVA was conducted as dependent variables which are scores of the three factors. A number of the community currency participants were 26, number of the members of financial organizations and number of others was 101. The results show significant differences in “currency diversity” and “fairness” ($F(2, 150) = 22.49, p < .01$; $F(2, 150) = 34.23, p < .01$). When the ANOVA was significant, differences among scores of three factors were determined using Turkey’s test. The result showed significantly different between all groups in “currency diversity” and “fairness”.

Table 6 shows the participants of community currency tend to put more importance on “currency diversity” than the members of financial organizations do. The participants of community currency are likely to consider that government and peers should ensure stable livelihoods of poor people. We think that 3 groups do not place value on “profit orientation” because each average subscale score of profit orientation were less than 3.0 that is middle point.

3.2. Differences of money consciousness by currency systems

ANOVA was conducted by three factors as dependent variables, which were found from the previous analysis (Table 7). The result shows significant differences in all factors. Table 8 indicates average scores of items belonging to “currency diversity”. Since the first item “Do you think it is good for money to be single?” is an inverse item for “currency diversity”, a higher score in this item means not to appreciate the currency

diversity. Most residents in Musashino-chuo area did not want to use other currency than the Yen because the scores except for the first item are less than the middle point, 3.0. In Palmira area, the items about denationalization of money were higher than the other items. Conversely, people in north Italy did not appreciate issue of currency by community organization and approve a single currency in the area.

Table 7 AVOVA of subscale score in the three areas

	Musashino-chuo	Palmeira	North Italy	<i>p</i> -value
Currency diversity	2.53(.54)	3.26(.55)	2.65(.63)	.00
Fairness	3.10(.55)	3.91(.60)	3.86(.58)	.00
Profit orientaion	2.41(.72)	3.45(1.03)	2.45(.98)	.00
Mean(SD)				

Table 8 Average score of the items in “Currency Diversity”

	Musashino-chuo	Palmeira	North Italy
Do you think it is good for money to be single?	3.26	2.78	4.11
Do you think it is good that money can be issued or created not only by the central bank or commercial banks, but also by people or communities?	2.14	4.00	1.89
Do you think it is good that we have different moneys from national currencies to live with?	2.76	3.38	2.29
Do you think it is good that we can choose favorite ones out of different moneys?	2.3	3.28	2.61

Table 9 shows the average scores of items in “fairness”. Most of mean scores in “fairness” were more than 3.0 in the three areas. The score of Fairness in Palmira area was more than in Musashino-chuo area and North Italy. The main reason of high fairness in Palmeira area is that Banco Palmas has conducted microcredit using community currency in order to develop solidarity economy.

Table 9 Average score of the items in “Fairness”

	Musashino-chuo	Palmeira	North Italy
Do you think the government should provide welfare payment for poverty class?	3.39	4.09	4.46
Do you think money should not concentrate in a tiny fraction of people, but disperse among them?	3.42	4.41	4.61

How does people's money consciousness change by introducing a new currency system? To examine the influence from money consciousness at the meso-level to individual's cognition at the micro-level, we conducted a questionnaire survey before and after a CC circulation experiment in Musashino-chuo area. Differences in the scores of three factors between before and after the experiment were tested by paired *t* tests (Table 10). Differences with $P < 0.05$ were considered not significant in all cases, currency diversity ($t(73) = -6.51, n.s.$), fairness ($t(73) = -0.34, n.s.$), profit orientation ($t(75) = 1.07, n.s.$). We could not confirm significant differences of money consciousness before and after the circulation experiment. What is the relationship between money consciousness and understanding of community currency? Peoples' money consciousness may change if they understand the purpose and basic philosophy of community currency. Table 11 shows the degree of residents' understanding of community currency before and after the experiment. To compare the change of understanding of community currency, the statistical difference was determined by McNemar's test

($\chi^2(5)=22.60$, $p<.001$). Many people who answered “I have heard community currency, but I have little understanding of it” before the experiment answered “I understand a little about community currency” or “I understand community currency well” after the experiment. Residents’ understanding of community currency increased after the experiment. 85% of the respondents answered “I understand a little” or “I understand well” after the experiment (Table 12). From the results of the change of understanding and the distribution, degree of understanding of community currency improved and many respondents became to understand well community currency.

Table 10 Subscale scores in the before-after experiment

	Before-experiment		After-experiment		<i>t</i> -value
	Mean	<i>SD</i>	Mean	<i>SD</i>	
Currency diversity	2.53	.54	2.58	.55	-6.51
Fairness	3.10	.55	3.10	.57	-0.34
Profit orientation	2.41	.72	2.32	.67	1.07

Table 11 Understanding of CC in the before-after experiment

Degree of understand of CC before the experiment	Degree of understanding of CC after the experiment				McNemar test <i>p</i> -value
	I don't understand CC at all	I heard CC, but I understand CC little	I understand CC a little	I understand CC well	
I don't understand CC at all	1	3	3	0	.00
I heard CC, but I understand CC little	0	4	14	2	
I understand CC a little	0	5	30	13	
I understand CC well	0	0	1	8	

$n=84$

Table 12 Degree of understanding of CC after the experiment

	Distribution of degree of understanding of CC after the experiment				$\chi^2(df=3)$	<i>p</i> -value
	I don't understand CC at all	I heard CC, but I understand CC little.	I understand CC a little	I understand CC well		
Frequence (Proportion)	1(1%)	12(14%)	49(58%)	23(27%)	59.71*	0.00

$n=85$ * $p<.001$

The respondents were divided into no-improved and improved groups according to understanding of CC in the before-after experiment (Table 11). We examined significant differences between two groups.. The no-improved group did not change understanding of CC between before and after experiment (red line box in Table 11). The improved grope got a better understanding of CC than before experiment (blue line box in Table 11). Table 13 shows the change of subscale scores of two groups in the three factors. The scores in “fairness” and “profit orientation” did not differ significantly among two groups. However, the score of improved group in “currency diversity” was higher significantly than no-improved group ($t(31)=-2.01$, $p<.1$).

Table 13 Subscale score according to understanding CC in the before-after experiment

	Degree of understanding of CC	Before-experiment	After-experiment	Deviation	p-value
		Mean	Mean		
Currency diversity	No-improved group (n=37)	2.68	2.6	-0.08	.37
	Improved group (n=31)	2.34	2.56	0.22	.05*
Fairness	No-improved group (n=37)	3.18	3.18	0	1.00
	Improved group (n=32)	2.9	2.92	0.02	.78
Profit orientaion	No-improved group (n=37)	2.36	2.36	0	1.00
	Improved group (n=33)	2.42	2.29	-0.13	.30

* p<.1

4. Discussion

People engaging in activities related to the management of community currency gave emphasis to “currency diversity” (Table 6), while residents of areas where community currencies are introduced did not put necessarily emphasis on “currency diversity” (Table 7 & 8). We think that degree of “currency diversity” may be different how people concern with community currency. Understanding of community currency is one of the keys to enhance “currency diversity”. If a community currency circulates effectively in an area, or residents have a better understanding of community currency, it is possible that people’s consciousness on currency diversity is improved and then the understanding of community currency helps to circulate community currency effectively.

We redraw the flow of micro-meso-macro loop discussed in the first chapter with the results of our investigations (Figure 2). The introduction of community currency affected behavior and cognition of the residents, that is, the micro actors. This is not a change of internal rule (cognitive frame, value consciousness) which determines residents’ behavior and cognition. Internal rule of micro actors was changed by improvement of understanding of community currency, and the micro actors strengthen the tendency to approve currency diversity at the meso-level (3). We suppose that if currency diversity is accepted by many people, the consciousness of currency diversity is transmitted from meso-level to other micro actors (4). It may form a positive feedback between meso-level and micro-level such as reviewing a rule (5). Moreover, actions from micro-level to macro-level or from meso-level to macro-level may occur. If we can observe these flow, we can show that micro-meso-macro loop functions in social economic.

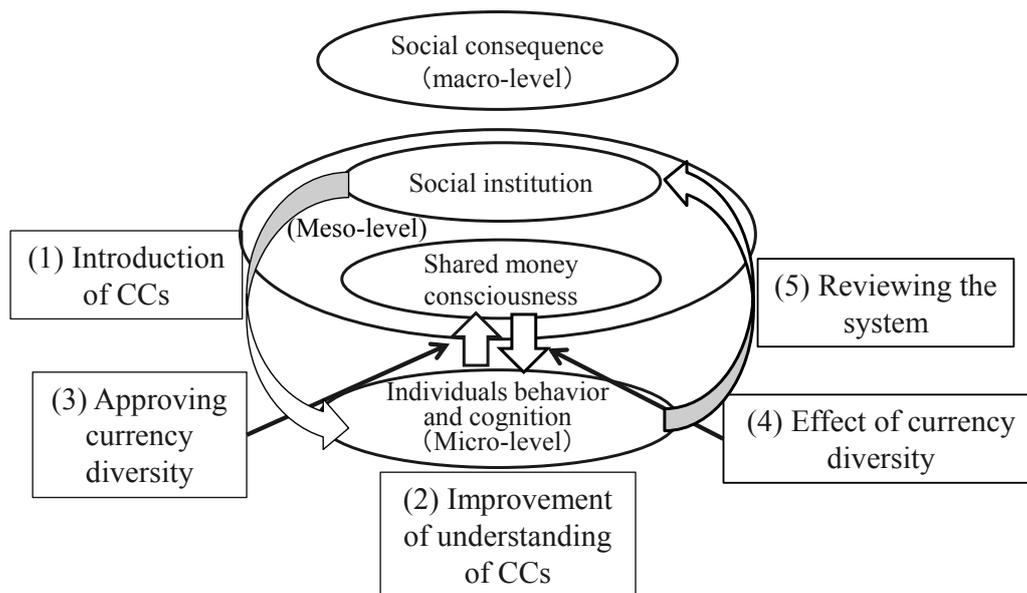


Figure 2 Flow of micro-meso-macro loop in the circulation experiment of CC

The relationship between micro and meso was only drawn in Figure 2 because we has not examined whether the introduction of community currency has any effect on macro level such as an economic revitalization. Figure 2 illustrates the relationship between the change of the money consciousness and change of the institution, if community currency is considered to have an insignificant effect on the macro-level. If the institution is reviewed, as indicated by (5) in Figure 2, we can reason the institutional change without considering the loop including a change at the macro level. For designing a community currency including change of people's consciousness, we can consider using the framework of micro-meso-macro loop what kind of effect on what level in the community the introduction of community currency has. When we think of institutional design causing endogenous macroeconomic changes by the introduction of community currency, we will be possible to explain how the effect on the micro-level influences the macro-level through the meso-level. We think that it is important not only to circulate community currency but also to raise residents' understanding of it.

5. Conclusion

In this paper, we considered that how change of shared money consciousness at meso-level emerged and how shared money consciousness affected micro-level or macro-level based on the concept of micro-meso-macro loop. From the analysis of the questionnaires about money consciousness at three areas in Japan, Brazil, and Italy, we found the following 2 points.

First, the operators of community currencies tend to put more importance on "currency diversity" and "fairness" than others do. Their money consciousness is quite a contrast to that of members of financial organizations. Members of financial organizations place less significance on "currency diversity" and "fairness" than ordinary people do.

Second, the users of community currency with high circulation have higher "currency diversity" and "fairness" than the users of community currency with low circulation. Users of community currency (Palmas) that Banco Palmas issues have higher "currency diversity" and "fairness" than the user of community currencies with low circulation in Japan. However, this fact does not mean that introduction of community currency at the meso-level enhanced "currency diversity" and "fairness" of the users at the micro-level. In an experiment of community currency circulation conducted in the Musashino-chuo area in Japan, no significant differences were found in the three factors between before and after the circulation experiment. However, the users of better understanding of community currency become to place a high value on "currency diversity". This indicates that individual's behavior and cognition may act on shared money consciousness at the meso-level.

By analyzing shared money consciousness in terms of the three factors, we conclude that the participants of community currencies with high circulation have the characteristic money consciousness that is higher "currency diversity" and "fairness" than that of the participants of community currencies with low circulation. We also claim that the framework of micro-meso-macro loop is a useful tool for analyzing interaction between micro-level and macro-level though community currency and shared money consciousness at meso-level, and also a suitable tool for institutional design. Our next task is to offer actual suggestions about the introduction and promotion of community currency from cognitive aspect such as users' money consciousness and levels of understanding of community currency.

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Appendix 1

[Instruction]

Please answer to the following questions, by circling one of five distracters, *intuitively in this order* without thinking too much or taking too long (within 20 seconds).

The Questions Start From Here

- 1) Do you think the government should provide welfare payment for poverty class?
a) Strongly affirmative, b) Weakly affirmative, c) Neutral, d) Weakly negative, e) Strongly negative
- 2) Do you think it is natural for money to be interest-bearing?
- 3) Do you think it is good that we have free time even without a lot of money?
- 4) Do you think it is good that money can be created or issued freely by people?
- 5) Do you think it is good for money to be created or issued by a credible group or organization?
- 6) Do you think money is not as important as health?
- 7) Do you think it's good for the money to be able to buy anything you want?
- 8) Do you think it is good that money can be issued or created not only by the central bank or commercial banks, but also by the government?
- 9) Do you think money can't buy love and friendship?

- 10) Do you think the government should provide every adult beyond a certain age with basic income for their minimum standard of living?
- 11) Do you think it is good that money can be something that mutually connects people?
- 12) Do you think it is good that money can be created or issued for the purpose of profit?
- 13) Do you think moneylenders should not be in such financial institutions as commercial banks, but the government?
- 14) Do you think we need no extra money while we can get along?
- 15) Do you think it is better to earn more money?
- 16) Do you think it is good to do volunteer works or make donations without compensation?
- 17) Do you think it is good that we can choose favorite ones out of different moneys?
- 18) Do you think money should not concentrate in a tiny fraction of people, but disperse among them?
- 19) Do you think it is good that we accommodate each other with money?
- 20) Do you think it is good to lend your friend your money when they are in a financial need?
- 21) Do you think it is good for money to be stable in its value?
- 22) Do you think it is good that we have different moneys from national currencies to live with?
- 23) Do you think it is good for money to be single?
- 24) Do you think it is good that we have a special money for paying for volunteer work?
- 25) Do you think it is good that money can be issued or created not only by the central bank or commercial banks, but also by people or communities?
- 26) Do you think money transactions should be anonymous?
- 27) Do you think it is good for money to be able to be passable at any place and area?