

- HAYEK, F. A.: *The Fatal Conceit*, London (Routledge) 1988.
- HODGSON, G. M.: *Economics and Utopia: Why the learning economy is not the end of history*, London (Routledge) 1999.
- LAWSON, T.: "Developments in *Economics as Realist Social Theory*", *Review of Social Economy*, LIV(4) (1996), pp. 405-22. [Reprinted in: S. FLEETWOOD (Ed.): *Critical Realism in Economics: Development and Debate*, London (Routledge) 1999.]
- LAWSON, T.: *Economics and Reality*, London (Routledge) 1997.
- LAWSON, T.: "Critical Issues in *Economics as Realist Social Theory*", *Ekonomia*. [Reprinted in: S. FLEETWOOD (Ed.): *Critical Realism in Economics: Development and Debate*, London (Routledge) 1998.]
- LAWSON, T.: "Feminism, realism and universalism", *Feminist Economics* 5(2) (1999), pp. 25-59.
- LEAMER, E. E.: *Specification Searches: Ad hoc inferences with non-experimental data*, New York (John Wiley and Sons) 1978.
- LEONTIEF, W.: Letter in *Science* 217 (1982), pp. 104-7.
- MARX, K.: *Capital: Volume 1*, ed. by Frederick Engels, London (Lawrence and Wishart) 1974.
- NUSSBAUM, M. C.: "Human capabilities, female human beings", in: M. C. NUSSBAUM, J. GLOVER (Eds.): *Women, Culture and Development: a study of human capabilities*, Oxford (Clarendon Press) 1995.
- RUBINSTEIN, A.: "John Nash: the master of economic modelling", *Scandinavian Journal of Economics*, 97(1) (1995), pp.9-13.
- SALANTI, A., SCREPANTI, E. (Eds.): *Pluralism in Economics: New Perspectives in History and Methodology*, Cheltenham (Edward Elgar) 1997.
- STRASSMANN, D.: "Feminist Thought and Economics; Or, What do the Visigoths Know?", *American Economic Review, Papers and Proceedings* (1994), pp. 153-158.
- STRASSMANN, D.: "Editorial: Creating a Forum for Feminist Economic Inquiry", 1(1), Spring (1995), pp. 1-5.

Chapter 4

Ethics in Exchange and Reciprocity*

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- I. Introduction
- II. Exchange and Reciprocity
 - 1. Reproducibility and Stationarity
 - 2. Reciprocity in a Simple Reproducible System: A Case of Two Production Processes
 - 3. Equivalent Exchange and Reciprocity - With and Without Transitivity
 - 4. Reciprocity and Imaginary Gift-Giving Network
 - 5. The Conditions for Reproducibility - Vulnerability of Reciprocity
- III. Conclusion

I. Introduction

Economic scholarship possesses a tradition that spans more than two centuries. Throughout this long history, and indeed still today, there have coexisted distinctly differing views on the essential meaning of the word 'economic.' There is what can be considered the formal meaning - "scarce", and what can be called the substantive meaning - "reproductive" (Menger 1923, ch. 4; Leontief 1928; Polanyi 1957, 1971, 1977). The economizing, or formal, meaning of 'economic', as clearly defined by Robbins (1932), stems from the scarcity of economic resources in the formatively rational relations of ends and means. By contrast, the technical, or

* The present paper is in many ways based on my previous paper written in Japanese (NISHIBE 1997), but it is not a translation of that Japanese work.

substantive, meaning of 'economic', as Menger in his last days endeavored to depict, and Polanyi subsequently rediscovered¹, focuses on the reproductive properties of human economy arising from the metabolic interactions between humans and natural environments which occur under particular social institutions. It is this latter meaning of 'economic' that is of concern to classical economists such as Smith, Ricardo and Marx in their studies on economic societies.

In modern market economies all kinds of goods and services including labour, land and money have become commodities which are sold and exchanged for script. Exchange transactions induce individuals to rationally select among different commodities (i.e., to maximize personal utility subject to the one's budget constraint). Scarcity of means is thus expressed in the form of a budget constraint that forces economic agents to behave rationally. As we understand from the fact that Sraffa's system is formally compatible with General Equilibrium analysis, the formal meaning of 'economic' differs little from its substantive meaning in the context of a market economy. In the context of a non-market economy, however, these two meanings do not necessarily coincide. In a non-market economy the reproducibility of institutions (both economic and non-economic) becomes of primary importance, and the scarcity of resources gets relegated to a consideration of more or less secondary status (Sahlins 1972). Scarcity problems, to the extent they exist, apply only to communities and not to individuals. The formal meaning of 'economic' has fully flourished only in the context of capitalist market economies. In non-market societies economic processes are not independent of non-economic processes, but are closely linked with them. In the language of Polanyi, human economies are 'embedded' not only in economic institutions but also in the religious, political and cultural institutions of society. This lends structural stability and integrity to non-market economic processes (Polanyi 1957).

Polanyi defines three different patterns of economic integration: 'reciprocity', 'redistribution', and 'exchange' (Polanyi 1957). Similarly, Lavoie

1 CARL MENER, after publication of his book, *Grundsätze der Volkswirtschaftslehre* (1871), reexamined his methodological framework and endeavored to write a new book. Unfortunately he could not finish it. The second edition of his book was published post-mortem by his son, Karl Menger. It is based on his previously unpublished manuscripts. K. Polanyi's last paper shed light on the two meanings of "economic" which were outlined in Menger's manuscripts.

classifies three distinct modes of economic coordination: 'tradition', 'planning', and 'market' (Lavoie 1985, ch. 2). Lavoie, however, adopts a narrow view of 'economic', contending that these three principles of economic coordination have evolved as our social ability to solve scarcity problems has developed. It is important to understand here, though, that the three modes serve not only to coordinate the allocation of resources in the context of scarcity, but also to integrate economic activities for the reproduction of social institutions².

The Polanyi's notion of redistribution is sustainable only under hierarchical or vertical structures of society - such as in states or empires. There needs to be a central authority equipped with strong power that enables the initial collection of goods and services for reallocation. Exchange and reciprocity, on the other hand, take place within flat or horizontal structures of society. Exchange is conducted spontaneously by individuals for mutual benefit in the context of a market. Reciprocity, in contrast, is a voluntary act occurring in the context of a non-market domain and is based on an individual's connection within a web of symmetrically structured relationships such as kinship, friendship, and neighborhood association. Consequently, exchange and reciprocity require different types of ethics.

Exchange (or market) is based on freedom under the rule of law - law that is embodied in rules of conduct existing in a spontaneous economic order (Hayek 1960, 1973, 1976, 1979). Unfairness, such as stealing and cheating, is explicitly prohibited in the general and abstract rules - *nomos*. Furthermore, exchange does not require any particular social structure or specific organizations. The market is in its nature anonymous; individuals are totally free to engage in any economic activities with whomsoever so long as those activities are not prohibited by law. Reciprocity, on the other hand, is sustained by conventions and traditions that are conveyed tacitly

2 Austrians such as Mises, Hayek and Lavoie have criticized the centralized socialist economy for its attempt to replace the market with comprehensive planning. The criticism is based on the "knowledge problem" that all central planners face. A central planner can gather explicit, unambiguous and objective data, but she cannot gather the necessary knowledge that is dispersed among individuals, or that remains inarticulated and merely embodied in the various skills and specialties of economic agents. We find real merit in this Austrian criticism of central planning as it is registered in the Socialist Economic Calculation Debate. The problem is that these critics tend to neglect the importance of the reproducibility of a socio-economy.

and inarticulately, and which are not imposed on individuals by law or force. Reciprocity depends on a stable structure to society with individuals linked in a web of long-term relationships. Here trust in conventions and traditions rather than in individuals forms an indispensable element in the reproduction of reciprocal economic relationships. Reciprocity instantly becomes unsustainable without this inherent trust in conventions and traditions. Reciprocity is vulnerable to changes in the behavior of individuals that occurs when they enter into exchange.

None of these three patterns serves as a unitary building block upon which any real economic society can be constituted. Market, planning and tradition are not real entities. In other words, human economic societies are so complex that they cannot be reduced to a single mode of coordination. They are neither simple nor pure systems but complex and intricate ones, composed simultaneously of more or less all three modes (Polanyi 1957; Hodgson 1988, ch. 11). It is, however, useful to the study on socio-economy to clearly delineate these three modes or principles. How and to what extent these three modes mix or coexist in a particular economic society informs us as to the characteristics of that society.

The present paper focuses particularly on the significance of reciprocity (or tradition) as opposed to exchange (or market). This focus arises from the fact that ethics plays an indispensable role in reciprocal economies, critically serving to maintain and support these non-market systems.

II. Exchange and Reciprocity

1. Reproducibility and Stationarity

In order to illuminate the different implications for ethics in systems of exchange versus reciprocity we employ a simple model of a reproducible economic system borrowed from Sraffa's famous book (Sraffa 1960).

In the standard neoclassical understanding, the market is above all a price system designed to coordinate an efficient resource allocation. Prices are signals expressing the relative scarcity or abundance of a good. If the equilibrium (i.e. no excess demand) price of a good is positive it is held to be an 'economic' good. On the other hand, if the equilibrium price of a good is zero then it is called a 'free' good. This tautology indicates merely

that if a good is traded as a commodity with a positive market equilibrium price then the good is scarce.

In contrast to the above, Sraffa's system model is a reproductive or stationary economic system in which the output levels and techniques of production in all sectors are fixed, and the input and output structure of all sectors are mutually coordinated from the outset. The system reproduces itself period by period without any changes (or with only slight fluctuations) in output levels or techniques. The analytical concern of the model is not to find the existence and stability of competitive equilibrium prices used to coordinate an efficient resource allocation, but rather to study the conditions necessary for the reproduction or stable maintenance of the entire economic system³. From the neoclassical standpoint it might seem as though the system already has been coordinated by the price adjustment mechanism. To put it more correctly, though, the efficient resource allocation coordination function of price has been removed as a variable so that other functions of price can be observed. In such a system, prices represent the exchange conditions necessary for the repeated reproduction of the system itself. In Sraffa's economic system model, the market is regarded as one of the three aforementioned patterns of integrating substantive economic processes. In fact, as will be seen below, the circular process of production is repeated not only by way of exchange in markets but also by way of the reciprocity of products (input goods and output goods). Ultimately what Sraffa's reproducible economic system model allows is the comparison of exchange and reciprocity within the same framework.

2. Reciprocity in a Simple Reproducible System: A Case of Two Production Processes

We start with a self-replacing system or a simple reproduction system in which two commodities, wheat and iron, are produced as in chapter one of Sraffa's Book. Suppose that the two production processes are as follows:

3 REMAK (1929), independently of SRAFFA (1960), gave a rigorous proof of the existence of a set of non-negative prices in a 'closed system of production' with zero net products on the assumption that an exchange matrix is irreducible. Such a system of prices, which is called a 'system of superimposed prices (*superponiertes Preissystem*)', is determined so as to balance income with expense of each producer.

280 qr. wheat + 12 t. iron ----> 400 qr. wheat

120 qr. wheat + 8 t. iron ----> 20 t. iron

These production processes express material transformations of inputs into outputs in one production period. Both commodities are used as inputs for production at period t and are produced as outputs at period $t+1$. The sum of wheat or iron used up in the production processes at period t is equal to the total quantity of wheat or iron product produced at period $t+1$. If 120 qr. of wheat out of the 400 qr. of wheat output at period $t+1$ are transferred from wheat production to iron production, and 12 t. of iron out of the 20 t. of iron output at period $t+1$ are transferred from iron production to wheat production, then the same ratio of product which exists at period t is restored at period $t+1$ and the production process can thus be repeated. If we use the symbol '<--->' to represent such a mutual transfer between production processes, this transaction can be written as:

120 qr. wheat in wheat production process <---> 12 t. iron in iron production process

When, as in this case, the input vector of the whole system at period t is identical to the output vector at period $t+1$, the original disposition of inputs can be restored by mutual transfers of net outputs between production processes. Let us call such an economic system 'self-replacing' or 'simple reproduction', and let us call this mutual transfer of products 'reciprocity'⁴. The reason we call it reciprocity is because we want to emphasize that this is not an exchange of products of 'equal value' but merely a mutual transfer of two 'heterogeneous products'. As will be clearer in the case of a system of three commodities, exchange presupposes an equivalence relationship between two commodities while reciprocity does not.

4 We may also call the mutual transfer of net products "reciprocal exchange" instead of "reciprocity" if we are conscious of the fact that exchange in this sense does not mean equivalence of products. In fact, in my previous paper (NISHIBE 1997) I used the terms "reciprocal exchange" and "equivalent exchange" in place of the words "reciprocity" and "exchange" employed in the present paper. I rather prefer to use reciprocity and exchange here because I want to make a clear connection between these concepts and Polanyi's three integrating principles of socio-economy.

Please note that we define reciprocity only in the context of a 'self-replacing' economic system. This definition does not apply in the context of other systems⁵. The condition necessary for the simple reproducibility of an economic system is also a necessary condition for reciprocity. If the simple reproducibility condition is not satisfied then any mutual output trading between production processes would lose clear meaning.

3. Equivalent Exchange and Reciprocity - With and Without Transitivity

We shall next consider a system with three commodities. A third product, pig, is now added to the system as follows:

240 qr. wheat + 12 t. iron + 18 pigs ----> 450 qr. wheat
 90 qr. wheat + 6 t. iron + 12 pigs ----> 21 t. iron
 120 qr. wheat + 3 t. iron + 30 pigs ----> 60 pigs

This also is a self-replacing system where the following three reciprocal transactions of net product between each pair of production processes make possible reproduction of the system period by period.

90 qr. wheat in wheat production process <---> 12 t. iron in iron production process

3 t. iron in iron production process <---> 12 pigs in pig production process

18 pigs in pig production process <---> 120 qr. wheat in wheat production process

Clearly, these bilateral reciprocity arrangements are not equivalent (=) exchanges because they do not satisfy the principal of transitivity⁶. A binomial relation R on a set M is an equivalency relation if, for any three elements a, b, c on M , three conditions hold for R : reflexivity (aRa), symme-

5 Although reciprocity is also applicable to an expanding economy that has a uniform growth rate, as discussed in NISHIBE (1997), here we confine our argument to a simple reproducible economy.

6 For more on the transitivity problem, see KRAUSE (1979).

try ($aRb \Rightarrow bRa$), and transitivity ($aRb, bRc \Rightarrow aRc$). For instance, equality ($=$) and inequality ($>$, $<$) satisfy transitivity. If reciprocity ($<--->$) was an equivalency relation ($=$), then by transitivity $90 \text{ qr. wheat} = 12 \text{ t. iron} = 48 \text{ pigs}$ would hold from the first and second relationships of reciprocity. However, this in fact contradicts the third relationship of reciprocity: $120 \text{ qr. wheat} = 18 \text{ pigs}$. Sraffa surely noticed this fact and he gave caution to his readers: "It may be noticed that, while in the two-industry system the amount of iron used in wheat-growing was necessarily of the same value as the amount of wheat used in iron-making, this, when there are three or more products, is no longer necessarily true of any pair of them. Thus in the last example there is no such equality and replacement can only be effected through triangular trade" (Sraffa 1960, p. 4).

Sraffa here points out the difference between exchange and replacement (reciprocity). Strangely enough, though, he swiftly skips from the point without any more consideration and concentrates on exchange-values or prices. This is probably because his concern is with exchange in market economies not reciprocity in non-market economies. Nevertheless, we must acknowledge that indeed he has missed an important implication of the difference between exchange and reciprocity in a self-replacing system.

Sraffa implicitly presupposes the existence of a market at the center of multilateral exchanges, as is depicted in <Fig. 1>. Such a setting inhibits the direct mutual transfer of net products between production processes and renders all transactions indirect via the central market. The market value of the supply of net products is thus supposed to equal the market value of the demand for the necessary inputs for each production process. Assume that the unit prices or values of the three commodities (wheat, iron and pig) are pw , pi and pp , respectively. Then we obtain the following simultaneous equations with three unknowns if we omit the dimensions of the commodities:

$$12 \text{ } pi + 18 \text{ } pp = 210 \text{ } pw$$

$$90 \text{ } pw + 12 \text{ } pp = 15 \text{ } pi$$

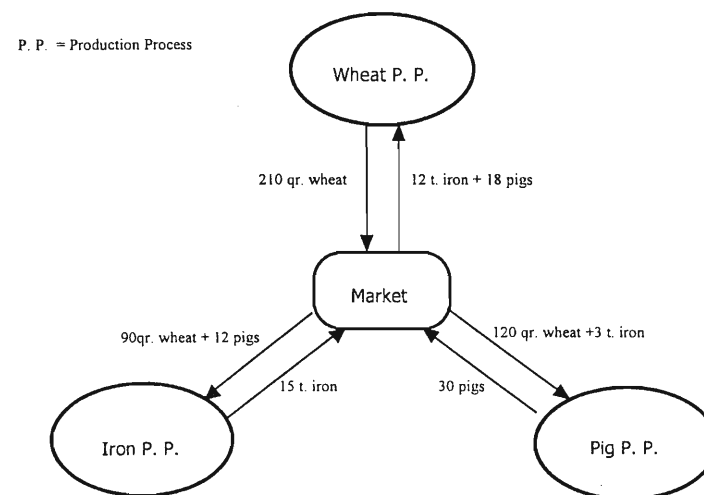
$$120 \text{ } pw + 3 \text{ } pi = 30 \text{ } pp$$

Because two of the three equations are independent, only the relative prices of wheat, iron and pigs (i.e., the exchange rate for each commodity pair) can be determined:

$$10 \text{ } pw = pi = 2 \text{ } pp, \text{ or, } pi = 10 \text{ } pw, pp = 5 \text{ } pw$$

Sraffa calls the rates that ensure replacement "all round exchange-values". The transactions using exchange-values are equivalent exchanges that satisfy transitivity.

Figure 1
Multilateral Equivalent Exchange Through a Central Market



The simultaneous equations implicitly seem to be obtained directly from technological input-output relations, but, in fact, they assume the existence of a central market that mediates all transactions⁷. Here the market functions differently than the Walras' auctioneer market which coordinates resource allocation through price adjustment. Because an auctioneer shows all agents a single vector of prices for commodities that are in the process of

⁷ The central market in a sense symbolizes the mediating function of money as the means of exchange in indirect interchange. But it also embodies the function of making indirect exchange transitive. Money itself does not have such a function. An auctioneer or arbitrageur makes it possible. In Sraffa's system the presence of either is implicitly assumed. This is the reason we proceed without money in this paper.

price adjustment, transitivity always holds. The market in question here is the centralized apparatus designed to determine a consistent price system that ensures equivalent exchanges and equality of the values for demand and supply in each production process.

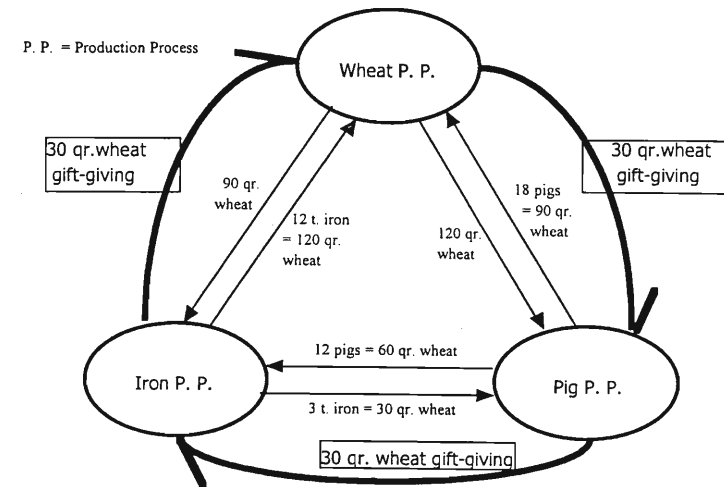
Is it truly necessary to assume that equivalent exchange is a necessary condition for a system to reproduce itself? Is it possible to rely on reciprocity, without a notion of equivalence or a consistent price system, to accomplish system self-replacement? Many economists have answered negatively, citing the possibility of arbitrage. But we disagree; we think it possible if certain conditions are fulfilled.

4. Reciprocity and Imaginary Gift-Giving Network

<Fig. 2> depicts an imaginary gift-giving circular and reciprocal flow in a reproducible economic system consisting of three products. Solid arrows indicate reciprocity of products and dotted arrows indicate imaginary gift-giving. We have not yet presupposed any human agents in our models. This is because Sraffa's model was originally designed with methodological objectivity in mind and it needed no assumptions about agents to achieve this. However, in order to consider the different implications of exchange and reciprocity we must introduce agents.

Now let us assume that each production process is operated by a single human agent, say, a wheat person, an iron person, and a pig person. Each agent only engages in direct reciprocity, having no access to reciprocal interactions that can take place between the other two agents. This assumption means that each agent should confine himself to conducting reciprocal interactions only for his own needs (i.e., only for repeating his production activities) and he should not try to obtain economic gain or profit through buying and selling. In other words, we regard production and the reciprocal interaction of agents in a reproducible system as routinized, or traditional, conduct that is determined by the structural positions occupied by agents. We call this assumption "the normative demand for reciprocity". It may sound quite restrictive and ethical, but it is indispensable to reproduction of the system. The implications of this assumption will be elaborated in more detail below.

Figure 2
Reciprocity System with Gift-Giving Circular Flow



If the relative prices determined in an equivalent exchange system are applied to this system, each act of reciprocity would appear to be an unequal exchange and thus all reciprocal transactions would form a circuit of gift-giving as depicted in <Fig. 2>. If we take wheat as *numéraire*, the iron person receives 90 qr. wheat while giving in return 12 t. iron (12 t. iron = 120 qr. wheat). Thus the value of 30 qr. wheat is given, in essence, as a gift from the iron person to the wheat person. Similarly, a gift of the same value is further given from the wheat person to the pig person, and from the pig person to the iron person. The whole process forms a clockwise circular flow of gifts. If we take iron or pig, instead of wheat, as *numéraire*, the gift becomes 3 t. iron or 6 pigs, respectively. The "gift" is not in the form of an actual physical commodity, but rather exists in the abstract as a value. The gift-giving is therefore "imaginary" to the agents. There are other reasons as well why we call this gift-giving "imaginary."

The situation of gift-giving is recognizable to inner agents only if they can know the whole structure of production and reciprocity, can understand the notion of equivalence (or transitivity), and can calculate a particular set of relative prices. In the case of a system with many products, the structure

of production processes and gift-giving networks are enormously complex. Then it is even more difficult for each agent to obtain information on other agents' production and reciprocity activity. If the whole structure is invisible to each agent, it will be impossible for him to recognize the connections and the directions of circular gift flow. Even though an agent might recognize the whole structure of the system, he will be unable, under "the normative demand for reciprocity", to make use of the situation to reap any gain from commercial activities.

In order to view a more complicated structure of the gift-giving network, we shall examine the case of a reproducible system with four products (wheat, iron, pigs and silk). Let us assume that the reproducible system is composed of the following four production processes:

240 qr. wheat + 12 t. iron + 18 pigs + 10 t. silk -----> 500 qr. wheat

90 qr. wheat + 6 t. iron + 12 pigs + 6 t. silk -----> 25 t. iron

120 qr. wheat + 3 t. iron + 30 pigs + 4 t. silk -----> 75 pigs

50 qr. wheat + 4 t. iron + 15 pigs + 5 t. silk -----> 25 t. silk

A set of relative prices (exchange-values) in a multilateral equivalent exchange is determined by the following four simultaneous equations (the price of silk is denoted as ps):

$$12 pi + 18 pp + 10 ps = 260 pw$$

$$90 pw + 12 pp + 6 ps = 19 pi$$

$$120 pw + 3 pi + 4 ps = 45 pp$$

$$50 pw + 4 pi + 15 pp = 20 ps$$

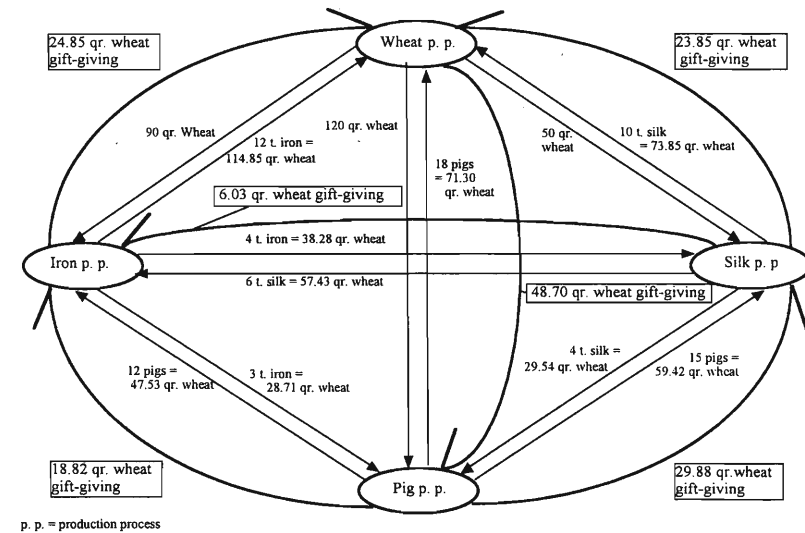
Solving these equations using wheat as *numéraire*, we get the following prices for iron, pig, and silk:

$$pi = 9.571 pw, pp = 3.961 pw, ps = 7.385 pw$$

As is shown in Fig. 3, the wheat person receives a gift valued at 24.85 qr. wheat from the iron person and a gift valued at 23.85 qr. wheat from the silk person. On the other side of the ledger, the wheat person gives a gift valued at

48.70 qr. wheat (the sum value of gifts received) to the pig person. Likewise with all the other agents, each receives gifts the sum value of which equals the sum value of the gifts which they give. The network of gift-giving is composed of three entangled circular flows: *wheat* → *pig* → *iron* → *wheat*, *wheat* → *pig* → *silk* → *wheat*, and *wheat* → *pig* → *silk* → *iron* → *wheat*. Since every circuit is closed no agent experiences gift loss or gift gain and the law of reflux holds. In this case reciprocity continually renders the system reproducible. In the more general case of a system with n products, the number of exchanges is n , but the number of reciprocal interactions is $n(n-1)/2$. As n gets larger, the number of reciprocal interactions tends to increase in a geometric progression and the network of gift-giving becomes increasingly complex and composed of an ever greater number of entangled circular flows.

Figure 3
Reciprocity System with Gift-Giving Circular Flow (4 Products)



Sraffa's prices in a simple reproducible system, which we call 'reproducible prices,' thus reflect two meanings. On the one hand, they are the prices that equalize the value of outputs and the value of inputs in each production process. Put another way, they are prices that satisfy the principle of adding costs. On the other hand, they are the prices, when applied to the concept of reciprocity, that equalize the value of gifts given to the value of gifts received. In other words, they are prices that satisfy the law of reflux. Reproducible prices are considered as a condition necessary for the transformation of a non-market economy into a market economy. In short, the significance of reproducible prices to any comparative analysis of market and non-market economies is great indeed. <Fig. 3>

5. The Conditions for Reproducibility - Vulnerability of Reciprocity

The fact that gift-giving is imaginary and abstract is actually what renders an economic system reproducible⁸. Many economists including Walras, Sraffa and Morishima have never given credence to the concept that an economic system becomes reproducible because of reciprocal transactions. They maintain that agents can arbitrage and gain profit from buying and selling when transitivity does not hold for direct exchanges (Walras 1874-77; Sraffa 1960; Morishima 1977, ch. 1). If arbitrage is possible for an agent then this reality surely alters the initial disposition of products and makes their reproduction unsustainable. In their assumptions, however, all of these economists take it as given that the agents are "rational" homo oeconomicus, just like any arbitrageurs or merchants. Such a presumption, however, becomes untenable if we can regard a reproducible economic system as non-market economy that demands of its agents behavior that is conventional or traditional.

Even when we remove the assumption of "the normative demand for reciprocity", we should still not require a prohibitive degree of rationality

8 According to critical realism, reality is composed of three distinguished domains, namely the empirical (experience and impression), the actual (actual events and states of affairs in addition to the empirical) and the real (structures, powers, mechanisms and tendencies, in addition to the actual events and the empirical) (LAWSON 1997, ch. 2). The gift-giving network represented in this paper stands for an invisible deep structure of inner agents and it is real in this sense. The statement of reciprocity in gift-giving is thus imaginary.

on the part of the agent. The criticism which Mises and Hayek level at central planners in a socialist economy applies to the present discussion (Mises 1920; Hayek 1935, 1948). There is no frame of reference (such as a prevailing set of prices) in the system that an agent can utilize to find opportunity for arbitrage. The inner agents have no concept of equivalence. The agents thus have to obtain complete information regarding the entire structure of production and reciprocal interaction and then calculate a set of relative values. The ability to collect all of the necessary information and then use it to calculate relative prices is far beyond the scope of human ability. Thus, as far as inner agents are concerned, they tend to be ignorant and prone to behave in conventional or traditional ways. The reproducible system is robust in this sense. However, it is not so sturdy in the case for invasion from outsiders.

Gift-giving is transparent to a stranger or a merchant who already understands relative values from knowledge of a price system in a market which lies outside the system. Gift-giving is also visible to an analyst who can closely observe the whole system structure from a vantage point outside of the system or who can construct a kind of model of the system for study. This is probably the main reason why most economists tend to presuppose the existence of arbitrage. A merchant can surely source and sell items that are cheap outside but expensive inside if he enjoys access to a set of prices established in a market outside of the reproducible system. Such profit-taking arbitrage, if it is possible, easily destroys the reproducibility of the system. The reproducible system of reciprocity is vulnerable to the interference of outside arbitrageurs. Presumably, because of this, members of primitive non-market societies generally avoid open contact with outsiders while often engaging in "silent trade" at the border. In order to protect a reproducible economic system from the decay brought on by exposure to destructive outside influences, the strict prohibition of trade between community members and outsiders must be maintained. Those who deviate from these conventionally preserved norms, or ethics, of the community face ostracism. Of course, this type of social sanction has no effective power over those who do not belong to the system. We call such norms and sanctions "the condition for closure of the system". The most crucial norm is the prevention of the notion of equivalence from intruding into the community.

In sum, the reproducible economic system can continue to be reproduced through reciprocity if "the normative demand for reciprocity" and

“the condition for closure of the system” are imposed on the agents of the system.

The implications that we have highlighted above seem to be consistent with the knowledge derived from anthropological studies on gift-giving in non-market economies. For instance, we can provide a reciprocal interpretation to the mutual gift-giving behavior found in the primitive societies described in Mauss’ “The Gift” (1968). People in a primitive society believe that a supernatural and magical power (value) called “hau” resides in a gift or “mana”. It is thought that the receiver of a gift who does not return the gesture will be killed by the power residing in the gift. Of course this sounds absurd and superstitious, but it is actually quite ‘rational’ when thought of on a system level. This supernatural power “hau” is an idealized embodiment, or a means of unconscious acceptance, of social norms and the rule that violation of these norms should go punished. The result is the formation of a gift-giving network based on the law of gift reflux and reciprocity which, in turn, serve as the pillars sustaining economic reproduction in a primitive non-market society. As Lévi-Strauss put it, “hau” is not the ultimate cause of exchange but a conscious form in which people in a particular society articulate their unconscious needs (Introduction to Mauss [1968]).

Reciprocity as a principle for integrating an economy is valid when all inner agents are made to believe, despite general ignorance of the structure of reciprocity and the network of gift-giving, in the law of gift reflux. While in the market “the invisible hand” functions so that the rational pursuit of self-interest unknowingly results in the enhancement of public welfare, in the case of reciprocity “the invisible gift” functions so that irrational belief or trust in the reproducibility of economic and non-economic systems (including norms, conventions and sanctions) unknowingly results in the actual reproducibility of the systems.

A Japanese proverb, “NASAKE WA HITO NO TAME NARAZU” (Benevolence is not for others), seems to express succinctly the implication of reciprocity. Moralizing to others that compassion should be avoided because it spoils people is not the point of the proverb. Nor is the point to be found in the idea that being kind to others in trouble is good because they will return the kindness to you. The latter interpretation supposes the concept of equivalence and promotes the loss/gain calculus of self-interested behavior. The real essence of the proverb, as we have discussed above, can be found in terms of the concept of gift reflux in reciprocity. Where and

how a gift will be returned is utterly unknown to an ignorant human agent. Nevertheless, if she trusts in the reproducibility of the world, that reproducibility is in fact self-fulfilled.

III. Conclusion

The exchange of commodities emerges at the boundary of communities and reflectively permeate the inside of communities. Exchange, through the arbitrage activities of merchants, universalizes the concept of equivalence in product transactions and hinders the reproduction of a reciprocal economy. Consequently, the market effectively dissolves the communicative relationships of agents and thereafter reintegrates the economy through exchange (Marx 1962, ch. 2; Polanyi 1944). The market possesses an inherent potential power to prevent other integrative principles from functioning and thus the market becomes self-expansive. The market, in essence, enjoys the robust propagation powers of a virus.

This does not mean, however, that systems based on reciprocity cannot exist and survive within a market economy. As a matter of fact, various non-market organizations (e.g. families, firms, cooperatives and NGOs) have always existed amidst the workings of a market economy. In order to protect non-market systems from decay and to maintain them in their operational territory, ethics other than liberty and fairness must be at work within the market.

We have seen that, from an analytical viewpoint, the reproducible economic system can be self-sustained through reciprocity if “the normative demand for reciprocity” is forced on agents operating in the system. But we also could regard this situation the other way around. In other words, if, out of ignorance, agents cannot help but to trust in their social institutions then they will spontaneously follow established norms and conventions like “the normative demand for reciprocity”. This behavior will result in the reproduction of institutions, norms and conventions. Indeed, this reproduction becomes a self-intensifying process, resulting in the establishment of stability in the reproducible system. However, such an inwardly stable system still remains vulnerable to the intrusion of outside market economy forces. This is why the system ultimately requires additional ethics and norms such as “the

condition for closure of the system” which effectively restrict the liberty of human agents.

References

- HAYEK, F. A. (Ed.): *Collectivist Economic Planning*, London (George Routledge & Sons) 1935.
- HAYEK, F. A.: *Individualism and Economic Order*, Chicago, London (George Routledge & Sons) 1948.
- HAYEK, F. A.: *The Constitution of Liberty*, Chicago, London (Routledge & Kegan Paul) 1960.
- HAYEK, F. A.: *Law, Legislation and Liberty, Volume I: Rules and Order*, Chicago, London (The University of Chicago Press) 1973.
- HAYEK, F. A.: *Law, Legislation and Liberty, Volume II: Mirage of a Social Justice*, Chicago, London (The University of Chicago Press) 1976.
- HAYEK, F. A.: *Law, Legislation and Liberty, Volume III: The political order of a Free People*, (The University of Chicago Press) 1979.
- HODGSON, G. M.: *Economics and Institutions: A manifesto for a Modern Institutional Economics*, Cambridge (Polity Press) 1988.
- KRAUSE, U.: *Geld und abstrakte Arbeit*, Frankfurt (Campus) 1979.
- LAVOIE, D.: *National Economic Planning: What is left?*, Cambridge, Mass. (Ballinger Publishing Company) 1985.
- LAWSON, T.: *Economics and Reality*, London, New York (Routledge) 1997.
- LEONTIEF, W.: “Die Wirtschaft als Kreislauf”, *Archiv für Sozialwissenschaft und Sozialpolitik*, 3 (1928).
- MAUSS, M.: *Sociologie et anthropologie*, Paris (Presses Universitaires de France) 1968.
- MARX, K.: *Das Kapital*, Bd. I, MEW 23, Berlin (Dietz Verlag) 1962.
- MENGER, C.: *Grundsätze der Volkswirtschaftslehre*, Wien, Leipzig (Hualder-Pichler-Tempsky) 2. Auf., 1923.
- MISES, L. V.: “Die Wirtschaftsrechnung im sozialistischen Gemeinwesen”, *Archiv für Sozialwissenschaft und Sozialpolitik*, Bd. 47, 1920.
- NISHIBE, M.: “Reciprocal Exchange and Equivalent Exchange” (“Goshuteki Kokan to Toka Kokan”), *Economic Studies* (Hokkaido University), Vol. 47, No 1, 1997.

- POLANYI, K.: *The Great Transformation: The Political and Economic Origins of Our Time*, New York (Rinehart) 1944.
- POLANYI, K.: “The Economy as Instituted Process”, in: POLANYI ET AL. (Eds.): *Trade and Market in the Early Empires*, New York (The Free Press) 1957.
- POLANYI, K.: “Carl Menger’s Two Meanings of Economic”, in: *Studies in Economic Anthropology*, Vol. 1, 1971, Ch. 1.
- POLANYI, K., PEARSON, H. W. (Eds.): *The Livelihood of Man*, New York (Academic Press) 1977.
- REMAK, R.: “Kann die Volkswirtschaftslehre eine exakte Wissenschaft werden?”, *Jahrbücher für Nationalökonomie und Statistik*, Bd. 131 (1929), pp. 703-735.
- ROBBINS, L.: *An Essay on the Nature and Significance of Economic Science*, London (Macmillan) 1932.
- SAHLINS, M.: *Stone Age Economics*, (Aldine Publishing Co) 1972.
- SRAFFA, P.: *Production of Commodities by Means of Commodities - Prelude to a Critique of Economic Theory*, Cambridge (Cambridge University Press) 1960.
- WALRAS, L.: *Elements d’economie Politique Pure*, Lausanne (Corbaz) 1874-77.