

Revisiting the Substantivist/Formalist Debate: A Formal Presentation of Three Substantivist Criticisms

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Abstract: One important criticism proposed by the substantivists, with regard to the formalists' application of the mainstream neoclassical economic model, is their criticism of the unrealistic nature of the implied choice process. Three important criticisms of this nature concern the implied choice under scarcity, the isolated and the selfish nature of the choice process. A common response by many defenders of neoclassical economics is that their model is general, that it can be modified to include whatever specific conditions economic choice is being made under. In this paper we argue this response is false. We examine the formal mathematical structure of the neoclassical choice model, and indicate how the aspects mentioned above in the substantivist criticisms are reflected and embedded in the model. We conclude that one could change the mathematical structure of the model in a way that would address these substantivist criticisms only by making changes that would leave one with a model that was outside the neoclassical approach to economic decision making. Thus, while the substantivist/formalist debate passed without resolution, upon additional consideration, the substantivist criticisms appear accurate. Also, when formalized, the substantivist criticisms pose a compelling challenge to the neoclassical model as a general model.

I. Introduction

One¹ important criticism by the substantivists of the mainstream neoclassical² economic model is their criticism of the unrealistic nature for some economic choices of the implied choice process. During the substantivist/formalist debate the substantivists also criticized the formalist approach for assuming isolated and thoroughly selfish decision making. A common response made by the formalists was that their model is general in the sense that it can be modified to include whatever specific conditions economic choice is being made under. That is, they argue that utility maximization really only says that people choose what they prefer³, and then the formal neoclassical approach understood broadly allows one to put any constraints one wants on that process of economic choice of what goods one consumes and what work one does.

Our concern in this short paper is to argue that the neoclassical model is not as malleable as the formalists had contended. We maintain that the mathematical structure of the standard neoclassical model necessarily implies much more concerning the nature of the economic choice process than is generally acknowledged or even recognized. We will argue that some types of economic choices that people make cannot be modeled by the standard neoclassical model and,

further, that the standard model cannot be modified to reflect such choices without ceasing to be neoclassical in nature.

Concretely, we will consider three criticisms of the neoclassical model of economic choice that were brought up by the substantivists: A) economic choice is not necessarily choice making under conditions of scarcity, B) people are not always isolated economic decision makers: communication and coordination of activities occurs in economic decision making, and C) people are not always selfish economic decision makers⁴: some economic decisions involve goods consumed by other people.

After this introduction we will proceed as follows. In part II we will briefly establish that these indeed have been criticisms leveled against the neoclassical model by substantivists. To keep this history of thought section brief, we will refer to the work of only one substantivist, Karl Polanyi. We have selected him both because he is particularly clear in being concerned with these issues, and because his work in the 1940s and 1950s initiated the famous substantivist/formalist debate. We do not intend this section to be a review of all of Polanyi's work or even all of Polanyi's work on this topic, but rather just to establish the asserted substantivist criticism of the neoclassical model on these issues.

Then in section III we will consider how these criticisms translate into the frame of the formal neoclassical model. Critics of the neoclassical approach have long pointed out that defenders of that approach often use mathematical formalism, sometimes complicated, as a substitute for clear economic reasoning to defend their approach. But of course mathematics necessarily reflects the assumptions, in this case the economic assumptions that underlie any model. We will see how the formal structure of the neoclassical model in fact reflects exactly the three issues discussed in this paper on which the substantivists attacked the formalists.

Further, we will see how an extension of the standard model to address these concerns would result in a fundamentally different model than the standard model, a model that would reflect something different than the neoclassical approach to economics.

II. Three Substantivist Criticisms of the Neoclassical Model of Economic Choice

A) Economic Choice is Not Necessarily Choice Making Under Conditions of Scarcity

Polanyi characterized the neoclassical model, which he referred to as the ‘formal’ economic model, as a model of choice under scarcity.

The formal meaning of economic derives from the logical character of the means-ends relationship, as apparent in such words as “economical” or “economizing.” It refers to a definite situation of choice, namely, that between the different uses of means induced by an insufficiency of those means. If we call the rules governing choice of means the logic of rational action, then we may denote this variant of logic, with an improvised term, as formal economics. (Polanyi 1977:122)

The formal meaning [of economic] implies a set of rules referring to choice between the alternative uses of insufficient means. This is the so-called scarcity postulate. It requires, first, insufficiency of means; second, that choice be induced by that insufficiency. (Polanyi 1957:124)

The problem with this approach was, Polanyi argued, simply that not all economic choices are made under conditions of scarcity.⁵ As an example, he noted that

Choice may be induced by a preference for right against wrong (moral choice) or, at a crossroads, where two or more paths happen to lead to our destination, possessing identical advantages and disadvantages (operationally induced choice). (Polanyi 1957:122)

These non scarcity determinants of economic behavior, shaped by many institutions other than markets, could be as or more important for determining how the economy functioned than the market institutions. Hence the great importance of understanding institutions other than the market that are important to influencing and understanding economic choice.

The human economy, then, is embedded and enmeshed in institutions, economic and noneconomic. The inclusion of the noneconomic is vital. For religion or government may be as important for the structure and functioning of the economy as monetary

institutions or the availability of tools and machines themselves that lighten the toil of labor. (Polanyi 1957:127)

Again, at greater length from his major work thirteen years earlier on the origins of capitalism,

The outstanding discovery of recent historical and anthropological research is that man's economy, as a rule, is submerged in his social relationships. He does not act so as to safeguard his individual interest in the possession of material goods; he acts so as to safeguard his social standing, his social claims, his social assets. He values material goods only in so far as they serve this end. Neither the process of production nor that of distribution is linked to specific economic interests attached to the possession of goods; but every single step in that process is geared to a number of social interests which eventually ensure that the required step be taken. These interests will be very different in a small hunting or fishing community from those in a vast despotic society, but in either case the economic system will run on noneconomic motives. (Polanyi 1944:46)

If one limited oneself to considering scarcity determined choice as in the neoclassical model, one would fail to understand a given economy if it was other than the prototype scarcity determined economy, a market economy. Not only "primitive" economies and centrally planned economies are not organized by price-making markets, but a tremendous amount of the economic decisions made by people who live even in modern capitalist economies are not determined by price-making markets. In the following quote "economic analysis" means neoclassical analysis.

Outside of a system of price-making markets economic analysis loses most of its relevance as a method of inquiry into the working of the economy. (Polanyi 1957:125)

In the next section we will consider the problems inherent in the formal structure of the neoclassical economic choice model that arise if one tries to incorporate non scarcity determinants of behavior into the model.

B) People Are Not Always Isolated Economic Decision Makers: Communication and Coordination of Activities Occurs in Economic Decision Making.

The well known prisoners' dilemma presents the suboptimal result for two neoclassical maximizers pursuing their individual interests and constrained to not communicate and

coordinate their responses, as implied by the neoclassical approach. The well known “tragedy of the commons” likewise results from economic decision makers pursuing their interests without communication or coordination with other economic actors. Small groups historically have overcome both these problems by communication and coordination, generally through specific social practices and/or institutions.

Polanyi’s broader frame for economic analysis prominently featured the concepts of reciprocity, redistribution, and exchange, with the latter of these central to the analysis of markets and the former two key for analyzing many non market economies that have existed throughout history. These represent coordination, often again usually culturally and/or institutionally executed. Here we will note his interest in reciprocity, and will consider redistribution in the third point below.

The Bergdama returning from his hunting excursion, the woman coming back from her search for roots, fruit, or leaves are expected to offer the greater part of their spoil for the benefit of the community. In practice, this means that the produce of their activity is shared with persons who happen to be living with them. Up to this point the idea of reciprocity prevails; today’s giving will be recompensed by tomorrow’s taking. (Polanyi 1944:51)

In the next section we will look at some recent steps that neoclassicals have taken to incorporate some aspects of communication and coordination into their approach in a way that they had not when Polanyi was writing, and further consider some barriers they still have to modeling communication and cooperation as it actually occurs in much economic decision making.

C) People Are Not Always Selfish Economic Decision Makers: Some Economic Decisions Involve Goods Consumed By Other People.

Polanyi argued that, especially in “primitive” societies, one tended to think in terms of how one’s economic decision would affect the welfare of “the community.”

Take the case of a tribal society. The individual's economic interest is rarely paramount, for the community keeps all of its members from starving unless it is itself borne down by catastrophe, in which case interests are again threatened collectively, not individually. (Polanyi 1944:46)

People incorporate the well being of others into their considerations for economic decision making so completely that the very concept of self, in regards to some (but not all) choices, essentially disappears.

The premium set on generosity is so great when measured in terms of social prestige as to make any other behavior than that of utter self-forgetfulness simply not pay. (Polanyi 1944:46)

Such a situation must exert a continuous pressure on the individual to eliminate economic self-interest from his consciousness to the point of making him unable, in many cases (but by no means in all), even to comprehend the implications of his own actions in terms of such an interest. (Polanyi 1944:46)

At least for those who are the 'givers' in the redistribution process, the historically important process of redistribution falls into this category of economically acting on the basis of the welfare of others or the community.

Redistribution occurs for many reasons, on all civilizational levels, from the primitive hunting tribe to the vast storage systems of ancient Egypt, Sumeria, Babylonia, or Peru. In large countries differences of soil and climate may make redistribution necessary; in other cases it is caused by discrepancy in point of time, as between harvest and consumption. With a hunt, any other method of distribution would lead to disintegration of the horde or band, since only "division of labor" can here ensure results; a redistribution of purchasing power may be valued for its own sake, i.e., for the purposes demanded by social ideals as in the modern welfare state. The principle remains the same - collecting into, and distributing from, a center. Redistribution may also apply to a group smaller than society, such as the household or manor irrespective of the way in which the economy as a whole is integrated. The best known instances are the Central African kraal, the Hebrew patriarchal household, the Greek estate of Aristotle's time, the Roman familia, the medieval manor, or the typical large peasant household before the general marketing of grain. (Polanyi 1957:130-1)

In the next section we will see that the issue involved in this aspect of going beyond the isolated individual approach of the neoclassical model much more quickly takes one beyond the

neoclassical approach when one considers trying to incorporate it into the model, than the issues involved in the last point.

III. A Formal Consideration of the Three Criticisms

The well known standard neoclassical model of economic choice is that a person i facing a price vector p will choose a vector x of goods and services in a way that maximizes her utility function $u_i(x_1, x_2, \dots, x_N)$ subject to the constraint that $p_1x_1 + \dots + p_Nx_N = p_1\omega_1 + \dots + p_N\omega_N$, where the ω_n are her initial endowments of each of the N goods.⁶ Here we want to reconsider the implications for this mathematical problem of the three criticisms by Polanyi discussed in the last section.

A) Economic Choice is Not Necessarily Choice Making Under Conditions of Scarcity

Consider the example raised in the last section, where a person can obtain the same goods and services two different ways. To be concrete, consider that one can obtain food either by growing it or stealing it. Using the standard utility maximizing approach, if one only had food as an argument in the utility function, then the model would fail to be able to indicate why most people will make the economic choice to grow the food instead of stealing it. If one includes leisure as an argument as neoclassicals often do, then the model would perform even worse, again falsely indicating that most people will prefer to steal the food instead of growing it. If we consider the real world as Polanyi indicated, we know most people will not choose to steal instead of work because they feel that would be wrong, that would be immoral.

Some defenders of the claim to the broad generality of the neoclassical model assert one can always put some other good into the utility function to represent such choice problems, such as perhaps 'one's social reputation' in this case. For example, Mas-Colell et. al. assert:

We should also note that in some contexts it becomes convenient, and even necessary, to expand the set of commodities to include goods and services ... that

may be available by means other than market exchange (say, the experience of “family togetherness”). For nearly all of what follows here {that is, the whole one thousand page book - J.E. & A.C..} the narrow construction introduced in this section suffices. (Mas-Colell et al 1995:18)

Such an inclusion of something like ‘one’s social reputation,’ however, would completely change the mathematical structure of the problem, and move outside the neoclassical approach to the choice problem, as we will now elaborate on.

The mathematical structure of the standard neoclassical economic choice problem is a constrained optimization problem, with the budget as the constraint, as indicated at the beginning of this section. What it means economically is that a person must choose how much of each of the goods available to her she will take, while not exceeding her budget. Given markets and prices for the goods, she hence faces a trade off among the goods - if she takes more of one she will have to take less of some other. This is the way markets reflect scarcity: if prices were all zero, she could have as much of any good as she wanted, but that could only happen for all of the society if there were as much of each good as the total people would want if they were unconstrained in the amount they could have.

We have to insert here an aside on a few confusions that sometimes arise from the word “constrained.” There are at least three different ways the word can be used in relation to the formal neoclassical choice model. First, anyone is constrained to choose from whatever “the individual can conceivably consume given the physical constraints imposed by the environment.” (Mas-Colell et al 1995:18) Used this way, all choice could be said to be constrained choice. But in the neoclassical formal model, this limitation is reflected in the requirement that the choice come from the choice set. As formal mathematical procedures, both constrained optimization and unconstrained optimization face the constraint of having to choose from the choice set. This meaning of the word constrained is not the meaning that ~~is~~ the word

has in the neoclassical choice problem of choice under scarcity and its formal modeling as a constrained optimization problem.

A second meaning of the term “constrained” could refer to the act of choosing itself as constraining. This arises sometimes from a misinterpretation of statements like the following that one often sees at the beginning of microeconomic textbooks: “The starting point for any individual decision problem is a set of possible (mutually exclusive) alternatives from which the individual must choose.” (Mas-Colell et al 1995:5) It is true that if your budget allows you to have either six apples and two oranges or four apples and three oranges, then spending your money on the former constrains you from having the latter. Again, this use of the word constraint holds for both the formal models of constrained and unconstrained utility maximization, and is not the way the word constrained is used in the neoclassical approach and its formal model of constrained utility maximization. There the word constrained is used to indicate the formal constraint that reflects a scarcity, and based on that scarcity establishes a tradeoff of what one can buy before any purchase is made. In the apple-oranges example just presented, the constraint that reflects the neoclassical nature of the problem is not that one cannot have six apples and two oranges if one buys four apples and three oranges, “because the choices are mutually exclusive,” but rather that due to a scarcity of apples and oranges in the sense that supplies do not reach the satiation levels, one faces a trade off of how many apples one can have for how many oranges one can have, the well known budget constraint.

We take this definition of “constraint” because it captures the economic concept of ‘choice under scarcity,’ which is an essential aspect of the neoclassical approach. Hence, formally, a constraint means having a constraint function on the goods one can obtain, and it is not an issue of the choice set and it is not an issue of the act of choosing itself.

While one could in theory imagine all sorts of constraint functions (the total amount of embodied energy, the total amount of embodied water, etc), only two constraint functions have been seriously offered by neoclassicals for describing the behavior of economic choice under scarcity: the budget constraint (where the goods involved must all have prices), and a time constraint (offered loosely, though never extensively developed, as a constraint that would establish tradeoffs among goods for “primitive non market” societies).

With this understanding of the use of “constrained choice,” we now return to consider the idea of inserting things like “family togetherness” or “reputation” into the neoclassical utility maximizing model to allow it to represent economic choices that involve these. In order to properly address this issue it is useful to ponder a criticism put forth by another school of thought in economics, the Institutionalists⁷. In the field of economics the Institutionalists represent the equivalent to that of the substantivists in economic anthropology. In evaluating the Institutionalists we find that some among the Institutionalists have incorrectly formulated the correct criticism of the neoclassical constrained utility maximizing model by arguing that there is no such thing as utility and so people cannot be utility maximizers, and hence one cannot represent choice in general by utility maximizing. Neoclassicals have responded to this as follows.

Why is it called “Utility maximizing”? Is there something called “utility” - something like weight, height, wealth, or happiness - that people are really trying to maximize? No. ... It is now simply an indicator for comparing options and showing preferences among them. Thus, it is now a matter of convention to say that if a person chooses option A rather than B, option A has more utility for him. (Alchain and Allen 1964:18)

This is the standard neoclassical position on the meaning of utility maximization, and it is developed in any advanced microeconomics textbook.⁸ any choices⁹ between options indicate what people prefer, and one can build a utility function whose maximization would yield the

given choices. They are correct in this claim. Subject to the standard issues concerning completeness and transitivity referred to in footnote 9, unconstrained utility maximization indeed can “model” any choice. It is a tautology, and as such it is vacuous - one might just as well say that ‘a person will choose what they choose.’

The proper Institutionalist, as well as substantivist, criticism of the neoclassical utility constrained maximizing model is that people’s economic choices are not universally made under constraints, which is the same as saying as Polanyi did, that not all economic choices are made under scarcity. Mas-Colell’s suggestion above to include “family togetherness,” or “reputation,” cannot be included in a neoclassical way into their model because they do not have prices. This means they cannot be included in the constraint, and hence be part of the choice-under-scarcity trade off that is the essence of the neoclassical problem. Sometimes, similar to the substantivists, the Institutionalists also refer to this problem by saying the neoclassical model was developed to represent choice in markets, and is not necessarily appropriate for choice in non market economies.¹⁰ Though the following quote by Mas-Colell does not specifically say one could not extend the model, it makes clear that the neoclassical model in a market economy is concerned with things involved in the budget constraint, not things without prices - it is exactly such things that are called “commodities,” which is what the neoclassical models always refer to.

The decision problem faced by the consumer in a market economy is to choose between consumption levels of the various goods and services that are available for purchase in the market. We call these goods and services commodities. (Mas-Colell et al 1995:17)

Let us return to consider our hypothetical problem from the last section. We could indeed include a variable in the utility function and call it ‘social reputation,’ and give it two states, one that results from stealing and one the results from growing one’s food. We could choose to assign utility values to the two states so that the person, in maximizing their utility,

chooses the ‘not steal’ state. Hence we would have built a utility function that “explains” the person’s behavior (of course as the construction makes clear it’s a tautology and vacuous as an explanation, as we argued above). But we have done so by introducing a variable that does not enter into the budget constraint. We have done so by stepping outside the neoclassical concept of a tradeoff among scarce commodities. We cannot introduce the needed thing as a commodity, a scarce good that, as one chooses a certain level of consumption, there is a tradeoff with other scarce goods, the subject of neoclassical economic choice theory. To the extent that we need to introduce many such things to model how people really make economic choices, each of these needed things lies outside of the neoclassical choice problem. The substantivists argued that many (but not all) aspects of economic choice, such as the example of moral choice for economic behavior, in fact are not choice under scarcity, and so the neoclassical model is inappropriate for modeling them.

The important point here is that it is not utility maximizing per se that implies unrealistic economic behavior, as is sometime claimed by opponents of the Neoclassical paradigm. Utility maximizing is largely tautological (and therefore vacuous) – whatever people chose or chose to do, one can always say there was a utility function in the background that had a peak there, since utility functions are fictitious constructions. Rather, it is constrained utility maximization that is the structural aspect of the formal neoclassical model that reflects its economic inappropriateness, its assumption that all economic choice is choice under scarcity.

B) People Are Not Always Isolated Economic Decision Makers: Communication and Coordination of Activities Occurs in Economic Decision Making.

The standard neoclassical model for choice outlined above clearly suffers from this weakness. Each decision maker considers only commodities he can consume given his budget constraint, with no role in the procedure for considerations of how what others consume will affect what he can consume. For many economic decisions that are not made through markets, people consider in making their decisions what others decide to do. Consider Polanyi’s category of reciprocity, which was intended to capture one type of such interaction. If others with whom

one had reciprocal relations arbitrarily chose to cease carrying them out, one would very possibly change one's decisions on what one would give to them.

The standard neoclassical model outlined above, which was the only mathematical model of neoclassical economic behavior that existed when Polanyi did his work, was widely criticized even then for its assumed 'isolation' of decision makers, its failure to account for interaction between economic decision makers. In response, neoclassicals developed non-cooperative game theory models. We argue here that the mathematical assumptions of non-cooperative game theory, while suitable for a first step toward modeling some economic decision making problems such as the interaction between non collusive firms, specifically forbid the more extensive communication and coordination that occurs between people involved in much non market economic decision making. It is this assumption of 'almost completely isolated' decision makers that makes non-cooperative game theory compatible with the neoclassical approach to decision making, and at the same time leaves it susceptible to the same criticism as Institutionalists directed against the standard neoclassical model, that it fails to reflect the nature of the interactions between decision makers in many non-market economic decisions.

We will consider the following problem in order to see what sorts of assumptions on economic choice making are built into non cooperative game theory. The scenario will likely immediately strike the reader as unrealistic, and that is exactly because people in non market economic interactions often do not behave as stipulated in non cooperative game theory, as we will discuss.

Suppose that there is an inlet in a bay in which every morning there are 12 units of fish. There are two fishing groups that each operate a canoe. Each group can either cooperate or not cooperate with the other group. If a group does not cooperate, they simply go down to the inlet

and start fishing. If they do cooperate, they first spend time driving other fish from the bay into the inlet before they fish there. If the two boats work together driving extra fish into the inlet, they will drive in four extra units of fish. If only one boat works to drive fish in, it will drive in an extra unit of fish.

The following presents this standard “prisoners’ dilemma” problem

	c	nc
c	8,8	4,9
nc	9,4	6,6

If both groups choose to not cooperate, they both go down to the inlet and fish, and they each get half the fish there, six units of fish each. If they both decide to cooperate they first drive in four extra units of fish, and then each fish out one half of the fish now in the inlet, each getting eight units of fish. Finally, if either group decides to go out and drive in fish while the other goes and directly starts fishing, the latter will fish five units of fish out of the inlet while the other is driving in the extra unit, and they will then both fish out four more units while fishing at the same time.

The well known result of non cooperative game theory is that don’t cooperate/don’t cooperate is the dominant strategy solution: the fishermen will not cooperate, and will both end up worse off than if they both cooperated.

The rules of non cooperative game theory are the key to this output. Both players must ‘move simultaneously.’ That means, both must commit themselves to what behavior they will take without knowing what the other will do. One could motivate this by saying they could not communicate, or one could allow them to communicate but say they could not trust the other person and would assume the worst. Either way, one sees that the result rests on ruling out

exactly what Polanyi argued was important to much non market decision making:
communication, coordination and cooperation.

As noted above, this example immediately strikes one as unrealistic. One imagines the fishermen would talk over the situation, and agree to both cooperate and thus both end up better off. And of course they would, but that would involve acting in a non neoclassical way, as humans in such situations frequently do. Built into the mathematical structure of this neoclassical model is the neoclassical economic assumption about the selfish and isolated nature of humans. To modify this model to reflect the cooperative way people solve many economic problems would take one outside the neoclassical approach to choice.

As an aside to this point, note that there is some confusion propagated by neoclassical advocates about ‘cooperative solutions’ that can arise in non cooperative games. For example, if one has an infinitely repeated prisoners dilemma (and providing both players give enough weight to the future as opposed to the present and near present), some strategies such as tit for tat or trigger strategies can be considered that allow players to not directly communicate, in favor of indirect communication where one observes the other person’s moves, and still achieve the cooperative solution in every stage. The limitations of such ‘cooperation’ are immediate: for example, there is no such cooperative solution for neoclassical players for any finite repetition of the game, even if the game is repeated one million times. But beyond that, this is just not how people work out such situations: instead, they talk to each other and reach agreements, and that cannot be modeled within the neoclassical approach of the selfish and isolated economic decision maker.

C) People Are Not Always Selfish Economic Decision Makers: Some Economic Decisions Involve Goods Consumed By Other People.

In all presentations of the standard neoclassical model above (or even in the payoff functions in non cooperative game theory), the commodities are things consumed by the decision maker. A substantivist criticism argues that sometimes decision makers take into account the economic effects (the level of consumption or other effects) of their decisions on others (family, tribe, community, etc).

Consider modeling the following situation. For simplicity, consider just two people and a single good in unlimited supply at a given price (say $p=1$ for notational simplicity). Let x_i $i=1,2$ be the amount of the single good consumed by each person. Each person $i=1,2$ has money m_i with which to buy the good. The key is that each person i cares about how much the other person j consumes, so their utility function can be represented by $u_i(x_i, x_j)$ $i, j=1,2, j \neq i$. Each person can consume any part of what they buy themselves or give it to the other person to consume. Let the superscript s denote goods one buys for oneself and the superscript o denote goods one buys to give to the other person. Hence $m_i = x_i^s + x_i^o$. The total consumed by each person is $x_i = x_i^s + x_j^o$, $i, j=1,2, j \neq i$. Each person $i = 1,2$ then faces the problem of choosing x_i^s to maximize $u_i(x_i^s + x_j^o, x_i^o + x_j^s)$, or equivalently just in terms of the self purchases chosen, $u_i(x_i^s + m_j - x_j^s, m_i - x_i^s + x_j^s)$. Here one has for each of the two $i=1,2$ maximization problems one choice variable x_i^s , and m_i, m_j , and x_j^s are parameters for the u_i maximization problem. But this takes us formally back to a game as in the last section since x_j^s is set by the choice of the other person, and we end up with the following problems if we try to execute the neoclassical choice procedures. To begin with, one cannot even do one's own maximization if one does not know how the other person is dividing their money between spending on themselves and spending on you. Real people would solve a problem like this by communicating, contrary to the behavior that is specified in the standard neoclassical maximization approach. In attempting to avoid the

need to model communication for problems like this, advocates of the neoclassical approach often argue that if there is a single Nash equilibrium and if each player plays that, then there is no reason either of them would want to change from that. While that is true, it does not really solve the problem. A first difficulty with this approach is the well known weakness of Nash equilibriums - they are static, they only say that if such an equilibrium exists no one has an incentive to change, but they do not show why people would move to such an equilibrium if the system starts from any other state. But the problem is deeper than that in connection with the issues this paper is addressing. As in the example in the last section, even if there is a Nash equilibrium, there is no reason that the two players by communicating and coordinating could not possibly both do better than the Nash solution.

We conclude then that when one allows for non selfish human behavior one gets the same result we observed in the last section when one allowed people to recognize that they are not isolated: many times people will see that they can do better through communication and cooperation, and will act in those non neoclassical ways.

IV. Conclusion

The substantivists¹¹ in challenging the formalists were fundamentally challenging the neoclassical model of economic choice. The substantivists maintained that it is a model built on economic decision-making in a market context, and cannot support the claim to be a universal model of economic choice. In particular, they maintained that not all economic choices are choices under scarcity, and that not all human economic choices are isolated and selfish. The formalists, like contemporary defenders of the neoclassical model, asserted that while in its standard form their model reflects market decisions, in principle it could be extended to represent any economic choice. In this paper we have demonstrated that these three aspects of some non

market decision-making, choices that are not scarcity constrained, not isolated or not selfish, are in fact incompatible with the mathematical structure of the neoclassical decision making model. The substantivists' assertions concerning these three issues are correct, not only for the standard model as it happens to be constructed for choice when faced with markets, but for the essence of the neoclassical approach to economic decision making. To incorporate the types of extensions needed to address these criticisms into the standard neoclassical model would necessarily change the mathematical structure of that model to the extent that it would take one outside the neoclassical approach. In essence, the substantivist position during the substantivist/formalist debate was correct.

Notes

¹ Not the only, but this is the subject of this paper.

² Although not explicitly stated as such in the literature, the formalists were in fact employing the neoclassical economic model as it is referred to in the economics literature.

³ And since we can only assert what people prefer by what they choose (“revealed preferences”), it really only says that people choose what they choose.

⁴ This in itself implies that the decision makers are not isolated, but in a different way from the last point.

⁵ Polanyi offered a broader approach that could address both situations of choice under scarcity and choice not constrained by scarcity, which he called the ‘substantivist’ approach. The purpose of this paper is to consider his criticisms of the neoclassical approach and not his alternative, but we will include here a very brief statement of his alternative approach. “The substantive meaning of economic derives from man’s dependence for his living upon nature and his fellows. It refers to the interchange with his natural and social environment, in so far as this results in supplying him with the means of material satisfaction.” (Polanyi 1957:122)

⁶ Proponents acknowledge that their model can only represent choices that result from preferences that are complete and transitive, and they assume continuous preferences to give continuous and differentiable utility functions. In addition, they assume non satiation or monotonicity, and diminishing marginal rates of substitution. In this sense they admit their model is less than a general model of choice, though they dismiss most of these as not serious restrictions. See Mas-Colell et al, chapters 1 – 3. The point of this paper, however, is that there are additional important restrictions on the nature of choice being modeled implied by the structure of their model that they do not discuss or acknowledge.

⁷ Polanyi is categorized in the economics literature as an Institutionalists.

⁸ for example Varian (1992) or Mas-Colell et al (1995)

⁹ There are some well known restrictions: the preferences have to be complete, transitive and continuous to guarantee a utility function representation. In some choice situations these can be important restrictions – for example the well known issues of framing, chains of indiscernible differences, and addiction. We hold, however, that for many economic choice problems these restrictions are not unreasonable for modeling the real world.

¹⁰ The problem for the neoclassical model is actually deeper than that - it requires all goods to be involved in the tradeoff, so even in a predominantly market economy it is not able to model in neoclassical way a person who chooses to work for a living instead of steal.

¹¹ It is important to note that the Institutionalists, as long ago as Veblen (1898) have long challenged the neoclassical model of economic choice.

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