The Liberal Paradox and Non-Welfarist Theories: To What Extent Is There a Compatibility?

ENRICO GUZZINI
QUADERNI DI RICERCA N. 159
The Liberal Paradox and Non-Welfarist Theories: To What Extent Is There a Compatibility?

ENRICO GUZZINI
QUADERNI DI RICERCA n. 159

Febbraio 2002
The Liberal Paradox and Non-Welfarist Theories: To What Extent Is There a Compatibility?

Enrico Guzzini

Abstract
A solution to the liberal paradox based on the conditional Pareto principle and the paretian epidemic is given. It is also shown a link between our solution and non-welfarist theories.

JEL Classification: D7

For helpful comments and encouragement I would like to thank Professors Renato Balducci and Alberto Niccoli. Usual disclaimer apply.

1Department of Economics
University of Ancona
P.le Martelli, 8
60121 Ancona (Italy)
e-mail: enricog@dea.unian.it
1. Introduction

About thirty years ago, Amartya Sen published an important result (Sen 1970a, 1970b), entitled "the impossibility of a paretian liberal" (or more briefly, "the liberal paradox") in which he showed the mutual inconsistency of the Pareto principle and a mild requirement of individual liberty, together with a hypothesis of Unrestricted Domain: there is no Social Decision Function which can satisfy simultaneously the three hypothesis. Suddenly a huge amount of research investigated this problem and tried to suggest escapes from the impossibility result. According to Sen (1976, p.237; 1979, p.451) and Wriglesworth (1985, pp.118, 122) there is not a clear and a unique way to get out of the paradox. In this paper, following this consideration, I will indicate as a possible "solution" to the paradox the use of two results presented by Sen (1976): the paretian epidemic and the conditional Pareto principle. I will also try to show that the use of these two results possesses, under some assumptions that will be specified, an important property: the fact that every social state can become the chosen one. The importance of this result is that it opens the possibility to build a link between the liberal paradox and what we call here non-welfarist theories. By this expression I mean a family of theories which use spaces of evaluation of well being different from the utility space: for example some authors choose to value well being in terms of "primary goods" (e.g. Rawls, 1971), others in terms of "resources" (e.g. Dworkin, 1981a, 1981b), others in terms of "capabilities" (e.g. Sen, 1985). The definition of the "best" social state can also be done by using the "non-welfarist" information coming from these new approaches, in addition to the welfarist information and to the liberty information coming from the liberal paradox approach.

The rest of the paper is organised as follows: in section two I will give the basic ingredients for the following analysis; in section three I will

---

1 Sen (1976) and Wriglesworth (1985) constitute partial surveys in which many contributions on the liberal paradox are well organised.

2 This is not, obviously a complete taxonomy, but has only an illustrative value. For a more comprehensive view, see, for example, Sen (1992a).

3 The position of liberty can appear in this context problematic: liberty is considered a non-welfarist concept (see, for example Sen [1970a, 78-79], Sen [1977, 1559]) and it is also contained in the "liberal paradox". Therefore in the "liberal paradox" there is already some non-welfarist information. Thus what this paper properly does is to find a new solution to the paradox and thanks to this solution to add further non-welfarist information.
present the Pareto conditional principle and the Paretian epidemic in a
slightly modified version; in section four I will show and discuss the
central results of this paper which enable us to join the liberal paradox
to the non-welfarist theories. Section five will conclude the paper.

2. Basic ingredients

Let's introduce some terminology. \(N = \{1, 2, \ldots, n\}\) is the set of
individuals; \(n \geq 2\). Every individual \(i\) has a weak preference ordering \(R_i\)
i.e. a binary relation satisfying the properties of completeness,
transitivity and reflexivity. The symmetric part of \(R_i\) is the indifference
relation \(I_i\), while the asymmetric part of \(R_i\) is the strict
preference relation \(P_i\). Individual preferences are defined over \(X = \{x_1, x_2, \ldots, x_i\}\), the set of social state (the cardinality of \(X\) is \(\geq 3\)). A
collective choice rule is a rule of aggregation on individual preferences
into a social binary relation \(R\). If \(R\) is complete, transitive
and acyclic, it is called a Social Decision Function (SDF). Following
Sen (1970a, 15) a binary relation \(R\) is said to be acyclic if and only if
for every sequence of social states \(x_1, x_2, x_3, \ldots, x_q \in X (2 \leq q \leq 0),\)
\([x_1 P x_2, x_2 P x_3, \ldots, x_{q-1} P x_q] \rightarrow x_1 R x_q\). Corresponding to the binary
relation \(R\) we can define a choice set containing, according to \(R\), the
best elements of \(S, C(S, R) = \{x \in S \mid \forall y \in S: x R y\}, S \subseteq X\). \(S\) is the set of
available social states i.e. the set of options presented for choice. For
simplicity in the rest of the paper we will assume \(S = X\). It was shown
by Sen (1970a, lemma 1.1) that a binary relation has a non empty
choice set if and only if it is complete, reflexive and acyclic.
We say that a SDF satisfies the Weak Pareto Principle \((P)\) if and only if
\(\forall x, y \in X, [\forall i \in N : x P_i y] \rightarrow x P y\).
Further, we decompose each social state according to its elementary
characteristics or features: these features can be either privately
oriented or public oriented. If we imagine that the number of
characteristics is \(v, v \geq n\), and that each one belongs to a set \(V_i\) we can
decompose \(X\) in the following way: \(X = V_1 \times V_2 \times \ldots \times V_v\). For the sake
of simplicity we can assume that the \(i\)-th characteristic describes an
aspect or a feature of the \(i\)-th individual's life; the public features, if
any, are described by the remaining \((v-n)\) characteristics. If two social
states, \(x\) and \(y\), differ only by a feature which concerns a personal
aspect of one individual life, e.g. \(i\)'s personal characteristic, we can
write \(x^i = y^i\) and \(x \neq y\). We say that a SDF satisfies a Liberty
Condition \((L)\) if there is a right system \(D = \{D_1, D_2, \ldots, D_n\}\) which
assigns a couple (or more) of social states to each individual; these
social states differ only in features regarding personal aspects of
individual's life\(^4\). The individual can "dictate", or he or she is decisive
about a couple (or more) of social states, thus \(\{x, y\} \in D_i \& x P_i y \rightarrow
x P y\).
Finally we can say that the SDF satisfies a Universalism Condition
\((U)\) if the domain of preferences considers every logically possible set
of individual preferences.
In his "liberal paradox" Sen uses a condition even weaker than \(L\), i.e. a
condition \(L^*\) according to which there are at least two persons who are
decisive about at least two different social states each.

Proposition 2.1. There is no SDF which satisfies \(U, P\) and \(L^*\).


3. Two results of possibility.

Among various approaches aiming at resolving Sen's paradox, I will
capitalise on two of them, both of which were proposed by Sen
himself in an influential paper (Sen, 1976).
Following the first solution, the contrast between liberty
considerations and the Pareto principle disappears if we consider a
modified version of the latter, the conditional Pareto principle. The
idea of the conditional Pareto principle is quite clear and intuitive: if
in a society there is at least one liberal individual who desires to
respect the rights of others and who accepts, in order not to interfere
with the liberty of others, that only a part of his preferences will count

\(^4\) The only limit we impose is that the right system must be coherent [see Farrell (1976), Sen
(1976), Suzumura (1978), Gibbard (1974, theorem 3)]. There is now some debate in literature
about the way of formulating rights [see, among others Gaertner, Pattanaik and Suzumura
(1992) and, for a rejoinder, Sen (1992b)]. In this paper I will follow Sen's original
formulation of liberty.
in the social decision procedure $5$, then the decision procedure is able to combine the two principles.

We will indicate by $R_i^*$ a subrelation of individual $i$'s ordering which reflects the part of his preferences he wants to count in the social decision procedure. The conditional Pareto principle (CPP) will be thus defined in the following way: $\forall x, y \in X, [\forall j \in N \setminus \{i\}: x P_i^* y \& x P_j y] \rightarrow x P y$.

The subrelation $R_i^*$ is obtained by subtracting from $i$'s ordering a couple (or more) of social states different from his private sphere. $i$'s attitude can recall in some cases a sort of tolerant and liberal spirit: 'I don't agree with your preferences about your private matters; however, I desire above all that your liberty is safeguarded, thus I want my preferences concerning your private choice not to be considered'. For the sake of simplicity we will indicate the situation in which the liberal individual decides to neglect, for example, the part $x P_i y$ of his preferences, by using $CPP((x, y))$.

**Proposition 3.1.** Under conditions $U$ and $L$, there exists a $CPP(\bullet)$ such that to the resulting social preference relation there exists a corresponding SDF.

**Proof:** See Sen (1976, theorem 9).

In the same paper, Sen proved, among others, another theorem: the so-called paretoan epidemic $6$. The principal aim of this result was to insist on the moral discretionality of the Pareto principle and on the spread of power that it implies, whenever an individual is decisive over some social states. Furthermore the same result can be easily seen as a resolution of the impossibility theorem: the resolution in this case is due to a restriction of liberty of one (or more) individual(s)$^3$. This solution would be "complementary" to the conditional Pareto principle: the latter can be seen as a liberal solution, while the former (the paretoan epidemic) as an antiliberal solution in which the liberty of some individuals is violated. More precisely the restriction of liberties can be extended, at most, to all but one person and this person must be decisive at least about a couple of social states. For the sake of brevity we will indicate the fact that in the social decision procedure the liberty of some individuals, e.g. $i$, is not respected regarding the couple of social states $(x, y) \in D_i$, by $NRL(\bullet)$, i.e. "not respecting liberty condition". The following result is a corollary of the paretoan epidemic (Sen 1976, theorem 2).

**Corollary 3.2.** Under conditions $U$ and $P$ there exists a $NRL(\bullet)$ such that to the resulting social preference relation there exists a corresponding SDF.

**Proof:** By condition $NRL(\bullet)$ let, without loss of generality, the individual $i$ be the only decisive one. Now by contradiction suppose that the resulting social preference relation is still cyclical on some subset of $X$: $x_1P x_2, x_2P x_3, \ldots, x_qP x_q, x_qP x_{q+1}, (2 \leq q \leq t; x_{q+1}=x_t)$. The social states which are included in the social preference relation $x_iP x_{q+1} (r=1, \ldots, q)$ come from $NRL(\bullet)$ and from $P$. In the former case they come exclusively from $i$'s preference; but also in the latter case they come from $i$'s preference. This implies that $i$'s preferences are cyclic, a contradiction with the hypothesis of transitivity.

$(Q.E.D.)$

I think that the "best" way out of the liberal paradox is to use both solutions: under some circumstances the "liberal" one will be more appropriate and so we will have to conclude that the Pareto principle should be "transformed" into a "conditional" version, while in other situations we could find it more appropriate to restrict the liberty of someone in order to protect some general interest that we consider more important. In the next paragraph we will prove that, under some assumptions, the use of the conditions $CPP(\bullet)$ and $NRL(\bullet)$ enables us to find a relationship between the liberal paradox and what we called non-welfarist literature.
4. Other spaces of evaluation.

By remembering the definition of acyclicity given in section two we may note that there are various kinds of acyclicity: of two terms (if \( q = 2 \)), of three terms (if \( q = 3 \)), four terms, ... of \( t \)-terms (if \( q = t \)).

In this paper we will consider two kinds of cyclicity.

By writing \( x_j P(x_j P(x_j) P \ldots P x_i) \), called a “total cycle” we will indicate that there is a sequence of strict social preference relations from \( x_i \) to itself such that: i) every social state \( x_j \in X \cdot \{x_j\} \), is in the cycle; ii) also \( x_j \) can be repeated in the cycle; iii) the social states \( x_j \) can be repeated more than once in the cycle. By using \( U^* \) we will denote those individual preferences such that conditions L, P and \( U^* \) give rise to a social preference relation \( x_j P(x_j P(x_j) P \ldots P x_i) \).

The other kind of cyclicity that we call “dominant cycle” indicates that there is a sequence of strict social preference relations from \( x_j \) to itself such that: i) \( x_j \) can be repeated in the “interior” of the cycle; ii) the social states \( x_j \) which belong to the cycle can be repeated more than once in the cycle; iii) for each social state outside the cycle, say \( x_n \), there exists a social state \( x_k \) such that \( x_k P x_n \). By using \( U^{**} \) we will indicate those individual preferences such that conditions L, P and \( U^{**} \) give rise to a “dominant cycle”.

In order to build a link between the liberal paradox and the non-welfarist theories we suppose that for all \( i \in N \) there exists one and only one function \( c_i : X \to Z_i \subseteq \Re \) (where \( \Re \) is the set of real number), which provides, according to \( i \)'s characteristics (e.g. sex, age, ...) a numerical value of \( i \)'s well being for each given social state (where \( i \)'s well being is determined by using some non-welfarist metric). Therefore, given \( x, y \in X \) by writing \( c_i (x)>c_i (y) \) we will denote that regarding \( i \)'s well being, the social state \( x \) is strictly better than the alternative \( y \).

Further we suppose the existence of a binary relation \( J \) defined over 
\[ Z = Z_1 \times Z_2 \times \ldots \times Z_n \] which is a relation satisfying the properties of relexivity, transitivity and completeness, i.e. it is an ordering. Given \( x, y \in X \), by writing \( (c_i (x), \ldots , c_n (x)) J (c_i (y), \ldots , c_n (y)) \) we will denote that \( x \) is at least as good as \( y \) regarding individuals' well being. For notational convenience we will write \( c_i (x) J c_i (y) \) instead of \( (c_i (x), \ldots , c_n (x)) J (c_i (y), \ldots , c_n (y)) \). Corresponding to \( J \) we can define a set (a “non-welfarist choice set”) containing those alternatives so defined: \( G(S, J) = \{x \in S \mid \forall c(y) \in Z - \{c(x)\}: c(x)Jc(y)\} \). Therefore, thanks to \( J \) we are able to individuate some social states (or a social state) which, according to some non-welfaristic information, can be considered as the “best” states. Given \( x, y \in X \) we define a necessary condition in order to have \( c(x) J c(y) \). The condition is: \( \exists i \in N \) such that \( c_i (x)>c_i (y) \). This condition is not a very demanding one, indeed it requires only, given two social states, the existence at least of one individual whose well being in one social state is as least as great as in the other.

Further, if \( c(x) J c(y) \) holds and \( c(y) J c(x) \) does not hold, i.e. \( x \) is strictly better than \( y \), we will write \( c(x) JJ c(y) \). Also in this case we introduce a necessary condition in order to have \( c(x) JJ c(y) \). The condition in this case is: given \( x, y \in X \), \( \exists i \in N \) such that \( c_i (x)>c_i (y) \).

We are now ready to state the following result:

**Proposition 4.1.** Suppose that \( U^* \) holds. Then there is a \( CPP(\bullet) \) and/or a \( NRL(\bullet) \) such that \( C(S, R) \subseteq G(S, J) \) if the resulting social preference relation is acyclic.

**Proof:** By condition \( U^* \) we know that \( x_j P(x_j P(x_j) P \ldots P x_i) \) holds. First of all note that the following lemma is straightforward:

**Lemma 4.1.** If \( x_j P(x_j P(x_j) P \ldots P x_i) \) holds, then \( x_j P(x_j P(x_j) P \ldots P x_i) \) holds, for all \( x_i \) in \( X \).

The proof of this lemma is obvious and is omitted.

Since \( J \) is complete and transitive it is straightforward to see that \( G(S, J) = \emptyset \) never holds. \( G(S, J) \neq \emptyset \) implies that a \( x_k \) in \( S \) exists such that \( x_k \in G(S, J) \). If we are able to show that a \( CPP(\bullet) \) and/or a \( NRL(\bullet) \) exist such that \( \{x_k\} = C(S, R) \), we are at home. By Lemma 4.1 we have \( x_k P(x_k P(x_k) P \ldots P x_k) \). This means that there is a social state \( x_k \) (one or more) in \( S \) such that \( x_k P x_1 \). It is straightforward to show that this (these) preference relation(s) can be eliminated by using \( CPP(\{x_k, x_1\}) \) or
(inclusive) \(\text{NRL}(\{x_h, x_s\})\). Indeed, suppose, by contradiction, that this is not so. This means that either \(\text{CPP}(\{x_h, x_s\})\) or \(\text{NRL}(\{x_h, x_s\})\) cannot eliminate \(x_h P x_h\), but this contradicts the assumption according to which the social preference relation comes only from condition \(L\) and \(P\). If there are other cycles, they can be eliminated with analogous reasoning. By eliminating all the cycles in \(x_h P(\langle x, y(0)\rangle) P x_h\), we obtain a social preference relation of this kind: \(x_h P x_{h+1}, x_{h+1} P x_{h+2}, x_{h+2} P x_{h+3}, \ldots\), \(x_{h+1} P x_{h+2}\). Since all \(x_{h+1}\) in \(X\) belong to the social preference relation, by the hypothesis of acyclicity we obtain \(x_h R x_{h+i}\) for all \(x_{h+i}\) and since for all \(x_{h+i} \neq x_h\) in the social preference relation a \(x_{h+i}\) exists such that \(x_{h+i} P x_{h+i}\), we finally obtain \(\{x_h\} = C(S, R) \subseteq G(S, J)\) and we are at home.

\((Q.E.D.)\)

It is clear that Proposition 4.1. capitalises over a particular kind of cyclicity, \(x_h P(\langle x, y(0)\rangle) P x_h\), i.e. it assumes a restricted domain \(U^*\). On the contrary, by introducing condition \(U^{**}\), we obtain the following situation.

**Proposition 4.2.** Suppose that \(U^{**}\) holds. Then there are not any \(\text{CPP}(\bullet)\) and \(\text{NRL}(\bullet)\) such that \(C(S, R) \subseteq G(S, J)\).

**Proof:** Consider the following situation: \(N = \{i, j\}; X = \{x_1, x_2, x_3, x_4\}; D_i = \{\{x_1, x_2\}, \{x_3, x_4\}\}\) and \(D_j = \{\{x_1, x_2\}, \{x_3, x_4\}\}\). Suppose that \(i\)'s and \(j\)'s preferences are: \(x_1 P_1 x_2, x_2 P_1 x_3, x_3 P_1 x_4\) and \(x_2 P_2 x_3, x_3 P_2 x_1, x_1 P_2 x_4\). First of all note that rights' system is self-consistent, i.e. condition \(L\) alone does not yield to an empty choice set. By conditions \(L\) and \(P\) the following social preference relation results: \(x_h P x_2, x_2 P x_3, x_3 P x_1, x_1 P x_4, x_2 P x_3, x_3 P x_4\). It is easy to check that we have a dominant cycle (in particular it results we can note that \(x_4\) lies outside the dominant cycle) and therefore \(U^{**}\) holds. Furthermore let's suppose that \(\{x_1\} = G(S, J)\). In this case it is easy to see that whatever \(\text{NRL}(\bullet)\) and/or \(\text{CPP}(\bullet)\) we adopt, \(x_h \in C(S, R)\) never holds, even if \(\text{NRL}(\bullet)\) and/or \(\text{CPP}(\bullet)\) produce a SDF. Therefore \(C(S, R) \subseteq G(S, J)\) never holds.

\((Q.E.D.)\)

In order to investigate the individual preferences which give rise to an incompatibility between the "liberal paradox" and the non-welfarist theories, it could be of some interest to consider two different situations which also have some relevance both on economic and social grounds.

The first one is a situation that we may call "preference inhibition" (\(PI\)) which occurs when, given two social states \(x, y \in X, \exists i \in N : c(x) > c(y)\) & \(y P_i x\). Furthermore we can also say that \(PI\) is operative if and only if the result is: \(y \notin G(S, J)\). In this case we have a contradiction between an individual's preference, his advantage or well being as well as the social or general well being. An example of this kind can be found in the following case: "A person who is ill-fed, undernourished, unsheltered and ill can still be high up in the scale of happiness or desire-fulfilment if he or she has learned to have "realistic" desires and to take pleasure in small mercies.\(^8\) And these "realistic desires" can lead this person to prefer his or her present state, e.g. \(x\), to other states of the world, e.g. \(y\), - even if \(y\) would be better than \(x\) - in order to avoid further delusions and frustrations. In this example we may also suppose that \(i\)'s position is so critical in \(x\) that, according to some non-welfarist metric, \(x\) would be rejected for this reason.

The second situation can be found in those cases in which the exercise of rights by someone can be harmful or dangerous for someone else ("harmful rights", \(HR\)) i.e. it operates in a such way to discard the option in which someone else would be better off: given two social states \(x, y \in X, \exists i \in G(S, J)\) and further \(\exists j \in N - \{i\} : y P_j x\) & \(x, y \in D_j\). Also in this case we say that condition \(HR\) is operative if and only if \(y \notin G(S, J)\) results.

This situation does not contrast our definition of liberty or rights. Condition \(L\) assures, following Berlin's classic distinction that \(j\)'s rights do not violate \(i\)'s negative freedom i.e. \(i\) is not prevented by \(j\) to exercise his rights over his personal sphere. However \(i\)'s positive freedom i.e. what \(i\) can, everything considered do (his opportunity of well being...), might be affected by \(j\)'s decisions over \(D_j\).

Given conditions \(HI\) and \(IP\) we are able to state the following result:
Proposition 4.3. Suppose \( U^{**} \) holds and suppose that there are \( NRL(\bullet) \) and/or \( CPP(\bullet) \) such that \( C(S,R) \neq \emptyset \) holds. If there are not any \( NRL(\bullet) \) and \( CPP(\bullet) \) such that \( C(S,R) \subseteq G(S,J) \), then \( IP \) and/or \( HR \) hold and are operative.

Proof. If there are not any \( NRL(\bullet) \) and \( CPP(\bullet) \) such that \( C(S,R) \subseteq G(S,J) \), even in the case that \( C(S,R) \neq \emptyset \), it means that for all \( x_i \in G(S,J) \), \( x_i \) does not belong to the dominant cycle. Since \( x_i \) does not belong to the dominant cycle this means that there is \( x_i \neq x_k \) such that \( x_i, P x_k \). We have two cases to consider.

1) If \( x_i \notin G(S,J) \) this means that there is \( x_i \in S - \{x_i\} : c(x_i) J J c(x_i) \). Therefore there is an individual \( i \) in \( N \) such that \( c(x_i) > c(x_i) \). Since \( x_i \in G(S,J) \), we obtain \( c(x_i) J J c(x_i) \). By transitivity of \( J \) we have \( c(x_i) J J c(x_i) \). This means that another individual \( i \) in \( N \) exists such that \( c(x_i) > c(x_i) \). Regarding \( x_i, P x_k \) we have two cases to consider:

a) \( x_i, P x_k \) comes from condition \( P \). Then for all \( i \in N : x_i, P x_k \). We already shown that there exists \( i \in N : c(x_i) > c(x_i) \). Therefore there is a cycle \( i \notin G(S,J) \). This implies that \( IP \) holds and is operative.

b) \( x_i, P x_k \) comes from condition \( L \). Then there is \( j \in N : x_i, P x_k, J J c(x_i) \). We already shown that there exists \( i \in N : c(x_i) > c(x_i) \) and we know that \( x_i \notin G(S,J) \). Now, if \( i = j \), then \( IP \) holds and is operative. If \( i \neq j \), then \( HR \) holds and is operative.

2) If \( x_i \in G(S,J) \) we obtain that \( x_i \) does not belong to the dominant cycle and therefore there is \( x_i \neq x_i \) such that \( x_i, P x_i \). Also in this situation there are two cases to be considered:

2.1) If \( x_i \notin G(S,J) \) we are at home (see case 1).

2.2) If \( x_i \in G(S,J) \) our reasoning can be repeated following case 2 until we obtain a social state, say \( x_k \), which belongs to the dominant cycle. In this case we have \( x_k \notin G(S,J) \) and thus we are at home.

(Q.E.D.)

5. Concluding remarks.

No attempt to summarise the paper will be made in this section; on the contrary I will try to discuss the previous results. Propositions 4.1 and 4.3 have various limitations. Firstly they can work only in impossibility results since they require cyclic social preference relations. If we haven't got any contrast between conditions \( P \) and \( L \) both Propositions 4.1 and 4.3 cannot be applied. We can hope that in this situation we do not need such a result: the chosen state(s), respecting both \( P \) and \( L \), should naturally be considered a good candidate as the "best" state(s). In many cases this "hope" will be fulfilled, but we cannot be sure that this will happen in every situation. Secondly Propositions 4.1, and 4.3 capitalises over particular kinds of cyclicity, which we called "total cycle" and "dominant cycle" and in which, by eliminating the cycles and by using the hypothesis of acyclicity we obtained a SDF, i.e. a complete social preference relation. On the contrary if we have a cyclical social preference relation which is not complete, our results do not hold. Consider for example the case \( X = \{x, y, z, w\} \) and the social preference relation \( x P y P z P x \) which is incomplete about the social state \( w \). It's easy to check that in this situation there is no any \( NRL(\bullet) \) and \( CPP(\bullet) \) such that \( C(S,R) \neq \emptyset \) even if, after the elimination of the cycle, we introduce the hypothesis of acyclicity and therefore \( C(S,R) \subseteq G(S,J) \) never holds. Finally, our results should be interpreted this way: if we have a cycle ("total" or "dominant") in the social preference relation, the use of \( NRL(\bullet) \) and/or \( CPP(\bullet) \) - under some restrictions on individual preferences in the case of a "dominant cycle" - assures that the chosen state belongs to the "non-welfarist choice set"; this obviously does not imply it will surely happen. Our propositions tell us simply that the social decision procedure has instruments which, if properly used, will produce the situation such that the "best state" (or one of the best states) - defined according to some non-welfarist criteria - is the chosen one. The fact that this happens obviously depends on the correct use of these instruments by the members of the collectivity.
References.


QUADERNI DEL DIPARTIMENTO DI ECONOMIA (1989-1994)degli ultimi 5 anni

102 Debora REVOLTELLA, Financing enterprises in the Czech Republic: the importance of firm-specific variables, gennaio 1998.
103 Cristiana PERONI, Modelli di previsione a breve termine dei tassi di cambio, marzo 1998.
104 Massimilliano BRATTI, L’evoluzione dei divari settoriali di valore aggiunto per addetto nel paesi OCSE, marzo 1998.
105 Tommaso LUZZATI, To what extent is the notion of efficiency relevant to Economics? Implications for Ecological Economics, marzo 1998.
106 Renato BALDUCCI, Concertazione tra le parti sociali e disoccupazione, maggio 1998.
111 Davide CASTELLANI, Antonello ZANFIO, Multinational experience and the creation of linkages with local firms. Evidence from the electronics industry, dicembre 1998.
112 Roberto ESPOSITI, Spillover tecnologici e origine della tecnologia agricola, aprile 1999.
115 Renato BALDUCCI, Crescita endogena e cicli, luglio 1999.
117 Renato BALDUCCI, Stefano STAFFOLANI, Distribuzione e crescita in un modello di contrattazione con impegno endogene, agosto 1999.
120 Alberto BUCCI, Horizontal innovation, market power and growth, ottobre 1999.
121 Riccardo LUCCHETTI, Luca PAPPI, Alberto ZAZZARO, Efficienza del sistema bancario e crescita economica nelle regioni italiane, ottobre 1999.
122 Francesco TROMBETTA, Quanto costa controllare la natura? Il caso Mississippi, ottobre 1999.
123 Massimo TAMBERI, Nel mosaico economico delle marche: origini e trasformazioni, novembre 1999.
124 Stefano SANTACROCE, Graduates in the Labour Market, Determinants of Employment Success, dicembre 1999.
125 Massimiliano BRATTI, A study of the differences across universities in students’ degree performance: the role of conventional university inputs, dicembre 1999.
127 Davide TICCHI, Investment and uncertainty with recursive preferences, gennaio 2000.
128 Fabio FIORILLO, Stefano STAFFOLANI, To redistribute or not? Unemployment benefit, workfare and citizen’s income in a dual labour market, marzo 2000.
133 Antonio G. CALAFATI, On Industrial Districts, aprile 2000.
135 Luca PAPI, Alberto ZAZZARO, How Does the EU Agenda Influence Economies Outside the EU? The Case of Tunisia, giugno 2000.
139 Riccardo MAZZONI, Alcuni vincoli del processo di accumulazione, agosto 2000.
143 Renato BALDUCCI, Stefano STAFFOLANI, Quota del lavoro e occupazione in presenza di contrattazione efficiente, ottobre 2000.
144 Giorgio BARBA NAVARETTI, Enrico SANTARELLI, Marco VIVARELLI, The Role of Subsidies in Promoting Italian Joint Ventures in Least Developed and Transition Economies, dicembre 2000.
146 Francesco TROMBETTA, Il sistema economico locale di Fabriano e le sue articolazioni funzionali, febbraio 2001.
147 Antonio CALAFATI, Francesca MAZZONI, Conservazione, sviluppo locale e politiche agricole nei parchi naturali, marzo 2001.
152 Massimiliano BRATTI, Stefano STAFFOLANI, Performance academica e scelta della facoltà universitaria: aspetti teorici e evidenza empirica, giugno 2001.
155 Riccardo LUCCHETTI, Alessandro STERLACCHINI, Factors Affecting the Adoption of ICTs Among SMEs: Evidence From an Italian Survey, ottobre 2001.
158 Luca De BENEDICTIS, Massimo TAMBERI, A note on the Balassa Index of Revealed Comparative Advantage, gennaio 2002.