

# THE (IM)POSSIBILITY OF A COASEAN LIBERAL: TRANSACTION COSTS AND TRAGIC OUTCOMES

by

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**ABSTRACT.** The paper compares the Sen's paradox about the Paretian liberal with the standard version of the Coase theorem. We first argue that Sen's impossibility result is built upon a very restricted idea of rights: rights are defined not as an option to exert a right, but as the 'duty' to always select the preferred choice, independently of the externalities generated by individual choices. We then argue that if rights are properly defined as an option, in a world of zero transaction costs, Coase Theorem solves the Sen's paradox. Thus the dimension of transaction costs is crucial for minimal liberties and the Pareto principle as complements.

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"Zeus on Olympus dispenses many things.  
Gods often contradict our fondest expectations.  
What we anticipate does not come to pass.  
What we don't expect some God finds a way to make it happen"

EURIPIDES, Medea

## 1. INTRODUCTION

This article compares the Sen's paradox on the Paretian liberal (Sen, 1970) and the Coase theorem (Coase, 1960; Stigler, 1966). We argue that the two theories are substitutes: if rights are properly defined as an option, in a world of zero transaction costs, Coase Theorem solves the Sen's paradox. Thus the dimension of transaction costs is crucial for obtaining a possibility result, i.e. the co-existence between minimal liberties and Pareto outcomes.

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According to Sen, in a society based on liberal values, it should be possible to define a core of personal rights as minimal liberties. This core of liberties is defined over certain personal matters in which each person should be free to decide according to own preferences, independently of others' preferences in society. Thus, as Sen pointed out, the decision over painting color of interior walls belongs to the minimal liberty of the owners of an apartment and this liberty should be safe from society's interference. However, Sen shows how minimal liberties inhibit Pareto outcomes: "*if someone does have certain liberal values, then he may have to eschew his adherence to Pareto optimality*". This conclusion envisages a rather puzzling dilemma, given that liberal societies are generally based on well-defined property rights (Nozick, 1974) which in turns favour socially efficient outcomes (Coase, 1960; 1988). Moreover, Sen's conclusion has strong policy implications because it suggests that the Pareto principle might not always reveal a robust normative criterion (Binmore, 1994).

In this article we point out that Sen's conclusions pervasively depend on the peculiar definition of right adopted. In the law and economics literature (Ayres, 2005) a right is generally defined as an option: a right holder always maintains the option to exert or to renounce and give-up a right. When deciding over options, rational economic agents always compare the opportunity costs associated with each option. Thus, property rights of a house attribute to the owner the option to choose the color of interior walls and it is certainly true that the owner has the right to select the color according to her preferences. However, in selecting her option to choose the owner may well decide to consider what interior paint color works best to sell the house in the future, or to organize party with friends and so on. This means that the option to choose painting colors for interior walls may also depends on others' preferences as well and this 'externality' might to be taken into account when exerting an option.

In Sen's view, minimal liberties are defined not as an option to choose, but on the contrary as the 'duty' to choose only the option associated with a preference orderings in a world without externalities (Gaertner et al. 1988)). It is easy to see, that with such a definition of right, externalities abound and this is precisely the reason why minimal liberties and Pareto efficiency are substitutes in his argument (Hillinger and Lapham, 1971).

In this paper we argue that one thing is to say that when a right is well-defined, society has a duty not to interfere with owner's protected sphere of rights, quite another thing is to say that when exerting a right an individual should not take into account the consequences induced by his choice on others' choices in their protected sphere, according to their preferences. While Sen's peculiar definition of rights resembles the case of old greek tragedies where humans were forced to continue to

play their role, even when this clearly generates a tragedy, we show that, defining libertarian claims as options produces a possibility result for a Paretian Liberal by simply applying the Coase Theorem. According to Coase (1960), when rights are well defined in a world of zero transaction costs, owners may exchange their option to exert a right in order to solve externalities and reach Pareto optimal outcomes. As a consequence, if  $i$ 's exercise of her right affects  $j$ 's preferences ranking, then  $j$  may ask to  $i$  to alienate her right so as to satisfy  $j$ 's preferences over  $i$ 's right exercise. When rights' exchange implies gains from trade between  $i$  and  $j$ , at least one of them will be better off after the trade. All in all, this is the well-known lesson of the Coase theorem, which says that when a claim-right over a pair of alternative social states makes possible for non-holders to reverse social preferences through rights' exchange, then it is possible to reach a Pareto outcome.

This result is more than a Paretian liberal (consistency of minimal liberty and Pareto), it is a Coasean Liberal: it links minimal liberty and the Pareto principle through 'market exchange'. A Coasean liberal defines minimal liberty as the liberty to acquire, exert and renounce or alienate individual well-defined rights. We first show that applying the Coase Theorem solve the Sen's Paradox. Then, we show that when transaction costs affect the liberty of choosing among options, and economic agents cannot internalize externalities then an impossibility result for a Coasean Liberal applies. We conclude that minimal liberty and Pareto efficiency are substitutes only when, due to transaction costs, reciprocal externalities could not be internalized by rights' holders.

The article proceeds as follows. Section 2 introduces a 'tragic' example that provides an illustration of how Coase Theorem solves Sen's Paradox of Paretian Liberal, a result explained in section 3 and formally proved in section 4. Section 5 concludes.

## 2. MORE THAN A PARADOX: A TRAGEDY

Let us illustrate the conflict between liberal values and the Pareto principle, by recurring to a greek tragedy: the famous Euripides' tragedy 'Medea'. The story takes place in the years just before the Trojan War (about 1300 BC). Medea, daughter of Aietes, king of Colchis left her native city to travel to Greece with her lover Jason. Medea helped Jason to take the Golden Fleece and then escaped with him. The Golden Fleece was a magical ram's fleece, which Jason had to find in order to reclaim his father's kingdom of Iolkos from the usurper King Pelias. Medea was credited with knowledge of potions and witchcraft which she used to help Jason. She not only betrayed her father, but also killed her brother to follow and help Jason. Once got the Golden Fleece, Jason and Medea had settled in the Greek city of Corinth, and when the Euripides' play opens they have been living in Corinth

for some time, long enough to have had two little sons, maybe six or seven years old. With the Golden Fleece Jason was credited as being a very powerful hero. For this reason, the king of Corinth, Creon, who had no sons, asked Jason to marry his daughter, Creusa. Though Jason and Medea were 'de facto' married, Jason was eligible for marriage with Creusa, since the Greeks had no marriage ceremony. Marring Creusa would have given Jason the future kingdom of Corinth. Seeking the chance to become the future king, Jason agreed to marry Creusa. As the story goes on, when Medea found out that Jason was going to marry Creusa, desperate, she opposed unsuccessfully to Jason's decision. Jason invited Medea to accept his decision and to leave Corinth and their sons with him. After all, Jason said, a barbarian like Medea was not entitled to marry a Greek like Jason. At that point Medea meditated a revenge: she first made a beautiful magic dress for Creusa, and sent her sons to bring it to Creusa. When Creusa dressed it, though, it suddenly turned into fire and burned her up together with the royal palace. Then, Medea decided to kill her sons: if she couldn't have them, couldn't either. The tragedy then explodes with all its sadness: Jason and Medea lose everything in one shot: the glory, the family, the love.

Let us try to understand why Jason and Medea were not able to avoid such bad consequences of their actions at the very beginning of the story.

We have here three social states:

- romantic choice, *R*: Jason refuses the proposal of king Creon and remains with Medea and his sons;
- opportunistic choice, *O*: Jason accepts to marry Creusa and to leave Medea;
- tragic choice, *T*: Medea's vengeance against Jason's marriage.

We have also the choices available to Jason and Medea:

J *J* has to choose between the romantic and the opportunistic choice, i.e. between remaining with Medea or marrying the daughter of the king;

M *M* has to choose between to retaliate, with her murderous revenge, or not to retaliate notwithstanding Jason decided to abandon his family for marrying Creusa.

Let us assume the following preference orderings denoted as  $\succ$ :

- (1) for agent *J*,  $O \succ R$  (read *O* preferred to *R*),
- (2) for agent *M*,  $T \succ O$ .

Since the actions of Medea are strictly dependent on the choice of Jason, we can assume that Medea would not act if Jason would have decided to remain with her. So we can write the following preference ordering for Medea,  $R \succ T \succ O$ .

Now let us assume that Jason ignores the tremendous project of Medea (i.e. he ignores that a state of the world like *T* is possible), being quite confident that she

will accept his decision to marry the daughter of the king, Creusa. Being rational, Jason will thus marry Creusa, since  $O \succ R$ . However, at that point, since for Medea  $T \succ O$ , a tragedy would happen and a state of the world like  $T$  will close the scene. The lesson here is that Jason, by ignoring a possible relevant state of the world, has made a decision not consistent with a ‘complete’ list of possible contingencies or externalities coming from his choice: his ex-ante decisions were made in a world with zero-externalities (i.e. in a world where the proud Medea simply accomplish Jason’s decision). However the ex-post consequences of his choices, if expected ex-ante, would probably have induced Jason to remain with Medea rather than marrying the daughter of the king, since for him  $O \succ R \succ T$ .

What Jason regrets, in fact, is not having applied the Pareto principle: the choice of the state of the world which both Jason and Medea prefer to the worst outcome:  $R \succ T$ . The Pareto principle here should be viewed as a Deus ex-machina rule that would have avoided the tragedy. The externality produced by Medea’s action on the initial Jason’s domain choice would have limited the ex-ante liberty of Jason so as to avoid ex-post the social worst outcome. Thus we should ask: is the emergence of an ex-post externality really a limitation of Jason’s ex-ante liberty? Does knowing ex-ante all the possible ex-post externalities reduces Jason’s liberty either it gives Jason a more complete choice domain over which exerting his liberty? The rest of the paper is devoted to answer to such questions.

If we think that Medea’s action is a limitation of Jason’s liberty to marry (which is a typical personal matter), we should have a world in which ex-post consequences do not affect ex-ante Jason’s choice  $O \succ R$  (i.e. a non-regret assumption over Jason’s behavior). But this is not the case here, since for Jason  $R \succ T$ . In other words, a limitation of Jason’s liberty should regard only his ex-ante choice with respect to ex-post states of the world. If Jason knew that choosing  $O$  select a state as  $T$  (marrying the daughter of the king implies a tragedy) he would probably correct his choice, and thus his (ex-post) liberty would simply imply the decision not to marry the daughter of the king. So why we should prefer ex-ante liberty to ex-post liberty, if it is the latter that is the one which (ex-post) brings to socially optimal outcomes? The tragedy here is generated by Jason’s inability to take onto account ex-post externalities induced by his action. In this sense, ex-post externalities induces liberty to choose among the ex-post relevant state of the world and in this context liberty is accrued, and not reduced, if exerted over the ‘true’ state of the world. If we think that Medea’s action limits Jason’s liberty we are implicitly assuming that there is an externality which would have not changed the choice of Jason (no-regret assumption). What is hence the relationship between liberty and externality? Going back to Medea and Jason, Jason’s liberty is given simply by his decision to marry or not to marry the daughter of the king. Medea’s

preferences do not interfere directly with this choice, but produce, according to Medea's liberty, some ex-post outcome which was simply not considered ex-ante by Jason. In old greek tragedies, each player is forced to behave as if externalities would not occur. The word "tragedy" refers primarily to tragic drama: a literary composition written to be performed by actors in which a central character called a tragic protagonist or hero suffers some serious misfortune which is not accidental and therefore meaningless, but is significant in that the misfortune is logically connected with the hero's actions. Tragedy depicts the downfall of a noble hero or heroine, usually through some combination of hubris, fate, and the will of the gods. The tragic hero's powerful wish to achieve some goal inevitably encounters limits, usually those of human fragility (flaws in reason, hubris, society), the gods (through oracles, prophets, fate), or nature. The reason why a tragedy happens is due to the bounds of hero's rationality, to his unique adherence to his own preferences and to his inability to take into account externalities and change accordingly the role he has to play. As the philosopher Whitehead argued: "The essence of dramatic tragedy is not unhappiness. It resides in the solemnity of the remorseless working of things." He then goes on to say, "This inevitableness of destiny can only be illustrated in terms of human life by incidents which in fact involve unhappiness. For it is only by them that the futility of escape can be made evident in the drama."<sup>3</sup>

The example of the greek tragedy helps us to show why Sen's definition of minimal liberty generates inefficient outcomes. If we apply Sen's definition of minimal liberty to Jason's preferences, we may see as Jason's right to marry Creusa was not an option, rather it was an inescapable 'duty' to exclusively follow his own preferences, independently of the externalities then generated.

### 3. SEARCHING FOR A DEUS EX-MACHINA: DOES THE COASE THEOREM SOLVE THE SEN PARADOX?

Many greek tragedies include a second chance to restore a happy ending. This is called a 'deus ex-machina' solution: the appearance of a god at the very end brings a sudden and fortuitous resolution to a hopeless situation. What if we change the Euripides story and allow a Deus ex-machina to give another chance to Medea and Jason? In order to avoid the worst outcome, Jason may credibly decide to renounce to marry the daughter of the king so as to prevent any murder by Medea. This decision implies that in order to internalize ex-post externalities Jason renounces to exert his right to marry the princess (which implies Medea to renounce to her tragic decisions). In other terms, Deus ex-machina allows agents to reach the ex-post optimal social state, which is the same selected according to the Pareto principle.

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<sup>3</sup>A. N. Whitehead, *Science and the Modern World* (Mentor, New York, 1948), p. 17.

However, what does, in fact, the Deus ex-machina is simply applying the Coase theorem (Coase, 1960): given the ex-post externality  $T$ , Jason and Medea bargain each other in order to reach the outcome  $R$ . The bargaining between Jason and Medea requires Jason exchanging his right to choose between the  $O$  and  $R$  with Medea's right to choose between  $T$  and  $O$ . In this setting, not only thus ex-post externalities do not limit ex-ante liberties, but ex-ante liberties are necessary (as alienable rights) in order to absorb ex-post externalities. The tragic outcome is thus generated by parties' inability to appropriately use (and alienate) their liberties according to ex-post preferences orderings: they are prisoners of their ex-ante preferences orderings made in a isolated context (zero externalities). Liberty in this case is a blind non-renegotiable commitment to choose according to ex-ante preferences orderings.

The above example of Jason and Medea, thus shows how the impossibility result depends on a very restricted idea of rights, defined as the 'liberty' to choose according only ex-ante preference orderings independently of the externalities generated ex-post.

In order to show thus a possibility result for a Paretian Liberal we have to remove this assumption and to define a minimal liberty which is consistent with ex-post preference orderings: in the above example, we look for a deus ex-machina which gives Jason the liberty to limit his liberty, i.e. a right defined as an option to choose. A right is something that assigns to the holder a liberty that is preserved from others' interference together with the option to choose whether or not to exert the right. If we define, as in Sen's setting, libertarian claims as the  $i$ 's option rights, then conflicting preferences simply no matter and a possibility result is always obtained (social preferences follow rights). Social preferences cycles are thus broken by rights assignment (see e.g. Gibbard, (1974)). Assigning thus a right over a pair, gives more than just minimal liberty over that pair: it gives the option to choose among pairs according to social possible outcomes generated by reciprocal externalities. What is important here to stress is that a Coasean interpretation of the Sen theorem reveals why liberal values generally invoke the free market mechanism as an efficient tool to defend liberties. In this respect, the inability to define alienable rights over social states, inhibits Pareto optimality.

In such a context, the Sen's result of the impossibility of a Paretian Liberal, only refers to cases in which rights are defined not as option to choose but as a sort of 'duty' to choose a given preference orderings in a world of zero externalities.

If we properly define right as an option then we can obtain a possibility result for a Paretian Liberal. Let us define then a *Coasean Liberal* as a social configuration in which minimal liberty (defined as the liberty to acquire, exert and alienate (renounce to) individual rights) and the Pareto principle are made consistent.

In the next section we provide an analytical framework.

#### 4. A COASEAN LIBERAL

Let us define society  $S$  as a list  $\langle N, X, \rho, \alpha, \gamma \rangle$ , where:

- (1)  $N = \{1, \dots, n\}$  is the set of members of  $S$ ;
- (2)  $X$  is the finite set of social states;
- (3)  $\rho = \{\rho_1, \dots, \rho_r\}$  is the finite set of rights and  $\rho^i$  is the set of rights of a group of individuals  $i$ ;
- (4)  $\alpha : 2^N \rightarrow 2^\rho$  is the assignment of rights to groups of individuals;
- (5)  $\gamma : 2^N \times 2^\rho \rightarrow 2^X$  is the set-valued function (a correspondence then), which determines the set of attainable social states by groups of members of  $S$  as a function of their rights.

Let us reformulate the paradox of the Paretian Liberal in this new setting:

**(U):** Every logically possible set of individual orderings of the social states is included in the domain of the set-valued function  $\gamma$ .

**Pareto principle (P):** If every set of individuals selects any alternative social state  $A$  to another alternative  $B$ , then society must choose  $A$  to  $B$ , namely if for any  $i \subset 2^N$  and any  $A, B \subset 2^X$ ,  $\gamma(i, \rho^i) = A$  then  $\gamma : 2^N \times 2^\rho \rightarrow 2^X$ .

**Minimal Liberty (ML):** For each group  $i$  of members of a society  $S$ , there is at least one pair of options  $A$  and  $B$  such that if this group selects  $A$  to  $B$ , then society should choose  $A$  with respect to  $B$ , namely

$$\forall i \in 2^N, \exists! A, B \subset 2^X : \text{if } \gamma(i, \rho^i) = A \text{ then } \gamma : 2^N \times 2^\rho \rightarrow 2^X.$$

From the above conditions it follows the well-known result:

**Proposition 1. [Impossibility of Paretian Liberal (Sen (1970))]** *There is no social selection correspondence  $\gamma$  that can simultaneously satisfy conditions U, P and ML.*

Sen paradox however regards a case in which rights are defined in a very restrictive way. Actually, when people have a right to chose over a pair they have the option to choose and this option should be safe from nonholders' action. In Sen's definition this protection from interference is defined in terms of society duty to select the social state preferred by holder.

We propose here a different definition of right for agent  $i$  which includes: (a)  $i$ 's protection against nonholders' interference; (b)  $i$ 's option to switch from  $A$  to  $B$

if society would have chosen  $B$  absent  $i$  and the selection of  $A$  by  $i$  generates the selection of  $C$  from society<sup>4</sup>.

**Definition 1. Right [R]**

Let  $i \in 2^N$  be a group of members of  $S$  and let  $A, B \subset 2^X$  be a set of social states.  $i$ 's right over a pair  $A, B$  is given by:

1.  $i$ 's option to select  $A$  over  $B$  independently on what would be the (set of) social states chosen by the rest of society absent  $i$ , and provided that the (set of) social states chosen by society does not deny  $A$ , namely

$$\gamma(i, \rho^i) = A \text{ whenever } B = \gamma(2^N \setminus \{i\}, 2^\rho) \text{ for any } A \neq B \subset 2^X \text{ and } \nexists \gamma' : 2^N \times 2^\rho \rightarrow 2^X \setminus \{A\}$$

2.  $i$ 's option to select  $B$  over  $A$  when  $B$  is the (set of) social states chosen by the rest of society absent  $i$ ,  $B$  is inhibited by  $i$ 's choice of  $A$  and  $A$  is inhibited by the (set of) social states chosen by the rest of society, namely

$$\gamma(i, \rho^i) = B \text{ when } \gamma(i, \rho^i) = B \subset 2^X \setminus \{A\}, B = \gamma(2^N \setminus \{i\}, 2^\rho) \text{ for any } A \neq B \subset 2^X, \text{ and } \exists \gamma' \text{ such that if } \gamma(i, \rho^i) = A \text{ then } \gamma' : 2^N \times 2^\rho \rightarrow 2^X \setminus \{A, B\}$$

**Definition. 2.1. Zero-option Right ( $R^\circ$ )**

Let  $i \in 2^N$  be a group of members of  $S$  and let  $A, B \subset 2^X$  be a set of social states.  $i$ 's zero-option right over a pair  $A, B$  is given by:

$$\gamma(i, \rho^i) = A \text{ whenever } B = \gamma(2^N \setminus \{i\}, 2^\rho) \text{ for any } A \neq B \subset 2^X \text{ and } \nexists \gamma' : 2^N \times 2^\rho \rightarrow 2^X \setminus \{A\}$$

**Proposition 2.** *There is no social selection correspondence that can simultaneously satisfy conditions  $U$ ,  $P$  and  $R^\circ$ .*

Same as the proof of Sen (1970) theorem II pg.154

**Definition 2. [E - unilateral externality]** Let  $A = \gamma(i, \rho^i)$  be the social states selected by exercising the set of rights  $\rho^i$  by  $i$ . Then, there exists a  $\gamma'$  such that:  $\gamma' : 2^N \times 2^\rho \rightarrow 2^X \setminus \{B\}$ , for some  $B \subset 2^X$  whenever in  $\gamma$ ,  $\gamma(2^N \setminus \{i\}, 2^\rho) = B$  with  $A \neq B$ .

We state then:

**Proposition 3.**  *$U$  and  $R^\circ$  imply  $E$ .*

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<sup>4</sup>Here we revisit the definition of alienable right provided by Gibbard (1974)

*Proof.* Suppose  $\gamma(i, \rho^i) = A$  and  $\gamma(\rho^N \setminus \{i\}, 2^N) = B$  with  $A \neq B$  then if  $i$  exerts his right to have  $A$  by  $ML$   $\gamma : 2^N \times 2^p \rightarrow A$ . As  $ML$  implies  $R^0$  and no  $B \neq A$  can be socially selected, we get the required result.  $\square$

The notion  $E$  is however a notion of unilateral externality, since it does imply that non-holders have not the possibility to prevent holders exercise of the rights. According to Coase (1960) the very notion of externalities is always reciprocal in nature. With the Medea's example in mind, it is evident that the choice  $O$  by Jason produces a negative externality on Medea that is now abandoned, but such abandonment forces the desperate Medea to kill Creusa and her sons, action that represents an externality for Jason. It comes out that a definition of reciprocal externality is needed in such a framework in order to show how conflicting preferences produce reciprocal externalities.

**Definition 3. [Reciprocal Externality RE]** Let  $2^p$  be the set of rights profiles that  $\alpha$  has assigned to the members of society. Let  $A = \gamma(i, 2^p)$  be the social states selected by  $i$  and let  $B = \gamma(j, 2^p)$  be the social states selected by  $j \in 2^N \setminus \{i\}$  with  $A \neq B$ . Then, there exists a  $\gamma'$  such that:

$$\begin{aligned} \gamma' : 2^N \times 2^p &\rightarrow 2^X \setminus \{B\}, \text{ whenever in } \gamma, \gamma(j, 2^p) = B \\ \gamma' : 2^N \times 2^p &\rightarrow 2^X \setminus \{A\}, \text{ whenever in } \gamma, \gamma(i, 2^p) = A. \end{aligned}$$

**Lemma 1.**  $U, R^0$  and  $E$  implies  $RE$ .

It is omitted since it is trivial.

**Proposition 4. [Coase Theorem]** For any  $RE$  if  $R$  then  $P$ .

*Proof.* Let  $A = \gamma(i, 2^p)$  be the social states selected by  $i$  and let  $B = \gamma(j, 2^p)$  be the social states selected by  $j \in 2^N \setminus \{i\}$  with  $A \neq B$ . If  $\gamma(i, 2^p) = A$  and  $\gamma(j, 2^p) = B$ , and there is a correspondence such that  $\gamma' : 2^N \times 2^p \rightarrow 2^X \setminus \{B\}$  and  $\gamma' : 2^N \times 2^p \rightarrow 2^X \setminus \{A\}$ , then by definition of a right  $R$ , there will be a social selection which assures that for any  $i \in 2^N$  and any  $A, B \subset 2^X$ , if  $\gamma(i, \rho^i) = A$  then  $\gamma : 2^N \times 2^p \rightarrow A$  or if  $\gamma(i, \rho^i) = B$  then  $\gamma : 2^N \times 2^p \rightarrow B$ .  $\square$

**Corollary 1. [Coasean Liberal]** There exists a social selection correspondence  $\gamma$  that can simultaneously satisfies  $U, R, P, CS$ .

*Proof.* It derives through the following chain of implications:  $\square$

- 1)  $U$  and  $R \rightarrow E$ ;
- 2)  $E$  and  $(U \text{ and } R^0) \rightarrow RE$ ;
- 3)  $RE$  and  $R \rightarrow P$ .

The possibility of a Paretian Liberal generates the possibility of a Coasean Liberal. However, when rights' bargaining involves high transaction costs, Coase theorem could be violated and thus agents may fail in promoting the socially optimal outcome and minimal liberty may contrast with the Pareto principle. In other words, transaction costs imply that rights assume the form of zero-option rights. As a consequence high transaction costs may reduce minimal liberty, but this has nothing to do with Sen's intuition, rather it has to do with the (in)efficiency of the market mechanism. What is important here to stress is that the Coasean interpretation of the Sen theorem reveals why liberal values generally invoke the free market mechanism as an efficient tool to defend liberties. However, as in the Coase message, when transaction costs are high, market failures might require some state intervention in order to restore Pareto optimality and to defend minimal liberties.

## 5. CONCLUDING REMARKS

In a world of minimal liberties defined as *zero-option rights*, conflicting preferences will persist, because rights holders do not exert their rights in such a way to internalize externalities. This impossibility result reached by Sen (1970) strictly depends on the way in which rights as minimal liberties are defined. We argued that Sen's paradox is in fact due to a fundamental misunderstanding between rights and preferences. A right always implies a correspondent duty by nonowners not to interfere with holder's decisions. However, this does not imply that holder's liberty should not take into account nonowners' preferences when deciding whether or not to exert a right. When there is a potential for reciprocal externalities to occur, then in a world of zero transaction costs right holders will treat right as an option according to the expected outcomes generated by holders' exercise of their rights. In other words when individual preferences would generate inefficient outcomes holders may consequently decide whether or not to exert their right in order to reach Pareto outcomes. In Sen's view, a right is never an option to choose (which includes choosing not to exert a right when this is the interest of the right holder), rather it is a 'duty' to always select the preferred state of the world which belongs to the rights domain, independently of the externalities generated. This way of depicting a right envisages in our view the opposite of minimal liberty, i.e. a sort of inescapable 'tragic' role where holders turn to be in fact themselves the first victims of their liberties.

On the other side, when liberties are defined as options to choose, then in a world of zero transaction costs, a Coasean Liberal applies, restoring the co-existence between minimal liberties and the Pareto criterion. However, when there are relevant transaction costs, holders might be inhibited in their abilities to coordinate their options and/or to properly take into account others' preferences in society. In this

case the impossibility of a Coasean Liberal applies, but for a quite different reason than that outlined in Sen's framework: it is the dimension of transaction costs which inhibits the co-existence of minimal liberties and Pareto outcomes rather than their pervasive incompatibility. As a consequence, transaction costs not only play a role in allowing Pareto outcomes, they also influence the full exploitation of minimal liberties.

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