

Sustainability thoughts 101: What was wrong with the structure of Adam Smith's traditional market model? What are the main implications of this?

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Abstract

It can be said that free markets bring together producers and consumers to exchange good and services creating in the process relevant externalities. It can also be said that the way markets deal with those externalities they generate determines their degree of responsibility, leading to a range of different free market structures from fully irresponsible markets to partially responsible markets to fully responsible markets. The responsibility framework introduced here can be used to frame the structure of specific free markets in a way that allow us to highlight its characteristics and limitations so as to gain a detailed understanding about what it is wrong with that specific model and also about what needs to be done to correct it properly in terms of responsibility. The main goal of this paper is to use this responsibility framework to point out what was wrong with Adam Smith's free traditional market model and to stress the implications of this.

Key concepts

Traditional market, sustainability, fully responsible market, partial responsible market, fully irresponsible market, circular market illusion, circular traditional market illusion, fully responsible circular market, externality management based market, circular externality management based market illusion, dwarf market

Introduction

1) Free markets

It can be said that free markets(M) bring together producers(K) and consumers(L) to exchange good and services creating in the process relevant externalities(E), a situation that can be graphically represented as in Figure 1 below:

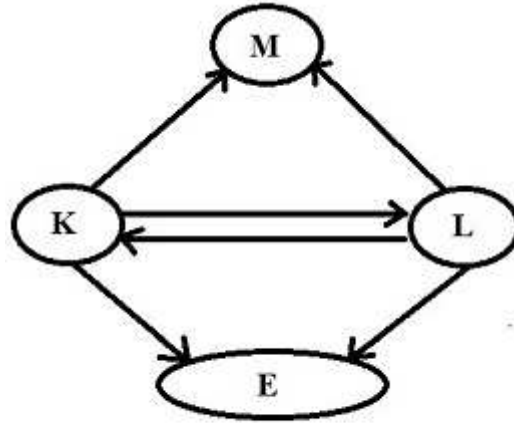


Figure 1 The general structure of free markets

We can highlight the following relevant thoughts based on Figure 1 above: i) A free market (M) lets producers (K) and consumers (L) interact with each other through production and consumption decisions as indicated by the continuous black arrows between K and L; ii) The production price (MP) in the free market (M) is determined by the producer (K) supply and consumer (L) demand when interacting in the market as indicated by continuous black arrows from K and L pointing towards the free market (M); and iii) while market activity takes place relevant production and consumption externalities (E) are produced as indicated by the continuous black arrows from K and L pointing towards E.

2) Types of free markets

It can also be said that the way markets deal with those externalities they generate determines their degree of responsibility, leading to a range of different possible free market structures from fully irresponsible markets to partially responsible markets to fully responsible markets as described below.

i) Fully responsible free markets

When free markets (M) internalize all the externality costs (E) associated with production in their pricing mechanism (MP), then we have fully responsible markets (FRM), which can be represented graphically as follows:

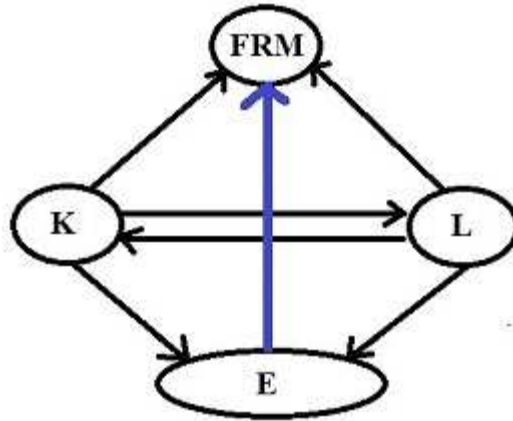


Figure 2 The structure of a fully responsible market(FRM)

Figure 2 above can be used to stress the following important aspects about fully responsible markets(FRM): i) there is a free interaction between producers(K) and consumers(L) as indicated by the opposing continuous black arrows between K and L; ii) all externality costs(E) are here relevant as indicated by the continuous black arrows from producers(K) and consumers(L) to E; iii) all externality costs(E) are internalized in the pricing mechanism(MP) of the fully responsible market(FRM) as indicated by the continuous blue arrow from E to FRM; and iv) therefore, fully responsible markets(FRM) operate under full costing as supply(S) and demand(D) interactions determine then a full cost price(FCP).

ii) Fully irresponsible free markets

When free markets(M) externalize all the externality costs(E) associated with production; and therefore, they do not reflect these costs in their pricing mechanism(MP), then we have fully irresponsible markets(FIM), which can be represented graphically as indicated below:

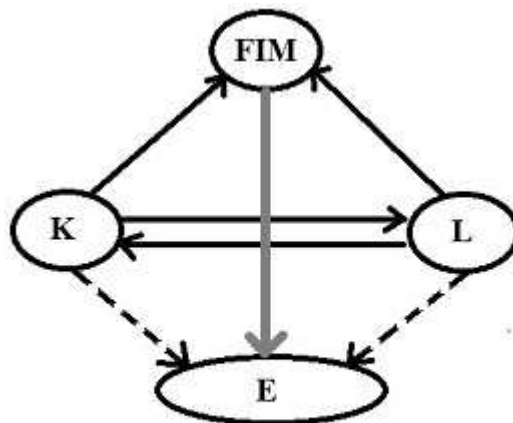


Figure 3 The structure of a fully irresponsible market(FIM)

Figure 3 above can be used to highlight the following relevant aspects about fully irresponsible markets(FIM): i) there is a free interaction between producers(K) and consumers(L)

as indicated by the opposing continuous black arrows between K and L; ii) all externality costs(E) are not relevant as indicated by the broken black arrows from producers(K) and consumers(L) to E; iii) all externality costs(E) are externalized and therefore, they are not reflected in the pricing mechanism(MP) of the fully irresponsible market(FIM) as indicated by the continuous brown arrow from FIM to E; and iv) therefore, fully irresponsible markets(FIM) operate under no costing as supply(S) and demand(D) determine then a no cost price(NCP).

iii) Partially responsible free markets

When free markets(M) externalize only some of the externality costs(E) associated with production in their pricing mechanism(MP), then we have a partially responsible markets(PRM), which can be indicated graphically as it is done below:

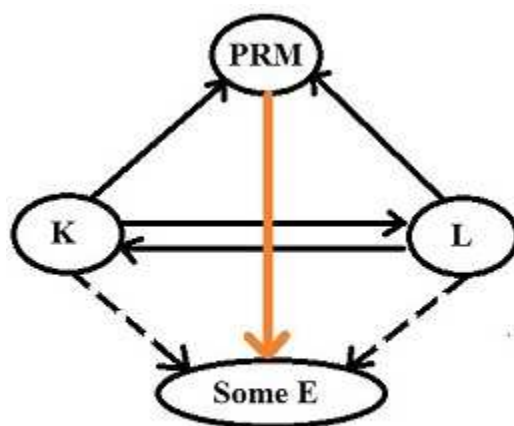


Figure 4 The structure of a partially responsible market(PRM)

Figure 4 above can be used to stress the following important details about partially responsible markets(PRM): i) there is a free interaction between producers(K) and consumers(L) as indicated by the opposing continuous black arrows between K and L; ii) some externality costs(E) are not relevant as indicated by the broken black arrows from producers(K) and consumers(L) to some E; iii) some externality costs(E) are externalized, and therefore, they are not reflected in the pricing mechanism(MP) of the partially responsible market(PRM) as indicated by the continuous orange arrow from PRM to some E; and iv) hence, partially responsible markets(PRM) operate under some costing as supply(S) and demand(D) determine then a some cost price(SCP).

3) The need to understand what went wrong with the traditional market model

The responsibility framework introduced above can be used to frame the structure of specific free markets in a way that allows us to highlight its characteristics and limitations so as to gain a detailed understanding about what it is wrong with that specific model and also about what needs to be done to correct it properly in terms of responsibility. The Brundtland Commission in 1987(WCED1987) found the traditional market model to be socially and environmentally unfriendly; and it recommended the search for sustainable development

solutions to this unfriendliness problem instead of recommending or suggesting a sustainability fix to this problem. The internalization of social and environmental externalities in Adam Smith's traditional market model is a sustainability fix to the social and environmentally unfriendly problem (Muñoz 2016a), where the externalization of social and environmental costs associated with production stops (Muñoz 2020).

The United Nations Conference of Sustainable Development Rio plus 20 (UNCSD 2012a; UNCSD 2012b) simplified the 1987 Brundtland commission's social and environmental concerns by focusing only on the environmental concerns; and it recommended the use of green market, green economy, and green growth thinking to solve the environmental externality concerns associated with business as usual. Internalizing the environmental cost of doing business in the pricing mechanism of the traditional market is the perfect green market solution to the Adam Smith's environmental externality problem (Muñoz 2016b).

However, in apparent contradiction to the 2012 UNCSD's recommendation to use green market thinking mentioned above since 2012 increasing attention has been given to externality management approaches such as environmental externality management, a solution that is inconsistent with perfect green market thinking and which has flipped the political and academic world right now towards dwarf green market thinking and away from perfect green market thinking (Muñoz 2019). Hence, there is a need to point out in simple terms i) the structure of a specific model based on its assumptions; ii) the consequences of living under the wrong assumptions made by that model; and iii) the best way to fix what turned out to be wrong with the assumptions of that model. The main goal of this paper is to use this responsibility framework to point out what was wrong with Adam Smith's free traditional market model and to stress the main implications of this.

Goals of this paper

i) To point out that the traditional market of Adam Smith's model has the same structure of a partially responsible market; ii) To use this information to stress clearly what was wrong with the traditional market model of Adam Smith and to point out the of the main implications of this; and iii) To use this knowledge to indicate a perfect market way and a non-perfect market way to address environmental unfriendliness in Adam Smith's model to move forward as we leave the traditional market model and thinking behind.

Methodology

First, the terminology used in this paper is shared. Second, the operational concepts and externalization and internalization rules supporting these paper are discussed. Third, the structure of the traditional market model based on its specific partial responsibility type is highlighted. Fourth, what was wrong with the traditional market model and the main implications of this are pointed out. Fifth, the two possible ways of dealing the externality issue and move forward after leaving Adam Smith's perfect market model and thinking behind, one

perfect market based and one non-perfect market based, are listed in detail. And finally, some food for thoughts and relevant conclusions are provided.

Terminology

A = active social system	a = passive social system
B = active economic system	b = passive economic system
C = active environmental system	c = passive environmental system
TM = traditional market	FRM = fully responsible market
FIR = fully irresponsible market	PRM = partially responsible market
EEM = externality management	M_i = market type i
FCP = full cost price	SCP = some cost price
NCP = no cost price	E(T) = externalization of T
I(t) = internalization of t	E(AC) = externalization of A and C

Operational concepts and externalization and internalization rules

i) Operational concepts

- 1) **Traditional market**, *the economy only market*
- 2) **Green market**, *the environmentally friendly market*
- 3) **Red market**, *the socially friendly market*
- 4) **Sustainability market**, *the socially and environmentally friendly market.*
- 5) **Traditional market price**, *the general market economic only price or the price that covers the cost of production at profit($TMP = ECM + i = P$) or zero profit($TMP = ECM = P$).*
- 6) **Green market price**, *the price that reflects both the economic and the environmental cost of production or the price that covers the cost of environmentally friendly production.*
- 7) **Red market price**, *the price that reflects both the economic and social cost of production or the price that covers the costs of socially friendly production.*
- 8) **Sustainability market price**, *the price that reflects the economic, social, and the*

environmental cost of production or the price that covers the cost of socially and environmentally friendly production.

9) Cost externalization, *the leaving out of the pricing mechanism of the market relevant costs associated with production.*

10) Social cost externalization, *the leaving out of the pricing mechanism of the market the social costs associated with production.*

11) Environmental cost externalization, *the leaving out of the pricing mechanism of the market the environmental costs associated with production.*

12) Economic cost externalization, *the leaving out of the pricing mechanism of the market the economic costs associated with production.*

13) Cost externalization assumption neutrality, *the assumption that production has minimal or no cost impact on external factors to a market model.*

14) Full costing, *the reflecting in the pricing mechanism of the market all cost associated with production; there are no market distortions.*

15) Partial costing, *not reflecting in the pricing mechanism of the market all cost associated with production; there are partial market distortions.*

16) No costing, *not reflecting in the pricing mechanism of the market any costs associated with production; there is full market distortion.*

17) Full inclusion, *all factors are endogenous to the model, there are no exclusions.*

18) Partial inclusion, *some factors are exogenous to the model, there are some exclusions.*

19) Fully independent development choices, *when we have individual development choices unrelated to each other or pure choices such as society only(A), economy only(B), and environment only(C). In this world only fully independent development choices exist so the set = {A, B, C}. This is the world of the Arrow Impossibility theory and theorem.*

20) Partially codependent development choices, *when we have mixed/paired development choices such as socio-economy(AB), socio-environment(AC), and eco-economy(BC). In this universe only codependent development choices exist so the set = {AB, AC, BC}. This is outside the normal world of the Arrow Impossibility theory and theorem.*

21) Fully codependent development choices, *when all development choices are mixed together such as the socio-economy-environment(ABC) model. In this paradigm only fully codependent development choices exist so the set = {ABC}. This is outside the world of the Arrow Impossibility theory and theorem.*

- 22) Full cost externalization**, *all costs associated with production are not reflected in the pricing mechanism of the market.*
- 23) Partial cost externalization**, *some costs associated with production are not reflected in the pricing mechanism of the market.*
- 24) No cost externalization**, *all costs associated with production are reflected in the pricing mechanism of the market.*
- 25) Full cost internalization**, *all costs associated with production are reflected in the pricing mechanism of the market.*
- 26) Partial cost internalization**, *some costs associated with production are reflected in the pricing mechanism of the market.*
- 27) No cost internalization**, *all costs associated with production are not reflected in the pricing mechanism of the market.*
- 28) Externalities**, *factors assumed exogenous to a model*
- 29) Full externality assumption**, *only one component is the endogenous factor in the model; the others are exogenous factors.*
- 30) Partial externality assumption**, *not all factors are endogenous factors at the same time in the model.*
- 31) No externality assumption**, *all factors are endogenous factors at the same time in the model.*
- 32) Economic externality**, *the economic costs associated with production not reflected in the pricing mechanism of the market.*
- 33) Social externality**, *the social cost associated with production not reflected in the pricing mechanism of the market.*
- 34) Environmental externality**, *the environmental cost associated with production not reflected in the pricing mechanism of the market.*
- 35) Green or environmental margin**, *to cover the extra cost of making the business environmentally friendly.*
- 36) Social margin**, *to cover the extra cost of making the business socially friendly.*
- 37) Economic margin**, *to cover only the economic cost of production*
- 38) Profit**, *the incentive to encourage economic activity*
- 39) Full cost price**, *a price that reflects all costs associated with production.*
- 40) Some cost price**, *a price that reflects only some costs associated with production.*

41) No cost price, a price that does not reflect any cost associated with production.

42) Circular market illusion, the idea that production activity can take place without producing relevant externalities.

43) Circular traditional economy illusion, the idea that production activity can take place without producing relevant social and/or environmental externalities.

44) Circular dwarf green economy, the idea that market prices can be manipulated externally to generate revenue to cover the cost of dealing with the externality they create to close the non-free market cycle production-consumption-environmental externality.

45) Circular green economy, the idea that market prices reflect the cost of making business environmentally friendly in order to cover the cost of dealing with the environmental externalities they create to close the free market cycle production-consumption-environmental externality.

48) Circular sustainability based economy, the idea that market prices reflect the cost of making business social and environmentally friendly in order to cover the cost of dealing with the social and environmental externalities they create to close the free market cycle production-consumption-socioenvironmental externality.

49) Circular externality management based market illusion, the idea that you can solve an externality problem by dealing with the consequences of that problem, not the cause.

ii) Externalization rules

Let's assume we have a market with two relevant components, society(A) and environment(C), where A = active component, a = passive component, C = active component, and c = passive component, then the externalization rules(E) work as follows:

1) $E(A) = a$ ---→ relevant social costs(A) are assumed irrelevant

2) $E(C) = c$ ---→ relevant environmental costs(C) are assumed irrelevant

3) $E(AC) = ac$ ---→ relevant social costs and economic costs(AC) are assumed irrelevant

iii) Internalization rules

Let's assume we have a market with two relevant components, society(A) and environment(C), where A = active component, a = passive component, C = active component, and c = passive component, then the internalization rules(I) work as follows:

4) $I(a) = A$ ----→ irrelevant social costs(a) are now relevant

5) $I(c) = C$ ----→ irrelevant environmental costs(c) are now relevant

6) $I(ac) = AC$ ----→ irrelevant social costs and economic costs(ac) are now relevant

iv) Model structure and externalization rules

Let's assume we have the following three market structures $M1 = ac$, $M2 = Ac$ and $M3 = AC$, then the following holds true:

7) $M1 = ac = E(AC) = a$ fully irresponsible market as all costs are externalized

8) $M2 = Ac = [I(a)][E(C)] = a$ partially responsible market as social cost is internalized

9) $M3 = AC = [I(a)][I(c)] = a$ fully responsible market as all costs are internalized.

v) Reversing externalization rules

Let's assume we have a market with two relevant components, society(A) and environment(C), where A = active component, a = passive component, C = active component, and c = passive component, then the process of reversing externalization-internalization rules works as follows:

The case of internalizing the externality: if $E(AC) = ac$, the following holds true:

10) $I[E[AC]] = I[ac] = AC$, internalization-externalization forces cancel each other out

The case of externalizing the internality: if $I(ac) = AC$, the following holds true:

11) $E[I[ac]] = E[AC] = ac$, externalization-internalization forces cancel each other out

The structure of the free traditional market

Since the traditional market(TM = aBc) assumes social[E(A) = a] and environmental[E(C) = c] externality neutrality, then it externalizes these relevant costs associated with production; and therefore, these social and environmental costs[E(AC) = ac] are not reflected in the structure of its pricing mechanism; and this makes the traditional market(TM) a partially responsible market(PRM) as only the economic costs([I(b)] = B) associated with production are internalized; and therefore, only economic costs are reflected in its pricing mechanism. The structure of the traditional market(TM) as a partially responsible market(PRM) is indicated below:

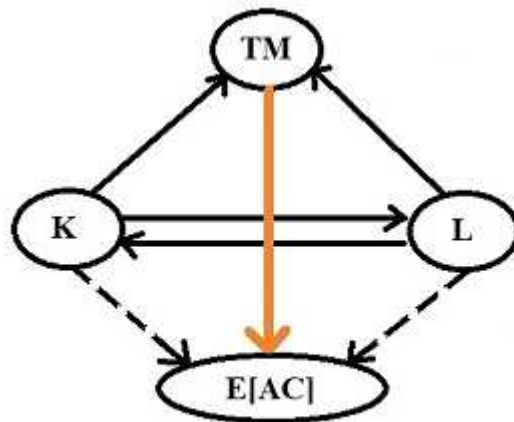


Figure 5 The structure of the traditional market(TM)

The main characteristics of the traditional market model of Adam Smith(TM = aBc) can be extracted from Figure 5 above; and they are as follows: i) It is a free market where producers(K) and consumers interact freely as indicated by the continuous opposing black arrows between K and L; ii) in the traditional market(TM) only the economic cost of production is reflected($I(b) = B$) in the pricing mechanism as only the economy matters; iii) social and environmental externalities($E(AC) = ac$) are not relevant or are minimal so they are assumed to be exogenous issues to the model as indicated by the black broken arrows from producers K and consumers L to E(AC); iv); the traditional market price(TMP) is determined by the interaction of producers(K) and consumers(L) as indicated by the continuous black arrows from K and L to TM; and v) since the social and environmental costs of production($E[AC]$) are left out of the pricing mechanism of the traditional market, the market aims at producing at the lowest price possible promoting over consumption and over production in the process; and therefore, this process of economic activity is constantly accumulating social and environmental deficits.

What was wrong with Adam Smith's traditional market model

We can see that Figure 5 above summarizes the circular traditional economy illusion that economic activity can take place without having social and environmental externality responsibility, which in reality it is not possible. In other words, Figure 5 above helps us to clearly see that assuming that relevant social and environmental externalities or costs associated with market activity were irrelevant created the illusion that the traditional economic process cannot do social and environmental harm. And this illusion planted in 1776 by Adam Smith's perfect market thinking with its social and environmental externality neutrality assumption created the exact room needed for the current social and environmental crises to grow worse and worse through time in front of our eyes as in reality social and environmental externalities are associated with economic activity, but it was assumed they are not. Hence, what was wrong with Adam Smith's traditional market model was the assumption of social and environmental externality neutrality as represented by the broken black arrows going from producers(K) and consumers(L) to the social and environmental externalities E(AC) in Figure 5 above as it is now a fact that social and environmental externalities associated with economic activity are real and relevant.

The main implications of implementing the wrong assumptions in Adam Smith's model?

Some of the main implications of Adam Smith making the wrong assumptions as the basis of the traditional market model are listed below: i) ***The illusion of no social and environmental harm in the traditional market:*** When economic activity is linked to social and environmental externalities, but we assume they are not, we create an illusion around economic activity as reality does not match the assumption practice; ii) ***The paralyzing effect of the no social and environmental harm illusion:*** that no harm illusion now cemented by assumption in the traditional market(TM) prevented us from taking proactive steps in the market to slow or solve prevailing social and/or environmental crises through externality cost internalization; and

iii) ***The no harm illusion is linked to current social and environmental crisis:*** Since no social and environmental harm from economic activity is assumed the economy sees nothing wrong with seeing social and environmental pollution to continue growing as they are assumed not to have anything to do with market activity, linking that way the no externality harm illusion to current social and environmental crises.

In summary: Adam Smith's traditional market assumed that the social and environmental externalities associated with economic activity were irrelevant, when they are relevant, creating the circular economy illusion that is behind today's social and environmental crises: The illusion that producers and consumers interact in the market without producing social and environmental externalities in the process. In other words, traditional market thinking a la Adam Smith advances the illusion of a circular economy where producers(K) and consumers(L) interact without having any responsibility with respect to the social and environmental externalities[E(AC)] they create.

There are two solutions to the traditional market's externality problem

If we look at Figure 5 carefully, we can see that there are two solutions to the problem created by the externality neutrality assumption or the no externality harm assumption made by the traditional market of Adam Smith, both of which formally accept once and for all that social and environmental externalities associated with economic activity are real and relevant; and therefore, they have costs that must be accounted for or addressed: **i) a perfect market theory based solution**, the internalization of all externality costs in the pricing mechanism of the market in order to shift a partially responsible market like the traditional market to a fully responsible market; and **ii) a non-perfect market theory based solution**, where the management of the relevant externalities created by production and consumption in the traditional model is the focus, these solutions are described below in detail.

The full responsibility solution to the externality issues in the traditional market

As it can be seen in Figure 2 above, if we internalized all costs associated with market activity because they are real and relevant, then we create a fully responsible market(FRM); and therefore, if we internalize all the social and environmental cost associated($I(ac) = AC$) with the traditional economic market activity(TM) that are highlighted in Figure 5 above, then we can shift the traditional market model(TM) from a partially responsible model(PRM) to a fully responsible one(FRM) as indicated in Figure 6 below:

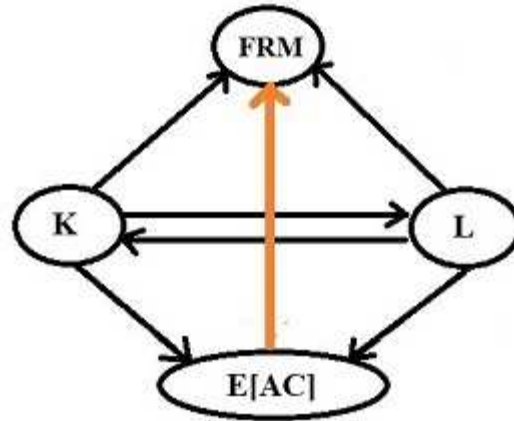


Figure 6 Transforming the traditional market model(TM) into a fully responsible market(FRM)

Notice that when we internalize the social and environmental externalities in the traditional market(TM) shown in Figure 5 above we shift it towards a fully responsible market(FRM) as in Figure 6 above, which can be expressed analytically as follows:

shifts

$E[AC] = ac \text{ ----} \rightarrow I[ac] = AC$ as now social and environmental costs are internalized

The above is true since:

$I[E[AC]] = I[ac] = AC$

We can see in Figure 6 above the following relevant aspects: i) the externalities($E[AC]$) generated in the market in production(K) and in consumption(L) are now real and relevant as indicated by the continuous black arrows from K and L to $E[AC]$; ii) The externality costs($E[AC]$) are internalized in the pricing mechanism of the fully responsible market(FRM) as indicated by the continuous orange arrow from $E[AC]$ to FRM making it a full cost market price(FCP); iii) Producers(K) and consumers(L) interact freely in the market as indicated by the continuous opposing black arrows between K and L; and iv) the interaction of producers(K) and consumers(L) determines the full cost market price where fully responsible supply meets fully responsible demand: In this model then market prices are determined internally without government intervention as this is a free market.

In summary, Figure 6 above supports the idea that producers(K) and consumers(L) interact freely in the fully responsible market, determining a full cost market price(FCP) in the process as social and environmental externality costs are real and relevant, and therefore, they are reflected in the pricing mechanism of the fully responsible market(FRM). The above means that a free fully responsible market(FRM) structure is consistent with the idea of a free fully responsible free circular economy where no government intervention is the rule. In other words, the fully responsible market in Figure 6 above represents an end to the circular traditional market illusion as now markets can take care of and are responsible for the externalities they produce.

Notice that a market that has the structure of a fully responsible market(FRM) is the sustainability market(SM) as it has full cost based pricing.

Finally, it is important to point out here that the fully responsible market(FRM) solution detailed in Figure 6 above aims at dealing with the root cause of the traditional market externality problem, which is its distorted traditional market price in social and environmental cost terms.

The externality management solution to the externality issues in the traditional market

If we accept that Adam Smith's social and environmental externality neutrality assumption was wrong as social and environmental costs associated with economic activity are real and relevant, but we want to manage externalities instead of using externality cost internalization, then we create an imperfect market situation that can be represented as follows:

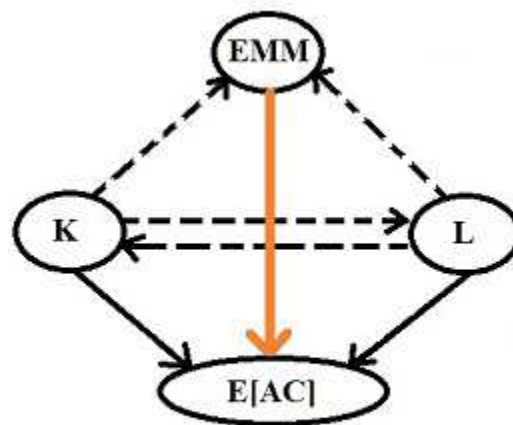


Figure 7 The structure of the externality management market(EMM)

We can appreciate based in Figure 7 above the following aspects related to externality management markets(EMM): i) Social and environmental externalities($E[AC]$) are now taken as real and relevant as indicated by the continuous black arrows from K and L to $E[AC]$ to deal this way with the traditional market externality problem; ii) Instead of using environmental cost internalization this approach uses externality management tools as indicated by the continuous orange arrow going from EMM to $E[AC]$; iii) producers(K) and consumers(L) do not interact freely in this market as indicated by the broken opposing black arrows between K and L as they intervention takers; and iv) producers(K) and consumers(L) do not determine the market price clearing the externality management market(EMM) as indicated by the broken black arrows going from K and L to EMM: in this model then market prices are determined externally; and hence, this market require ongoing government intervention to work as this is not a free market.

In summary, Figure 7 above supports the idea that producers(K) and consumers(L) will participate in a market where externality costs; and therefore, market prices are determined externally in a non-free market setting so that their production and consumption

externalities($E[AC]$) can be managed. The above means that externality management markets(EMM) are not fully responsible market(FRM) structures, and hence, they are inconsistent with the idea of a free fully responsible circular economy where no government intervention is the rule. In other words, the externality management market(EMM) in Figure 7 above does not represent an end to the circular traditional market illusion as now markets are delinked from the full externalities they produce and external actors are making externality management decisions and enforcing them instead of market actors. Notice that since the externality management market(EMM) does not have the structure of a fully responsible market(FRM); and therefore, it does not have a full cost price(FCP), then it is not a sustainability market(SM).

Again finally, it is important to point out here that the externality management market(EMM) solution detailed in Figure 7 above aims at dealing with the consequences of the root cause of the traditional market externality problem, not aimed at dealing with its root cause of the externality problem, which is its distorted traditional market price in social and environmental cost terms.

Food for thoughts

a) Is the sustainability market a fully responsible market? I think yes, what do you think?;
b) Is the circular traditional economy the same as the circular externality management based economy or circular dwarf economy? I think no, what do you think?; c) Is the circular dwarf green economy the same as the circular green economy? I think no, what do you think?; d) Is the green market a partially responsible market? I think yes, what do you think?; e) Does the green market structure go one to one with circular green economy thinking? I think yes, what do you think?; and f) Does linking climate change to the macro-economy leads to a green market structure and to a circular green economy structure? I think no, what do you think?

Conclusions

First, the partial responsibility framework was used to point out the structure of the traditional market in terms of free market, its components and the externalities generated by market activity. Second, it was highlighted that Adam Smith was wrong in assuming social and environmental externality neutrality as relevant externalities do not go away just by assuming they are not there. Third, it was stressed that this assumption created the illusion of a circular traditional economy where economic activity has nothing to do with the externalities it creates nor it is affected by the ongoing accumulation of externalities, allowing that way the growth of the current social and environmental crises through time. Fourth, it was indicated that the perfect solution to the root cause of the externality problem of Adam Smith's model is the internalization of its social and environmental externality costs in the pricing mechanism of the free traditional market to shift it to a free fully responsible market, where a free fully responsible circular economy exists. Fifth, it was explained that the imperfect solution to the externality

problem of Adam Smith's model is externality management market, imperfect because it is aimed at addressing the consequences of the root cause of the externality problem, not aimed at fixing the root cause, plus it is a market that is not free, a market that is not cleared by a full cost market price, and it is a market where the market price is determined externality, not by the interaction of producers and consumers.

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