International Journal of Scientific Research

http://journalijsr.com/ Vol. II, Issue 1, 2017

IF GOING FROM FREE MARKETS TO NON-FREE MARKETS IS THE WAY TO GO: DOES THIS MEANS THE END OF RATIONAL DECISION MAKING THINKING OR IS THIS JUST A TEMPORARY BLOCK OF A PERFECT PARADIGM SHIFT TO GREEN MARKETS?

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Abstract

The world of Adam Smith was the world of free markets based on perfect free market thinking and rational individual choice Under its social and environmental externality assumptions lies a world of fully distorted markets as the social and environmental costs associated with production were and are real, but they are assumed to be exogenous factors to the model; and therefore, they are left out of the pricing mechanism of the market. The Bruntland Commission in 1987 took issue with these distortions and it called for their correction through sustainable development means. And this meant internalizing social and environmental costs of production in the pricing mechanism of markets to make development models social and environmentally inclusive and responsible. Market corrections, including correcting environmental distortions, require externality cost internalization to close associated sustainability gaps.

The need to correct those embedded traditional market distortions leads to paradigm shifts. Paradigm shifts take place from perfect market to perfect markets. When the costs of externalities are internalized in the pricing mechanism of the lower level markets the embedded market distortions are eliminated as they become now endogenous issues to that market. For example the 2012 paradigm shift from the traditional market to green markets took place as a partial response to the 1987 Brunt land Commission request to internalize social and environmental issues in our market models. The shifting from free perfect traditional markets to a free perfect green markets requires us to internalize the environmental cost of doing business in the pricing mechanism of the traditional market to close the environmental sustainability gap embedded in it and to shift it to green markets, green growth and green economies; and when doing this we are making environmental issues once and for all endogenous issues to the green market model. A shift from perfect traditional markets to perfect green markets means we shifted from rational independent preferences(economy only based choices) to rational partially codependent choice(economy and environment based choices) as when a paradigm shifts both their paradigm structure and their choice structure shift at the same time.

However something curious has happened after the 2012 shift to green markets, while in theory we are supposed to be living in a green market ruled world to face the environmental crisis head on, in practice development related institutions and practitioners like at the UN and the countries signature of the 2015 Paris Agreement are quietly promoting dwarf green markets or non-green markets as a response to the local and global the environmental crises. Suddenly we started hearing about approaches such as low carbon development, environmental externality management, voluntarily compliance, carbon pricing, cap and trade, and other non green market forms. In other words, in theory we have shifted from perfect traditional markets to perfect green markets, but in practice we have shifted from perfect traditional markets no non-perfect green market thinking or to dwarf green markets. Not much is written about this theory-practice inconsistency, the theory calls for the use of green market and perfect green market thinking to eliminate the environmental distortion embedded in Adam Smith's model creating that way green economies driven by green growth, but in practice they are using dwarf green markets like carbon pricing or low carbon based development or environmental externality management frameworks distorting even more the embedded environmental externality distortion. There is a deep theory-practice inconsistency around the 2012 paradigm shift of similar nature as the theory-practice inconsistency that is blocking sustainability thinking and this theory-practice development and model inconsistency in place today to face the environmental crisis raises very important questions in terms of proper paradigm shift directions, the proper science based way to deal with this crisis; and in terms of how these aspects affect, permanently or temporally long held tenets about free market thinking and choice, questions which are not yet being raised today to my knowledge. Among the goals of this paper are a) to highlight analytically and graphically that paradigm shift from perfect market to perfect market is a shift from rational thinking and choice to rational thinking and choice; b) to stress analytically and graphically that a paradigm shift from a perfect market to a non-perfect market highlights a direct violation of the theory-practice consistency principle; and that if knowingly this is the development plan for the very long-term that means the end of perfect market thinking and the end of rational decision making and choice; c) to show analytically and graphically that as non-perfect markets are corrected or internalize all externality costs in their pricing mechanism they shift towards perfect market thinking too; and when that happens then the rule of perfect market thinking and rational decision making and choice is restored; and d) The discussion above is used to point out that if this is the case the shift from perfect markets to non-perfect markets in practice is a temporary block to the shift to perfect green markets thinking and action.

Key words: Free markets, Non-free markets, rational decision making, green markets, dwarf green markets, carbon pricing, cap and trade, emission trading, perfect market, theory-practice consistency principle, traditional market, market price, green market price, embedded distortions.

Introduction

a) Main aspects of the traditional market

The world of Adam Smith was the world of free markets based on perfect free market thinking and rational individual choice. It is a world that assumes full social and environmental externality neutrality (Muñoz 2015).

The structure of the traditional market model can be expressed graphically as follows:

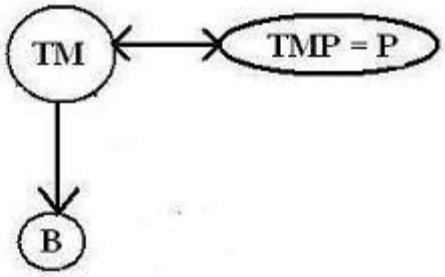

Figure 1 The structure of the traditional market(TM)
It is an economy only(B) perfect market
cleared by the traditional market price P.

Figure 1 above helps us to clearly see that the traditional market is an economy only market(B), which it is cleared or driven by the traditional market price TMP = P. As distortions are not relevant to the traditional market model(TM), you cannot see there any social and environmental distortion in the structure in Figure 1 above even so in reality they are there. It has been recently pointed out that we have been living under distorted markets since Adam Smith's proposed it (Muñoz 2010).

b) The two embedded distortions in the traditional market

Under its social and environmental externality assumptions lies a world of fully distorted markets as the social and environmental costs associated with production were and are real, but they are assumed to be exogenous factors to the model; and therefore, they are left out of the pricing mechanism of the market. It has been highlighted recently that the fact these two market distortions exist is forcing us to deal with sustainability issues backwards in terms of economic thinking (Muñoz 2012).

The social(A) and environmental(C) distortions embedded in Adam Smith's traditional market model can be clearly appreciated as indicated by the broken arrows in Figure 2 below:

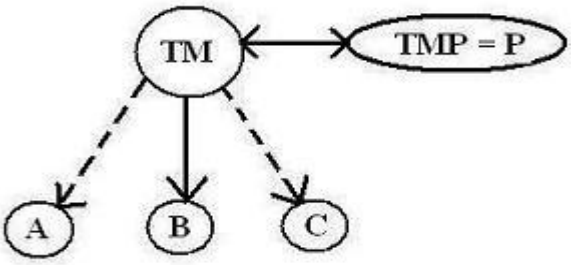

Figure 2 The distortions embedded in the traditional market model(TM).
There is a social distortion(A) and an environmental distortion(C) in this market as social costs(A) and environmental costs(C) of production are real, but they are assumed away as externalities; and therefore, they are not reflected in the pricing mechanim of the traditional market.

Figure 2 above allows us to point out that there are two embedded distortions in the traditional market model(TM), social distortion(A), and an environmental distortion(C) as real social(A) and environmental(C) costs associated with production are assumed to be exogenous and are left out of the pricing mechanism TMP = P.

c) The need to correct embedded distortions in the traditional market

Without reflecting social (A) and environmental(C) costs of production in the pricing mechanism of the traditional market(TM) you can produce and consume at lower prices leading to over production and over consumption behavior; and therefore to over exploitation drives. The Bruntland Commission (WCED 1987) took issue with these distortions in 1987and it called for their correction through sustainable development means. And this meant internalizing social and environmental costs of production in the pricing mechanism of markets to make development models social and environmentally inclusive and responsible. Market corrections, including correcting environmental distortions, require externality cost internalization to close associated sustainability gaps (Muñoz 2016a; 2016b).

d) The 2012 decision to correct the environmental distortion

Therefore, the need to correct those social and environmental distortions embedded in the traditional market leads to paradigm shifts. Paradigm shifts take place from perfect market to perfect markets((Muñoz 2016c) as when the costs of externalities are internalized in the pricing mechanism of the lower level market those embedded market distortions are eliminated as they become now endogenous issues to that market. For example the 2012 paradigm shift from the traditional market to green markets took place as a partial response to the 1987 Bruntland Commission request to internalize social and environmental issues in our market models as mentioned before. The shifting from free perfect traditional markets to a free perfect green markets requires us to internalize the environmental cost of doing business in the pricing mechanism of the traditional market to close the environmental sustainability gap embedded in it and to shift it to green markets, green growth and green economies; and when doing this we are making environmental issues once and for all endogenous issues to the green market

model. Paradigm shifts requires externality cost internalization and the paradigm shift leaves the knowledge base of the original paradigm behind (Muñoz 2016d). A shift from perfect traditional markets to perfect green markets means we shifted from rational independent preferences (economy only based choices) to rational partially codependent choice(economy and environment based choices) as when a paradigm shifts both their paradigm structure and their choice structure shift at the same time. It has recently been stressed that in 2012 shifting from the traditional market to the green market was not the only option available at that time nor the most sustainable one(Muñoz 2016e) we could have shifted to a red market(Muñoz 2016f) or to a sustainability market(Muñoz 2016b) and the pricing mechanism would have changed accordingly(Muñoz 2016g).

The structure of the perfect green market can be indicated graphically as shown below:

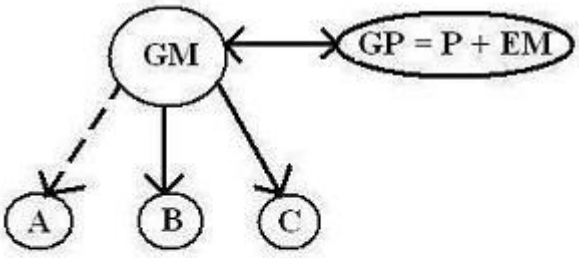

Figure 3 The structure of the green market(GM) It assumes only social externality(A) neutrality and now environmental issues are endogenous issues to the green market model and its pricing.

Figure 3 above let us see clearly that the green market(GM) is an economy(B) and environment(C) partnership based market cleared by the green market price(GP) assuming social externality neutrality(A) only as indicated by the broken arrow. Notice that the green market price (GP) is equal to the traditional market price P corrected by an environmental externality margin (EM) to cover the environmental costs associated with production. Here environmental externalities are endogenous issues; and therefore the green market price (GP) is connected to environmental and economic costs of production. This is a perfect, free market that does not need government intervention; and therefore, it does not need green taxes and tools to force environmental compliance. This is the world of green producers and green consumers freely interacting to determine the green quantity to be produced and consumed. Hence the shift from the structure in Figure 2 to the structure in Figure 3 is the structure of the paradigm shift from the perfect traditional market to the perfect green market as environmental costs are now fully internalized in the pricing mechanism of the perfect green market.

e) The 2012 quiet move away from green market thinking

It seems to be very clear by 2012 in the publication promoting and supporting the 2012 Rio +20 conference (UNCSD 2012a; 2012b; UNDESA 2012, OECD 2012; WB 2012) that the worlds of green markets, of green economies, and of green growth; and therefore of the greening of sustainable development were here; and they were here to

stay.

However something curious has happened after the 2012 shift to green markets, while in theory we are supposed to be living in a green market ruled world to face the environmental crisis head on, in practice development practitioners such as the countries signatures of the 2015 Paris Agreement (UN 2015a; 2016) and institutions like the UN(UN 2015b) seem to be actively promoting non-green market based approaches or dwarf green markets as a response to the local and global the environmental crises or sustainable development issues. Suddenly after 2012 shift to green markets we started hearing ideas about low carbon economy(WB 2013); about voluntary compliance to reduce emissions(IISD and IIED 2014); about aligning policies towards the low carbon economy(OECD 2015a); about transitioning to a low carbon with the help of green bonds(OECD 2015b); about a zero carbon future(Fay et al 2015); about greening even whole continents like Africa(UNECA 2016); about promoting emission trading regimes like cap and trade(ICAP 2015); and about promoting carbon pricing as a business strategy(CPLC 2016), all non green market based strategies. In other words, in theory we have shifted from perfect traditional markets to perfect green markets, but in practice we have shifted from perfect traditional markets no non-perfect green market thinking or dwarf green markets (Muñoz 2016c).

The structure of dwarf green markets (DGM) can be presented as indicated below:

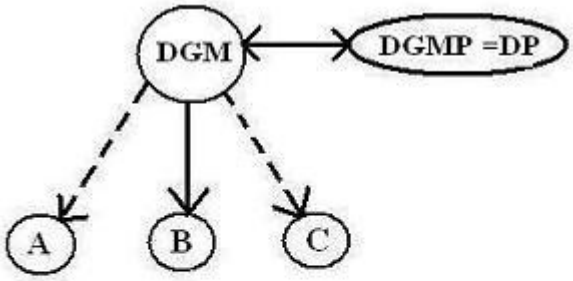

Figure 4· The structure of the dwarf green market (DGM)
It assumes social(A) externality neutrality and it assumes environmental externalities(C) can be managed by external market means.

Figure 4 above says clearly that the dwarf green market(DGM) is an economy(B) only based market cleared by the dwarf green market price(DGMP = DP) assuming social externality neutrality(A) only as indicated by the broken arrow; and assuming that environmental externalities(C) can be managed by non-market or external means. Here environmental externalities continue to be treated as externalities; and therefore the dwarf market price (DP) is unconnected to green market pricing as it directly reflects economic cost of production, but not all the associated environmental costs of production.

In other words, dwarf market prices are indirectly related to the actual environmental cost of production as they still leave room for an environmental sustainability gap to exist. This is a non-perfect, non-free market that needs heavy for ever government intervention and it needs an array of green taxes and tools to force environmental compliance. This is the world of constrained producers and constrained

consumers pushed to produced and consumed a constrained quantify cleared at a constrained price. It is not a perfect traditional market and it is not a perfect green market, but it looks like either, which is the reason why it is called dwarf green market (Muñoz 2016c). It is known that when externality costs are not fully accounting for there is a market failure (Morris 2013); and we know environmental externality costs are not fully accounted for in the pricing mechanism under dwarf green markets. This is the world of dwarf green producers and dwarf green consumers not freely interacting to produce and consumed the constrained dwarf green market quantify. Hence the shift from the structure in Figure 2 to the structure in Figure 4 is the structure of the paradigm shift from the perfect traditional market to the non-perfect green market or to dwarf green markets as environmental costs are still being treated as externalities as it was the case in the traditional market; and therefore, they are not fully internalized in the pricing mechanism of the dwarf green market.

f) The need to operate under the theory-practice consistency principle

Not much is written about this theory-practice inconsistency highlighted above, the theory calls for the use of green market and perfect green market thinking to eliminate the environmental distortion embedded in Adam Smith's model creating that way green economies driven by green growth, but in practice they are using dwarf green markets like carbon pricing or low carbon based development or environmental externality management frameworks distorting even more the existing embedded environmental externality based distortion. There is a deep theory-practice inconsistency around the 2012 paradigm shift to green markets which is of similar nature as the theory-practice inconsistency that is blocking sustainability thinking (Muñoz 2009). And this theory-practice development and model inconsistency in place today to face the environmental crisis raises very important questions in terms of proper paradigm shift directions, the proper science based way to deal with this crisis; and in terms of how these aspects affect, permanently or temporally long held tenets about free market thinking and choice, questions which are not yet being raised today to my knowledge.

Among the goals of this paper are a) to highlight analytically and graphically that a paradigm shift from perfect market to perfect market is a shift from rational thinking and choice to rational thinking and choice; b) to stress analytically and graphically that a paradigm shift from a perfect market to a non-perfect market is a direct violation of the theory-practice consistency principle; and that if knowingly this is the development plan for the very long-term that means the end of perfect market thinking and the end of rational decision making and choice; c) to show analytically and graphically that as non-perfect markets are corrected or as they internalize all externality costs in their pricing mechanism they shift towards perfect market thinking too; and when that happens then the rule of perfect market thinking and rational decision making and choice is restored; and d) The discussion above is used to point out that if this is the case the shift from perfect markets to non-perfect markets in practice is a temporary block to the shift to perfect green markets thinking and action.

Objectives

a) To highlight that a paradigm shift from perfect market to perfect market is a shift from rational thinking and choice to rational thinking and choice; b) to stress that a

paradigm shift from a perfect market to a non-perfect market is a direct violation of the theory-practice consistency principle; and that if knowingly this is the development plan for the very long-term that means the end of perfect market thinking and the end of rational decision making and choice; c) to show that as non-perfect markets are corrected or as they internalize all externality costs in their pricing mechanism they shift towards perfect market thinking too; and when this happens then the rule of perfect market thinking and rational decision making and choice is restored; and d) The discussion above is used to point out that if this is the case the shift from perfect markets to non-perfect markets in practice is simply a temporary block to the shift to perfect green markets thinking and action.

Methodology

First the terminology used in this paper is indicated. Second, some merging rules and operational concepts are presented. Third, the structure of the free traditional market is given. Fourth, the structure of the2012 paradigm shift to green markets in theory is shared. Fifth, the structure of the 2012 paradigm shift to green markets in practice is highlighted. Fifth, the structure of the 2012 paradigm shift to green market theory-practice inconsistency is pointed out. Sixth, how the 2012 paradigm shift to green market theory-practice inconsistency can be corrected is stressed. And finally, some food for thoughts and relevant conclusions are listed.

Terminology

A = Dominant/active society	a = Dominated/passive society
B = Dominant/active economy	b = Dominated/passive economy
C = Dominant/active environment	c = Dominated/passive environment
P = Traditional market price	TM = Traditional market
GM = Green market	GP = Green price
DGM = Dwarf green market	DP = Dwarf market price
EM = Environmental margin	ECM = Economic margin

Merging rules and operational concepts

a) Merging rules

If "A" and "B" are dominant characteristics; and "a" and "b" are their dominated or passive counter parts, the following is expected:

i) Merging under dominant-dominant interactions, under these conditions, dominant or active state prevails as indicated:

(AA) → A (BB) → B (AA) (BB) = (AB)(AB) → AB

ii) Merging under dominated-dominated interactions, under these conditions, the dominated or passive form prevails as shown:

(aa) → a (bb) → b (aa) (bb) = (ab)(ab) → ab

iii) Merging under dominant-dominated interactions and win-win solutions, under

these conditions, the dominant or active system prevails as the system merge as shown below:

(Aa) → A (bB) → B (Aa) (bB) = (AB)(ab) → AB

iv) Merging under dominant-dominated interactions and no win-win solutions, under these conditions, the dominated or passive system prevails and the system collapses as shown below:

(Aa) → a (bB) → b (Aa) (bB) = (AB)(ab) → ab

b) 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) Environmental or green margin, *to cover the extra cost of making the business environmentally friendly or to cover only the environmental cost of environmentally friendly production or to cover the environmental cost of red market production*.

6) Social margin, *to cover the extra cost of making the business socially friendly or to cover only the social cost of socially friendly production or to cover the cost of making green markets socially friendly or to cover the cost of making environment only models socially friendly.*

7) Economic margin, *to cover only the economic cost of production.*

8) Economic profit (i), *the incentive to encourage economic activity.*

9) Traditional market price, *general market for profit price (TMP = ECM + i = P).*

10) Green market price, *the for profit price that reflects both the economic and the environmental cost of production or the price that covers the cost of environmentally friendly production at a profit (GP = ECM + i + EM = P + EM)*.

11) Red market price, *the for profit price that reflects both the economic and the social cost of production or price that covers the cost of socially friendly production at a profit (RP = ECM + i + SM = P + SM)*.

12) Sustainability market price, *the for profit 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 at a profit(SP = ECM + i + SM + EM = P + SM + EM)*.

13) Green market knowledge gap, *the knowledge gap created by the paradigm shift from traditional markets to green markets or when correcting Adam Smith's model to reflect environmental concerns.*

14) Red market knowledge gap, *the knowledge gap created by the paradigm shift from red socialism to red markets or the knowledge gap created by correcting Adam Smith's traditional market to reflect social concerns.*

15) Sustainability market knowledge gap, *the knowledge gap created when any paradigm shifts towards sustainability, at once or step by step.*

16) Micro-economics, *the theory of the traditional firm and consumer.*

17) Macro-economics, *the theory of the traditional economy.*

18) Green micro-economics, *the theory of the environmentally responsible firm and consumer.*

19) Green macroeconomics, *the theory of the environmentally responsible economy.*

20) Red micro-economics, *the theory of the socially responsible firm and consumer.*
21) Red macro-economics, *the theory of the socially responsible economy.*
22) Sustainability market based micro-economics, *the theory of the socially and environmentally responsible firm and consumer.*
23) Sustainability based macro-economics, *the theory of the socially and environmentally responsible economy.*
24) Trickledown effect, *the expectation that traditional markets and growth will sooner or later benefit the poor.*
25) Green trickledown effect, the *expectation that green markets and green growth will sooner or later benefit the poor.*
26) Red trickledown effect, the *expectation that red markets and red growth will sooner or later benefit the environment.*
27) Deep paradigm, *a fully exclusive model (e.g. the traditional market).*
28) Partial partnership paradigm, *a partially inclusive model (e.g. the green market, the red market).*
29) Full partnership paradigms, *a fully inclusive model (e.g. the sustainability market).*
30) Externalities, *factors assumed exogenous to a model.*
31) Full externality assumption, *only one factor is the endogenous factor in the model, the others are exogenous factors.*
32) Partial externality assumption, *not all factors are endogenous factors at the same time in the model.*
33) No externality assumption, *all factors are endogenous factors at the same time in the model.*
34) Sustainability market cost margin (SMCM), *the sum of all cost margins in the sustainability market \price.*
35) Red market cost margin (RMCM), *the sum of all margins in the red market price.*
36) Green market cost margin (GMCM), *the sum of all margins in the green market price.*
37) Socio-environmental model cost margin (SENCM), *the sum of all margins in the socio-environmental model price.*
38) The dwarf market (DM), *a false market, a market unconnected to perfect market pricing, it looks like it is a specific market, but it is not.*
39) The dwarf market price (DP), *the price clearing the dwarf market.*
40) The dwarf quantity (DQ), *the inefficient quantity produced and consumed in dwarf markets*.
41) Dwarf market zone (DMZ), *the area where dwarf markets are or can be located.*
42) Dwarf green market (DGM), *any traditional market(TM) located below the perfect green market price (GP).*
43) Dwarf sustainability market (DSM), *any traditional market(TM) or any green market (GM) located below the perfect sustainability market price (SP).*

The free traditional market(TM)

As mentioned in the introduction the traditional market(TM) as seen by Adam Smith was driven by a free invisible hand, was cleared by the traditional market price P, and it

assumed environmental externality neutrality (EM), which can be represented graphically as follows:

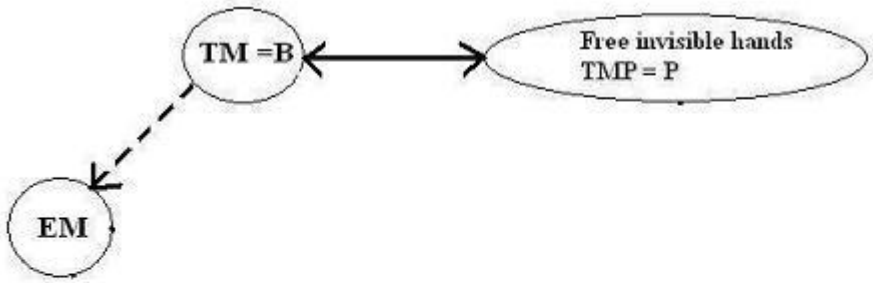

Figure 5 The free traditional market(TM)
It is being driven by the free invisible hand
and assumes environmental externality(EM)
neutrality.

Figure 5 above helps us to see clearly that even so the costs of environmental externalities (EM) are real; they are not accounted for in the pricing mechanism of the traditional market to determine P. The broken arrow highlights the embedded environmental externality distortion affecting the behavior of the traditional market as polluting is free you can produce at a lower price encouraging over production and over consumption; and therefore encouraging over exploitation efforts.

The 2012 paradigm shift to green markets in theory

The paradigm shift from traditional markets(TM) to green markets (GM) was supposed to eliminate that environmental externality distortion (EM) by internalizing it in the pricing mechanism of the traditional market so that there can be a shift from perfect market to perfect market, a shift from rational decision making to rational decision making, a shift from free market to free market, and a shift from free choice to free choice, as indicted in Figure 6 below:

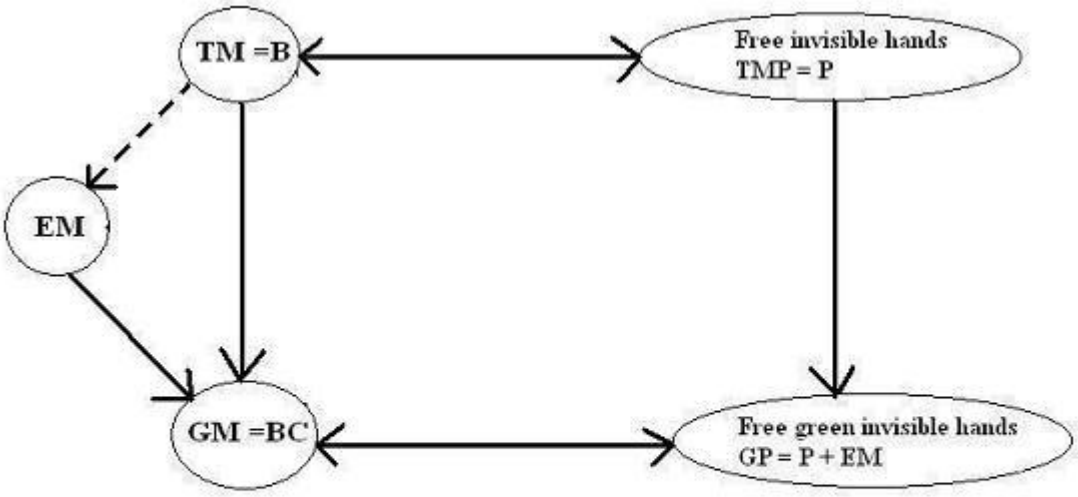

Figure 6 The 2012 shift from the traditional market(TM) to the green market(GM) in theory
The environmental externality(EM) is internalized in the pricing mechanism of the traditional market(TM) closing its environmental sustainability gap and shifting it to green markets(GM): TM = B---------->GM = BC

Figure 6 above helps to point out that when the traditional market(TM) internalizes the environmental externality (EM) there is a shift in the model structure(TM = B----→GM = BC) and there is a shift in the price structure (TMP = P ----→ GP = P + EM) at the same time indicating that the environmental sustainability gap at the heart of the embedded environmental externality distortion is now fully closed. The shift represented in Figure 6 above is a perfect shift; a shift that respect the theory-practice consistency principle, the science based way to deal with environmental issues is free green markets, markets where environmental externalities are endogenous issues and where environmental externality distortions do not exist anymore.

The 2012 paradigm shift to green markets in practice

In practice since 2012 instead of taking steps to set up green markets to deal with the environmental crisis such as global warming issues, development practitioners local and global have been working hard setting up all kinds of non-green markets or dwarf markets to deal with green market issues, a clear theory-practice inconsistency, which is highlighted graphically in Figure 7 below:

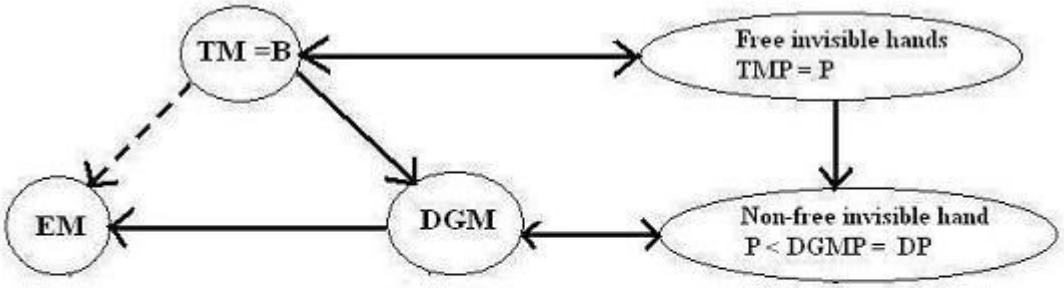

Figure 7 The 2012 paradigm shift from the traditional market(TM) to dwarf green markets(DGM) in practice
Instead of internalizing the environmental externality(EM) in the pricing mechanism they are treating it as an externality led market failure still under an open environmental sustainability gap and away from green market thinking(GM): TM = B---------->DGM

Figure 7 above helps us to see that shifting from the traditional market(TM) to dwarf green markets (DGM) requires us to continue to treat environmental issues (EM) as externalities in essence taking an existent embedded distortion as an environmental externality led market failure distorting in the process that market even more. They are making the consequence (the environmental externality) the problem leaving the cause (distorted market prices) untouched. Figure 7 above can be used to point out that a) dwarf green markets(DGM) appear to be geared to minimize market failures, not to eliminate the source of market failures; b) the shift from traditional markets(TM) to dwarf green markets(DGM) is a shift from a free invisible hand ruled market to a non-free invisible hand ruled market as now government intervention is the king; and c) The dwarf green market price(DGMP) is supposed to be higher than the traditional market price(P<GGMP) to push for better environmental behavior, but since the environmental margin(EM) is not fully closed or accounted for they still operate under an environmental sustainability gap.

The 2012 paradigm shift to green market theory-practice inconsistency

When putting together the paradigm shift in theory (to green markets) with the paradigm shift in practice (to dwarf green markets) we can easily highlight the steep theory-practice inconsistency under which the current environmental crisis and programs like climate change action or sustainable development programs are being managed or implemented as indicated in Figure 8 below:

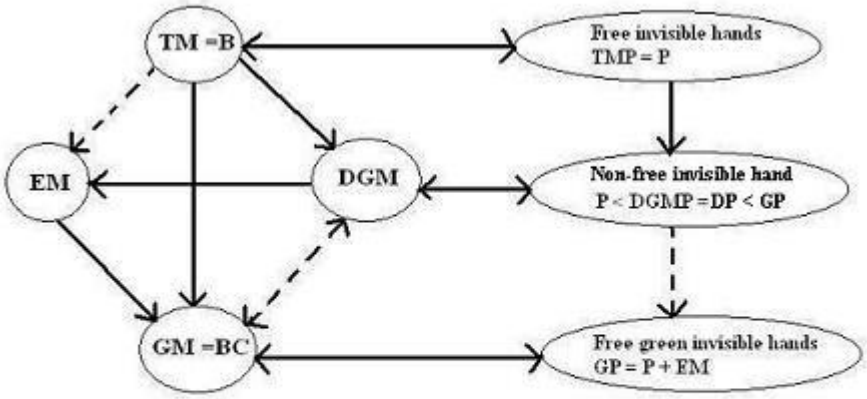

Figure 8 The 2012 paradigm shift theory-practice inconsistency
In theory we moved from the traditional market(TM) to green markets(GM), a shift from a free market to another free market. In practice we moved from traditional markets(TM) to dwarf green markets, a shift from a free market to a non-free market.

Figure 8 above can be used to point out that a) both the traditional market(TM) and the dwarf green market (DGM) both operates under an environmental sustainability gap as indicated by the broken arrows, one with fully distorted prices and one with partially distorted prices; and b) the world of green markets (GM) is the final shift destination for both of them when environmental externalities are fully accounted for in their pricing mechanism. More over Figure 8 above help us to indicate that a) we shifted in theory from traditional market to green markets(TM----→GM), but we shifted in practice to dwarf green markets(TM---→DGM) creating a very clear theory-practice inconsistency highlighted by the broken arrow separating the world of the non-free invisible hand with the world of the free green invisible hand; and b) that the green price is greater than the dwarf market price(GP > DGMP) as dwarf green prices do not fully reflect all environmental costs of production; and therefore, you are able to produce and consume at lower prices. The quantities produced and consumed under perfect markets are efficient quantities, but those produced and consumed under non-perfect markets are not. Finally Figure 8 help us to stress that if the shift to dwarf green markets in practice is a permanent shift, that means the end of perfect, free, rational market decision making and choice as now the non-free invisible hand rules the world and government intervention for ever is now the norm. In other words if going from free markets to non-free markets is the way to go for the long-term or forever, the world of free market thinking and acting is over and the world of non-science based markets is in.

Correcting the 2012 paradigm shift to green market inconsistency

If science based decision making is the goal like in the case of climate change action programs or sustainable development programs then using non science based markets to implement them would be an open violation of the theory-practice consistency principle that is supposed to be at the heart of rational decision making. So there is a need to think hard if using dwarf green markets because unless they are avoided or corrected we are openly acting in violation of the theory-practice consistency principle; and moving away from science based action and thinking.

Figure 9 below shows how the current theory-practice inconsistency can be corrected to rechanneled development thinking back into the scientific domain and rational decision making at la free market and free choice:

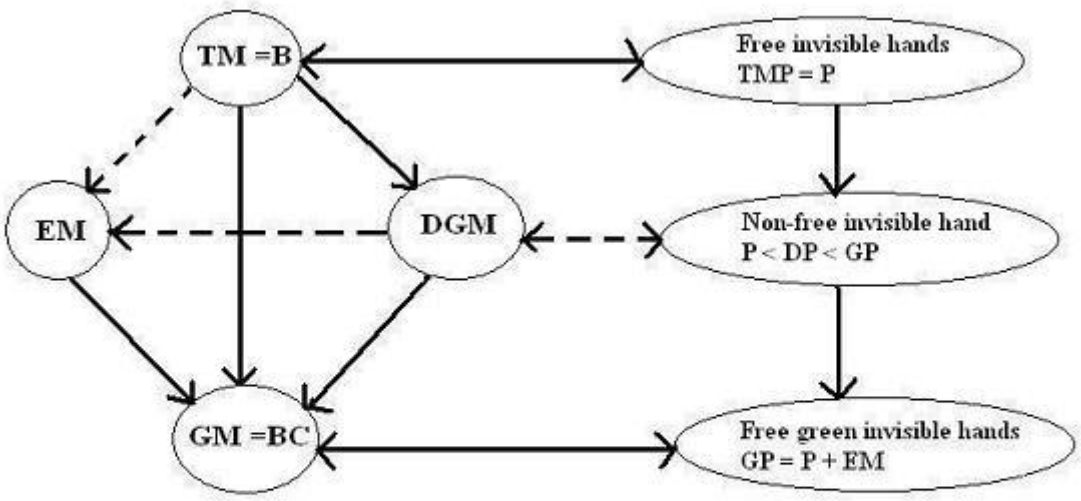

Figure 9 Correcting the 2012 paradigm shift theory-practice inconsistency
When the dwarf green market(DGM) fully closes its sustainability gap fully internalizing the environmental margin(EM) then it takes the form of a green market(GM) and it is now driven by the free green market invisible hand.

Figure 9 above shows that a) if the environmental externality(EM) is fully internalized by the dwarf green markets(DGM) it shifts towards true green markets(GM) closing fully its environmental sustainability gap as indicated by the continuous arrow connecting them; and b) when the environmental externality(EM) is fully accounted for under dwarf green market pricing(DGM) it shifts from a non-free invisible hand and full government intervention world to the free green invisible hand world with minimal or no government intervention as shown by the continuous arrow linking them. Finally Figure 9 help us to stress that if the shift to dwarf green markets in practice is a temporary shift and if it is corrected, that means that this shift is simply a temporary block to the shift to perfect, free, rational green market decision making and choice as now the free green invisible hand rules the world and government intervention is at best minimal. This correction would bring us back to the world of science based markets.

Food for thoughts

a) I think that the development goal should be to eliminate the sources of market failure, not to minimize the market failure, what do you think?;

b) I think that the more they avoid to internalize environmental costs associated to production in the pricing mechanism the wider the environmental sustainability gap under which dwarf green markets are working will become, what do you think?;

c) I think that it will take a very high dose of academic integrity for a novel price winner to accept that the world has been approaching the environmental crisis with the wrong foot from day one of the 2012 paradigm shift to green markets, what do you think?;

d) Would externality cost internalization bring the end of market failures as we know it?, I think yes, what do you think?; and

e) Are dwarf green markets true markets?, I say no, what do you think?

Specific conclusions

First a simple structure was shared to highlight the nature of the traditional market

in terms of its economy only base and traditional clearing price. Second, the structure of the shift in theory from traditional market to the green market was pointed out, highlighting that perfect market shift to perfect markets to maintain the theory-practice consistency principle when externality costs are fully internalized in the pricing mechanism of the market. Third, the structure of the shift in practice from traditional markets to dwarf green markets was stressed, which is used to point out a) that this shift is in total violation of the theory-practice consistency principle as it still treats environmental costs as externalities instead of internalizing them; and b) that treating this embedded environmental distortion an externality led market failure is adding even more distortions to the market.

Fourth the shift in theory and the shift in practice are placed together and linked to show clearly the theory-practice inconsistency underlying the use of dwarf green markets to deal with green market issues. Fifth, the discussion above is used to point out that if the move to dwarf green markets is a permanent move or the way to go for ever, then that clearly means the end of free, rational market thinking and choice as Adam Smith's saw it. And sixth, it is indicated how this theory-practice inconsistency can be corrected to induce dwarf green markets towards true green markets, a correction that leads to restoring free, rational market thinking and choice making the shift to dwarf green markets only a temporary block to the perfect shift towards perfect green markets.

General conclusions

It was pointed out that we supposedly shifted in 2012 from perfect traditional market thinking to perfect green market thinking, green economies and green growth, but now this seems to be in theory as in practice they are dealing with environmental issues, not through green markets, but dwarf green markets: A total violation of the theory-practice consistency principle pushing market thinking outside the free, rational market thinking and choice; It was highlighted that if the use of dwarf green markets to deal with the environmental crisis after the 2012 paradigm shift is permanent, then the clearly means the end of perfect, free, rational market thinking and choice. The beginning of an era based on non-free markets, non-free choice and heavy forever and ongoing government intervention and constrained markets. In other words, it was indicated that if going from free markets to non-free markets is the way to go permanently and forever, the world of free, rational thinking and acting is over; And it was stressed that if the use of dwarf green markets is temporarily and they are corrected, then their use now it is simply a temporary block to a perfect paradigm shift to perfect free green markets. When full environmental externality internalization takes place, dwarf green markets become true green markets and when the correction is done it will lead to restoring perfect, free, rational green market thinking and choice.

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