

**SUSTAINABILITY THOUGHT 166: HOW DO CONJUNCTURAL PARADIGM FRAMEWORK SHIFTS WORK? THE CASE OF THE SHIFT FROM TRADITIONAL MARKET PRICE LED FRAMEWORK TO THE GREEN MARKET PRICE LED FRAMEWORK**

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**ABSTRACT**

Since the traditional market price does not account for the environmental cost of productions associated with economic activity it will lead in the long term to severe environmental distortions, which is the reason why the 1987 World Commission on Environment and development found and reported in “Our Common Future” that the business as usual model in place since 1776 was leading to deep unsustainability issues including environmental unsustainability; and that this needed to change. In other words, the Commission found that traditional market thinking and pricing had led to among other things to environmental problems, a finding that is consistent with the thought that price distortion in environmental terms should be expected to lead to extreme environmental overshoot in the long term.

Since the green market price accounts for the environmental cost of production associated with economic activity as well as its economic costs it will lead in the long term to no environmental problems or lead to a move away from environmental problems depending on whether green market pricing is at work from the beginning when markets are set up or whether green market pricing comes from correcting environmentally distorted traditional market prices. In other words, no price distortion in environmental terms should be expected to lead to no environmental problems or to lead away from environmental problems as environmental cost responsibility would lead to no environmental overshoot as the system would be then working within or tending towards the carrying capacity of the environment, all depending on when environmental cost responsibility in the green market begins.

As indicated above, distorted traditional markets lead to environmental problems; and green markets avoid or lead us away from environmental problems; and there is a need to express in simple terms how these ideas can be linked through paradigm shift thinking applied to shifting frameworks. In other words, the ideas of avoiding environmental problems or of moving away from environmental problems can be looked at from the point of view of shifting system stability frameworks like the shift from the most distorted traditional market price led system stability framework to the green market price led framework or from the lowest cost traditional market price led framework to the lowest environmental cost green market price led system stability framework. And this raises relevant questions like how do conjunctural paradigm frameworks shifts work? What are the main implications of doing this? Among the goals of this paper is to provide answers to the questions listed above.

**Key Words:** Market structure, market price, production, consumption, population dynamics, overshoot, no overshoot, system stability, climate change, responsible behavior, irresponsible behavior, optimal market price, distorted market price, optimal consumption, distorted

consumption, optimal production, distorted production, optimal population, distorted population, optimal system stability impact, distorted system stability impact. Green market, traditional market, green market price, traditional market price, green consumption, over consumption, green production, over production, green population dynamics, over population dynamics, extreme overshoot, environmental problems, no environmental problems.

## 1. INTRODUCTION

### a) Linking the nature of the traditional market price as driver of environmental problems

#### i) The traditional market model structure

As the traditional market(TM) is an economy only market(B) where only the economy matters under environmental externality neutrality assumptions(c), then its market structure can be represented in simple terms as:

$$TM = Bc$$

The expression above tell us in the traditional market(TM) only economic goals(B) matter and that the environment(c) is there only to meet economic goals. Therefore, the traditional market(TM) is based on economic responsibility on one hand and on environmental irresponsibility on the other hand.

#### ii) The traditional market price structure

As in the traditional market(TM) only economic costs(ECM) at a profit "i" matters since environmental costs(EM) are externalized or they do not matter, then its market price can be indicated as follows:

$$TMP = ECM + i \text{ since } EM = 0$$

The expression above says that in the traditional market price(TMP), only economic costs(ECM) are accounting for in the search for profits "i".

#### iii) The working of the traditional market in the very long term

Since the traditional market price(TMP) does not account for the environmental cost of productions(EM) associated with economic activity it will lead in the long term to severe environmental distortions, which is the reason why the 1987 World Commission on Environment and development(WCED 1987) found and reported in "Our Common Future" that the business as usual model in place since 1776(Smith 1776) was leading to deep unsustainability issues including environmental unsustainability; and that this needed to change. In other words, the Commission found that traditional market thinking and pricing had led to among other things to environmental problems, a finding that is consistent with the thought that price distortion in environmental terms should be expected to lead to extreme environmental overshoot in the long term.

#### *1) The working of the traditional market from the view of the most distorted market price possible*

The idea that the drive to produce at the most distorted market price possible(MDTMP) leads in the long term to environmental problems(EP) as doing this promotes over production(OVP), over consumption(OVC) and over population(OVT), which push for extreme

environmental overshoot behavior(EOVS) has been recently pointed out(Muñoz 2022) as shown in Figure 1 below:

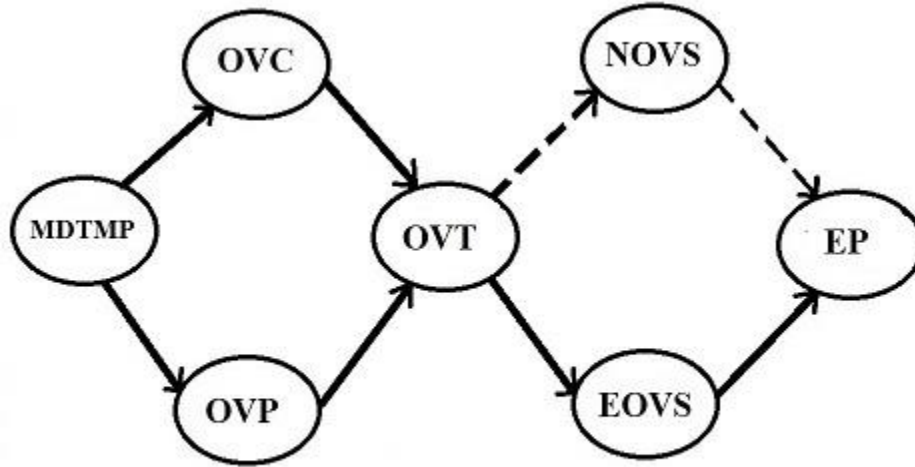


Figure 1 The most distorted traditional market structure, over population dynamics and environmental problems framework(The MDTM-OVT-EP framework)

Figure 1 above simply says in the long term when the market operates at the most distorted traditional market price(MDTMP) it leads to environmental problems(EP) because of its environmental cost irresponsibility( $EM = 0$ ) as environmental costs are real, but they are externalized. This is because the consequences of operating at the most distorted traditional market price possible(MDTMP) in the long term are over consumption(OVC), over production(OVP) and over population(OVT), which lead to extreme environmental overshoot(EOVS) as indicated by the direction of the continuous black arrows. The broken black arrow in Figure 1 above means that in the world of distorted traditional markets(TM) there is environmental overshooting(EOVS) so that  $NOVS = 0$ .

**Implication 1**

Producing at the most distorted market price in the long terms leads to over consumption, over production, over population, extreme environmental overshoot and environmental problems. Notice that the lowest the MDTMP price goes the more over consumption OVC, the more over production OVP, the more over population OVT, the more extreme overshoot EOVS, the worse the environmental problem.

***2) The working of the traditional market from view of operating at the lowest cost traditional market price possible***

When we make the most distorted traditional market price(MDTMP) the one that operates the lowest economic cost possible traditional market price(LCTMP), then the framework in Figure 1 above can be transformed into the framework in Figure 2 below:

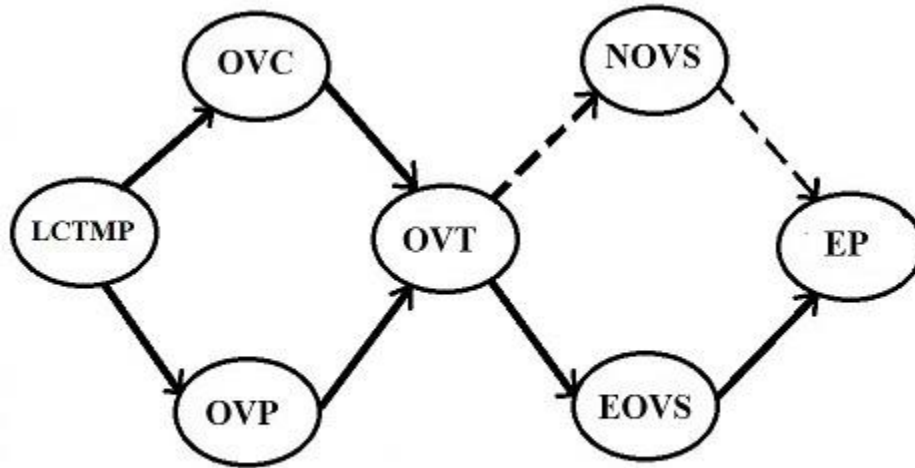


Figure2 The lowest cost traditional market structure, over population dynamics and environmental problem framework(The LCTM-OVT-EP framework)

Figure 2 above tells us that in the long term when the market operates at the lowest economic cost based traditional market price possible(LCTMP) it leads to environmental problems(EP) again because of its environmental cost irresponsibility( $EM = 0$ ) as environmental costs are real, but they are externalized. As we can see in Figure 2 above the consequences of producing at the lowest economic cost possible(ECM) in the long term are over consumption(OVC), over production(OVP) and over population(OVT), which lead to extreme environmental overshoot(EOVS) as indicated by the direction of the continuous black arrows.

**Implication 2**

Producing at the lowest economic cost possible in the long terms leads to over consumption, over production, over population, extreme environmental overshoot and environmental problems. Again notice that the lowest cost in the LCTMP price goes the more over consumption OVC, the more over production OVP, the more over population OVT, the more extreme overshoot EOVS, and the worse the environmental problem.

**Implication 3**

Figure 2 reflect the environmental sustainability challenge that the World Commission on Environment and development had in 1987 (WCED 1987) when they saw environmental problems associated with the business as model structure that had been producing at the lowest cost possible since 1776(Smith 1776), but instead of calling for sustainability based solutions such as green markets they called for sustainable development approaches, tools inconsistent with the sustainability challenge they were assessing and trying to solve.

**b) Linking the nature of the green market price as current driver away from environmental problems**

**i) The green market model structure**

As the green market(GM) is an economy(B) and environment(C) only market where both the economy and the environment matter equally, then its market structure can be represented in simple terms as:

$$\mathbf{GM = BC}$$

The expression above tell us in the green market(GM) only eco-economic(BC) goals matter as it is a win-win economy(B) and environment(C) model. Hence, the green market(GM) is based on eco-economic responsibility.

**ii) The green market price structure**

As in the green market(GM) both economic costs(ECM) and environmental costs(EM) at a profit "i" matter since environmental costs(EM) are internalized here, then its market price can be stated as follows:

$$\mathbf{GMP = ECM + EM + i}$$

The expression above indicates that in the green market price(GMP) both economic costs(ECM) and environmental costs(EM) of production are accounting for in the search for profits "i".

**iii) The working of green markets in the very long term**

Since the green market price(GMP) accounts for the environmental cost of production(EM) associated with economic activity as well as its economic costs(ECM) it will lead in the long term to no environmental problems or lead to a move away from environmental problems depending on whether green market pricing is at work from the beginning when markets are set up or whether green market pricing comes from correcting environmentally distorted traditional market prices. In other words, no price distortion in environmental terms should be expected to lead to no environmental problems or to lead away from environmental problems as environmental cost responsibility would lead to no environmental overshoot as the system would be then working within or tending towards the carrying capacity of the environment, all depending on when environmental cost responsibility in the green market begins.

***1) The case when environmental cost responsibility is in placed from the beginning***

The idea that using green market prices(GMP) from the beginning like if Adam Smith would have stated the theory of the perfect green market in 1776 instead of the theory of the perfect traditional market(Smith 1776) would lead to no environmental problems(NEP) as eco-economic cost responsibility promotes green production(GP), green consumption(GC) and green population(GT) behavior, which push for no environmental over shoot(NOV) in the long term, a situation that can be summarized as in Figure 3 below:

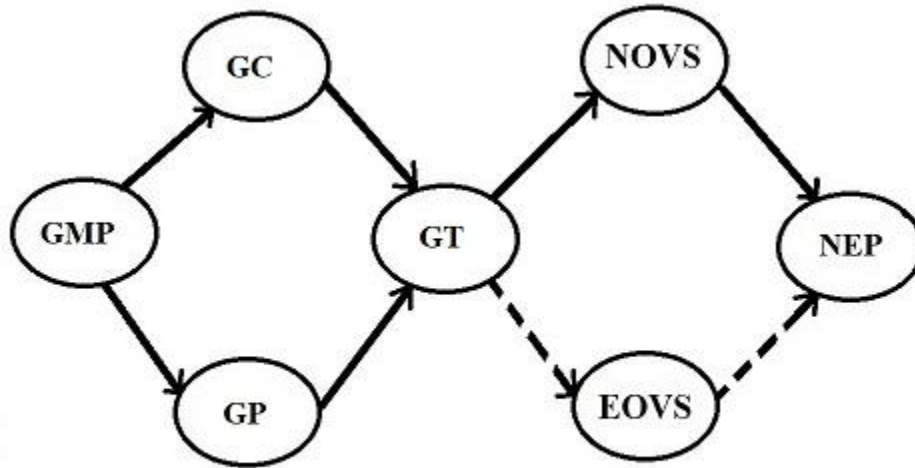


Figure 3 The green market structure, green population dynamics and no environmental problem framework(GMP-GT-NEP framework).

Figure 3 above indicates that in the long term when the market operates at the green market price(GMP) because there are no environmental cost distortions it leads to no environmental problems(NEP) because of its environmental cost responsibility( $EM > 0$ ) as environmental costs are real and now they are internalized. We can also use Figure 3 above to point out that the consequences of green market pricing are green consumption(GC), green production(GP), green population dynamics(GT), which lead to no environmental overshoot(NOVS) as indicated by the direction of the continuous black arrows. The broken black arrow in Figure 3 above means that in the world of green markets(GM) there is not extreme environmental overshooting so that  $EOVS = 0$ .

#### **Implication 4**

Producing at environmentally responsible market prices like green market prices lead green consumption, green production, green population dynamics, no environmental overshoot and no environmental problems. Notice that the lowest the GMP price goes the more green consumption GC, the more green production GP, the more green population behavior GT; and hence, no overshoot NOVS, and no environmental problem NEP.

#### ***2) The case when environmental cost responsibility comes from correcting distorted traditional market price***

The idea that using green market prices(GMP) that comes from correcting environmentally distorted traditional markets to reflect environmental cost responsibility would lead away from environmental problems(NEP) as environmental cost responsibility promotes green production(GP), green consumption(GC) and green population(GT) behavior as then reducing pollution becomes a profit making opportunity the lower the environmental cost the lower the green price, which would tend towards no environmental over shoot(NOVS) in the long term, as indicated in Figure 4 below:



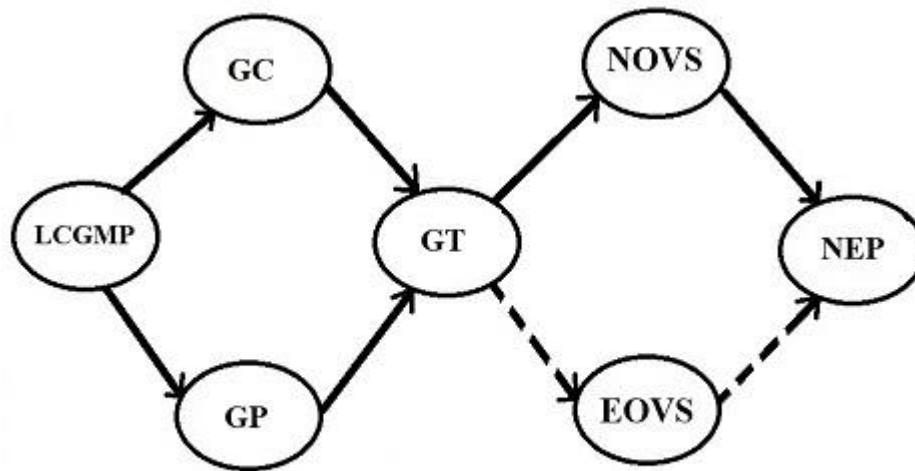


Figure 4 The lowest cost green market structure, green population dynamics and no environmental problems framework(The LCGM-GT-NEP framework).

Figure 4 above highlights that in the long term, when the green markets come from correcting distorted traditional markets by internalizing environmental costs( $GMP = TMP + EM$ ), then operating at the lowest environmental cost possible(LCGMP) leads to a move away from environmental problems(NEP) as there is no environmental overshoot(NOVS) as indicated by the continuous black arrows from GT to NEP. Notice that here in green markets(GM), the lowest the environmental cost(EM), the lowest the green market price(GMP) and more green profits. Moreover, green market pricing allows for more production and consumption while reducing pollution generation at the same time and inducing green population dynamics to stay below or within the carrying capacity of the environment. Therefore, we can appreciate in Figure 4 above that the consequences of producing at the lowest environmental cost possible(EM) in the long term are environmentally responsible consumption(GC), environmentally responsible production(GP), environmentally responsible population dynamics(GT), which lead to no environmental overshoot(NOVS) as indicated by the direction of the continuous black arrows. The broken black arrow in Figure 4 above means the extreme environmental overshoot is not possible( $EOVS = 0$ ) within pollution reduction markets like green markets. Ideas on how green markets work under perfect market thinking(Muñoz 2016) and under perfect green market competition thinking(Muñoz 2019) have been recently shared.

### **Implication 5**

Producing at the lowest environmental cost possible in the long terms leads to cleaner consumption, cleaner production, cleaner population dynamics, no environmental overshoot and no environmental problems. Again, notice that the lowest the environmental cost in the GMP price goes the more green consumption GC, the more green production GP, the more green population

behavior GT; and hence, a move towards no overshoot NOVS, and a move away towards no environmental problem NEP.

**Implication 6**

Figure 3 above reflects the structure of the perfect green market and its consequences as it would have looked like had Adam Smith stated the theory of the perfect green market in 1776 instead of the theory of the perfect traditional market(Smith 1776).

**Implication 7**

Figure 4 reflects the solution to the environmental sustainability challenge that the World Commission on Environment and development had in 1987 (WCED 1987) as it corrects the environmental distortions embedded in the traditional market model, which would have brought development thinking then beyond business as usual as they wished, but this was never pursued as the commission recommended sustainable development solutions instead.

**Implication 8**

Figure 3 and Figure 4 above summarize the perfect green market thinking that the United Nations Commission on Sustainable development(UNCSD 2012a; UNCSD 2012b) should have had and should have used since 2012 to transition the dirty economy towards the environmentally clean economy, but they did not do so. Instead since 2012 they went the way of dwarf green markets a la pollution management, tools inconsistent with the idea of making pollution is business opportunity and with the idea of transitioning to a clean economy. Also going dwarf green markets a la pollution management means keeping business as usual alive while managing pollution leaving the environmental sustainability challenge patched, not fixed.

**c) Linking traditional market thinking with green market thinking and environmental problems**

As indicated above, distorted traditional markets lead to environmental problems; and green markets avoid or lead us away from environmental problems; and there is a need to express in simple terms how these ideas can be linked through paradigm shift thinking apply to shifting frameworks. In other words, the ideas of avoiding environmental problems or of moving away from environmental problems can be looked at from the point of view of shifting system stability frameworks like the shift from the most distorted traditional market price led system stability framework to the green market price led framework or from the lowest cost traditional market price led framework to the lowest environmental cost green market price led system stability framework. And this raises relevant questions like how do conjunctural paradigm framework shifts work? What are the main implications of doing this? Among the goals of this paper is to provide answers to the questions listed above.

**2.GOALS OF THIS PAPER**

- a) To share the main implications of shifting from the most distorted traditional market price led system stability framework to the green market price led system stability framework; and
- b) To point out the main implications of shifting from the lowest cost traditional market price



possible led system stability framework to the lowest environmental cost green market price possible led system stability framework.

### 3.METHODOLOGY

First, the terminology, some operational concepts and merging rules are shared. Second, the structure of the shift from the most distorted traditional market price led system stability framework to the green market price led system stability framework is given and its implications highlighted. Third, the structure of the shift from the lowest cost traditional market price possible led system stability framework to the lowest environmental cost green market price led system stability framework is provided and its implications stressed. And finally, some food for thoughts and relevant conclusions are provided.

#### Terminology

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M = Market structure dynamics	T = Population dynamics
R = System stability	MP = Market price
C = Consumption	P = Production
OVS = Overshoot	NOVS = No overshoot
A = Dominant / active component	a = Dominated / passive component
M-R framework	T-R framework
M-T-R framework	TM = Traditional market price
OMP = Optimal market price	DMP = Distorted market price
MDMP = Worse distorted market price	OC = Optimal consumption
MDC = Most distorted consumption	OP = Optimal production
DP = Distorted production	MDP = Most distorted production
OT = Optimal population dynamics	DT = Distorted population dynamics
MDT = Most distorted population dynamics	OR = Optimal system stability
DR = Distorted system stability	MDR = most distorted system stability
EP = Environmental problems	OVC = Overconsumption
OVP = Over production	OVT = Over population
OM-OT-OR framework	DM-DT-DR framework
DC = Distorted consumption	MDM-MDT-MDR framework
OVT-EP = Overpopulation and environmental problems framework	
DM = Distorted market	DTM = Distorted traditional market
OM = Optimal market	OTM = Optimal traditional market
DTMP = Distorted traditional market price	MDTMP = Most distorted traditional market price
MDTM = Most distorted traditional market	OTMP = Optimal traditional market price
GM = Green market	GMP = Green market price
LCGMP = Lowest environmental cost green market price	TM = Traditional market

TMP = Traditional market price

GC = Green consumption

GT = Green population dynamics

EOVS = Extreme environmental overshoot

NEP = No environmental problems

ECM = Economic cost margin

LCTMP = Lowest cost traditional market price

GP = Green production

NOVS = No environmental overshoot

EP = Environmental problems

EM = Environmental cost margin

i = Profits

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## Operational concepts and merging rules

### i) Operational concepts

- 1) **Responsible market price**, a price that reflects all the cost of production.
- 2) **Irresponsible market price**, a price that does not reflect all the cost of production.
- 3) **Responsible population behavior**, one that lives under the carrying capacity of the system so it does not overshoot.
- 4) **Irresponsible population behavior**, one that goes over the carrying capacity of the system so it overshoots.
- 5) **Responsible production**, the one driven by a responsible market price.
- 6) **Irresponsible production**, the one led by an irresponsible market price.
- 7) **Responsible consumption**, the one driven by a responsible market price.
- 8) **Irresponsible consumption**, the one led by an irresponsible market price.
- 9) **Right market price**, a responsible market price.
- 10) **Distorted market price**, an irresponsible market price.
- 11) **Wrong market price**, a distorted market price.
- 12) **Right production**, a responsible production level.
- 13) **Wrong production**, an irresponsible production level.
- 14) **Right consumption**, a responsible consumption level.
- 15) **Wrong consumption**, an irresponsible consumption level.
- 16) **Right population**, a responsible population.
- 17) **Wrong population**, an irresponsible population.
- 18) **Right system stability impact**, a responsible stability impact.
- 19) **Wrong system stability impact**, an irresponsible stability impact.
- 20) **Optimal price**, a right market price.
- 21) **Non-optimal market price**, a wrong market price.
- 22) **Best market price**, an optimal market price.
- 23) **Worse market price**, the worse wrong market price.
- 24) **Most distorted market price**, the most irresponsible market price.
- 25) **Optimal consumption**, the right consumption level.
- 26) **Distorted consumption**, the wrong consumption level.
- 27) **Most distorted consumption**, the worse consumption level

- 28) **Optimal production**, *the right production level.*
- 29) **Distorted production**, *the wrong production level.*
- 30) **Most distorted production**, *the worse production level.*
- 31) **Optimal population**, *the right population level.*
- 32) **Distorted population**, *the wrong population level.*
- 33) **Most distorted population**, *the worse population level.*
- 34) **Optimal system stability impact**, *the most responsible system stability impact.*
- 35) **Distorted system stability impact**, *an irresponsible system stability impact.*
- 36) **Most distorted system stability**, *the most irresponsible system stability impact.*
- 37) **Green market**, *the one cleared by the green market price.*
- 38) **Traditional market**, *the one cleared by the traditional market price.*
- 39) **Green market price**, *the one that reflects both the environmental and the economic costs of production.*
- 40) **Traditional market price**, *the one that reflects only the economic cost of production.*

**ii) Merging rules**

***a) The case of frameworks***

Let's assume we have a stability system with 4 components A, B, C and D and 4 different frameworks:  $F1 = A-D$ ,  $F2 = B-D$ ,  $F3 = C-D$ , and  $F4 = A-B-D$ , where D is the stability issue and the other components are the root causes and/or consequences, then the following merging rules hold:

- 1)  $F1-F2 = (A-D)(B-D) = A-B-D$  as  $DD = D$
- 2)  $F1-F3 = (A-D)(C-D) = A-C-D$  as  $DD = D$
- 3)  $F2-F3 = (B-D)(C-D) = B-C-D$  as  $DD = D$
- 4)  $F1.F4 = (A-D)(A-B-D) = A-B-D$  as  $AA = A$  and  $DD = D$
- 5)  $F2.F4 = (B-D)(A-B-D) = A-B-D$  as  $BB = B$  and  $DD = D$
- 6)  $F3.F4 = (C-D)(A-B-D) = A-B-C-D$  since  $DD = D$

***b) The case of dominant component based systems***

Let's assume we have a development model with 3 components A, B, and C; and we have 4 possible dominant component based models:  $M1 = A$ ,  $M2 = B$ ,  $M3 = C$ , and  $M4 = BC$ , then the following merging rules hold:

- 1)  $M1.M2 = (A)(B) = AB$
- 2)  $M1.M3 = (A)(C) = AC$
- 3)  $M1.M4 = (A)(BC) = ABC$
- 4)  $M2.M3 = (B)(C) = BC$
- 5)  $M2.M4 = (B)(BC) = BC$

***c) The case of dominant and dominated component based systems***

Let's assume we have a development model with 3 components A, B, and C; and we have 4 possible dominant and dominated components based models:  $M1 = Abc$ ,  $M2 = aBc$ ,  $M3 = abC$ , and  $M4 = aBC$ , then the following merging rules hold:

- 1)  $M1.M2 = (Abc)(aBc) = ABc$
- 2)  $M1.M3 = (Abc)(abC) = AbC$
- 3)  $M1.M4 = (Abc)(aBC) = ABC$
- 4)  $M2.M3 = (aBc)(abC) = aBC$
- 5)  $M2.M4 = (aBb)(aBC) = aBC$

**d) The case of shifting frameworks when correcting lower frameworks**

Let's assume that we have a lower level system stability framework with 3 components  $F1 = K-L-M$ ; and that we have a higher level system stability framework with 3 components  $F2 = X-Y-Z$ , where  $X =$  corrected  $K$  or the higher level form of  $K$ , where  $Y =$  corrected  $L$  or the higher level form of  $L$ , and where  $Z =$  corrected  $M$  or the higher level form of  $M$ , then the framework shifts work as follows:

**Shift**

**$F1 = K-L-M \dots \rightarrow F2 = X-Y-Z$  since  $K \dots \rightarrow X$ ,  $L \dots \rightarrow Y$ , and  $M \dots \rightarrow Z$  systematically.**

Notice that if "M" is the system stability issue linked to "K", then "Z" is the stability issue after correction linked to "X".

**The shift from the most distorted traditional market led system stability framework to the green market price led system stability framework**

The implications of shifting from the most distorted traditional market price led framework(MDTMP-OVT-EP framework) in Figure 1 above to the green market price led framework (GM-GT-NEP framework) in Figure 3 above can be seen systematically in Figure 5 below:

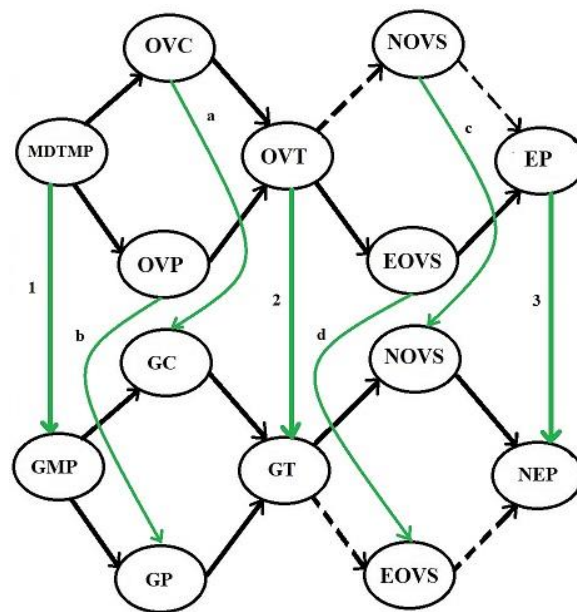


Figure 5 The shift from the most distorted traditional market price led framework(MDTMP-OVT-EP framework) to the green market price led framework(GMP-GT-NEP framework).

We can see that Figure 5 above describes a whole framework shift or one to one systematic shift from the lower level most distorted traditional market price(MDTM) led framework to the higher level green market price(GMP) led framework. We can highlight based on Figure 5 above that the correction of the most distorted traditional market price MDTM environmental cost(EM) internalization shifts it to the green market price GMP as indicated by the green arrow 1, which then leads to the following: i) To the greening of consumption and production as it induces a shift from over consumption OVC to green consumption GC as indicated by green arrow ‘a’ as well as a shift from over production OVP to green production GP as shown by green arrow ‘b’; ii) To the greening of population dynamics as it shifts from overpopulation OVT to green population dynamics GT as indicated by the green arrow 2; iii) To the moving from where no overshoot is absent(NOVS) to where no overshoot(NOVS) is present, a shift indicated by the by the green arrow ‘c’; and to the moving away from the presence of extreme environmental overshoot(EOVS) to the absence of extreme overshoot(EOVS) as indicated by the green arrow ‘d’; and iv) To the shift from the world of environmental problem(EP) to the world of no environmental problems(NEP) as indicated by the green arrow ‘3’.

In other words, Figure 5 above summarizes a shift from a framework where the most distorted market price(MDTMP) leads to negative environmental system stability consequences in the long term culminating in the creation of environmental problems(EP) as the most distorted traditional market price is environmentally irresponsible to a framework where the green market price(GMP) leads to positive environmental system stability consequences in the long term culminating with no environmental problems(NEP) as the green market price is environmentally responsible.

### **Implication 9**

Environmentally distorted market prices like the most distorted traditional market price MDTMP are expected to lead to environmental problems in the very long term while environmentally responsible market prices like green market prices GMP are expected to lead to no environmental problems as green consumption, green production and green population dynamics stay below or within the carrying capacity of the environment. Notice that since  $MDTMP < GMP$  then  $GC < OVC$ ,  $GP < OVP$  and therefore  $GT$  pressures  $< OVT$  pressures.

### **The shift from the most distorted traditional market led system stability framework to the lowest environmental cost green market price led system stability framework**

The implications of shifting from the lowest cost traditional market price possible(LCTMP) led framework in Figure 2 to the lowest environmental cost green market price possible(LCGMP) led framework in Figure 4 can be summarized as in Figure 6 below:

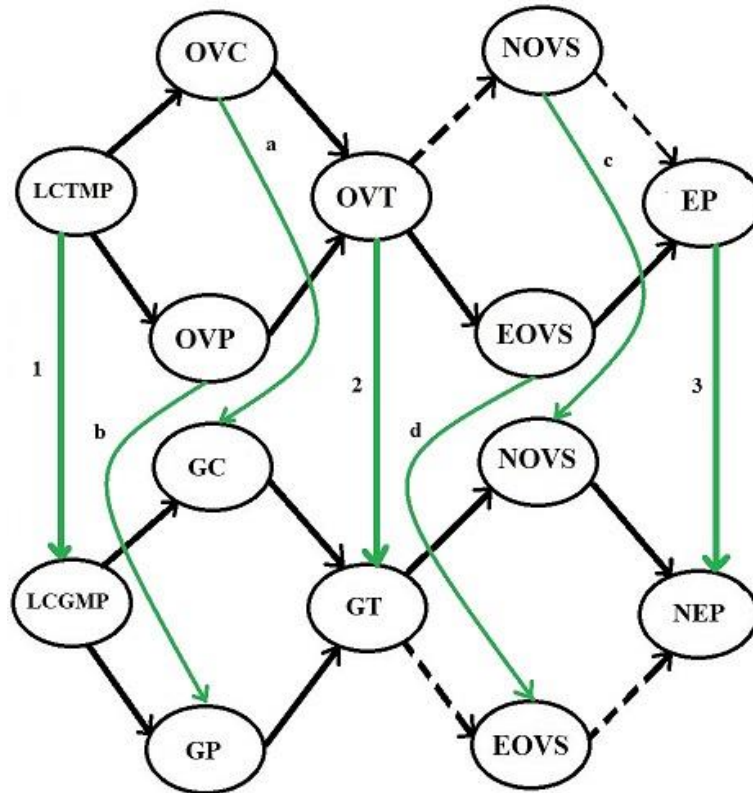


Figure 6 The shift from the lowest cost traditional market price possible led framework (LCTMP-OVT-EP framework) to the lowest environmental cost possible led framework (LCGMP-GT-NEP framework)

We can see the systematic framework shift in Figure 6 above as shift from the environmentally unfriendly economy where producing at the lowest cost possible(LCTMP) leads in the long term to environmental problems(EP) to an environmental friendly economy where producing at the lowest environmental cost(LCGMP) moves us away from environmental problems(NEP) as indicated by the green arrow “3”. Hence the greening of the traditional market led system stability structure(TM-OVT-EP structure) on top of figure 6 above requires i) a shift from lowest cost traditional market price LCTMP thinking to lowest environmental cost green market LCGMP thinking; ii) A shift from over consumption OVC and over production OVP to green consumption GC and green production GP thinking; iii) A shift for over population dynamics OVT to green population dynamics thinking; iv) a shift from living under extreme environmental overshoot to living under the carrying capacity of the environment through no overshooting thinking; and v) a shift from living in the world generating environmental problems or managing environmental problems and transition toward a world without environmental problems.

In summary, Figure 6 above can be seen as a shift from a framework where the lowest cost traditional market price possible(LCTMP) leads to negative environmental system stability consequences in the long term culminating in the creation of environmental problems(EP) as the



lowest cost traditional market price is environmentally irresponsible to a framework where the lowest environmental cost green market price possible(LCGMP) leads to positive environmental system stability consequences in the long term culminating with moving away from environmental problems(NEP) as indicated by the green arrow “3” going from EP to NEP as the green market price is environmentally responsible.

#### **Implication 10**

Environmentally distorted market pricing mechanisms like the lowest cost traditional market price LCTMP are expected to lead to environmental problems in the very long term while environmentally responsible market pricing mechanisms like lowest environmental cost green market prices LCGMP are expected to lead us away from environmental problems as green consumption, green production and green population dynamics tend towards staying below or within the carrying capacity of the environment. Notice that since  $LCTMP < LCGMP$  then  $GC < OVC$ ,  $GP < OVP$  and therefore  $GT$  pressures  $< OVT$  pressures.

#### **4.FOOD FOR THOUGHTS**

a) If traditional market prices are corrected to reflect environmental responsibility, would this lead us away from environmental problems? I think Yes, what do you think; b) could we have avoided the environmental issues of today if Adam Smith would have giving us the theory of the perfect green markets in 1776? I think Yes, what do you think?; and c) Is green population dynamics expected to lead to extreme environmental overshoot? I think No, what do you think?

#### **5.CONCLUSIONS**

First, it was stressed that we can use systematic framework shift theory to summarize the implications of shifting from lower level system stability frameworks to higher level ones. Second, it was highlighted that when we shift from most distorted market price led frameworks green market price led frameworks we are shifting from a system that generates environmental problems to a system that avoids environmental problems. Third, it was pointed out that when we shift from the lowest cost traditional market price led system stability framework thinking to the lowest environmental cost green market price led system stability framework thinking we are shifting from a system generating environmental problems as it is a dirty economy framework to a system that moves us away from creating environmental problems as the green markets support the green economy, an environmentally friendly economy. In general, it was shown how conjunctural paradigm framework shifts work using the case of the shift from traditional market price led framework to the green market price led framework and how the main implications of such a systematic shift are.

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