

Short Elucidating Note 116: How can the true sustainability market paradigm-traditional market paradigm based sustainability framework be stated and used to provide an overview of the expected government monitoring and support role in world driven by responsible and irresponsible socio-environmental market behavior under socio-environmental pollution production neutrality and no neutrality assumptions?

By

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Abstract

There is a socio-environmental pollution production problem separating traditional markets from true sustainability markets. Each market has its anchored point, a contraction point and an expansion point, and at each point the government has a specific role to play as a market promoter, as a market monitor, as a market regulator, and as market policy enforcer under no conflict of interest as the responsibility of proper market functioning and of market failures falls on true sustainability producers and true sustainability consumers, and on traditional market producers and traditional market consumers, respectively. Beside linking market behavior with specific expected government roles the framework above can also be used to highlight that government actions can have positive and negative impacts directly or indirectly on the responsible and irresponsible socio-environmental behavior of markets they are encouraging or discouraging whether governments are acting under true sustainability market paradigm shift knowledge gaps or not plus the framework can be also used to differentiate between two possible types of market failures, internal and external market failures, and hint to the specific role expected government responsibility plays in each of those cases. The issues discussed above, some of them are usually seen from the traditional market thinking/theory point of view while others are missing in mainstream economic thinking as they are assumed away under socio-environmental pollution production neutrality assumptions or they are ignored knowingly as the focus suddenly becomes to address resource use efficiency problems instead socio-environmental pollution production problems. However, all of these issues mentioned above are captured in simple terms using true sustainability market-Traditional market paradigm based sustainability framework and thinking to come out with general ways to see the expected government role and the impacts of such a role on market dynamics and socio-environmental pollution production dynamics in different scenarios, true sustainability markets or traditional markets, under socio-environmental pollution neutrality assumptions or not. And this makes the following questions relevant: How can the true sustainability-traditional market based sustainability framework be stated and used to provide an overview of expected government monitoring and support role in world driven by responsible and irresponsible socio-

environmental market behavior under socio-environmental pollution production neutrality and no neutrality assumptions? What are the implications of framing the issue as done here for traditional market thinking and vertical traditional market paradigm evolution thinking?

Key concepts

True sustainability market, the traditional market, socio-environmental pollution production problem, market expansion, market contraction, government intervention/action, traditional market sustainability problem, internal market failure, external market failure, socio-environmental pollution production externality neutrality assumption, no socio-environmental pollution production externality neutrality assumption

Introduction

a) The socio-environmental pollution production problem separating true sustainability markets and traditional market

It has been pointed out that there is a pollution problem (POP) separating polluting markets or dirty markets from no polluting ones or clean ones (Muñoz 2022), and if we make the polluting market the traditional market (TM) and the no polluting market be the true sustainability market (TSM), then the true sustainability market (TSM)-traditional market (TM) based sustainability framework can be indicated as shown in Figure 1 below:

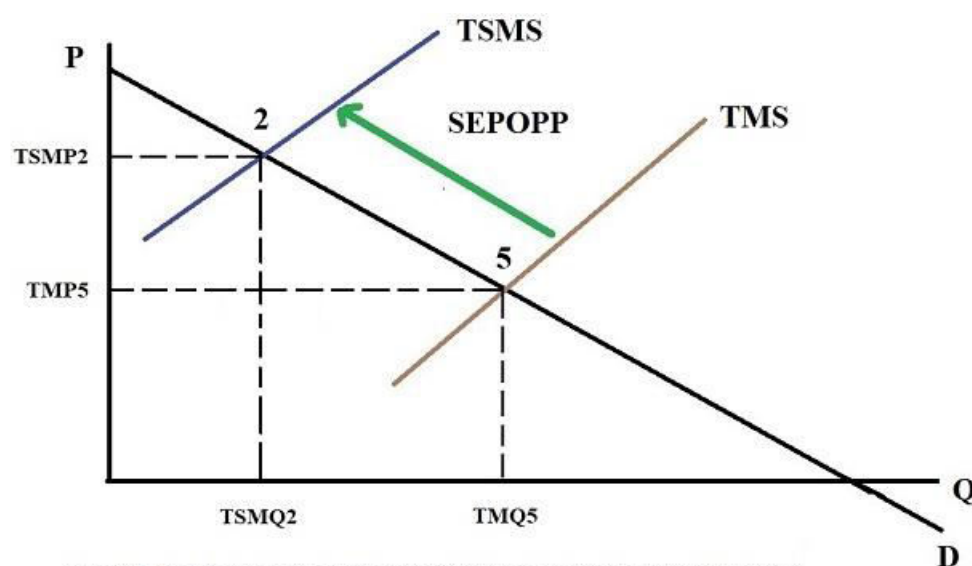


Figure 1 The true sustainability market(TSM)-traditional market(TM) based sustainability framework

Figure 1 above indicates the following: i) at point 1 there is a true sustainability market(TSM), where optimal production and consumption is TSMQ2 at the optimal price TSMP2, and no socio-environmental pollution production problem exists here as there is no external market failure nor internal market failure; ii) at point 5 we have a traditional market (TM), where optimal traditional market production and consumption is TMQ5 at the optimal traditional market price TMP5, and there is a socio-environmental pollution problem at point 5 as there is an external market failure, but there is no internal market failure; and hence, iii) there is an external socio-environmental pollution production problem(SEPOPP) separating traditional markets (TM) from true sustainability markets (TSM). We can also see in Figure 1 above that production and consumption in traditional markets (TM) is higher than in true sustainability markets (TSM) as traditional market prices (TMP) are lower than in true sustainability markets (TSMP) so that $TMQ5 > TSMQ2$ since $TMP5 < TSMP2$.

Implication 1:

There is a socio-environmental pollution production problem separating traditional markets (TM) from true sustainability markets (TSM) as the traditional markets under economic optimality works under socio-environmentally based external market failures.

b) The expansions and contractions of true sustainability market and traditional market paradigms

If we assume that the true sustainability markets (TSM) and traditional markets (TM) are experiencing internal and external market failures, then their expansion and contractions and related socio-environmental pollution production problems they may be associated with can be indicated as done in Figure 2 below:

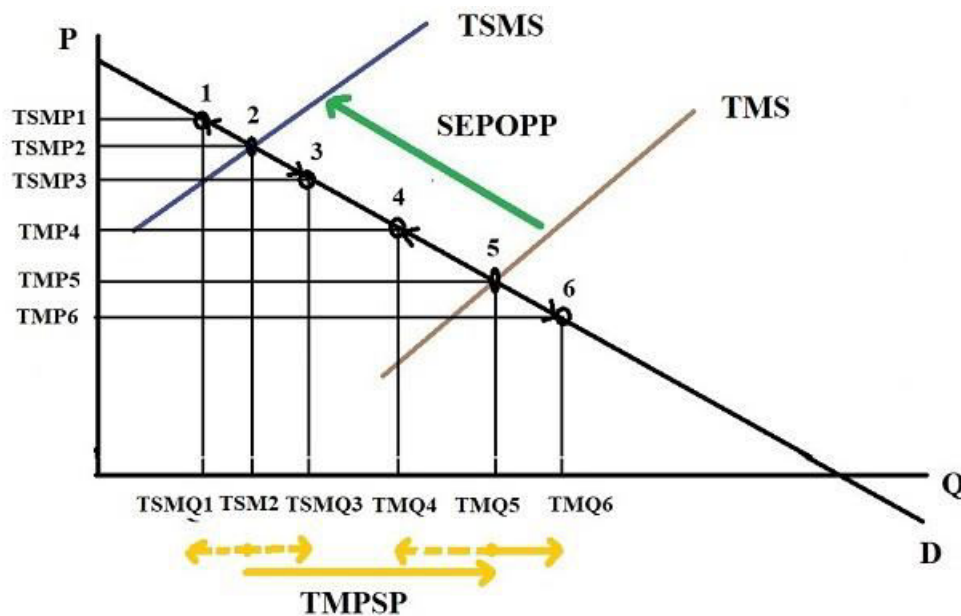


Figure 2 True sustainability markets (TSM) and traditional markets (TM) under expansion and contractions and the traditional market paradigm sustainability problem(TMPSP)

From the point of view of internal market failure we can look at point 2 and point 5 as points where there is no internal market failure in true sustainability markets (TSM) and there is no internal market failure in traditional markets (TM), respectively. From the point of view of external market failures we can look at point 2 and point 5 as points where there is no external market failures in true sustainability markets (TSM) as no external socio-environmental pollution production (NSEPOPP) takes place there, and there is an external market failure in traditional markets (TM) as there is there an external socio-environmental pollution production problem (SEPOPP) that goes from point 5 to point 2 as indicated by the black arrow or traditional market paradigm sustainability problem (TMPSP) as indicated by the golden continuous arrow going from left to right from TSMQ2 to TMQ5, respectively.

We can highlight the following based on Figure 2 above with respect to true sustainability markets: i) that Point 1 and point 3 can be seen as points of internal true sustainability market failure where market conditions bring the optimal true sustainability market price found at point 2 higher as in point 1 and lower as in point 3, ii) that each of these expansion and contraction in true sustainability markets have no impact on the socio-environmental pollution production problem (SEPOPP) as indicated by the broken golden arrows from TSMQ2 to TSMQ1 and from TSMQ2 to TSMQ3 for the contraction from point 2 to point 1 and the expansion from point 2 to point 3; and hence, iii) that there is no external market failure here at point 2, and therefore, not external consequences of socio-environmental pollution production problem expansions and contractions.

We can state the following aspects using Figure 2 above with respect to traditional market dynamics: i) that Point 4 and point 6 can be seen as points of internal traditional market failure where market conditions bring the optimal traditional market price found at point 5 higher as in point 4 and lower as in point 6, ii) that each of these expansion and contraction in traditional markets have an impact on the socio-environmental pollution production problem (SEPOPP), where a contraction as indicated by the broken golden arrows from TMQ5 to TMQ4 when you go from point 5 to point 4 contracts the socio-environmental pollution production problem (SEPOPP) while the expansion from TMQ5 to TMQ6 when you go from point 5 to point 6 expands the socio-environmental pollution production problem (SEPOPP) as indicated by the continuous yellow arrow going from TMQ5 to TMQ6, and hence, iii) that there is external market failure here at point 5, and therefore, there are external expansion and contraction consequences associated with internal market failure dynamics in terms of positive and negative impacts on the socio-environmental pollution production problem associated with traditional markets.

Implication 2:

True sustainability market expansions and contractions and traditional market expansions and contractions may or may not affect the socio-environmental pollution production problem separating them, and there is a direct link between socio-environmental pollution production problem dynamics and traditional market sustainability gap dynamics or problem as traditional market failure dynamics change.

c) The link between contractions and expansions and expected government action

We can use Figure 2 above to link expected government intervention or action to the expansion and contractions highlighted there; and the nature of this expected government action varies depending: i) on whether we are talking about true sustainability paradigms or socio-environmentally responsible behavior based expansion and contractions or traditional market paradigms or behavior based expansions and contractions; ii) on whether we are talking about internal market failure or external market failure in each of those markets; iii) on whether we are talking about internal market failure corrections or external market failure corrections; and iv) on whether we are talking about a world under socio-environmental pollution production neutrality assumptions or no socio-environmental pollution production neutrality assumptions. And the need to link and understand the implications of these contractions and expansions to expected government action and its links, negative or positive to the socio-environmental pollution production problem in simple terms makes the following question relevant: How can the true sustainability market paradigm-traditional market paradigm based sustainability framework be stated and used to provide an overview of the expected government monitoring and support role in world driven by socio-environmentally responsible and socio-environmentally irresponsible market behavior under socio-environmental pollution production neutrality and no neutrality assumptions. And the main goal of this paper is to show step by step how this framework can be expanded and used to provide an overview of expected government action in the face of socio-environmentally responsible and socio-environmentally irresponsible market dynamics under socio-environmental pollution production neutrality assumptions and under no socio-environmental pollution production neutrality assumptions.

Goals of this paper

i) To expand the framework in Figure 2 to point out the expected response to market failure dynamics in both true sustainability markets and traditional markets to correct them; ii) To stress the expected government actions when dealing with true sustainability market dynamics under no socio-environmental pollution production neutrality assumptions; iii) To highlight the expected government actions when dealing with traditional market dynamics under no socio-environmental pollution production neutrality assumptions; iv) To point out the expected government actions when dealing with true sustainability market dynamics under socio-environmental pollution production neutrality assumptions; v) To indicate the expected government actions when dealing with traditional market dynamics under socio-environmental pollution production neutrality assumptions; vi) To indicate the true sustainability market paradigm(TSM)-traditional market paradigm(TM) based sustainability framework under no internal market failure, but under external market failure; vii) To state the true sustainability market paradigm(TSM)-traditional market paradigm(TM) based sustainability framework under expansion and relevant implications when under no internal market failure, but under external market failure.; viii) To show the true sustainability market paradigm(TSM)-traditional market paradigm(TM) based sustainability framework under no internal market failure, but under external market failure: the case when paradigms are under no socio-environmental pollution production externality neutrality assumption and their respective expected government action; ix) To share the true sustainability market paradigm(TSM)-traditional market paradigm(TM) based sustainability framework under no internal market failure, but under external market failure: the

case when paradigms are under socio-environmental pollution production externality neutrality assumption and their respective expected government action; x) To represent the working of true sustainability market paradigms and traditional market paradigms and unsustainability limits using the true sustainability market paradigm-traditional market paradigm based sustainability framework.

Methodology

1) The terminology used in this paper and key concept are provided; 2) The framework in Figure 2 above is expanded to point out the expected responses to market failure dynamics in both true sustainability market paradigms and traditional market paradigms to correct them; 3) The expected government actions when dealing with true sustainability market dynamics under no socio-environmental pollution production neutrality assumptions are indicated; 4) The expected government actions when dealing with traditional market dynamics under no socio-environmental pollution production neutrality assumptions are pointed out; 5) The expected government actions when dealing with true sustainability market dynamics under socio-environmental pollution production neutrality assumptions are shared; 6) The expected government actions when dealing with traditional market dynamics under socio-environmental pollution production neutrality assumptions are highlighted; 7) The true sustainability market paradigm(TSM)-traditional market(TM) based sustainability framework under no internal market failure, but under external market failure is stated; 8) The true sustainability market (TSM)-traditional market (TM) based sustainability framework under expansion and relevant implications when under no internal market failure, but under external market failure is shared; 9) The true sustainability market paradigm(TSM)-traditional market paradigm(TM) based sustainability framework under no internal market failure, but under external market failure: the case when paradigms are under no socio-environmental pollution production externality neutrality assumption and their respective expected government action is stressed; 10) The true sustainability market paradigm(TSM)-traditional market paradigm(TM) based sustainability framework under no internal market failure, but under external market failure: the case when paradigms are under socio-environmental pollution production externality neutrality assumption and their respective expected government action is presented; 11) The working of true sustainability market paradigms and traditional market paradigms and unsustainability limits using the true sustainability market paradigm-traditional market paradigm based sustainability framework is demonstrated; and finally, 12) Some food for thoughts and relevant conclusions are provided.

Terminology

TSM = true sustainability market paradigm

TSMS = True sustainability market supply

TM = Traditional market paradigm TMS = Traditional market supply
 TSMP = True sustainability market price TMP = Traditional market price
 SEPOPP = Socio-environmental pollution production problem
 NSEPOPP = No socio-environmental pollution production problem
 TMPSP = Traditional market paradigm sustainability problem SG = Sustainability gap
 SESG = Socio-environmental sustainability gap
 P = Paradigm/market price Q = Paradigm/market quantity produced/consumed
 D = Paradigm/market demand MS = Paradigm/market supply
 TSMP_i = True sustainability market price “i” TSMQ_i = True sustainability market quantity “i”
 TMP_i = Traditional market price “i” TMQ_i = Traditional market quantity “i”
 YS = Yellow sustainability TS = True sustainability
 S = Sustainability FUS = Full unsustainability

Relevant concepts

- 1) **Golden paradigm**, *a world without abnormalities embedded in it.*
- 2) **Flawed paradigm**, *a world with abnormalities embedded in it.*
- 3) **Pollution production problem**, *the situation created when flawed paradigms externalize non-dominant component issues.*
- 4) **Sustainability**, *the world under full cost internalization.*
- 5) **Market expansion**, *an increase in market activity.*
- 6) **Market contraction**, *a decrease in market activity.*
- 7) **Government intervention**, *the action taken to address market failures.*
- 8) **Market failure**, *the situation created by internally and/or externally distorted market prices.*

- 9) **Internal market failure**, *the situation created by internally distorted market prices.*
- 10) **External market failure**, *the situation created by externally distorted market prices.*
- 11) **Optimal expansion**, *an increase in optimal economic activity, an efficient expansion*
- 12) **Non-optimal expansion**, *an increase in non-optimal economic activity. an inefficient expansion*
- 13) **Externality neutrality assumption**, *markets can expand for ever without generating externalities or pollution production problems, it allows you to ignore the presence and the need for action in the face of real pollution production problems by just assuming them away.*
- 14) **No externality neutrality assumption**, *markets cannot expand for ever as they generate externalities as they expand, which accumulate through time to a point that they can lead either to paradigm collapse if left alone or vertical paradigm shift if the governments plays its overseer role properly, it does not allow you to ignore the present and the need for action in the face of real pollution production problems as you can no or you can no longer assume them away.*
- 15) **Distorted market prices**, *prices that deviate from optimal market prices due to endogenous and/or exogenous issues.*
- 16) **Traditional markets**, *markets with socio-environmental abnormalities, which are assumed away.*
- 17) **True sustainability markets**, *markets without socio-environmental abnormalities as here they are endogenous issues in a full codependent state based paradigm.*
- 18) **Traditional market price**, *the one that reflects only economic cost of production at a profit,*
- 19) **True sustainability market price**, *the one that reflects economic, social, and environmental cost of production at a profit.*

Expected corrections to internal market failures and external market failure dynamics in both true sustainability market and traditional market paradigms

We should expect the following actions to maintain the levels of economic activity they want to maintain and correct internal and external market failures in both true sustainability markets and traditional markets that make economic activity to deviate from the chosen level as indicated in Figure 3 below:

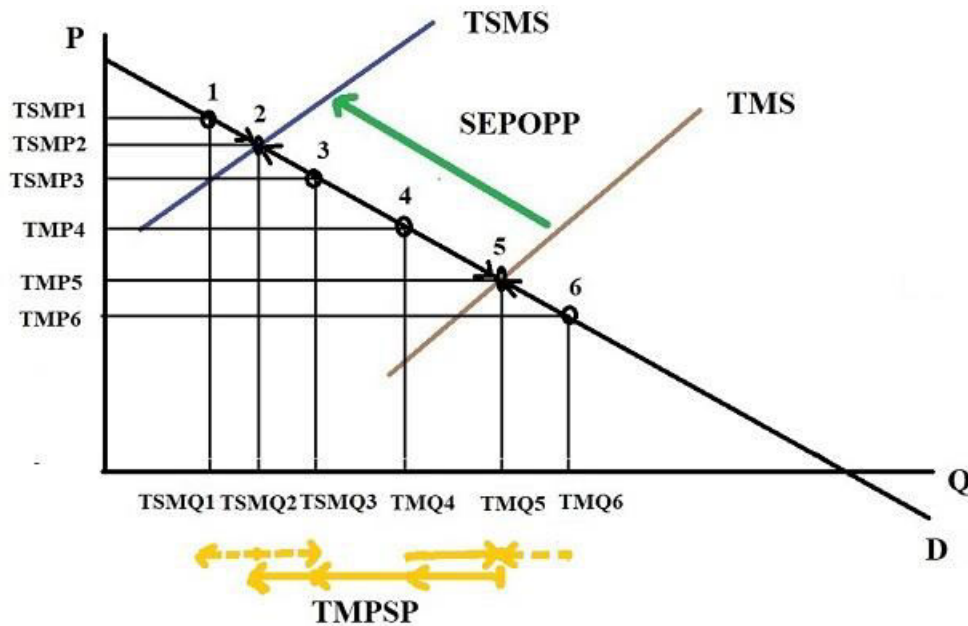


Figure 3 True sustainability markets (TSM) and traditional markets (TM) under expansion and contractions and the traditional market paradigm sustainability problem (SMPSP) and the expected government response to internal and external market dynamics

Let's assume that point 2 in Figure 3 above represents the level of activity the government wants to maintain in the case of the true sustainability market, where point 1 and point 3 are points of internal market failure and point 2 does not have an external market failures as true sustainability market paradigms are in an optimal path, and that point 5 represents the level of economic activity the government wants to maintain in the case of the traditional market, where point 4 and point 6 are points of market failure and point 5 is a point of external market failure and economic component specific optimality.

And notice that true sustainability markets and traditional markets are separated by the socio-environmental pollution production problem SEPOPP or the traditional market paradigm pollution production sustainability problem (TMPSP). Then Figure 3 above reflects the actions that the government can take to correct both internal and external market failures; and it also indicates the impacts these actions may or may not have on the socio-environmental pollution production problem (SEPOPP) reducing it or expanding it.

Implication 3:

There is an expectation that governments will take action to address internal and external market failures in true sustainability market paradigms and traditional market paradigms as it is its duty to fix market failures so economies are run efficiently.

The expected government actions when dealing with true sustainability market paradigm dynamics under no socio-environmental pollution production neutrality assumptions

The internal market failure and the no external market failure situation under no socio-environmental pollution production neutrality assumptions for true sustainability markets is summarized as done in Figure 4 below:

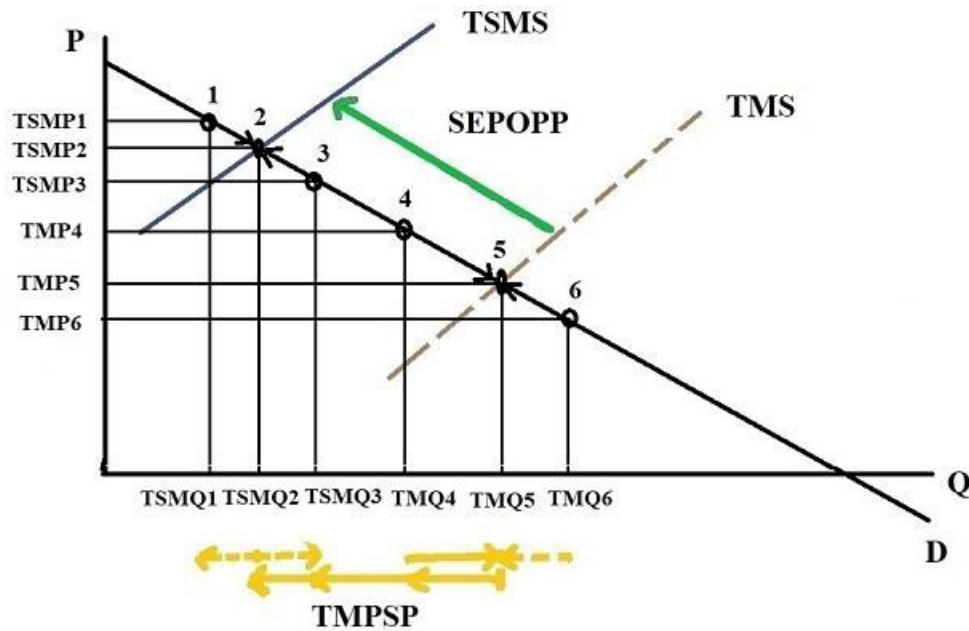


Figure 4 The expected government actions in true sustainability market paradigms(TSM) under no socio-environmental pollution production neutrality assumptions and internal market failures. Notice that here there are no external market failures.

Point 2 in Figure 4 above is the point of true sustainability market optimality the government is trying to ensure and the arrows from point 1 to point 2 and from point 3 to point 2 are the optimal actions the government is expected to take to ensure an optimal expansion from point 1 to point 2 and an optimal contraction from point 3 to point 2, both actions needed to correct specific types of internal market failure in true sustainability markets. Notice that both of those government actions do not affect the socio-environmental pollution production problem (SEPOPP) which is real as indicated by the continuous green arrow going from TMS to TSMS as optimal paradigms do not have externality producing problems as externalities here are endogenous issues so internal market failures or not, true sustainability market paradigms do not have a socio-environmental pollution production sustainability problem. Hence, the no socio-environmental pollution production neutrality assumption does not affect the true sustainability market paradigm internal market failure dynamics as no externality issues are created, and since it does not have external market failures, then the no socio-environmental pollution neutrality assumption is irrelevant here.

The following information can be highlighted based on Figure 4 above under no socio-environmental pollution neutrality assumptions in the case when the government is addressing market failures in the true sustainability market paradigm TSM such as those at point 2: i) the government will correct the market failure at point 1 by supporting an expansion of optimal production and consumption from point 1 to point 2, and ii) the government will correct the market failure at point 3 by supporting a contraction of optimal production and consumption

from point 3 to point 2, both actions having no impact on the socio-environmental pollution production problem POPP as they do not create socio-environmental pollution production problems, which again makes the assumption “working under no socio-environmental pollution production neutrality assumptions” irrelevant as indicated by the broken yellow arrows going from TSMQ2 to TSMQ1 and from TSMQ2 to TSMQ3.

Implication 4:

The government will address internal market failures in true sustainability market paradigms by supporting optimal expansions and optimal contractions to maintain the optimal level of production and consumption desired for the true sustainability market paradigm. Even though the no socio-environmental pollution production neutrality assumption makes the issue real, the assumption is irrelevant here as true sustainability market paradigms do not have a socio-environmental pollution production problem as their dynamics follows an optimal path.

The expected government actions when dealing with traditional market paradigm dynamics under no socio-environmental pollution production neutrality assumptions meaning that the socio-environmental pollution production problem is real

The internal market failure and the external market failure situation under no socio-environmental pollution production neutrality assumptions for traditional market paradigms which makes the socio-environmental pollution production problem SEPOPP linked to the traditional market paradigm is real is indicated in Figure 5 below:

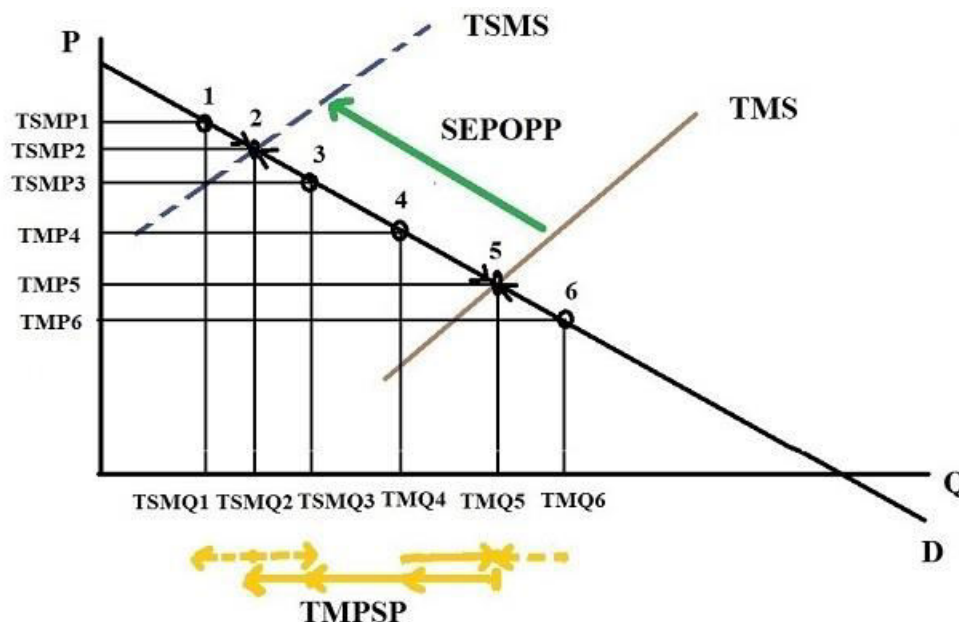


Figure 5 Expected government actions in traditional market paradigms(TM) when under no socio-environmental pollution production neutrality assumptions and internal market failures. Notice that here there are external market failures that need to be addressed.

Point 5 in Figure 5 above is the point of traditional market paradigm optimality the government is trying to ensure that economic activity stays at point 5, and the arrows from point 4 to point 5 and from point 6 to point 5 are the actions the government is expected to take to ensure that production and consumption continues at point 5 level, an expansion from point 4 to point 5 and a contraction from point 6 to point 5, both actions needed to correct specific types of internal market failure in traditional market paradigms. Notice that both of those government actions have different impacts on the socio-environmental pollution production problem, which is real as indicated by the continues green arrow going from TMS to TSMS, as here a government action that expands market activity expands the socio-environmental pollution production problem as indicated by the continues yellow arrow going from TMQ4 to TMQ5; and a government action that contracts market activity contracts the socio-environmental pollution production problem, which is real as indicated by the broken yellow arrow going from TMQ6 to TMQ5. Notice too in Figure 5 above that since the socio-environmental pollution production problem SEPOPP at point 5 is real because there is an external market failure there, it needs to be addressed by the government by closing the traditional market paradigm sustainability problem TMPSP as indicated by the continuous yellow arrow that goes from point 5 to point 2; and see that the expected government action is to fix the traditional market paradigm socio-environmental pollution production fully by internalizing the socio-environmental pollution production problem and transform the socio-environmental pollution production point 5 into the socio-environmental pollution productionless point 2 as the continuous yellow arrow that goes from point 5 to point 2 shows. In other words, as the external market failure in Figure 5 above is real and the socio-environmental pollution production problem is real, the government cannot ignore it and it must fully fix the external market failure.

The following information can be pointed out based on Figure 5 above under no socio-environmental pollution neutrality assumptions in the case when the government is addressing market failures in the traditional market paradigm TM and the socio-environmental pollution problem being created is taken as real such as those at point 5: i) the government will correct the market failure at point 4 by supporting an expansion of production and consumption from point 4 to point 5 expanding the socio-environmental pollution production problem as it is a real problem here, and ii) the government will correct the market failure at point 6 by supporting a contraction of production and consumption from point 6 to point 5 reducing the real socio-environmental pollution production problem, and therefore, both actions have different impacts on the socio-environmental pollution production problem SEPOPP that is real here, as it is working under no socio-environmental pollution production neutrality assumptions which makes socio-environmental pollution production a real problem as indicated by the continuous yellow arrow going from TMQ4 to TMQ5 and by the broken yellow arrows going from TMQ6 to TMQ5, respectively.

Implication 5:

The government will address internal market failures in traditional market paradigms by supporting market expansions and contractions to maintain the optimal level of production and consumption desired for the traditional market paradigm while having real positive impacts and negative impacts on the socio-environmental pollution production problem linked to the traditional market paradigm, positive when government action contracts the traditional market

paradigm and negative when the action expands economic activity. And the government will address fully the traditional market paradigm sustainability problem or the socio-environmental pollution production problem as it is real and it cannot be assumed away, and when doing so it will shift the traditional market paradigm world to a true sustainability market paradigm based world.

The expected government actions when dealing with true sustainability market paradigm dynamics under socio-environmental pollution production neutrality assumptions, where the socio-environmental pollution problem is real but it is assumed away

The internal market failure and the no external market failure situations under socio-environmental pollution production neutrality assumptions for true sustainability market (TSM) dynamics are summarized as done in Figure 6 below:

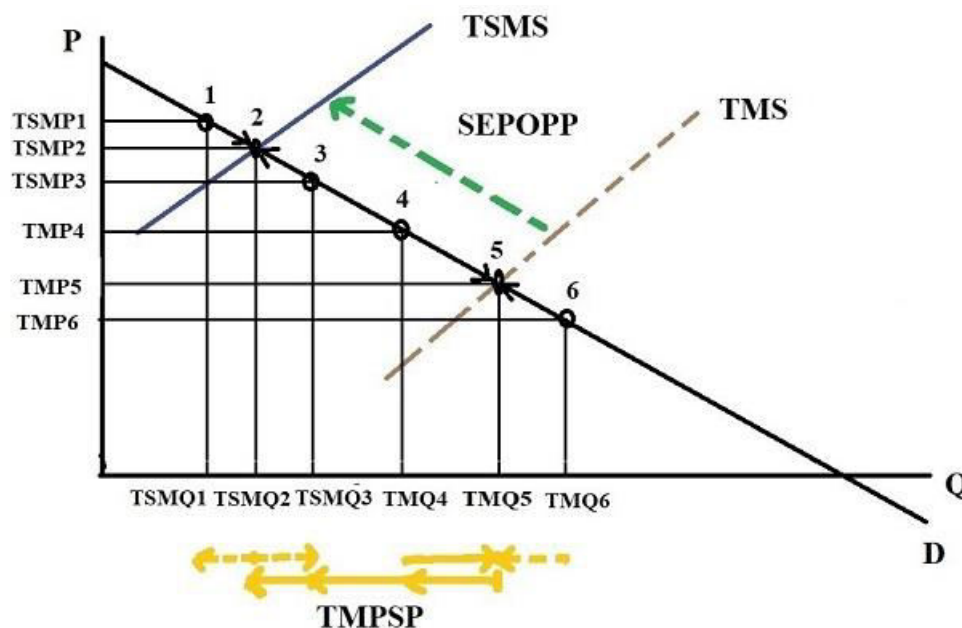


Figure 6 Expected government actions in true sustainability market paradigms(TSM) under socio-environmental pollution production neutrality assumptions and internal market failures. Notice that here too there are no external market failures to be addressed.

Point 2 in Figure 6 above is the point of optimal sustainability market optimality the government is trying to ensure and the arrows from point 1 to point 2 and from point 3 to point 2 are the optimal actions the government is expected to take to ensure an optimal expansion from point 1 to point 2 and an optimal contraction from point 3 to point 2, both actions needed to correct specific types of internal market failure in golden paradigms. Notice that both of those government actions do not affect the socio-environmental pollution production problem SEPOPP which is real by it is assumed away as indicated by the broken green arrow going from TMS to TSMS as optimal paradigms do not have externality problems as externalities here are endogenous issues so internal market failures or not, true sustainability market paradigms do not

have a socio-environmental pollution production sustainability problem. Therefore, the socio-environmental pollution production neutrality assumption does not affect the true sustainability market paradigm internal market failure dynamics; and since it does not have external market failures, the socio-environmental pollution neutrality assumption is again irrelevant here.

The following information can be highlighted based on Figure 6 above under socio-environmental pollution neutrality assumptions when the socio-environmental pollution problem is real in the case when the government is addressing market failures in the true sustainability market paradigm TSM such as those at point 2: i) the government will correct the market failure at point 1 by supporting an expansion of optimal production and consumption from point 1 to point 2, and ii) the government will correct the market failure at point 3 by supporting a contraction of optimal production and consumption from point 3 to point 2, both actions having no impact on the socio-environmental pollution production problem SEPOPP as it does not produce externalities making the “working under pollution production neutrality assumptions” irrelevant as indicated by the broken yellow arrows going from TSMQ2 to TSMQ1 and from TSMQ2 to TSMQ3.

Implication 6:

The government will address internal market failures in true sustainability market paradigms by supporting optimal expansions and optimal contractions to maintain the optimal level of production and consumption desired for the true sustainability market paradigm. Even though the socio-environmental pollution production neutrality assumption assumes away a real pollution production issue, the assumption is irrelevant here as true sustainability market paradigms do not have a socio-environmental pollution production problem as their behavior follows optimal dynamics.

The expected government actions when dealing with traditional market paradigm dynamics under socio-environmental pollution production neutrality assumptions: here the socio-environmental pollution production problem is real but it is assumed away

The internal market failure and the external market failure situation under socio-environmental pollution production neutrality assumptions for traditional market paradigms TM when the socio-environmental pollution production problem linked to the traditional market paradigm is real, but assumed away is indicated in Figure 7 below:

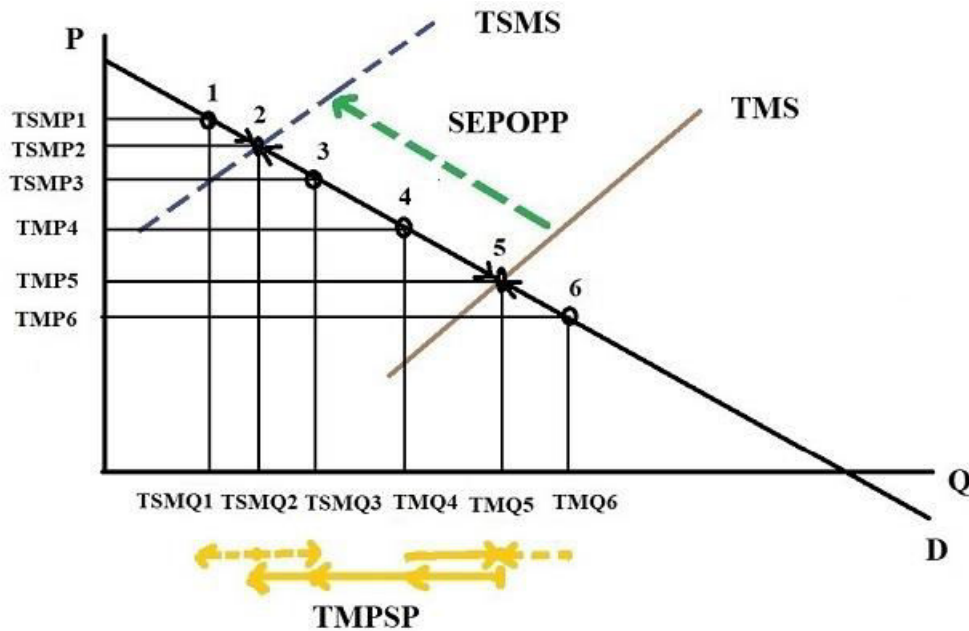


Figure 7 The expected government actions in traditional markets(TM) under socio-environmental pollution production neutrality assumptions and internal market failures that expand or contract socio-environmental pollution production, but they are assumed away. Notice that here too there are external market failures but they are assumed away

Point 5 in Figure 7 above is the point of traditional market optimality the government is trying to ensure and the arrows from point 4 to point 5 and from point 6 to point 5 are the actions the government is expected to take to ensure that production and consumption stay at point 5 level, an expansion from point 4 to point 5 and a contraction from point 6 to point 5, both actions needed to correct specific types of internal market failure in traditional market paradigms. Notice that both of those government actions have different impacts on the socio-environmental pollution production problem, which is real but assumed away as indicated by the broken green arrow going from TMS to TSMS, as here a government action that expands market economic activity expands the socio-environmental pollution production problem, but it is assumed away as indicated by the continues yellow arrow going from TMQ4 to TMQ5; and a government action that contracts market activity contracts the socio-environmental pollution production problem too, and this impact is real, but this real impact is assumed away too as indicated by the broken yellow arrow going from TMQ6 to TMQ5. Notice too in Figure 7 above that since the socio-environmental pollution production problem SEPOPP at point 5 is real because there is an external market failure there, then the traditional market paradigm sustainability problem TMPSP is also real as indicated by the continuous yellow arrow going from TMQ5 to TMQ2, but both issues are assumed away, and hence, even though there is a real need to fix those socio-environmental problems the government will not fix the external market failure at point 5 since the socio-environmental pollution problem is assumed away too, then the government need to fix it is also assumed away, if you assume a real problem away you do not have to take action to fix it.

The following information can be pointed out based on Figure 7 above under socio-environmental pollution neutrality assumptions when the socio-environmental pollution problems are real in the case when the government is addressing market failures in the traditional

market world TM such as those at point 5: i) the government will correct the market failure at point 4 by supporting an expansion of production and consumption from point 4 to point 5 expanding a real socio-environmental pollution production problem, but this negative impact is assumed away, and ii) the government will correct the market failure at point 6 by supporting a contraction of production and consumption from point 6 to point 5 reducing the real socio-environmental pollution production problem, a positive impact that is also being assumed away, and therefore, both actions have different impacts on the socio-environmental pollution production problem SEPOPP that is real, but assumed away as it is working under socio-environmental pollution production neutrality assumptions which means that any impacts on real problems can be assumed away as indicated by the continuous yellow arrow going from TMQ4 to TMQ5 and by the broken yellow arrows going from TMQ6 to TMQ5.

Implication 7:

The government will address internal market failures in traditional market paradigms by supporting market expansions and contractions to maintain the optimal level of production and consumption desired for the traditional market paradigm while having real positive impacts and negative impacts on the socio-environmental pollution production problem linked to the traditional market paradigm, positive when government action contracts the traditional market paradigm and negative when the action expands economic activity, but these real impacts are assumed away. And the government will not address the traditional market paradigm sustainability problem or the socio-environmental pollution production problem, which is real, but assumed away as if a real problem is assumed away the need for a solution for it can also be assumed away.

The true sustainability market paradigm (TSM)-traditional market paradigm (TM) based sustainability framework under no internal market failure, but under external market failure

To understand expected government action when markets are working internally optimally but under external market failure the true sustainability market paradigm (TSM)-traditional market paradigm (TM) based sustainability framework can be stated as shown in Figure 8 below:

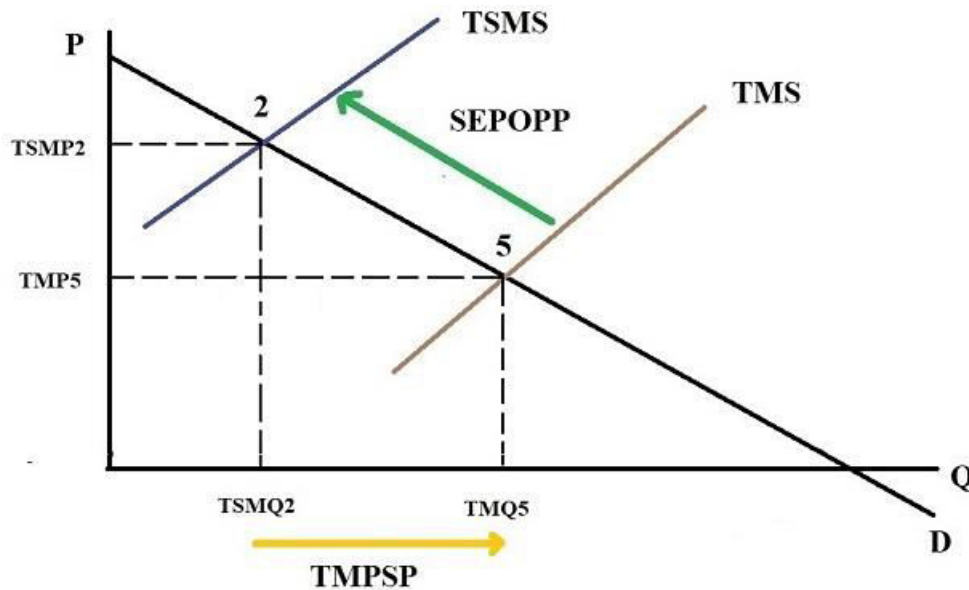


Figure 8 The true sustainability market paradigm(TSM)-Traditional market paradigm(TM) based sustainability framework under no internal market failure and under external market failures

We can appreciate the following aspects based on Figure 8 above: i) that at Point 2 we have a true sustainability market paradigm TSM under no internal nor external market failure; ii) that at point 5 we have the traditional market paradigm TM under no internal market failure, but external market failure; iii) that there is a socio-environmental pollution production problem SEPOPP separating true sustainability market paradigms from traditional market paradigms; and iv) that there is a traditional market paradigm sustainability problem TMPSP affecting the working of the traditional market paradigm.

Implication 8:

The true sustainability market paradigm-traditional market paradigm based sustainability framework can be used to highlight the existence of socio-environmental pollution production problems, sustainability problems and true sustainability market paradigm-traditional paradigm knowledge gaps that need to be closed if the government fulfills its responsibilities and fix the external market failure embedded in traditional market paradigms.

The true sustainability market paradigm (TSM)-traditional market paradigm (TM) based sustainability framework when under no internal market failure, but under external market failure: the case of paradigm expansions in true sustainability market paradigms and in traditional market paradigms

The idea of true sustainability market paradigm expansions and traditional market paradigm expansions under no internal market failure, but with external market failures can be summarized as done in Figure 9 below:

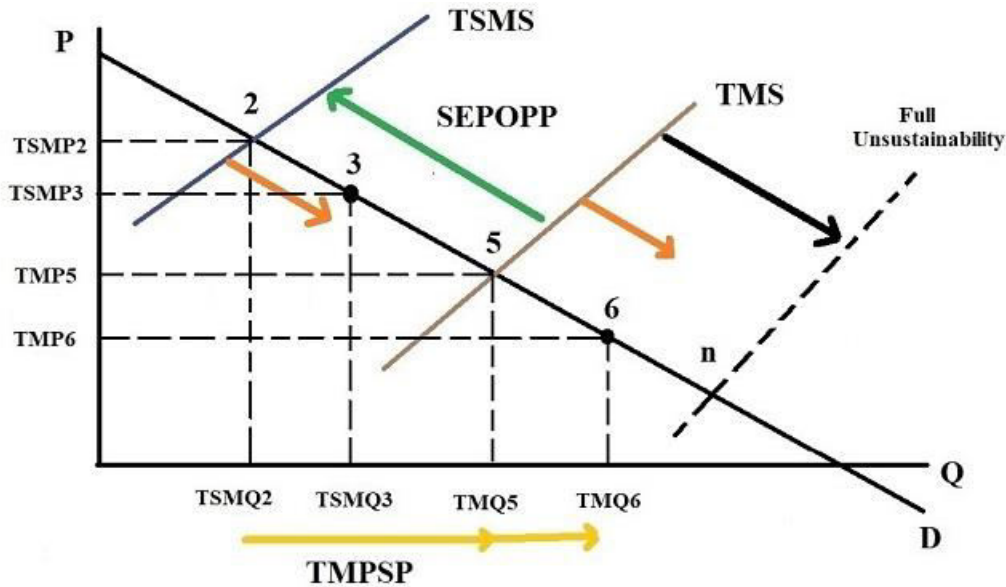


Figure 9 The true sustainability market paradigm(TSM)-Traditional market paradigm(TM) based sustainability framework under no internal market failure and under external market failures. THE CASE OF MARKET EXPANSIONS AND THEIR IMPLICATIONS

Figure 9 above highlights the following: i) with respect to true sustainability market paradigms, there is an optimal expansion from point 2 to point 3, without creating socio-environmental pollution production problems or socio-environmental sustainability problems; and hence, true sustainability market paradigms expansions do not have socio-environmental unsustainability limits such as point “n”; ii) with respect to traditional market paradigms, there is an expansion from point 5 to point 6 that expands the socio-environmental pollution production problem SEPOPP that exists from point 5 to point 2 by the distance from point 5 to point 6 as indicated by the continuous red arrow going from point 5 to point 6, and therefore, traditional market paradigms expansions have a socio-environmental unsustainability limit such as point “n” as if it reaches there the traditional market paradigm will collapse and to save its core values it may shift vertically to a higher level paradigm just before collapse.

Implication 9:

True sustainability market paradigms and traditional market paradigms expand from left to right, but true sustainability market paradigms have no sustainability limits while traditional market paradigms has a socio-environmental sustainability limit that lies before full unsustainability(FUN).

The true sustainability market paradigm (TSM)-traditional market paradigm (TM) based sustainability framework under no internal market failure, but under external market failure: the case of paradigm expansions and their implications under no socio-

environmental pollution production neutrality assumption and respective expected government action

The expected government actions when socio-environmental pollution production problems are real and they cannot be assumed away as there are no socio-environmental pollution production neutrality assumptions is a situation that can be seen based on the information of Figure 10 below:

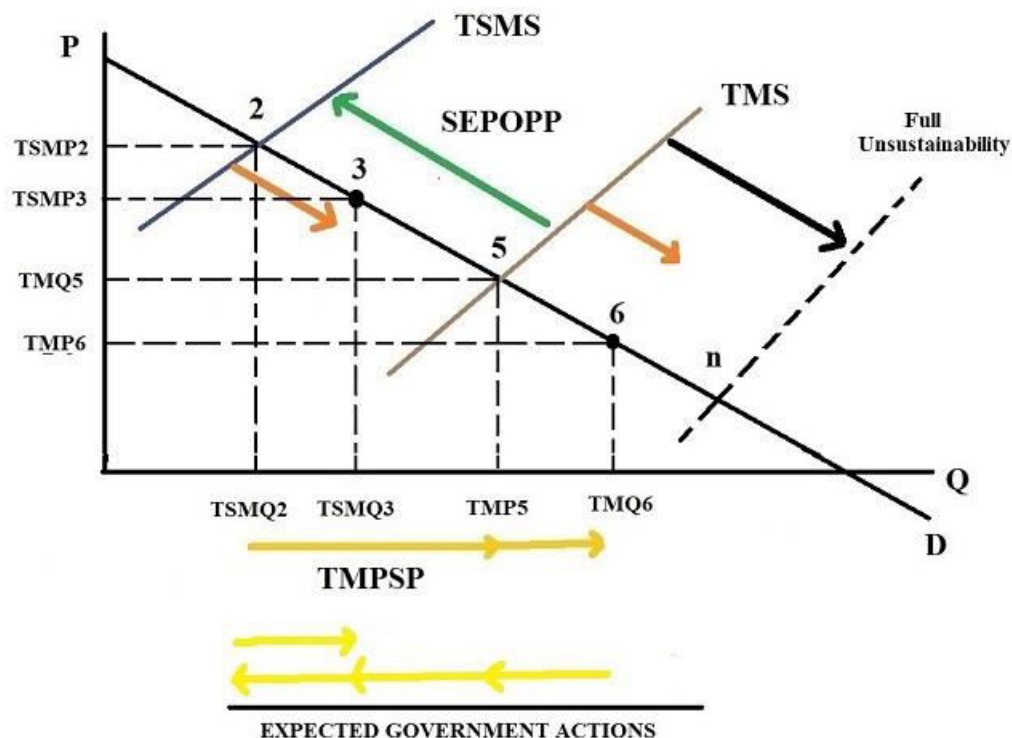


Figure 10 The true sustainability market paradigm(TSM)-Traditional market paradigm(TM) based sustainability framework under no internal market failures and under external market failures. THE CASE OF MARKET EXPANSIONS AND THEIR IMPLICATIONS under no socio-environmental pollution production neutrality assumptions and expected government actions

We can see based on Figure 10 above that at point 3 the government has an optimal situation, which must be supported as you get a better optimal point without creating abnormalities; and at point 6 the government has a situation that must be discouraged as it makes the socio-environmental pollution problem that exist from point 5 to point 2 worse. In other words, in the case of the expansion of true sustainability market paradigms from point 2 to point 3 we should expect the government to implement an optimal support policy to help the true sustainability market paradigm to expand from point 2 to point 3 as producing and consuming at point 3 is a better optimal option that producing and consuming at point 2 as the true sustainability market price at point 3 is lower than the true sustainability market price at point 2 so that $TSMP3 < TSMP2$ and $TSMQ3 > TSMQ2$. In the case of the expansion of the traditional market paradigm from point 5 to point 6 the government will have to discourage it as fixing the socio-environmental pollution production problem is its role, not expanding it, and since under no externality neutrality assumption the socio-environmental pollution production problem is

real and it must be fixed then we should expect the government to take action to discourage new expansions like the one from point 5 to point 6 and we should expect the government to internalize the full socio-environmental pollution production problem SEPOPP to shift the traditional market paradigm from point 5 to point 2 after contracting the traditional market paradigm from point 6 to point 5 or internalizing the socio-environmental pollution production problem from point 6 to point 2 at once, saving the system from moving closer to full unsustainability. See that producing and consuming at point 2 is less than producing and consuming at point 5 and point 6 as $TSMQ2 < TMQ5 < TMQ6$ and at point 2 there are no socio-environmental unsustainability pressures anymore.

Implication 10:

Under no externality neutrality assumptions or under real socio-environmental pollution production problems that must be fixed government will see an optimal expansion in true sustainability market paradigms as actions that need to be supported as more is better there without creating externality issues while the government will see, given their duty to fix market failures, the expansion of traditional market paradigms under external market failures as actions that not just need to be discouraged, but actions that would not take place if they fixed the socio-environmental pollution production problem created by traditional market paradigms through full socio-environmental pollution production problem internalization.

The true sustainability market paradigm (TSM)-traditional market paradigm (TM) based sustainability framework under no internal market failure, but under external market failure: the case of paradigm expansions and their implications under socio-environmental pollution production externality neutrality assumption when the socio-environmental pollution production problem is real and respective expected government action

The expected government actions when the socio-environmental pollution production problems are real, but assumed away when there are socio-environmental pollution production neutrality assumptions can be appreciated based on the situation shared in Figure 11 below:

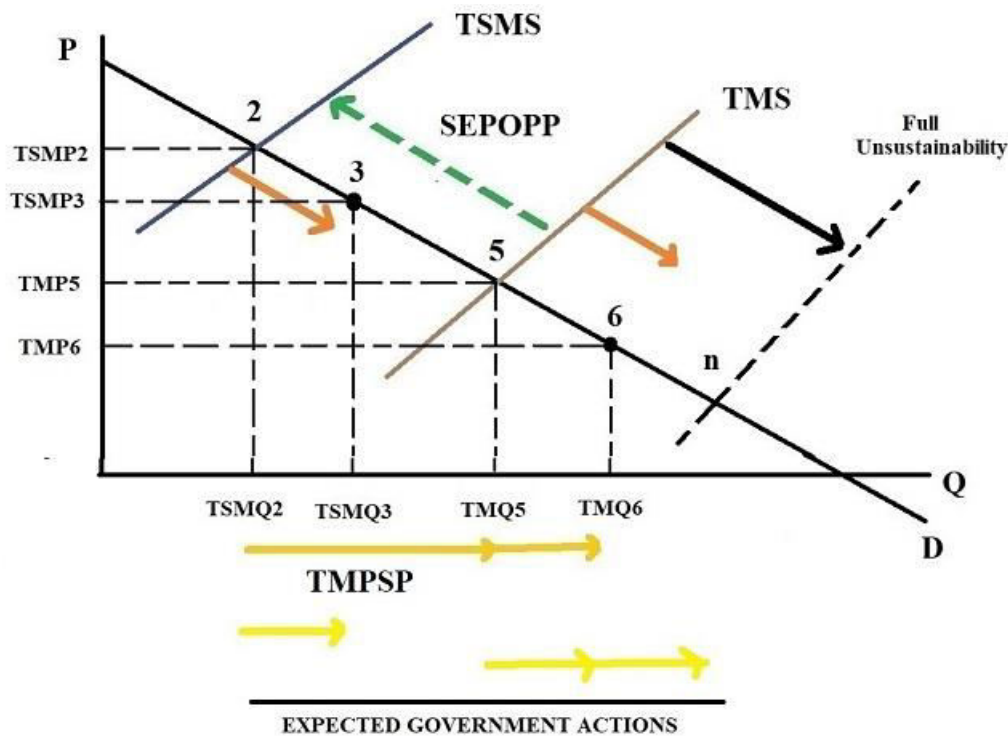


Figure 11 The true sustainability market paradigm(TSM)-Traditional market paradigm(TM) based sustainability framework under no internal market failure and under external market failures. **THE CASE OF MARKET EXPANSIONS AND THEIR IMPLICATIONS** under socio-environmental pollution production neutrality assumptions and expected government action

We can appreciate based on Figure 11 above that at point 3 the government has again an optimal situation, which must be supported again as you get a better optimal point without creating abnormalities; and at point 6 the government given the socio-environmental pollution production neutrality assumption that assumes away a real socio-environmental pollution production problem has a situation that it will support and which will make the socio-environmental pollution production problem which is real worse, but it will assume this negative impact away. In other words, under the no socio-environmental pollution neutrality assumption when the socio-environmental pollution production problem is real the government will support the expansion of the traditional market paradigm under external market failure instead of fixing the market failure and this is done assuming its negative role on irresponsible traditional market paradigm expansion fully away. In other words, in the case of the expansion of true sustainability market paradigms from point 2 to point 3 we should expect the government to implement an optimal support policy to help the true sustainability market paradigm to expand from point 2 to point 3 as producing and consuming at point 3 is a better optimal option that producing and consuming at point 2 as the true sustainability market price at point 3 is lower than the true sustainability market price at point 2 so that $TSMP3 < TSMP2$ and $TSMQ3 > TSMQ2$. But in the case of the expansion of the traditional market paradigms from point 5 to point 6 the government will not discourage it, but support it despite its negative impact on the real socio-environmental pollution production problem as under socio-environmental pollution neutrality assumptions there is no problem for the government to encourage irresponsible traditional market behavior as real socio-environmental problems are assumed away. And you

can appreciate based on Figure 11 above too that if the government continues supporting traditional market expansions beyond point 6, instead of fixing the external market failure under which the traditional market paradigm is working, the government is helping the traditional market paradigm to transition towards full unsustainability or towards point “n”.

Implication 11:

Under externality neutrality assumptions or under real socio-environmental pollution production problems that must be fixed, but they are assumed away government will see an optimal expansion in true sustainability market paradigms as actions that need to be supported as more is better there without creating externality issues while the governments will see, given their duty to fix market failures is being assumed away, the expansion of traditional paradigms under external market failures, as actions that not just need to be supported, but actions that need to be promoted as all the negative impacts those actions have on the real socio-environmental pollution production problem can be assume away.

The working of true sustainability market paradigms and traditional market paradigms and unsustainability limits

If we see true sustainability market paradigms and traditional market paradigms as markets that tend to produce at the lowest cost possible, lowest true sustainability market price possible. and lowest traditional market price possible, respectively, then we will see them expand from left to right as shown in Figure 12 below:

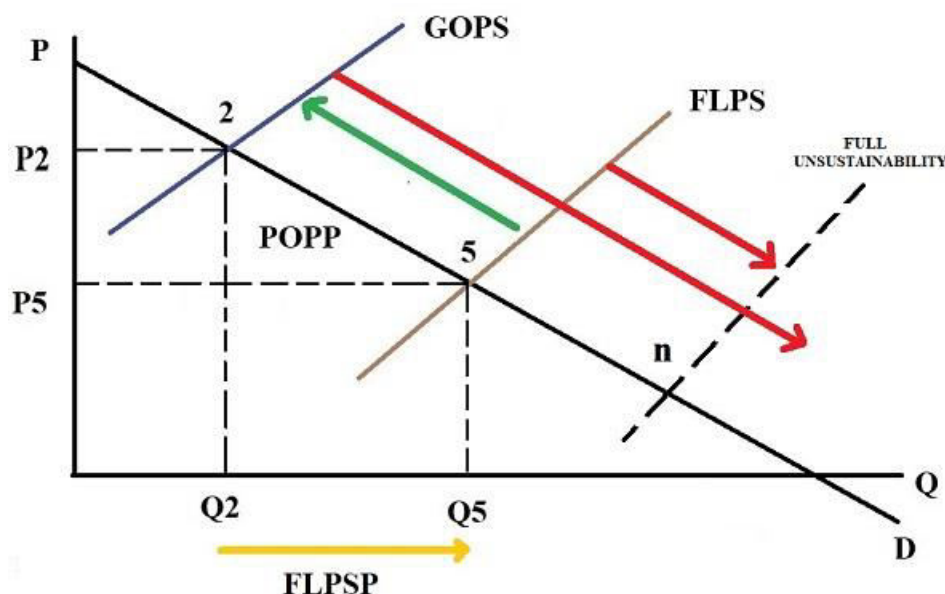


Figure 12 The golden paradigm(GOP)-Flawed paradigms(FLP) based true sustainability Framework under no internal market failure and under external market failures Both markets expand to produced at the lowest market price possible, but the flawed paradigm has limits to growth while the golden paradigm does not have.

Notice that Figure 12 above depicts a situation in which true sustainability market paradigms expands left to right as they tend to produce at the lowest true sustainability market price possible and they have no limits to growth as they have no socio-environmental sustainability problems as shown by the continuous red arrow going from point 2/TSMS passing the full unsustainability zone. Then see that the expansion of traditional market paradigms under external market failures as shown in Figure 12 goes also from left to right as it tends to produce too at the lowest prices possible, but it has limits to growth as indicated by the red arrow going from point 5/TMS to before the full unsustainability line or broken supply at point “n”.

Implication 12:

Both true sustainability market paradigms and traditional market paradigms tend to produce at the lowest price possible, but while true sustainability market paradigms have no limits to growth, traditional market paradigms have limits to growth. Since the government knowingly or not due to the socio-environmental pollution production neutrality assumptions under which it looks at market failures is helping the traditional market paradigms to approach full unsustainability as real socio-environmental pollution production problems are being expanded and accumulated, and hence, the traditional market paradigm sooner or later will tend towards collapse as it approaches full socio-environmental unsustainability, and if the opportunity comes the traditional market paradigm will evolve vertically towards true sustainability market paradigms leaving the knowledge based of the traditional market paradigm behind while carrying the core values of the traditional market paradigm, economic responsibility, to the new paradigm so the new paradigm reflects the previous traditional market paradigm's core values of economic responsibility. This idea of the vertical paradigm evolution route available under binding externality pressures when paradigms leave their knowledge base behind to save their core values in the case of traditional market paradigms like the deep capitalism market or deep economy have been recently pointed out (Muñoz 2025).

Food for thoughts

1) In free markets and no knowledge gaps, is it the duty of governments to fix socio-environmental market failures or to patch them/manage the consequences of the failure? I think the duty is to fix them, what do you think?; 2) In free markets and no externality neutrality assumptions and no knowledge gaps, is it the duty of governments to fix socio-environmental market failures or to patch them/manage the consequences of the failure? I think the duty is to fix them, what do you think?; 3) In free markets and externality neutrality assumptions when the socio-environmental externality production problem linked to the working of free markets is real, does government's market expansion policies helps promote irresponsible socio-environmental market behavior; and hence, it has a supporting role in driving free markets towards the point of system unsustainability but it is assumed away? I think yes, what do you think?; and 4) When you shift from free markets like free traditional markets to dwarf markets like dwarf green markets do the responsibility for market failure like environmental market failure still falls on corporations/consumers? I think no, what do you think?

Conclusions

It was shown that the true sustainability market paradigm-traditional market paradigm based sustainability framework can be used for understanding market failures in both true sustainability market paradigms and in traditional market paradigms, be it internal market failures or external market failures or both. It was pointed out how these market failures can expand or contract as well as how reversing expansion and contractions can be linked to expected government actions. Then it was indicated that under no socio-environmental externality neutrality assumptions governments should be expected to do the right thing, to fix true sustainability market paradigm expansions and contractions to maintain desirable levels of true sustainability market paradigm based economic activity, and governments are expected to fix expansion and contractions led by internal traditional market paradigm failures as well and to fix the external market failures of traditional market paradigms as socio-environmental pollution production problems here are real and they cannot be assumed away, and since the primary responsibility of governments is to fix market failures they are expected to fully fix this external market failure. Then it was stressed that under socio-environmental externality neutrality assumptions the government will treat true sustainability market paradigm based expansions and contractions the same way as without socio-environmental pollution production externality assumptions, they will be optimally fixed while under socio-environmental pollution production externality assumptions governments will support irresponsible traditional market paradigms expansion helping them to approach the full unsustainability zone as they assume that the real socio-environmental pollution production problem which they are helping to expand can be assumed away. And finally, it was described how both true sustainability market paradigm and traditional market paradigms expands following the path of the lowest market price possible, but traditional market paradigms have limits to growth while true sustainability market paradigms do not have limits to growth.

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