Citation:

Muñoz, Lucio, 2024. **Sustainability thoughts 192: What are the sustainability consequences of assuming that flawed paradigms are golden paradigms? The case of the perfect traditional market,** In: ***CEBEM-REDESMA Boletin*****,** Año 18, Nº 4, La Paz, Bolivia.

Sustainability thoughts 192: What are the sustainability consequences of assuming that flawed paradigms are golden paradigms? The case of the perfect traditional market.

By

Lucio Muñoz*

*** Independent Qualitative Comparative Researcher / Consultant, Vancouver, BC, Canada Email: munoz@interchange.ubc.ca**

Abstract

There are golden paradigms and flawed paradigms and they have different structure and behavior when they expand. Golden paradigms have an optimality structure as they do not have abnormalities; they are true perfect markets. Therefore, when they expand they create no abnormalities because they moved along the optimal expansion line. Flawed paradigms have a non-optimality structure as they have abnormalities embedded in their structure; they are not true perfect markets. Hence, when they expand the state of the embedded abnormalities worsen leading through time to critical development problems. Then, if we assume that a flawed paradigm is a golden paradigm, then we expect optimal outcomes, but instead we end up with sustainability problems as expansion after expansion leads worsening abnormality conditions. As you may know, Adam Smith assumed in 1776 that a traditional market could expand without producing social and environmental abnormalities forever, which means that he took the traditional market as being a golden paradigm that was going to lead to optimal production, optimal consumption and optimal population growth through time, but by 1987 the Brundtland Commission found and documented the opposite, meaning that they determined that traditional economic development was based on a flawed paradigm in social and environmental terms, flaws that had led to critical socio-environmental problems by then, which needed to be corrected with higher level thinking; and they recommended the use of sustainable development thinking to do that. This means that we can use golden paradigm and flawed paradigm theories and contrast them to understand what went wrong with traditional economic thinking from 1776 to 1987, which allow for critical sustainability problems to materialize in front of our eyes as we do not expect them by assumption. And this raises the research question: What are the sustainability consequences of assuming that flawed paradigms are golden paradigms? The case of the perfect traditional market.

Key concepts

Golden paradigms, Flawed paradigms, Sustainability, Sustainable development, Sustainability market, Green market, Red market, Socially friendly sustainable development, Environmentally friendly sustainable development, Optimality, Abnormalities, Socio-environmentally friendly sustainable development, Perfect traditional market

Introduction

There are golden paradigms and flawed paradigms and they have different structure and behavior when they expand. These situations are described one by one in detailed below with the goal of developing a framework that points out the consequences of wrongly assuming that a flawed paradigm is a golden paradigm.

a) Golden paradigms and the nature of their expansion

A paradigm with no abnormalities is said to be a golden paradigm (GOP). If we have a one dominant component only model X without abnormalities ($A_i = 1$), then we have a golden paradigm (GOP), which can be stated as shown below.

1) GOP = X

The expression 1) above tells us that economy X can expand for ever without producing abnormalities, which means that golden paradigms are true perfect markets; and hence, they have an optimal structure: No abnormalities($A_i = 1$) being produced means that production is optimal, consumption is optimal, pricing is optimal, and population dynamics is optimal. In other words, we can expect optimal production, optimal consumption, optimal pricing and optimal population dynamics be the outcome under golden paradigm thinking as there are no abnormalities $A_i = 1$ here acting as embedded distortions.

i) The world of golden paradigms

Graphically, expression 1) above can be represented as indicated in Figure 1 below:

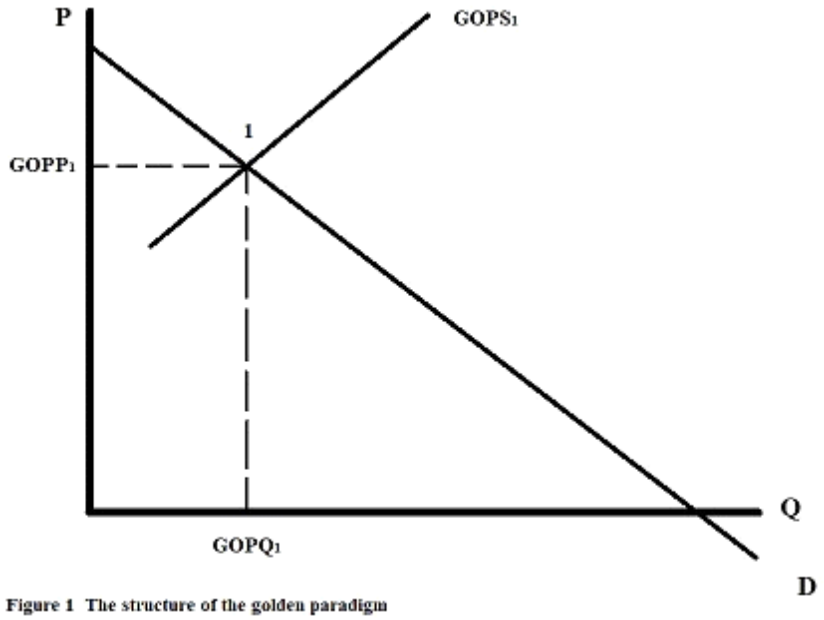

Figure 1 The structure of the golden paradigm

We can highlight the following aspects based on Figure 1 above: i) at point 1 there is a golden paradigm ($GOP_1 = X_1$), where the golden paradigm supply $GOPS_1$ intercepts the demand D determining the golden paradigm market price $GOPP_1$ and the golden paradigm quantity $GOPQ_1$ being produced and consumed at that price; and ii) at point 1 production and consumption are optimal.

ii) The expansion of golden paradigms

Therefore, when golden paradigms(GOP= X) expand they do not lead later to pollution production problems(NPOP) as they do not have abnormalities embedded in their model structure that worsen as they expand, a situation shown in Figure 2 below:

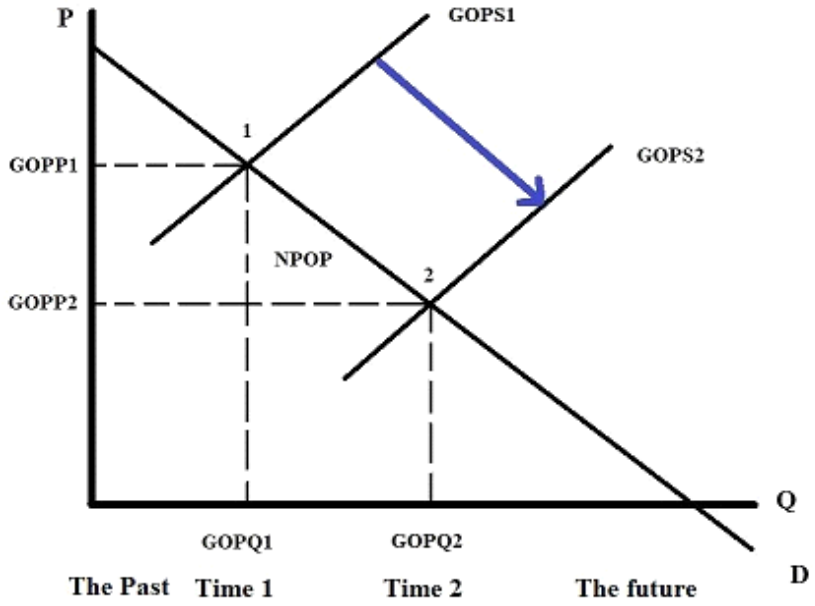

Figure 2 The structure of the expansion of a golden paradigm

Figure 2 above can be used to highlight the following aspects: i) the conditions at both point 1 and point 2 are optimal conditions as golden paradigm expands following an optimality line as indicated by the blue arrow; ii) the conditions at point 2 are more cost efficient than at point 1 as more optimal production, more optimal consumptions and more optimal populations can be supported at lower golden market prices as time passes; and iii) Hence, the expansion from point 1 to point 2 under golden paradigms does not lead to pollution production problems(NPOP). In other words, under golden paradigms as the market expands like when supplies go from $GOPS_1$ to $GOPS_2$ we do not create pollution problems NPOP; and the more we shift to the right the more optimal production, optimal consumption, and optimal population dynamics at lower optimal prices takes place. Therefore, golden markets do not have limits to growth; they can grow for ever without producing externalities.

In summary: It can be appreciated in Figure 2 above that as time passes golden paradigms expands optimally to the right and into the future supporting more optimal production, optimal consumption and optimal population dynamics at lower golden paradigm prices such as the case of going from point 1 time 1 to point 2 time 2 indicates: no externality problem is created by forever expansion as there are no limits to optimal growth under golden paradigm thinking.

b) Flawed paradigms and the nature of their expansion

A paradigm with abnormalities is said to be a flawed paradigm (FLP). If we have a one dominant component only model X with abnormalities A_i, then we have a flawed paradigm (FLP), which can be expressed as indicated below.

2) FLP = A_iX

The expression 2) above indicates to us that economy X cannot expand for ever without producing abnormalities that can lead to its collapse as time passes, and hence, there are abnormalities A_i limiting the growth of X, which means that flawed paradigms(FLP) are not true perfect markets; and hence, they have a flawed structure: abnormalities A_i are present in the flawed model structure(FLP), and this tells us that production is not optimal, consumption is not optimal, pricing is not optimal, and population dynamics is not optimal. In other words, we cannot expect optimal production, optimal consumption, optimal pricing and optimal population dynamics be the outcome under flawed paradigm thinking as the abnormalities A_i are embedded acting as distortions that lead to critical problems.

i) The world of flawed paradigms

Graphically, expression 2) above can be represented as shown in Figure 3 below:

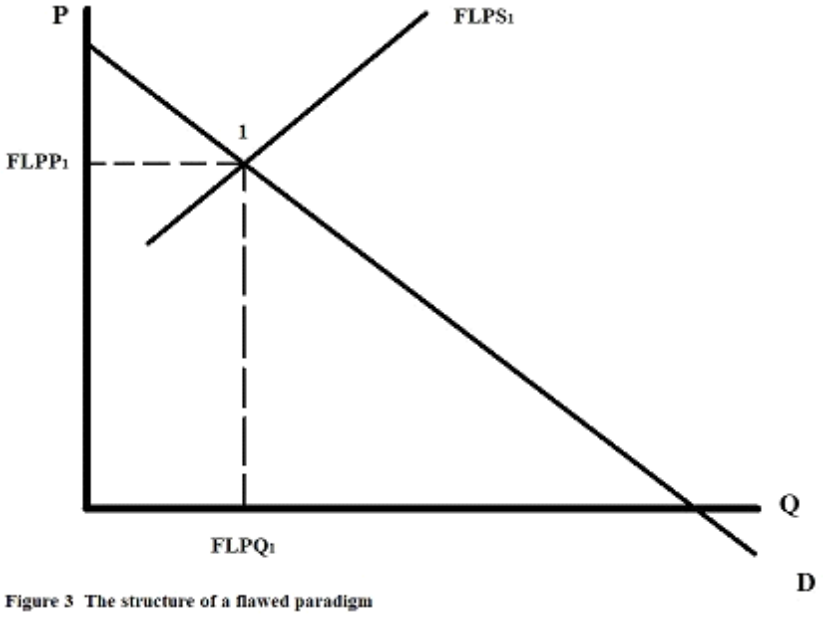

Figure 3 The structure of a flawed paradigm

We can point out the following aspects based on Figure 3 above: i) at point 1 there is a flawed paradigm ($FLP_1 = A_{i1}X_1$), where the flawed paradigm supply $FLPS_1$ intercepts the demand D determining the flawed paradigm market price $FLPP_1$ and the flawed paradigm quantity $FLPQ_1$ being produced and consumed at that price; and therefore, ii) at point 1 production and consumption is not optimal.

ii) The expansion of flawed paradigms

Hence, when flawed paradigms($FLP= A_iX$) expand they do lead later to pollution production problems(POP) as they have abnormalities embedded in their model structure that worsen as they expand creating sustainability problems, a situation summarized in Figure 4 below:

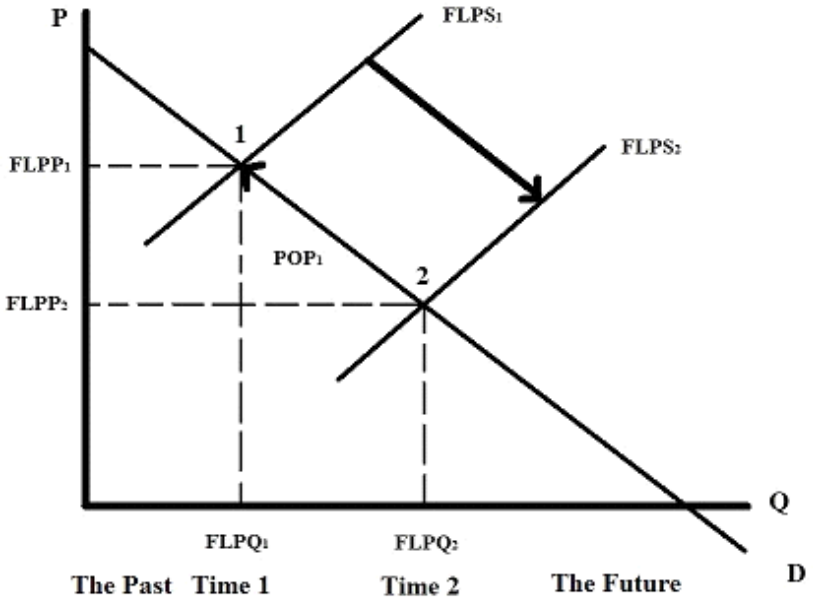

Figure 4 The structure of the expansion of a flawed paradigm

Figure 4 above can be used to stress the following aspects: i) the conditions at both point 1 and point 2 are not optimal conditions as flawed paradigm expands following a distorted evolution line as indicated by the black arrow from point 1 to point 2; ii) the conditions at point 2 are more cost efficient than at point 1 as more non-optimal production, more non-optimal consumptions and more non-optimal populations can be supported at lower flawed market prices and abnormality cost externalization; and iii) Hence, the expansion from point 1 to point 2 under flawed paradigms do lead to pollution production problems(POP_1) as indicated by the black arrow from point 2 to point 1. In other words, under flawed paradigms the more the market expands to the right like when supplies go from $FLPS_1$ to $FLPS_2$ the worse the state of the abnormalities embedded in it becomes; and hence, the worse the pollution problem (POP_1) it creates is: Flawed market expansions to the right of point 2 in Figure 4 above means the more the pollution problem POP_1 will grow. Therefore, flawed markets do have abnormality led limits to growth, they cannot grow for ever as the production of externalities worsens as the state of the abnormalities worsen as time passes, which affects the stability of the flawed market model.

In summary: it can be seen in Figure 4 above that as time passes flawed paradigms expands non-optimally to the right and into the future supporting more and more non-optimal production, non-optimal consumption and non-optimal population dynamics at lower flawed paradigm prices such as the case of going from point 1 time 1 to point 2 time 2 indicates: a critical externality problem(POP_1) is created by forever expansion to the right as indicated by the continuous black arrow from point 2 to point 1, which limits the non-optimal paradigm growth, and ultimately may lead to paradigm collapse if corrective action is not taken timely. Hence,

expansions beyond point 2 would just expand the critical problem (POP_1) already in place as the state of the abnormality would worsen still more.

c) The consequences of assuming that flawed paradigms are golden paradigms

If we assume that a flawed paradigm is a golden paradigm, then we expect optimal outcomes to come along together with expansions, but instead we end up with sustainability problems that worsen expansion after expansion, then we have a critical issue, a distorted situation displayed in Figure 5 below:

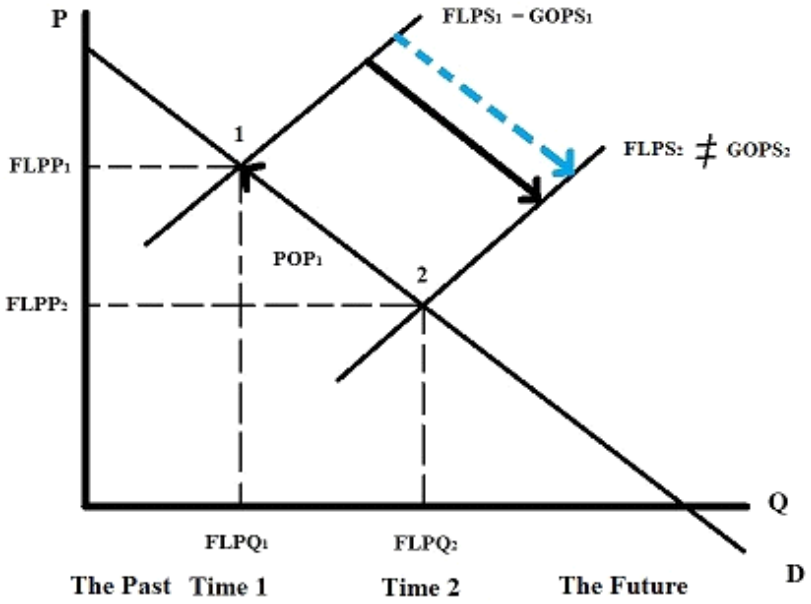

Figure 5 The problems that come along when assuming that flawed paradigms are golden paradigms

We can appreciate in Figure 5 above the following: i) at point 1 we assume that the flawed paradigm is a golden paradigm so that $FLP_1 = A_{i1}X_1 = GOP_1 = X_1$ as abnormalities are assumed to be insignificant or non-existent in the flawed paradigm($A_i = 1$) and we expect that its expansion will lead to optimal outcomes; ii) at point 2 the practice we see the market expansion from point 1 to point 2 as indicated by the black arrow from point 1 to point 2 has created a critical pollution production problem POP1 as indicated by the black arrow that goes from point 2 to point 1; iii) Therefore, the market expansion from point 1 to point 2 is not optimal as indicated by the broken blue arrow from point 1 to point 2. In other words, if the assumptions that make the flawed paradigm a golden paradigm are wrong, then critical pollution problems come to materialize in front of our eyes, but we assume them away until we can no longer assume them away. In other words, if the assumptions are wrong from the beginning as shown in Figure 5 above, then assuming that flawed markets (not true perfect markets) are golden paradigms (true perfect markets), lead to a situation where we generate abnormality led sustainability problems through time as the optimal conditions we expect in theory turned out to be in practice non-optimal conditions, that can worsen to the point of even leading to market

collapse if corrective action is not taken. Notice in Figure 5 above that at point 1 we assumed that the flawed paradigm was a golden paradigm($FLP_1 = A_{i1}X_1 = GOP_1 = X_1$), but at point 2 we found out that the flawed paradigm is not a golden paradigm($FLP_2 = A_{i2}X_2 \neq GOP_2 = X_2$) because it created a critical sustainability problem(POP1), so the original assumption was wrong.

In summary: at Time 1 in Figure 5 above we assumed that the flawed paradigm was going to lead to optimal conditions at Time 2 as it was assumed to be a golden paradigm, but instead at Time 2 the practice shows that the paradigm had been flawed from the beginning as it is not a golden paradigm as shown by the broken blue arrow. This means that the optimal outcome that we expected at time 2 in Figure 5 above turned out to be a non-optimal outcome, allowing a pollution production problem to materialize in front of our eyes, one that can be left on its own as it was not expected until it could no longer be ignored and it is easy to see that the assumption, based on the consequences at hand is wrong.

d) Linking the assumption of flawed paradigms being a golden paradigm to the perfect market thinking of Adam Smith and the socio-environmental sustainability problem the Brundtland Commission had to deal with in 1987

As you may know, Adam Smith assumed in 1776(Smith 1776) when he shared the theory of the perfect market, that a traditional market could expand without producing social and environmental abnormalities; and this means that he took the traditional market as being a golden paradigm that was going to lead to optimal production, optimal consumption and optimal population growth through time, but by 1987 the Brundtland Commission(WCED 1987) found and documented the opposite: The Brundtland Commission determined that traditional economic development was based on a flawed paradigm in social and environmental terms, flaws that had led to the creation of critical socio-environmental problems which needed to urgently be corrected with higher level thinking; and they recommended the use of sustainable development thinking to do that. Ideas about golden paradigms and flawed paradigms, and how they are or are not affecting by Thomas Kuhn's paradigm evolution loop(Kuhn 1970) in terms of traditional market thinking and evolution have been recently highlighted(Muñoz 2022). This means that we can use golden paradigm and flawed paradigm theories and contrast them to understand what went wrong with traditional economic thinking from 1776 to 1987, which allowed for critical sustainability problems to materialize in front of our eyes as we did not expect them by assumption. And this raises the research question: What are the sustainability consequences of assuming that flawed paradigms are golden paradigms? The case of the perfect traditional market.

Goals of this paper

1) To point out the structure of the traditional market as flawed paradigm and golden paradigm under no externality neutrality assumptions and under externality neutrality

assumptions; 2) To stress the structure of the consequences of assuming that the traditional market is a golden paradigm as time passes; 3) To highlight that the consequence of assuming that the traditional market is a golden paradigm from 1776 to 1987 was the creation of a critical socio-environmental sustainability problem; 4) To show that in 1987 there were full and partial solutions to the socio-environmental sustainability problem created by traditional market thinking; and 5) To state that the sustainable development solution given to us by the Brundtland Commission were partial corrections to the issues at hand then.

Methodology

First, the terminology used in this paper is listed. Second, some operational concepts and relevant paradigm structures and transformation are shared. Third, the structure of the traditional market as flawed paradigm and golden paradigm under no externality neutrality assumptions and under externality neutrality assumptions is pointed out. Fourth, the structure of the consequences of assuming that the flawed traditional market is a golden economy paradigm as time passes is stressed. Fifth, that the creation of a critical socio-environmental sustainability problem was the consequence of assuming that the flawed traditional market was a golden economy market from 1776 to 1987 is detailed graphically and analytically. Seventh, that in 1987 there were full and partial solutions to the socio-environmental sustainability problem is indicated. Eight, that the sustainable development solutions given to us by the Brundtland Commission were partial corrections to the issues at hand in 1987 is highlighted. And last, ninth, some good food for thoughts and conclusions are provided,

Terminology

FLP = Flawed paradigm FLP_i = Flawed paradigm "i"

GOP = Golden paradigm GOP_i = Golden paradigm "i"

A_i = Abnormality "i" X = Dominant economy X

X_i = Dominant economy "i" B = The dominant traditional economy

A = The dominant social economy C = The dominant environmental economy

b = Economic abnormality a = Social abnormality

c = Environmental abnormality POP = Pollution production problem

SEPOP = Socio-environmental pollution production problem

Operational concepts and key paradigm structures and transformation

i) Operational concepts

1) Golden paradigms, those without abnormalities.

2) Flawed paradigms, those with abnormalities.

3) The traditional market, the economy only market.

4) The externality neutrality assumption, the one that holds that flawed paradigms have no abnormalities.

5) The no externality neutrality assumption, the one that holds that flawed paradigms have abnormalities.

6) Optimal outcomes, those which come from the evolution of golden paradigms.

7) Non-optimal outcomes, those which come from the evolution of flawed paradigms.

8) The Thomas Kuhn's paradigm evolution loop, the science based device that transforms flawed paradigms into golden paradigms.

ii) The structure of paradigms

1) Golden paradigm

If we have a model (M) driven by a dominant component Y and it has no abnormalities ($A_J = 1$), then it has the following form:

$$\mathbf{GOP_M = Y}$$

The growth of M depends on the growth of Y; and since Y has no abnormalities, then the model M is able to expand forever.

2) Flawed paradigm

If we have a model (M) driven by a dominant component Y; and it has abnormalities (A_J), then it has the following form:

$$\mathbf{FLP_M = A_jY}$$

The growth of M depends on the growth of Y within the limits place by the abnormality A_j; and since Y has abnormalities, then the model M is not able to expand forever.

3) The structure of the transformation of flawed paradigms into golden paradigms

If we submit the flawed paradigm to the Thomas Kuhn's paradigm evolution loop (TKPEL), then scientific consensus will be reached under academic integrity to remove the abnormalities A_j embedded in it and shift it to a golden paradigm structure, as indicated below:

TKPEL

$FLP_M = A_jY$----------→$GOP_M = Y$

After removing the abnormalities Aj, the flawed paradigm becomes a golden paradigm.

The structure of the flawed and golden economic paradigm

i) A golden economy paradigm

Consistent with the golden paradigm theory shared in the introduction, if we have an economy paradigm (B) with no social (a) and environmental abnormalities(c) embedded in it we have a golden economy paradigm (GOP). In other words, if we have a one dominant component economy only model "B" without social and environmental abnormalities ($A_i = a = c = 1$), then we have a golden paradigm (GOP), which can be stated as shown below.

1) GOP = B

The expression 1) above tells us that the golden economy B can expand forever without producing social and environmental abnormalities, which means that golden economy paradigms are true perfect markets; and hence, they have an optimal structure: No social (a) and environmental abnormalities(c) [$A_i = a = c = 1$] being produced means that production is optimal, consumption is optimal, pricing is optimal, and population dynamics is optimal. In other words, we can expect optimal production, optimal consumption, optimal pricing and optimal population dynamics be the outcome under golden economy paradigm thinking as there are no social(a) and environmental abnormalities(c)[$A_i = a = c =1$] here acting as embedded distortions.

ii) A flawed economy paradigm

An economy paradigm (B) with social (a) and environmental(c) abnormalities embedded in it is said to be a flawed economy paradigm (FLP). If we have a one dominant component economy only model B with social (a) and environmental(c) abnormalities $A_i = ac$, then we have a flawed economy paradigm (FLP), which can be expressed as shown below.

2) FLP = aBc

The expression 2) above shows that flawed economy B cannot expand for ever without producing social and environmental abnormalities that worsen through time, which can lead to its collapse, and hence, there are social and environmental abnormalities $A_i = ac$ limiting the growth of B; and this means that flawed economy paradigms are not true perfect economy markets; and hence, they have a flawed structure: social and environmental abnormalities $A_i = ac$ are present in the flawed economy model structure(FLP), and this tells us that production is not optimal, consumption is not optimal, pricing is not optimal, and population dynamics is not optimal. In other words, we cannot expect optimal production, optimal consumption, optimal pricing and optimal population dynamics be the outcome under flawed economy paradigm thinking as the social and environmental abnormalities $A_i = ac$ are embedded and acting as distortions.

iii) The perfect traditional market as a golden economy paradigm in theory: Social and environmental abnormalities do not exist

As the traditional market of Adam Smith(TM) uses social and environmental externality neutrality assumptions to work as there are no social and environmental limits to traditional economic growth, then it is a market that assumes not to have social (a) and environmental(c) abnormalities embedded in it so that $A_i = a = c = 1$) by assumption, so the traditional market has the structure of the golden economy market by assumption, as stated below:

3) TM = GOP = B

Expression 3) above tells us that under traditional market thinking there are no social and environmental limits to traditional economic growth; and therefore, it is a paradigm with optimal structure, where expansions of the traditional market will lead to optimal production, optimal consumption, optimal population dynamics at lower optimal traditional market prices through time, which makes it a golden economy paradigm by assumption.

iv) The perfect traditional market as a flawed economy paradigm in practice: Social and environmental abnormalities exists

As the traditional market of Adam Smith(TM) under no externality neutrality assumptions has social and environmental abnormalities $A_i = ac$ so that there are social and environmental limits to traditional economic growth, the traditional market in practice has the structure of the flawed economy market, as indicated below:

4) TM = FLP =aBc

Expression 4) above indicates that in practice traditional market thinking has social and environmental limits to traditional economic growth and therefore, it is a paradigm with non-optimal structure, where expansions of the flawed traditional market will lead to non-optimal production, non-optimal consumption, non-optimal population dynamics at lower non-optimal

traditional market prices that lead to social and environmental sustainability problems that accumulate over time, which makes it a flawed economy paradigm in practice.

The consequences of assuming the traditional market as golden paradigm in the long term

Therefore, if we assume that the flawed traditional market paradigm is a golden paradigm, then we expect optimal outcomes to come along together with market expansions, but if instead we end up with sustainability issues then we have a critical sustainability problem, a distorted situation displayed in Figure 6 below:

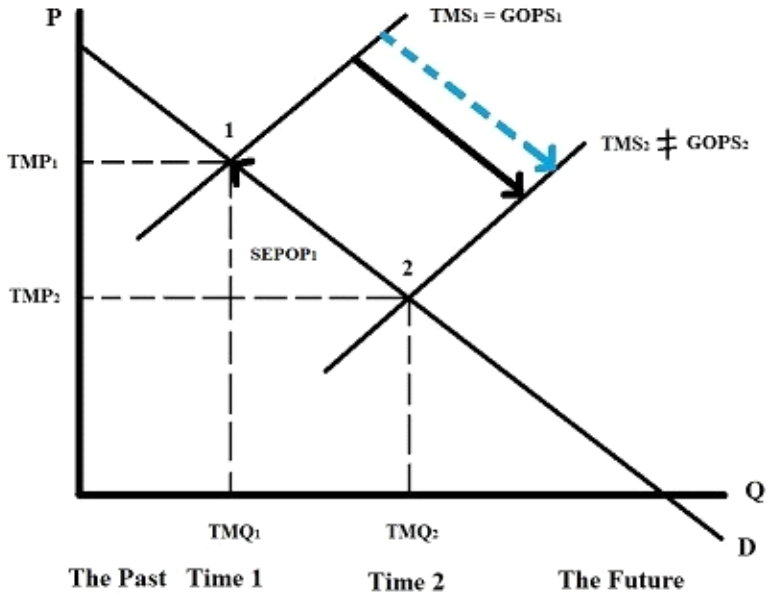

Figure 6 The problems that come along when assuming that the traditional market is a golden paradigm

We can appreciate in Figure 6 above the following: i) at point 1 we assume that the flawed paradigm is a golden paradigm so that $TM_1 = FLP_1 = a_1B_1c_1 = GOP_1 = B_1$ as abnormalities are assumed to be insignificant or non-existent in the flawed traditional market paradigm($A_i = a_1c_1 = 1$) and we expect that its expansion will lead to optimal outcomes; ii) at point 2 the practice we see the traditional market expansion from point 1 to point 2 as indicated by the black arrow from point 1 to point 2 has created a critical socio-environmental pollution production problem $SEPOP_1$ as indicated by the black arrow that goes from point 2 to point 1; iii) Therefore, the traditional market expansion from point 1 to point 2 is not optimal as indicated by the broken blue arrow from point 1 to point 2. In other words, if the assumptions that make the flawed traditional market paradigm a golden paradigm are wrong, then critical socio-environmental pollution problems (SEPOP) come to materialize in front of our eyes, but we assume them away until we can no longer assume them away. Therefore, if the assumptions are

wrong from the beginning as shown in Figure 6 above , then assuming that flawed traditional economy markets(not true perfect markets) are golden paradigms(true perfect markets), lead to a situation where we generate social and environmentally abnormality led sustainability problems through time as the optimal conditions we expect in theory turned out to be in practice non-optimal conditions, that worsen as the flawed market expands to the point of even leading to market collapse in the long term if corrective action is not taken. Notice in Figure 6 above that at point 1 we assumed that the flawed traditional paradigm was a golden economy paradigm ($TM_1 = FLP_1 = a_1B_1c_1 = GOP_1 = B_1$), but at point 2 we found out that the flawed paradigm is not a golden paradigm ($TM_2 = FLP_2 = a_2B_2c_2 \neq GOP_2 = B_2$) because it created a critical sustainability problem ($SEPOP_1$) as it has socio-environmental abnormalities embedded in it, so the original assumption was wrong.

In summary, at Time 1 in Figure 6 above we assumed that the flawed traditional economy paradigm was going to lead to optimal conditions at Time 2 as it was assumed to be a golden economy paradigm, but instead at Time 2 the practice shows that the traditional market paradigm had been flawed from the beginning as it is not a golden economy paradigm as shown by the broken blue arrow. This means that the optimal outcome that we expected at time 2 in Figure 6 above turned out to be a non-optimal outcome, allowing a pollution production problem to materialize in front of our eyes, one that was left on its own as it was not expected until it could no longer be ignored and it was then easy to see that the assumption was, based on the consequences at hand, wrong.

The socio-environmental pollution production problem created by the Traditional market 1776-1987

If we make Time 1 the past in Figure 6 .above be 1776 when Adam Smith gave us the theory of the perfect traditional market; and if we make time 2 the future be 1987 when the Brundtland Commission formally indicated that we needed to go beyond traditional market thinking in order to solve the socio-environmental sustainability problems it had created, then this leads to the following situation in Figure 7 below:

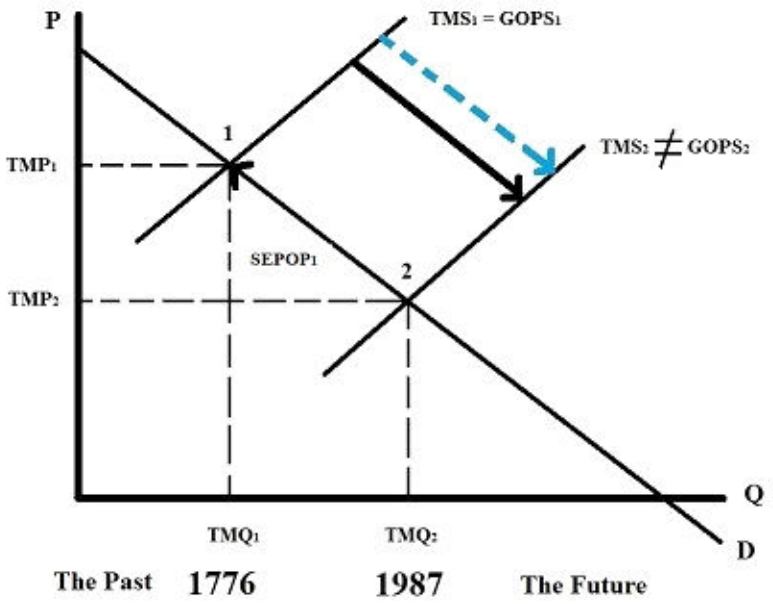

Figure 7 The socio-environmental sustainability problem(SEPOP1) created by the flawed traditional market from 1776 to 1987

Figure 7 above tells us that in 1776 there were no socio-environmental pollution problems; and that by 1987 there were critical socio-environmental problems, and this means that the traditional market expansion from 1776 to 1987 has led to a socio-environmental sustainability problem ($SEPOP_1$) as indicated by the black arrow from 1987 to 1776, which the Brundtland Commission indicated it could no longer be hidden and needed urgent attention.

The solutions available in 1987 to the socio-environmental pollution production problem created by the Traditional market 1776-1987

There were full and partial solutions to the socio-environmental sustainability problem created in practice by traditional economic thinking in 1987, all tools that leave traditional economic thinking behind as indicated in Figure 8 below:

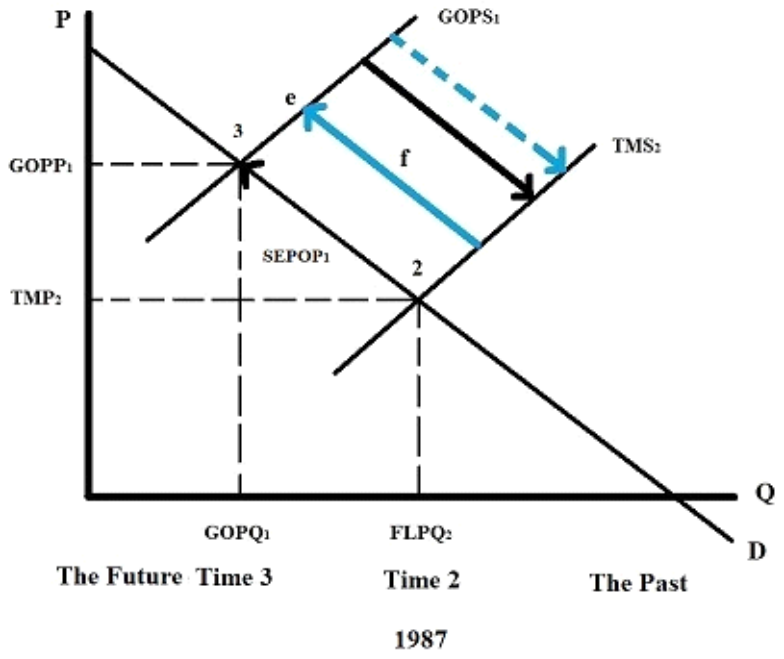

Figure 8 The full and partial corrections to the sustainability problems created by the traditional market model in 1987

First we can see based on Figure 8 above that all solutions to the critical socio-environmental sustainability problem ($SEPOP_1$) created by traditional market thinking that we had in 1987 between point 2 and point 1, both full solutions and partial solutions, need thinking beyond traditional economic thinking to the left of point 2 towards the future Time 3 and point 3 as traditional economic thinking needs to be left behind as you cannot solve a problem using the thinking that created that problem in the first place. Notice too that the nature of the full solution and partial solution to the socio-environmental problem($SEPOP_1$) we had in 1987 as shown in Figure 8 above depends on the type of abnormality affecting the traditional market that get priority for correction: i) There is a full solution and partial solution for social abnormality if that has priority for correction; ii) There is a full solution and partial solution for environmental abnormality if that has priority for correction; and iii) There is a full solution and partial solution for socio-environmental abnormality if that has priority for correction.

See that all full solutions to the 1987 sustainability problem ($SEPOP_1$) depicted in Figure 8 above are found at point 3 depending on which abnormality has priority for full correction: i) A perfect red market solution if correcting social abnormalities fully is the priority; ii) A perfect green market solution if correcting environmental abnormalities fully is the priority; and iii) A perfect sustainability market solution if correcting socio-environmental abnormalities fully is the priority. And we can also appreciate in Figure 8 above that all partial solutions to the socio-environmental sustainability problem ($SEPOP_1$) are found between point 2 and point 3, not including both point 2 and point 3, such as for example at point "f" in Figure 8 above we can have a partial social correction or a partial environmental correction or a partial socio-environmental correction. These partial corrections can be based on partial externality cost

internalization or on external abnormality management. For example, sustainable development approaches such as socially friendly sustainable development or environmentally friendly sustainable development or socio-environmentally friendly sustainable development as championed by the Brundtland Commission in 1987 are partial corrections that can be placed between point 2 and point 3 in Figure 8 above such as at point "f".

Food for thoughts

i) Would assuming that a full golden paradigm is a flawed paradigm lead to pollution problems in the future? I think no, what do you think?; ii) Would assuming that a partial golden paradigm is a flawed paradigm lead to partial pollution problems in the future? I think yes, what do you think?; and iii) Can the overpopulation problem be linked to the assumption that the traditional market was a golden paradigm when it was not? I think yes, what do you think?

Conclusions

First, it was shown that flawed and golden paradigm evolution theories can be contrasted to show that assuming that flawed paradigms like the traditional market are golden paradigms can lead to critical problems developing in front of our eyes but we cannot see them as we do not expect them as the case of traditional economy expansions indicates as documented by the 1987 Brundtland Commission. Second, it was pointed out that from 1776 to 1987 economic expansion had led to a socio-environmental sustainability problem. Third, it was highlighted that there were full and partial corrections to the 1987 socio-environmental sustainability problem depending on whether a factor is given full or partial priority correction. And finally, fourth, it was stressed that the sustainable development solutions recommended and implemented at the discretion of the Brundtland Commission were partial corrections to the issues of the day.

References

Kuhn, Thomas S., 1970. ***The Structure of Scientific Revolutions***, The University of Chicago Press, Second Edition, USA

Muñoz, Lucio, 2022. **Sustainability thought 172: What is the structure of the general Thomas Kuhn's paradigm evolution loop when the traditional market is a golden paradigm and when it is a flawed paradigm?,** In: ***CEBEM-REDESMA Boletin*,** Año 16, Nº 9, September, La Paz, Bolivia.

Smith, Adam, 1776. ***The Wealth of Nations***, W. Strahan and T. Cadell, London, UK.

World Commission on Environment and Development(WCED), 1987. ***Our Common Future***, Oxford University Press, London, UK.

Citation:

Muñoz, Lucio, 2024. **Sustainability thoughts 192: What are the sustainability consequences of assuming that flawed paradigms are golden paradigms? The case of the perfect traditional market,** In: ***CEBEM-REDESMA Boletin*****,** Año 18, Nº 4, La Paz, Bolivia.