Ceteris Paribus 102: Can Resource Allocation Be Efficient under Distorted Traditional Market Prices, Whether in Linear or Circular Markets? If Not, Why Not?

By

Lucio Muñoz*

*** Independent qualitative comparative researcher / consultant, Vancouver, BC, Canada. Email address: munoz@interchange.ubc.ca**

Abstract

There are Full cost pricing markets, markets that account for all cost associated with production. Full cost market prices provide the right signals to producers and consumers for the efficient allocation of all resources as at the full cost point there is full Pareto optimality, which means that there is no misuse of resources at all. There are Partial cost pricing markets, markets that do not account for all cost associated with production. Partial cost market prices provide the wrong signals to producers and consumers for the efficient allocation of all resources as it provides the incentives for the inefficient use of some resources as at the partial cost point there is Partial pareto optimality, which indicates that there is misuse of some resources, those whose cost are not reflected in the Partial cost pricing mechanism. There is a Pareto optimality gap problem separating Partial cost pricing markets from Full cost pricing markets, which it is created by moving away from Full cost pricing: Moving away from Full cost pricing necessarily moves markets into the domain of distorted market prices. The larger the full cost pricing distortion the larger the Pareto optimality gap becomes and the larger the Pareto optimality gap is the more severe cases of misuse of some resources are to be expected. The situation described above relates to markets, linear or circular, under no Pareto optimality gap neutrality assumptions, which means markets under no pollution production neutrality assumptions.

If we assume that the Pareto optimality gap does not matter and hence, it can be left out of the pricing considerations or of the pricing mechanism, then the Partial optimality point becomes a Full optimality point by assumption, and hence, the Partial cost point behaves like the full cost point by assumption where partial Optimality is assumed to be full Optimality. The situation described above relates to markets, linear or circular, under Pareto optimality gap neutrality assumptions, which means under pollution production neutrality assumptions. As traditional markets, linear or circular, assume externality production neutrality assumptions by making externalities exogenous issues to the traditional model, then the thinking above applies to them and it can be used to answer the following question: Can Resource Allocation Be Efficient under Distorted Traditional Market Prices, Whether in Linear or Circular Markets? If Not, Why Not? Among the central goals of this paper are to provide an answer to the question posed here both analytically and graphically.

Methodology

First, the terminology used is given. Second, the nature of full cost market pricing is described. Third, the nature of partial cost market pricing is highlighted. Fourth, the full cost pricing-partial cost pricing framework is introduced. Fifth, the full cost pricing-Traditional linear market pricing framework is presented. Sixth, the full cost pricing-Traditional circular market pricing framework is pointed out. Seventh, reality thinking is linked to with assumed reality thinking using as cases the linear traditional market inspired by Adam Smith and the circular traditional markets inspired by the European Union. Eight, the research question at hand in this paper is addressed from the point of view of the linear market thinking angle inspired by Adam Smith. Ninth, the research question at hand in this paper is addressed from the point of view of the circular market thinking angle inspired by the European Union. Tenth, reality and assumed reality are matched from the point of view of how full cost pricing markets and partial cost pricing markets like traditional linear and circular markets work. And eleventh, some relevant conclusions are listed.

Terminology

P = Price Q = Quantify

D = Demand TM = Traditional market

TMP = Traditional market price TMQ = Traditional market quantity

TMS = Traditional market supply POG = Pareto optimality gap

TMPOG = Traditional market Pareto optimality gap

MPD = Market price distortion CMPD = Corrected market price distortion

TMPD = Traditional market price distortion

CTMPD = Corrected traditional market price distortion

FPO = Full Pareto optimality PPO = Partial Pareto optimality

FCMS = Full cost market supply FCMP = Full cost market price

FCMQ = Full cost market quantity PCMS = Partial cost market supply

PCMP = Partial cost market price PCMQ = Partial cost market quantify

SCPO = Specific component Pareto optimality

CTMS = Circular traditional market supply

CTMP = Circular traditional market price

CTMQ = Circular traditional market quantity

CTMPOG = Circular traditional market Pareto optimality gap

CPCMP = Circular partial cost market price

CESCPO = Circular economic specific component Pareto optimality

PCTMPO = Partial circular traditional market Pareto optimality

CTMPD = Circular traditional market price distortion

CCTMPD = Corrected circular traditional market price distortion

NPOG = No Pareto optimality gap

PCTMEPO = Partial circular traditional market economic Pareto optimality

PCEPO = Partial circular economic Pareto optimality

AFEPO = Assumed full economic Pareto optimality

TMPONA = Traditional market Pareto optimality neutrality assumption

AFCEPO = Assumed full circular economic Pareto optimality

PEPO = Partial economic Pareto optimality

PTMEPO = Partial traditional market economic Pareto optimality

ESCPO = Economic component specific Pareto optimality

PTMPO = Partial traditional market Pareto optimality

The nature of full cost market pricing

If prices include all production costs (private + social + environmental + any other relevant costs), then prices reflect the true opportunity cost of production, a situation described in Figure 1 below:

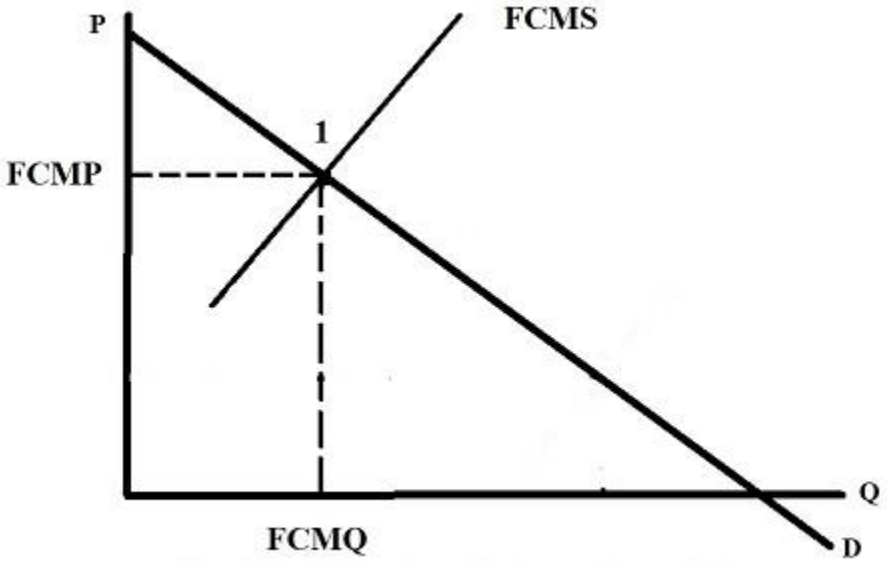

Figure 1 Full production cost pricing market

At point 1 in Figure 1 above we have a full cost market pricing point, where the market is cleared by the full cost market price FCMP that cuts supply FCMS and demand D and the quantity produced and consumed is FCMQ. At this point there is full Pareto optimality (FPO), and hence, there is here a fully efficient allocation of all resources, and there is no room for any resource misuse.

The nature of partial cost market pricing

. If prices do not include all production costs (private + social + environmental + any other relevant costs), then those prices do not reflect the true opportunity cost of production, a situation described in Figure 2 below:

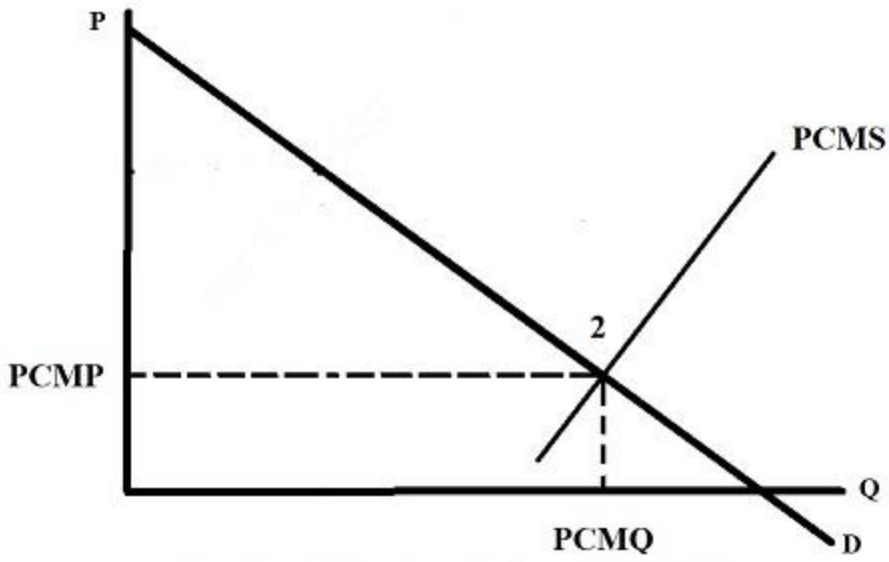

Figure 2 Partial production cost pricing market

At point 2 in Figure 1 above we have a partial cost market pricing point, where the market is cleared by the partial cost market price PCMP that cuts the partial cost based supply PCMS and demand D and the quantity produced and consumed is PCMQ. At this point there is Partial Pareto optimality (PPO), and hence, there is here a partially efficient allocation of all resources reflected in the pricing mechanism, and there is room here for the misuse of resources whose costs are not accounted for in that pricing mechanism.

The full cost pricing-partial cost pricing framework

If we link the full cost pricing market component with the partial cost pricing market component we create a Pareto optimality framework that goes from full Pareto optimality (FPO) to partial Pareto optimality (PPO) as indicated in Figure 3 below:

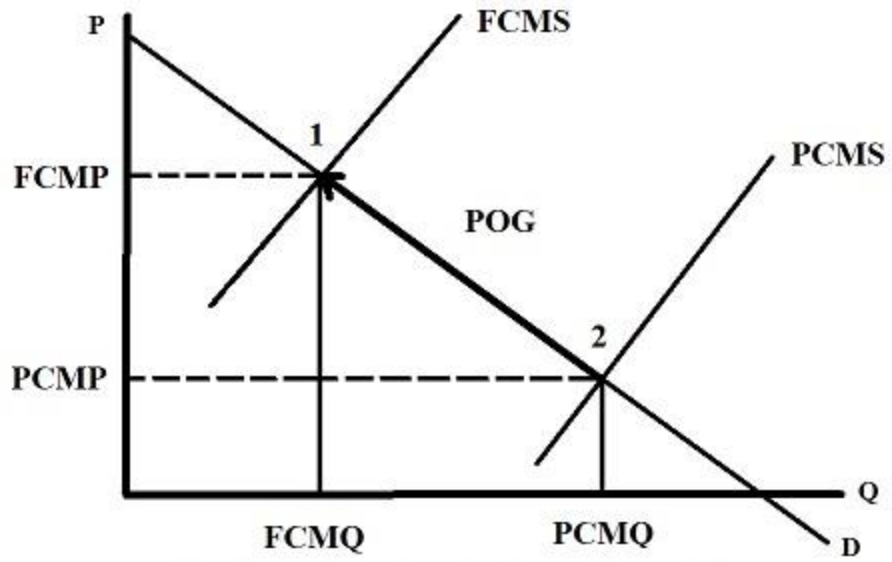

Figure 3 The full cost pricing-Partial cost pricing framework

Figure 3 above highlights that there is a Pareto optimality gap (POG) separating partial cost pricing markets at point 2 from full cost pricing markets at point 1 as shown by the arrow from point 2 to point 1, which explains several things: i) it explains why the quantity produced and consumed in partial cost pricing markets is higher (PCMQ > FCMQ); ii) it explains why prices in partial cost pricing markets are lower (PCMP < FCMP); and iii) it explains why there is misuse of resources in partial cost pricing markets and there is no misuse of resources in full cost pricing markets. Figure 3 above also allows us to see that at point 1 there are no Pareto improvements situations as no component can be made better off without affecting another component; and at point 2 there is component specific Pareto optimality (SCPO), not full Pareto optimality(FPO), hence the Pareto optimality gap (POG) is the difference between specific component Pareto optimality (SCPO) or partial Pareto optimality (PPO) as SCPO = PPO and full Pareto optimality (FPO) so that POG = FPO – SCPO = FPO – PPO. And this means that the market price distortion (MPD) leads to the Pareto optimality gap (POG), which encourage a move towards full unsustainability and towards resource misuse, which can be expressed in the following chain format if seen as a move from full cost pricing to partial cost pricing in Figure 3 above:

MPD → POG → Full unsustainability and resource misuse

Note that here all the resources whose cost are not fully accounted for will be misused.

However, if we look at the situation in Figure 3 above as a price correction move (CMPD) then the price correction move can be expressed in the following chain format as a move from partial cost pricing to full cost pricing; and hence a move to no Pareto optimality gap (NPOG) and full market efficiency:

CMPD → NPOG → Full sustainability and full resource use efficiency

Note that all the resources are efficiently used here as all costs are fully accounted for.

Finally it can be said that at point 2 there is partial cost pricing Pareto optimality (PPO) and there are resource use distortions or misuses as it is not a point of full Pareto optimality (FPO). In other words, when there is partial cost pricing such as in the case of the economy only market, linear or circular, there will be misused, specially of non-economic resources such as social and environmental resources (Muñoz 2026a) while full costing leads to no misuse of resources as there is full efficiency such as in the case of true sustainability markets as there are no true sustainability gaps (Muñoz 2026b).

Implication 1:

The situation in Figure 3 above applies to markets that operate under no externality neutrality assumptions, be it linear or circular.

The full cost pricing-Traditional linear market pricing framework

Since the linear traditional market model only accounts for economic cost of production as it takes any other cost of production as exogenous costs or exogenous issues, which means that the linear traditional market (TM) is a partial cost pricing market, and therefore if we make the linear traditional market price (TMP) equal to the partial cost market price (PCMP) so that the linear traditional market price TMP = PCMP, then the linear traditional market supply TMS = PCMS, the linear traditional market quantity TMQ = PCMQ, and hence the linear traditional market Pareto optimality gap TMPOG = POG, a situation summarized in Figure 4 below:

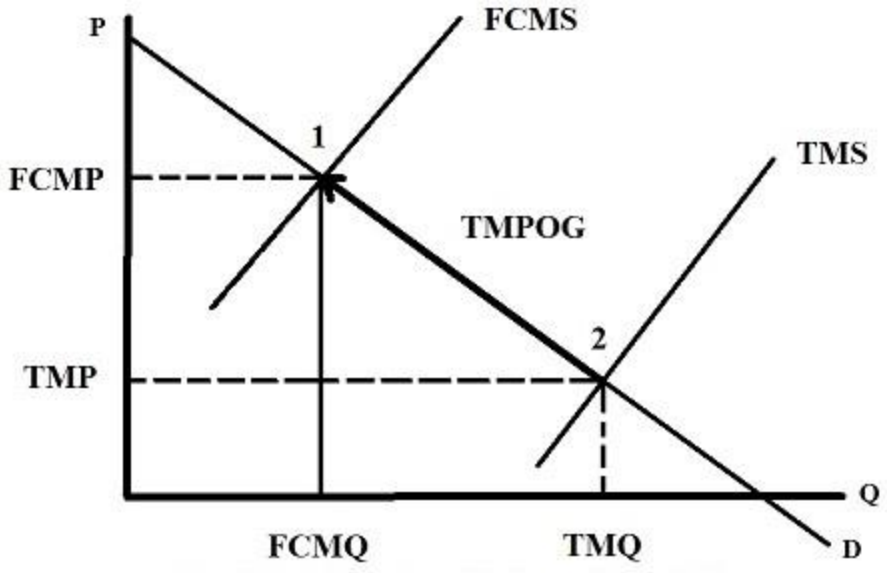

Figure 4 The full cost pricing-Linear traditional market pricing framework

Figure 4 above summarizes the full cost pricing-Traditional linear market pricing framework.

Then Figure 4 above points out that that there is a linear traditional market Pareto optimality gap (TMPOG) separating the linear traditional market price (TMP) at point 2 from full cost pricing markets (FCPM) at point 1 as shown by the arrow from point 2 to point 1, which explains several things: i) it explains why the quantity produced and consumed in linear traditional markets is higher (TMQ > FCMQ); ii) it explains why prices in linear traditional markets are lower (TMP < FCMP); and iii) it explains why there is misuse of resources in linear traditional markets and no misuse of any resource in full cost pricing markets. Figure 4 above also allows us to see that at point 1 there are no Pareto improvements situations as no component can be made better off without affecting another component; and at point 2 there is economic component specific Pareto optimality(ESCPO), not full Pareto optimality (FPO), which means that resource misuse will happen if their costs are not fully accounted for, hence the linear traditional market Pareto optimality gap (TMPOG) is the difference between economic linear specific component Pareto optimality (ESCPO) or partial linear traditional market Pareto optimality (PTMPO) as ESCPO = PTMPO and full Pareto optimality (FPO) so that TMPOG = FPO – ESCPO = FPO – PTMPO. And this means that the linear traditional market price distortion (TMPD) leads to the linear traditional market Pareto optimality gap (TMPOG), which encourage a move towards full unsustainability and resource misuse, a situation that can be expressed in the following chain format if seen as a move from full cost pricing to linear traditional market cost pricing or partial linear traditional market pricing in Figure 4 above:

TMPD → TMPOG → Full unsustainability and resource misuse

Note that here all the resources, economic and non-economic, whose cost are not accounted for fully will be misused.

However, if we look at the situation in Figure 4 above as a traditional market price correction move (CTMPD) then the price correction move can be expressed in the following chain format as a move from partial cost pricing or linear market pricing to full cost pricing; and hence a move to no Pareto optimality gap (NPOG) and full market efficiency:

CTMPD → NPOG → Full sustainability and full resource use efficiency

Note that all the resources, economic and non-economic, are efficiently used here as all costs are accounted for.

Finally it can be said that at point 2 there is partial linear traditional market economic Pareto optimality (PTMEPO) or partial linear economy pareto optimality (PEPO) and there are resource use distortions as resources whose costs are not fully accounted for, economic and non-economic are misused as this is not a point of full Pareto optimality(FPO).

Implication 2:

The situation in Figure 4 above applies to linear markets that operate under no externality neutrality assumptions.

The full cost pricing-Traditional circular market pricing framework

Since the circular traditional market model also only accounts for economic cost of production as it takes any other cost of production as exogenous costs or exogenous issues, which means that the circular traditional market (CTM) is a partial cost pricing market too. Point 3 in Figure 5 below shows a circular traditional market Pareto optimality point:

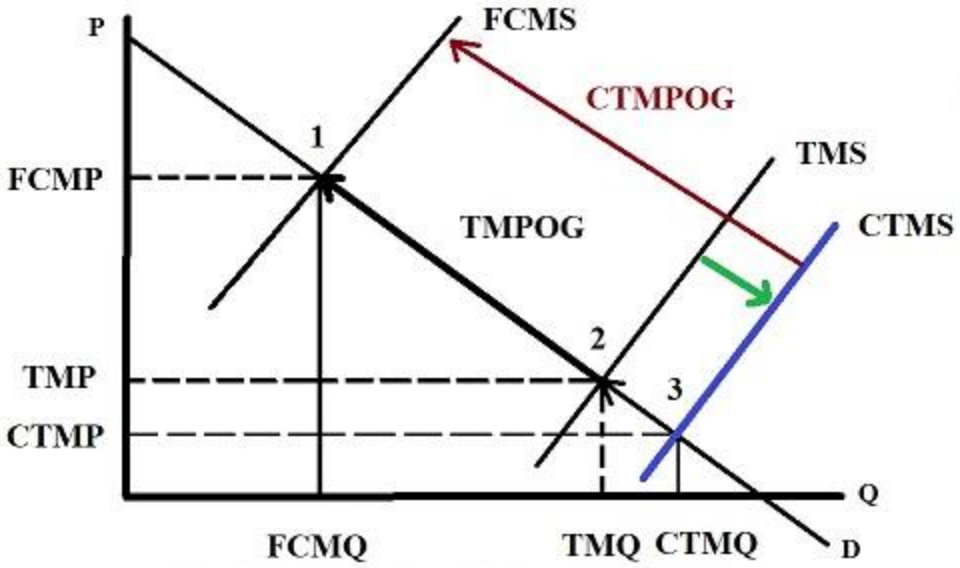

Figure 5 The full cost pricing-Circular traditional market pricing framework

Figure 5 above reflects the full cost pricing-Traditional circular market pricing framework.

Figure 5 above shows that the circular traditional market price (CTMP) cuts the circular traditional market supply (CTMS) and demand at point 3 determining the circular quantity to be produced and consumed (CTMQ) since at point 3 the circular partial cost market price (CPCMP) is equal to the circular traditional market price (CTMP). Notice that the circular traditional market price (CTMP) is lower than the linear traditional market price (TMP) so that CTMP < TMP due to a more efficient use of economic resources, and therefore, the circular market quantity to be produced and consumed is higher than the one in linear traditional markets so that CTMQ > TMQ.

Then Figure 5 highlights that there is a circular traditional market Pareto optimality gap (CTMPOG) separating the circular traditional market price (CTMP) at point 3 from full cost pricing markets (FCPM) at point 1 as shown by the arrow from point 3 to point 1, which explains several expected aspects: i) it explains why the quantity produced and consumed in circular traditional markets is higher (CTMQ > FCMQ); ii) it explains why prices in circular traditional markets are lower (CTMP = CPCMP < FCMP); and iii) it explains why there is misuse of non-economic resources in circular traditional markets and there is no misuse of any resource in full cost pricing markets. Figure 5 above also let us see that at point 1 there are no Pareto improvements situations as no component can be made better off without affecting another component; and at point 3 there is circular economic component specific Pareto optimality(CESCPO), not full Pareto optimality (FPO) hence non-economic components left out of the pricing mechanism will be misused, and hence the circular traditional market Pareto optimality gap (CTMPOG) is the difference between circular economic specific component Pareto optimality (CESCPO) or partial circular traditional market Pareto optimality (PCTMPO)

as CESCPO = PCTMPO and full Pareto optimality (FPO) so that CTMPOG = FPO – CESCPO = FPO – PCTMPO. And this means that the circular traditional market price distortion (CTMPD) leads to the circular traditional market Pareto optimality gap (CTMPOG) that goes from point 1 to point 3, which encourage a move towards full unsustainability and non-economic resource misuse, a situation that can be expressed in the following chain format if seen as a move from full cost pricing to circular traditional market cost pricing or partial circular traditional market pricing in Figure 5 above:

CTMPD → CTMPOG → Full unsustainability and non-economic resource misuse

Note that here all non-economic resources whose cost are not accounted for fully will be misused and as the focus here is on efficient economic resource use there is economic resource use efficiency here.

However, if we look at the situation in Figure 5 above as a circular traditional market price correction move (CCTMPD) then the price correction move can be expressed in the following chain format as a move from partial cost pricing or circular market pricing to full cost pricing; and hence a move to no Pareto optimality gap (NPOG) and full market efficiency:

CCTMPD → NPOG → Full sustainability and full resource use efficiency

Note that all the resources, economic and non-economic, are efficiently used here as all costs of production are now accounted for.

If we look at the information in Figure 5 above as a move from linear traditional market thinking (TM) at point 2 to circular traditional market thinking at point 3, we see the following: i) The move from point 2 to point 3 increases size of the pareto optimality gap (POG) as CTMPOG > TMPOG by the distance from point 3 to point 2. and hence the market price distortions in circular traditional markets increases due to increasing economic resource use efficiency so CTMPD > TMPD; and ii) that increasing economic resource use efficiency leads to non-economic resource use distortions on top of the existing market price distortions which will drive even more misused of non-economic resources. Finally it can be said that at point 3 there is partial circular traditional market economic optimality(PCTMEPO) or partial circular economic Pareto optimality (PCEPO) and there are non-economic resource use distortions as economic resource use efficiency is the goal as this is not a point of full Pareto optimality(FPO).

Implication 3:

The situation in Figure 5 above applies to circular markets that operate under no externality neutrality assumptions.

Linking reality thinking with assumed reality thinking: The case of the linear traditional market inspired by Adam Smith and of the circular traditional markets inspired by the European Union

Having established the full-cost pricing-partial cost pricing framework under Pareto Optimality Gap (POG) reality above and hence a framework under no POG neutrality assumptions, the remaining figures below show how the same analytical structures are transformed under POG neutrality assumptions. This permits a direct comparison between observed pricing structures and the assumptions required for traditional linear and traditional circular market efficiency results.

a) The full cost pricing-Adam Smith's inspired linear traditional market pricing framework

If we assume that the traditional linear market Pareto optimality gap (TMPOG) does not matter or does not exist or we take the position that the linear traditional market work best under traditional linear market Pareto optimality neutrality assumptions (TMPONA), then Figure 4 above is transformed into Figure 6 below:

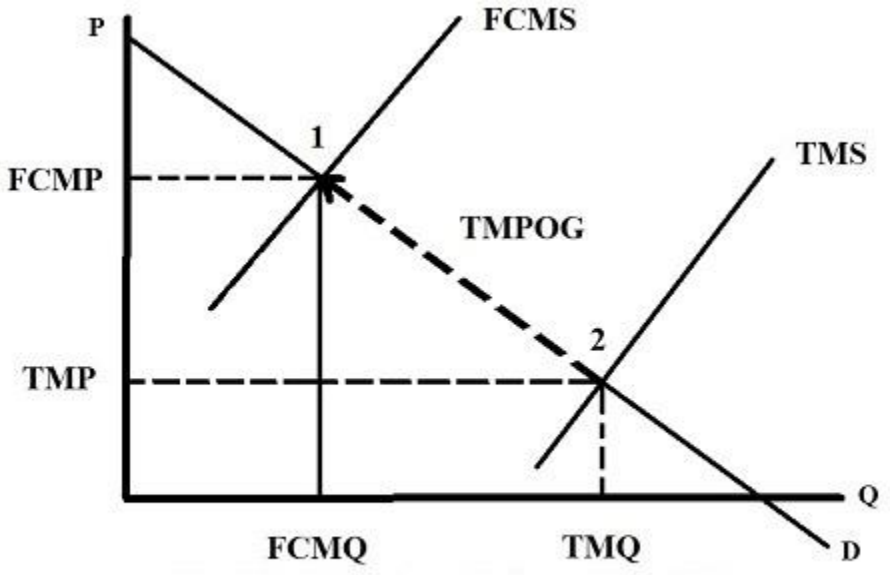

Figure 6 The full cost pricing-Adam Smith's inpired linear traditional pricing framework under pareto optimality gap neutrality assumptions.

Figure 6 above shows that the linear traditional market at point 2 is assumed to be separated from full cost pricing markets at point 1 as traditional linear markets are assumed to be able to expand without creating pareto optimality gaps so that TMPOG = 0. In other words, Adam Smith's framework works if you assume that real pareto optimality gaps (POG) do not exist as they are assumed away, which means that point 2 where the market of Adam Smith is located is a full Pareto optimality point by assumption only as its pricing mechanism is based on partial cost pricing. The thinking goes that at point 2 there is full linear economic Pareto

optimality, but by assumption (AFEPO) or point 2 works under traditional market Pareto optimality neutrality assumptions (TMPONA) as at this point partial costing is at play.

Implication 4:

The situation in Figure 6 above applies to linear markets a la Adam Smith that operate under externality neutrality assumptions.

b) The full cost pricing-EU inspired circular traditional market pricing framework

If we assume that the traditional circular market Pareto optimality gap (CTMPOG) does not matter or does not exists or we take the position that the circular traditional market works best under traditional circular market Pareto optimality neutrality assumptions(CTMPONA), then Figure 5 above is transformed into Figure 7 below:

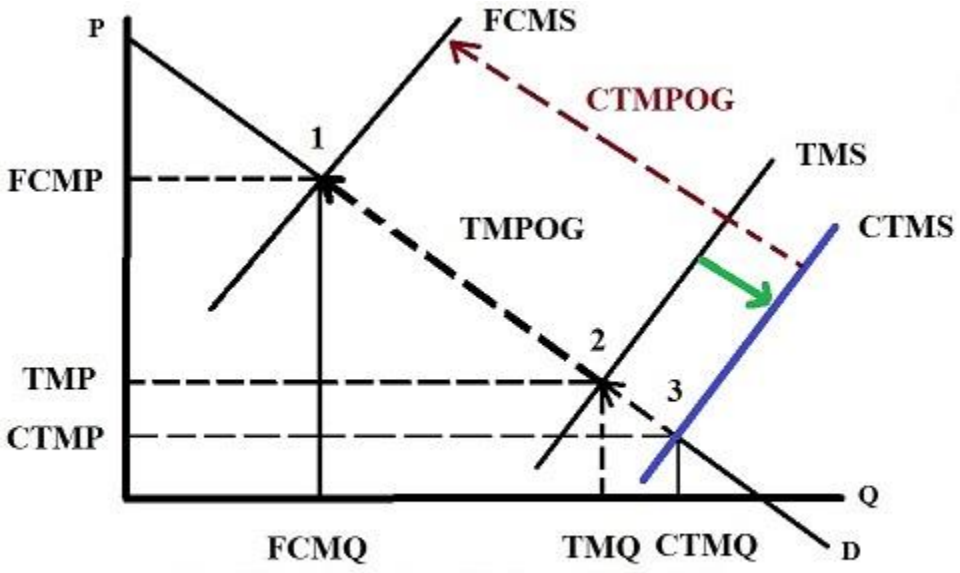

Figure 7 The full cost pricing-EU inspired circular traditional market pricing framework Under pareto optimality gap neutrality assumptions

Figure 7 above indicates that the circular traditional market at point 3 is assumed to be separated from full cost pricing markets at point 1 as traditional circular markets are also assumed to be able to expand without creating pareto optimality gaps so that CTMPOG = 0. In other words, circular traditional markets work if set up from scratch because they assume real circular traditional market pareto optimality gaps away through the circular traditional pareto optimality gap neutrality assumption or they work if they are an extension of linear markets to make them resource use efficiency because they assume that doing so do not create an expansion of the existing linear traditional market pareto optimality gap or they assume that circularity does not create pareto optimality gaps when partially pricing production costs. The thinking goes that at point 3 there is full circular economic Pareto optimality, but by assumption (AFCEPO) as partial costing is still at play.

Implication 5:

The situation in Figure 7 above applies to circular markets a la European Union that operate under externality neutrality assumptions.

Addressing the research question at hand from the linear market thinking angle inspired by Adam Smith

Can Resource Allocation Be Efficient under Distorted linear Traditional Market Prices? If Not, Why Not?

i) The case of the existence of No Pareto optimality gap neutrality assumptions

Under no traditional linear Pareto optimality neutrality assumptions as shown in Figure 4 above the answer to the question is No: **Resource Allocation Can Not Be Efficient under Distorted Linear Traditional Market Prices.** And this is because the existence of distorted linear market prices provides an incentive for producing and consuming as far away from full cost pricing point as possible expanding that way the traditional linear Pareto optimality gap (TMPOG), and hence, expanding that way linear market unsustainability in the process.

ii) The case of the existence of the Pareto optimality gap neutrality assumptions

Under traditional linear Pareto optimality neutrality assumptions as shown in Figure 5 above the answer to the question is yes: **Resource Allocation Be Efficient under Distorted Linear Traditional Market Prices, but by assumption only.** And this is because the existence of distorted linear market prices are assumed not to provide an incentive for producing and consuming as far away from full cost pricing point possible, and hence, they are assumed not to expand the traditional linear pareto optimality gap (TMPOG) as they assume that partial linear optimality points are full optimality points, and therefore, they assume that partial linear unsustainability points are full sustainability points.

iii) About the world inspired by Adam Smith

The Adam Smith's market(Smith 1776), a linear economy model, leads to economic Pareto optimality situations by assumption only as it requires linear externality neutrality assumptions to work, and hence under no externality neutrality assumptions it breaks down as the assumptions do not match the inherently conjunctural reality. In other words, the traditional market of Adam Smith is analytically consistent under a particular set of assumptions, namely linear Pareto optimality neutrality assumptions or linear externality production neutrality assumptions. When those linear assumptions are relaxed to admit linear Pareto Optimality Gaps or linear externality production gaps, a different set of implications follows, and those

implications correspond more closely to observed socio-environmental problems associated with the working of linear traditional market. For example, the Brundtland Commission in 1987 (WCED 1987) documented the socio-environmental issues created by distorted traditional market prices, but they have critically accumulated because real price distortions have been assumed away.

Implication 6

Under linear Pareto Optimality Gap neutrality assumptions Resource Allocation Can Be Efficient under Distorted linear Traditional Market Prices because the analytical model assumes away the effects of omitted socio-environmental costs making up the linear Pareto optimality gap. When linear Pareto Optimality Gaps are admitted into the analysis: the same conclusion no longer follows automatically, because the linear price signals no longer reflect the full costs relevant to efficient allocation, and hence the linear distortion leads to the accumulation of critical linear socio-environmental problems.

Addressing the research question at hand from the circular market thinking angle inspired by the European Union

Can Resource Allocation Be Efficient under Distorted circular Traditional Market Prices? If Not, Why Not?

i) The case of the existence of the no Pareto optimality gap neutrality assumptions

Under no traditional circular Pareto optimality neutrality assumptions as shown in Figure 6 above the answer to the question is No; **Resource Allocation Can No Be Efficient under Distorted Circular Traditional Market Prices.** And the reason is because the existence of distorted circular market prices provide an incentive for producing and consuming as far away from full cost pricing possible expanding the circular traditional pareto optimality gap (CTMPOG), and therefore, expanding circular market unsustainability in the process.

ii) The case of the existence of the Pareto optimality gap neutrality assumptions

Under traditional circular Pareto optimality neutrality assumptions as shown in Figure 7 above the answer to the question is yes: **Resource Allocation Can Be Efficient under Distorted circular Traditional Market Prices, but by assumption only.** And this is because the existence of distorted circular market prices are assumed not to provide an incentive for producing and consuming as far away from full cost pricing possible, and hence they are believed not to expand the traditional circular Pareto optimality gap (CTMPOG) as they assume

that partial circular optimality points are full optimality points, and therefore, they assume that partial circular unsustainability points are full sustainability points.

iii) About the circular traditional market move inspired by the European Union

The proposed European Union market, a circular economy model, leads to circular economic Pareto optimality situations by assumption only as it too requires externality neutrality assumptions to work, and hence under no externality neutrality assumptions it breaks down as the assumptions do not match the inherently conjunctural reality. In other words, the circular traditional market of promoted by the European Union is analytically consistent under a particular set of assumptions too, namely circular Pareto optimality neutrality assumptions or circular externality production neutrality assumptions. When those circular assumptions are relaxed to admit circular Pareto Optimality Gaps or circular externality production gaps, a different set of implications follows, and those implications correspond more closely to observed socio-environmental problems associated with the working of circular traditional market. The focus of the European Union on improving the economic resource used problem of the linear market (WB 2022; OECD 2025) is disconnected from the need to address the market price distortions of the linear market, which now are embedded in the circular market which have and continue to drive the socio-environmental problems the Brundtland Commission (WCED 1987) documented in 1987 and linked them to the working of economic only based markets, which applies to linear or circular, economy only markets.

Implication 7

Under circular Pareto Optimality Gap neutrality assumptions Resource Allocation Can Be Efficient under Distorted circular Traditional Market Prices because the analytical model assumes away the effects of omitted socio-environmental costs making up the circular Pareto optimality gap as attention is focused here on circular economic resource use efficiency. When circular Pareto Optimality Gaps are admitted into the analysis: again the same conclusion no longer follows automatically, because the circular price signals no longer reflect the full costs relevant to efficient allocation, and hence the circular distortion leads to the accumulation of circular critical socio-environmental problems.

Mapping reality and assumed reality in which full cost pricing markets and partial cost pricing markets like traditional linear and circular markets work

Table 1 Mapping reality and assumed reality

Full cost pricing markets	**Partial cost pricing markets**
↓	↓
True sustainability markets	**Linear and circular traditional markets**
REALITY THINKING	**ASSUMED REALITY THINKING**
POG exists	**POG assumed away**
Distorted price signals	**Assumed undistorted analytical price signals**
Full efficient allocation of resources	**No full efficient allocation of resources**
Not implied full allocation	**Implied full allocation**
Observed critical problems such as	**Assumed not observed critical problems such**
As socio-environmental problems,	**Socio-environmental problems,**
Which are endogenous issues here	**Which are exogenous issues here**
No Pareto optimality	**Pareto optimality**
Neutrality assumptions at play here	**Neutrality assumptions at play here**

Conclusions

First, it was highlighted that under full cost pricing markets there is full Pareto optimality, and hence there is full efficient allocation of resources. Second, it was pointed out that under partial cost pricing markets there is partial Pareto optimality, and therefore, there is partial efficient allocation of resources as only the resources whose costs are reflected in the pricing mechanism are efficiently used, the others are misused. Third, it was indicated that linking the full cost pricing market with the partial cost pricing market creates a framework where there is a Pareto optimal continuum that goes from full to partial Pareto optimality, where the different between full Pareto optimality and partial Pareto optimality is the Pareto optimality gap. Fourth, it was pointed out that under no Pareto optimality gap assumptions this continuum reflects observed reality. Fifth, it was stressed that the traditional market inspired by Adam Smith is a partial cost pricing market which should be expected to promote the misused of resources under reality, the misuse of those resources whose costs are not fully accounted for, economic and non-economic, in the linear market price mechanism. However, under assumed reality Adam Smith's model works. And Sixth, it was indicated too that the circular traditional market inspired by the European Union is also a partial cost pricing market which should be expected to promote the misused of resources under reality, the misuse of those non-economic resources whose costs are not fully accounted for in the circular market price mechanism as only economic resources with full cost accounting will be efficiently used.

In general, it can be said that i) Under full cost pricing, prices reflect production costs, allowing full Pareto optimality and the efficient allocation of all resources; ii) Under partial cost pricing, only the costs included in the pricing mechanism guide allocation, creating a Pareto optimality gap and partial resource allocation efficiency; iii) Traditional linear and traditional circular markets can be interpreted as partial cost pricing systems whenever non-economic production costs remain outside the pricing mechanism; iv) The answer to whether distorted traditional market prices can allocate resources efficiently depends on the analytical assumptions adopted: under Pareto optimality gap neutrality assumptions, the answer is yes; when those assumptions are relaxed, the answer no longer follows; v) The proposed framework distinguishes between conclusions that hold under observed pricing structures and conclusions that hold only under neutrality assumptions, providing a common analytical framework for comparing full cost, linear traditional, and circular traditional market thinking; and finally vi) Sixth, the framework presented in this paper shows that analytical conclusions about market efficiency are conditional on the pricing structure assumed. Distinguishing between observed reality and assumed reality provides a consistent basis for evaluating both traditional linear and traditional circular market models under a common full-cost pricing framework.

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