BASIC ASPECTS FOR MODELLING THE BEST OPERATING PRACTICE FOR THE TRANSFERABILITY OF INVESTMENT ECONOMIC BENEFITS

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Abstract

In the current economic context, whether the reference is for a private or government investment, the best practice in managing an investment interest is dependent on both the ability of authorities mandated to represent the realization of investment interest as well as their ability to use complex methods to assist in risk mitigation decision. Knowledge of such methods requires both a target for rational management of investment interest, geared towards best practice in resource allocation and best practice of allocating operational results to specific destinations and a subjective interest linked to increasing the professional performance and/or minimization the decisional risk. This article presents some basic concepts and ways of the practice methodological approach that can be benchmarks for meeting subjective interest related to the development of professional expertise in a form of addressing topics in another way than the classical one, to maximize profit oriented, mainly, to maximize the benefit of the investment made. At the same time, some derived notions are introduced, such as the function of transfer of embodied economic benefit, the function of request for embodied economic benefit transfer, the best practice in the management of operational activity, the best practice in resource allocation or the best practice in operational results allocation.

***Keywords**: management of investment interest, transferability of embodied economic benefit, the set of allocation possibilities, set of opportunities for realization, returns to scale, linear programming.*

JEL classification: C6, G3

1. Introduction

For any operational unit whose presence in a specific economic sector is due to a private or government investment, operational activity assumes a specific set of operational resources embodying potential economic benefits controllable through historical agreements (commercial, labour, etc.), $({}^{-}R)$, in which the allocation for consumption $(-)$ in specific operational processes ensures the transfer, τ, of potential embodied economic benefits, (+), as expected economic benefits in a lot of specific outcomes, R^{+}, for the activity of business unit in the reference economic sector.

For such an investment unit, the specific of operational activity is describable through a referential of m specific operational resources

$$ {}^{-}r := ({}^{-}r_1,\ {}^{-}r_2, \dots,\ {}^{-}r_i, \dots,\ {}^{-}r_m) \qquad (1)$$

allocated for specific operational activities, τ, in order to obtain a referential of n operating results specific for the field of activity

$$r^{+} := \left(r_1^{+}, r_2^{+}, \dots, r_j^{+}, \dots, r_n^{+}\right) \tag{2}$$

intended for allocation to specific markets (specific trade market, specific labour markets, markets of specific services, etc.) pending completion of expected economic benefits (effective collection of the commercial contracts counter value, meeting the demand for skilled human resources as a result of allocations of qualified human resources on labour markets of specific competence areas, achievement of goals of economies or diseconomies of specific economic interest (local, regional, national, etc.).

2. Basic concepts and techniques in identifying the best management of investment interest

In general terms, given the structural components above, the description of an operational activity makes reference mainly to a quantitative description formulated in terms of "how much of the potential economic benefits incorporated into the available operational resources must be slaughtered in order to have as destination expected economic benefits whose realization is an uncertain certainty"?

Mathematical formulation of such challenges is

$$_{r}^{-}q := \left({}_{r_1}^{-}q, {}_{r_2}^{-}q, \dots, {}_{r_i}^{-}q, \dots, {}_{r_m}^{-}q\right) \xrightarrow{\tau} q_r^{+} := \left(q_{r_1}^{+}, q_{r_2}^{+}, \dots, q_{r_j}^{+}, \dots, q_{r_n}^{+}\right) \tag{3}$$

where:

$_{r}^{-}q := \left({}_{r_1}^{-}q, {}_{r_2}^{-}q, \dots, {}_{r_i}^{-}q, \dots, {}_{r_m}^{-}q\right)$	=	aggregate operational consumption defined by specific operational resources, ${}_{r_i}^{-}q$
τ	=	transfer function of embodied economic benefits in operational resources
$q_r^{+} := \left(q_{r_1}^{+}, q_{r_2}^{+}, \dots, q_{r_j}^{+}, \dots, q_{r_n}^{+}\right)$	=	aggregate operating result defined by specific operational results, $q_{r_j}^{+}$.

For a decision-maker, whether if, by individual investor, is a factor to decide on future investment destination, based on the subjective interests of maximizing the economic benefits expected, or if, by the person of investment interest manager, is a decision factor on meeting investment interest, within a strictly limited quantitative description, the reporting for specific interest has two historical retrospectives: a retrospective on the operational consumption practice and a retrospective on the operational results practice.

For each of the decision makers, the role of two historical perspectives is different. For an investor these are references on the mode of achieving the historical investment expectations by which reporting can substantiate, discretionary, a perspective on future investment destination based on circumstantial interests on meeting current and future subjective economic benefit. Being a subjective term interest, the investment interest is not always an economic interest within the general economic framework but an economic interest in the sphere of subjective economic framework, the only economic motivation being the maximization of expected benefits. For this reason, we believe that treating the investment economic interest is rather a subject for a sociological or political treatment rather than strictly economic.

For a decision maker in managing an investment interest, regardless of subjective investment interest of the investor, the interest is purely economic, being focused on how to manoeuvre in the areas of intrinsic economic value (not personal interest), subject to his professional expertise. For this reason, the interest of decision-makers in the management of investment interest is (or wants to be) an objective-oriented interest on its expertise in the practice of operational activities management, meaning by this, the personal expertise in the practice of resource allocation for consumption or for effective recovery of operating results.

The descriptive reference framework of the quantitative component that is part of a decision-maker interest in the administration of the investment interest is represented by two adjacent tables.

Table 1: Operational consumption history

reference range		history of specific operational consumption					
		${}_{r_1}^{-}q$	${}_{r_2}^{-}q$	$\cdots$	${}_{r_i}^{-}q$	$\cdots$	${}_{r_m}^{-}q$
$t-1$	aggregate operational consumption history	${}_{r_1}^{-}q^{t-1}$	${}_{r_2}^{-}q^{t-1}$	$\cdots$	${}_{r_i}^{-}q^{t-1}$	$\cdots$	${}_{r_i}^{-}q^{t-1}$
$\vdots$		$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$
$t-x$		${}_{r_1}^{-}q^{t-x}$	${}_{r_2}^{-}q^{t-x}$	$\cdots$	${}_{r_i}^{-}q^{t-x}$	$\cdots$	${}_{r_i}^{-}q^{t-x}$
$\vdots$		$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$
$t-k$		${}_{r_1}^{-}q^{t-k}$	${}_{r_2}^{-}q^{t-k}$	$\cdots$	${}_{r_i}^{-}q^{t-k}$	$\cdots$	${}_{r_i}^{-}q^{t-k}$

$t-x$ arbitrary operating range

${}_{r_i}^{-}q$ arbitrary specific operational consumption

Table 2: Operational results history

reference range		history of specific operational results					
		$q_{r_1}^{+}$	$q_{r_2}^{+}$	$\cdots$	$q_{r_j}^{+}$	$\cdots$	$q_{r_n}^{+}$
$t-1$	aggregate operational results history	${}^{t-1}q_{r_1}^{+}$	${}^{t-1}q_{r_2}^{+}$	$\cdots$	${}^{t-1}q_{r_j}^{+}$	$\cdots$	${}^{t-1}q_{r_n}^{+}$
$\vdots$		$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$
$t-x$		${}^{t-x}q_{r_1}^{+}$	${}^{t-x}q_{r_2}^{+}$	$\cdots$	${}^{t-x}q_{r_j}^{+}$	$\cdots$	${}^{t-x}q_{r_n}^{+}$
$\vdots$		$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$	$\vdots$
$t-k$		${}^{t-k}q_{r_1}^{+}$	${}^{t-k}q_{r_2}^{+}$	$\cdots$	${}^{t-k}q_{r_j}^{+}$	$\cdots$	${}^{t-k}q_{r_n}^{+}$

$q_{r_j}^{+}$ arbitrary specific operational consumption result

Each of the two tables is a knowledge base regarding operational consumption and operational results expertise in the management of operational activity of reference investment unit in retrospective of k previous operational activities for a decision making time, t.

Mathematically described, the operational consumption history is the Cartesian product of the operational consumption set during the reference period

$$\begin{aligned} {}_{r^m}^{-}Q &= {}_{r_1}^{-}Q \times {}_{r_2}^{-}Q \times \ldots \times {}_{r_i}^{-}Q \times \ldots \times {}_{r_m}^{-}Q \\ &= \left\{ \left({}_{r_1}^{-}q, \ldots, {}_{r_i}^{-}q, \ldots, {}_{r_m}^{-}q \right) \middle| {}_{r_1}^{-}q \in {}_{r_1}^{-}Q^k, \ldots, {}_{r_i}^{-}q \in {}_{r_i}^{-}Q^k, \ldots, {}_{r_m}^{-}q \in {}_{r_m}^{-}Q^k \right\} \end{aligned} \quad (4)$$

representing dimensional m space of the expertise in managing operational resources, each of the reference sets being rationally treated as strictly ordered sets between extreme values

$$\bar{_{r_i}q} = \{\bar{_{r_i}q} \mid \min \bar{_{r_i}q} < \cdots < \bar{_{r_i}q}^x < \cdots < \max \bar{_{r_i}q}\} \quad (5)$$

where:

$\bar{_{r_i}q}^x$ = arbitrary magnitude strictly ordered set of specific operational consumption as recorded during the reporting period.

Similarly, the historical operational results are mathematically described as a Cartesian product of the operational results set during the reporting period

$$Q_{r^n}^+ = Q_{r_1}^+ \times Q_{r_2}^+ \times \ldots \times Q_{r_j}^+ \times \ldots \times Q_{r_n}^+ = \left\{\left(q_{r_1}^+, \ldots, q_{r_j}^+, \ldots, q_{r_n}^+\right) \middle| q_{r_1}^+ \in Q_{r_1}^+, \ldots, \bar{_{r_i}q} \in Q_{r_j}^+, \ldots, q_{r_n}^+ \in Q_{r_n}^+\right\} \quad (6)$$

representing dimensional n space of expertise in managing operational results, as in the case of operational consumption, each of the reference sets being rationally treated as strictly ordered sets between extreme values

$$q_{r_j}^+ = \left\{q_{r_j}^+ \middle| \min q_{r_j}^+ < \cdots < {}^x q_{r_j}^+ < \cdots < \max q_{r_j}^+\right\} \quad (7)$$

where:

${}^x q_{r_j}^+$ = arbitrary magnitude strictly ordered set of specific operational results as recorded reference period.

For each of the two tables, line items are aggregate consumption (respectively, aggregate results) relative to operational activity undertaken within a historical reference and column elements are historical retrospective for specific consumptions (respectively, for specific results).

Depending on the particular interest of the decision maker, it can be oriented either towards best practice of allocation to operational consumption, based on the transfer function of the potential economic benefits effectively incorporated therein,

$$\tau(\bar{_r q}) \rightarrow q_r^+ \quad (8)$$

or towards the best practice of allocating operating income, driven by demand function transfer to economic benefits with future actual implementation corresponding to

$$\bar{_r q} \leftarrow \tau^{-1}(q_r^+). \quad (9)$$

According to (8), each operational result is a correspondence for an operational consumption, in other words operating result is a correspondence arguing, necessary and sufficient, the transfer of economic benefits embodied in the operating results or, according to (9), each operational consumption is a correspondence arguing, necessary and sufficient, a transfer request. An operational activity is therefore justified, necessary and sufficient, by two-way relationship between the two corresponding components.

$$\bar{_r q} \underset{\tau^{-1}(q_r^+)}{\overset{\tau(\bar{_r q})}{\rightleftarrows}} q_r^+ \,. \quad (10)$$

Theoretically, based on the strict correspondence between the operational consumption and operational results, the freedom of decision maker should be discretionary, his expertise providing a set of possible operating results having correspondence with a set of corresponding operational consumptions

$$ {}_{r}^{-}Q \underset{\mathrm{T}^{-1}(q_r^+)}{\overset{\mathrm{T}({}_{r}^{-}q)}{\rightleftarrows}} Q_r^+ \tag{11} $$

or, in other words, to achieve a set of possible outcomes there are lots of possible corresponding operational consumptions

$$ \mathrm{T}^{-1}(q_r^+) = \{ {}_{r}^{-}q \,|\, q_r^+ = \tau({}_{r}^{-}q), q_r^+ \in Q_{rn}^+ \} \tag{12} $$

respectively a lot of possible operational consumptions are motivated by a corresponding set of possible operational results

$$ \mathrm{T}({}_{r}^{-}q) = \{ q_r^+ \,|\, {}_{r}^{-}q = \tau^{-1}(q_r^+), {}_{r}^{-}q \in {}_{rm}^{-}Q \}. \tag{13} $$

If, in theory, given the foregoing, between the two structural components there are, apparently, a practically perfect correspondence, because of multiple correspondences, obtaining an operational result can be achieved by a variety of different ways, namely, the operational consumption can lead to a variety of possible operating results. In other words, the existence of a wide range of possible results leads to a large range of possible operating consumptions, both the potential economic benefits of the transfer function

$$ \tau({}_{r}^{-}q) \geq q_r^+ \tag{14} $$

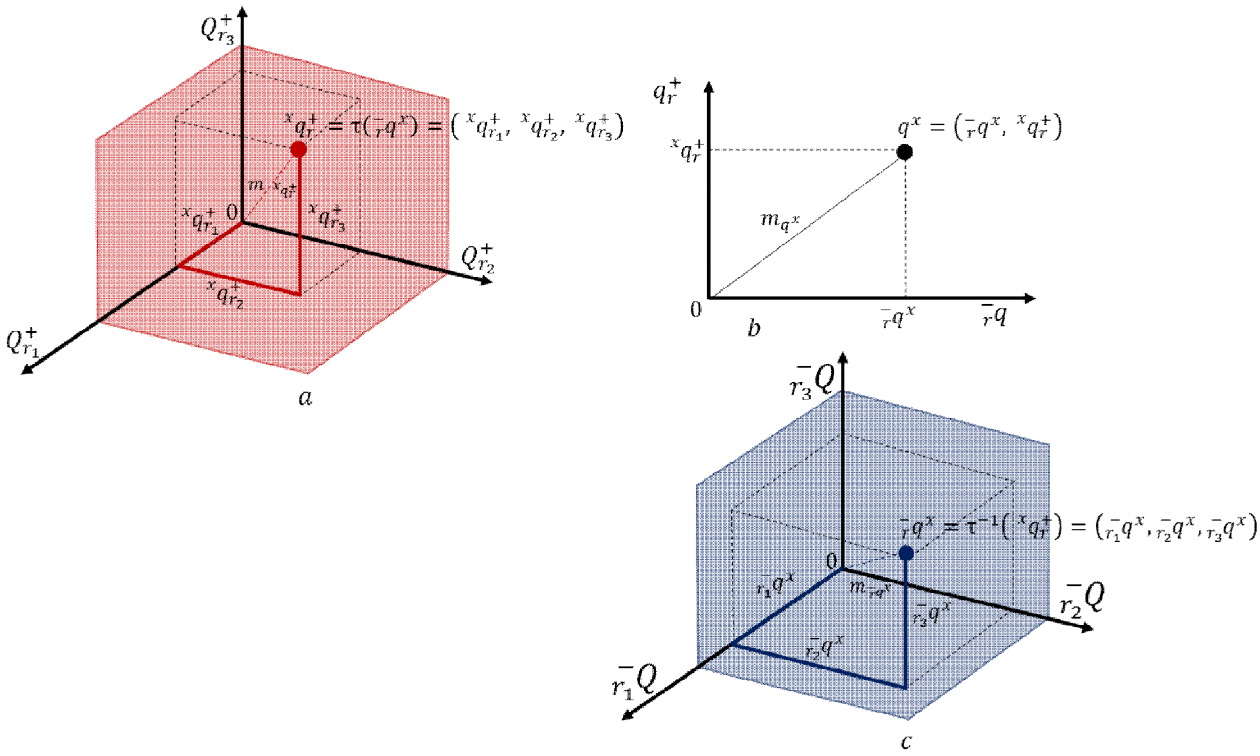
and the demand function for the transfer of embodied economic benefits

$$ \tau^{-1}(q_r^+) \leq {}_{r}^{-}q \tag{15} $$

highlighting the possibility of the existence of an incomplete transfer of the potential economic benefits incorporated into the operational resources (operational losses).

Paradoxically, the more varied possibilities for the selection of decision makers, the less certainty of selection accuracy, as choice uncertainty of the best practice is higher. The deviation scale of selecting the best operational practice is, thus, a value of decision-making risk in the management of investment interest. Obviously, minimizing this risk is related to finding the best operational practices of conservation (=) through the transfer of economic benefits in specific business processes or to minimize (≤) operational losses.

In determining the best operational practices, whether the orientation of the decision-maker is to establish the best operating result or to establish the best operational consumption, the selection method is based on the reference crowd metrics, a notion introduced by Shephard, referring to the input distance function and measures of technical efficiency introduced by Debreu and Farrell.



a. operating result metric, $m_{{}^{x}q_r^+}$, in operating result space ($n = 3$)

b. metric operational relationship, m_{q^x}, in the descriptive space defining the relationship between the structural components of operational activity

c. operating consumption metric, $m_{{}_{r}^{-}q}$, in the space of operating consumption ($m = 3$)

Figure 1: Representation of a quantitative component of an arbitrary operating activity

Let it be a set of operational consumptions and a set of operating results belonging to a historical retrospective operations of our investment unit. Orientation in space of the two sets of reference is based on strict ordering of the elements

$$ {}_{r}^{-}q = \{ {}_{r}^{-}q \mid \min {}_{r}^{-}q < \cdots < {}_{r}^{-}q^{x} < \cdots < \max {}_{r}^{-}q \} \tag{16} $$

for the set of selection possibilities in the area of operational consumptions, respectively

$$ q_r^+ = \{ q_r^+ \mid \min q_r^+ < \cdots < {}^{x}q_r^+ < \cdots < \max q_r^+ \} \tag{17} $$

for the set of selection possibilities in the area of operational results, rationality of selection results being defined in terms of maximizing results while identifying the best practice of operational resource allocation or alternatively, minimizing operational consumptions while identifying best practices to maximize operational results. Data and selection criteria are shown in Figure 2.

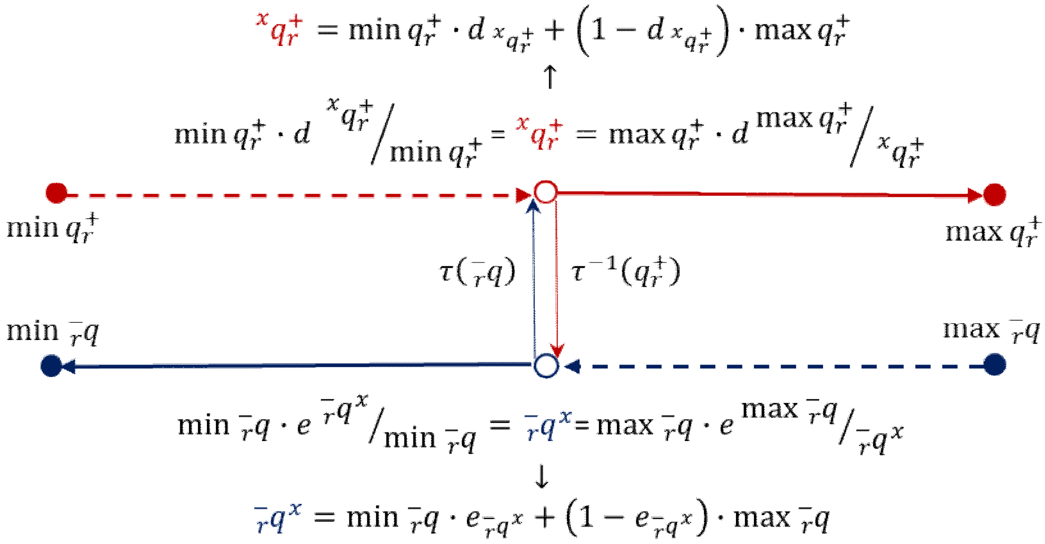


Figure 2: Illustration of the reasoning in the space of possible selection

Let it be an arbitrary operating result, ${}^{x}q_r^+$, in the operational results space. According to historical recording, the correspondent operational consumption is, ${}_{\bar r_i}q^x$, leading thereby to the hypothesis that on the basis of function request for transfer of economic benefits, $\tau^{-1}(q_r^+) = {}_{\bar r}q$, this was the way to transfer economic benefits in integrum.

Achieving reference operating result, ${}^{x}q_r^+$, is, however, possible by any operational consumption in the range $[{}_{\bar r}q^x, \max {}_{\bar r}q]$, these constituting a series of operational consumption surplus accumulated adherently and convergent to ${}_{\bar r}q^x$. The indicator of operational consumption between the extremes of possible excess operational consumption is given by the ratio between the operational consumption referred to as direct correspondence

$$e_{\max {}_{\bar r}q} = \frac{\max {}_{\bar r}q}{{}_{\bar r}q^x} = \frac{\max {}_{\bar r}q}{{}_{\bar r}q^{ref}} \,. \tag{18}$$

In general terms, for each possible operational consumption of the range there is an index of surplus to operational use of the lower reference

$$e_{\sup {}_{\bar r}q^{ref}} = \frac{\sup {}_{\bar r}q^{ref}}{{}_{\bar r}q^{ref}} \tag{19}$$

each operational consumption is, by reference to the operating result reference, ${}^{x}q_r^+$, a set of operational consumption operating results (izocante) which do not belong to the multitude of historical operational possibilities, obviously due to the excess that characterizes

$$\mathrm{T}_{izo}^{-1}(q_r^+) = \left\{ {}_{\bar r}q_{izo} \middle| {}_{\bar r}q_{izo} \in \mathrm{T}^{-1}(q_r^+), e_{{}_{\bar r}q} \cdot {}_{\bar r}q_{izo} \notin \mathrm{T}^{-1}\left({}^{ref}q_r^+\right), \mathrm{T}_{izo}^{-1}\left({}^{ref}q_r^+\right) \subseteq \mathrm{T}^{-1}(q_r^+) \right\} . \tag{20}$$

In its turn, the reference operational consumption, ${}_{\bar r}q^x = {}_{\bar r}q^{ref}$, is an operational consumption surplus compared to either operational consumption inferior to it

$$e_{{}_{\bar r}q^{ref}} = \frac{{}_{\bar r}q^{ref}}{\inf {}_{\bar r}q^{ref}} \tag{21}$$

the set of possible operational consumption being, for any reference operational consumption, a convex and compact set

$$ {}_{\bar{r}}q^{ref} = e_{{}_{\bar{r}}q^{ref}} \cdot \min {}_{\bar{r}}q + \left(1 - e_{{}_{\bar{r}}q^{ref}}\right) \cdot \max {}_{\bar{r}}q \tag{22} $$

the characterization of its surplus position in the space of reference operational consumption being given by all surplus indicators to its lower operational consumption, on the one hand, and by all surplus indicators of higher operating consumptions, on the other hand:

$$ {}_{\bar{r}}q^{opt} = \sum e_{{}_{\bar{r}}q^{ref}} \cdot \inf {}_{\bar{r}}q^{ref} + \sum \left(1 - e_{{}_{\bar{r}}q^{ref}}\right) \cdot \sup {}_{\bar{r}}q^{ref} \ . \tag{23} $$

Having the best practice operational consumption is therefore possible in the set

$$ \mathrm{T}_{opt}^{-1}(q_r^+) = \left\{ {}_{\bar{r}}q_{opt} \middle| {}_{\bar{r}}q_{opt} \in \mathrm{T}^{-1}(q_r^+), e_{{}_{\bar{r}}q} \cdot {}_{\bar{r}}q_{opt} \notin \mathrm{T}^{-1}\left({}^{ref}q_r^+\right), {}_{\bar{r}}q_{opt} \leq {}_{\bar{r}}q^{ref}, \mathrm{T}_{opt}^{-1}\left({}^{ref}q_r^+\right) \subseteq \mathrm{T}_{izo}^{-1}\left({}^{ref}q_r^+\right) \subseteq \mathrm{T}^{-1} \right. \ . \tag{24} $$

Following the same rationale, operational consumption ${}_{\bar{r}}q^x$ is presented as an historical correspondent of operating result ${}^{x}q_r^+ = {}^{ref}q_r^+$ but, also, the possible operational consumption to achieve any operational result in the range [0, ${}^{x}q_r^+$] in relation to which the reference operating result is a surplus. Among the many possible operational results, a set of achievable operating results is individualized from the same operational consumption

$$ \mathrm{T}_{izo}({}_{\bar{r}}q) = \left\{ {}_{izo}q_r^+ \middle| {}_{izo}q_r^+ \in \mathrm{T}({}_{\bar{r}}q), {}_{izo}q_r^+ \notin \mathrm{T}({}_{\bar{r}}q^{ref}), \mathrm{T}_{izo}({}_{\bar{r}}q^{ref}) \subseteq \mathrm{T}({}_{\bar{r}}q) \right\} . \tag{25} $$

Any operational result lower than the reference operational result is a deficit operating result compared to any higher operating result, and the deficit operating indicator is therefore

$$ d_{{}^{ref}q_r^+} = \frac{\sup {}^{ref}q_r^+}{{}^{ref}q_r^+} \tag{26} $$

the set of possible operational results being, for any reference operating result, a convex and compact set

$$ {}^{ref}q_r^+ = \left(1 - d_{{}^{ref}q_r^+}\right) \cdot \min q_r^+ + d_{{}^{ref}q_r^+} \cdot \max q_r^+ \tag{27} $$

so that the characterization of its surplus position in the space of reference operating consumption is given by all indicators of operational deficit of the lower operational results, on the one hand, and all indicators of deficit higher operational results, on the other hand:

$$ {}^{opt}q_r^+ = \sum \left(1 - d_{{}^{ref}q_r^+}\right) \cdot \inf {}^{ref}q_r^+ + \sum d_{{}^{ref}q_r^+} \cdot \sup {}^{ref}q_r^+ \tag{28} $$

the existence of the best practice operational results being possible in the set of

$$ \mathrm{T}_{opt}({}_{\bar{r}}q) = \left\{ {}^{opt}q_r^+ \middle| {}^{opt}q_r^+ \in \mathrm{T}({}_{\bar{r}}q), e_{{}_{\bar{r}}q} \cdot d_{{}^{ref}q_r^+} \notin \mathrm{T}({}_{\bar{r}}q^{ref}), {}^{ref}q_r^+ \leq {}^{opt}q_r^+, \mathrm{T}_{opt}({}_{\bar{r}}q^{ref}) \subseteq \mathrm{T}_{izo}({}_{\bar{r}}q^{ref}) \subseteq \mathrm{T}({}_{\bar{r}}q) \right\} . \tag{29} $$

Identification of best operational practices assumes that all operational activities in relation to $q^x := (\bar{_r}q^x,\ {}^x q_r^+), x = 1, \dots, k$ belonging to the period, there is an activity $q^{opt} := \left(\bar{_r}q^{opt},\ {}^{opt}q_r^+\right)$ with operational consumption not lower than the given operational consumption $\bar{_r}q^{opt} \geq \bar{_r}q^x$, and an operational result not higher than any given operating result, ${}^{opt}q_r^+ \leq {}^x q_r^+$, which, obtained by a linear combination of all reference operational activities, is characterized by a large yield, $\mathfrak{r}$, constant $\left(q^{opt} := (\mathfrak{r} \cdot \bar{_r}q^x, \mathfrak{r} \cdot {}^x q_r^+)\right)$.

This means that, in relation to the set of operational consumption ${}_{r}\bar{_m}Q := \sum_{x=1}^{k} \bar{_r}q^x$ and the set of operational results $Q_{r^n}^+ := \sum_{x=1}^{k} {}^x q_r^+$, it can be defined as best operational practice

$$q^{opt} = \left\{\left(\bar{_r}q^{opt},\ {}^{opt}q_r^+\right) \middle| \bar{_r}q^{opt} \geq {}_{r}\bar{_m}Q \cdot \mathfrak{R},\ {}^{opt}q_r^+ \leq Q_{r^n}^+ \cdot \mathfrak{R}, \mathfrak{R} \geq 0\right\} \tag{30}$$

which implies that, given the reference data, efficiency of each operational activity should be evaluated and optimized, $e_{q^{ref}}, ref = 1, \dots k$.

Identification of the best practice in the allocation of operational resources to the operational consumption supposes that based on each possible operational activity, validated by historical evidence

$$e_{q^{ref}} = \max_{e_{\bar{r_i}q}, d_{q_{r_j}^+}} \left\{ e_{q^{ref}} = \frac{d_{q_{r_1}^+} \cdot q_{r_1}^+ + \dots + d_{q_{r_n}^+} \cdot q_{r_n}^+}{e_{\bar{r_1}q} \cdot \bar{r_1}q + \dots + e_{\bar{r_m}q} \cdot \bar{r_m}q} \middle| \begin{matrix} \frac{d_{q_{r_1}^+} \cdot {}^{ref}q_{r_1}^+ + \dots + d_{q_{r_n}^+} \cdot {}^{ref}q_{r_n}^+}{e_{\bar{r_1}q} \cdot \bar{r_1}q^{ref} + \dots + e_{\bar{r_m}q} \cdot \bar{r_m}q^{ref}} \leq 1 \\ d_{q_{r_1}^+}, \dots, d_{q_{r_n}^+} \geq 0 \\ e_{\bar{r_1}q}, \dots, e_{\bar{r_m}q} \geq 0 \end{matrix} \right\}. \tag{31}$$

For which $\max\limits_{e_{\bar{r_i}q}, d_{q_{r_j}^+}} \geq 1$, it should be established as an objective, getting those indicators of surplus operating consumption, respectively of the operational result deficit, to maximize their efficiency in terms of

$$\max e_{q^{ref}} = \max_{{}^{opt}e_{\bar{r_i}q}, {}^{opt}d_{q_{r_j}^+}} \left\{ \max e_{q^{ref}} = {}^{opt}d_{q_{r_1}^+} q_{r_1}^+ + \dots + {}^{opt}d_{q_{r_n}^+} q_{r_n}^+ \middle| \begin{matrix} {}^{opt}e_{\bar{r_1}q} \cdot \bar{r_1}q^{ref} + \dots + {}^{opt}e_{\bar{r_m}q} \cdot \bar{r_m}q^{ref} = 1 \\ {}^{opt}d_{q_{r_1}^+} q_{r_1}^+ + \dots + {}^{opt}d_{q_{r_n}^+} \cdot q_{r_n}^+ \leq {}^{opt}e_{\bar{r_1}q} \cdot \bar{r_1}q^{ref} + \dots + {}^{opt}e_{\bar{r_m}q} \cdot \bar{r_m}q^{ref} \\ {}^{opt}e_{\bar{r_1}q}, \dots, e_{\bar{r_m}q} \geq 0 \end{matrix} \right\} \tag{32}$$

whose dual problem is to express them with the variables $\max e_{q^{ref}}$ and the returns to scale operational activities $\mathfrak{R} = \left(\mathfrak{r}^1, \dots, \mathfrak{r}^k\right)$

$$\min e_q = \min_{\max e_{q^{ref}}, \mathfrak{R}} \left\{ \min e_q \middle| \begin{matrix} \min e_q \cdot \bar{_r}q^{ref} - {}_{r}\bar{_m}Q \cdot \mathfrak{R} \geq 0 \\ Q_{r^n}^+ \cdot \mathfrak{R} \geq {}^{ref}q_r^+ \\ \mathfrak{R} \geq 0 \end{matrix} \right\}. \tag{33}$$

Identification of the best practice in designing the operational result is obtained from (33) by applying restrictions

$$\min e_q = \min_{\max e_{q^{ref}}, \mathfrak{R}} \left\{ \min e_q \left| \begin{array}{c} \min e_q \cdot {}_{\bar{r}}q^{ref} - {}_{r\bar{m}}Q \cdot \mathfrak{N} \geq 0 \\ {}^{ref}q_r^{+} - Q_{rn}^{+} \cdot \mathfrak{R} \leq 0 \\ \mathfrak{N} \geq 0 \end{array} \right. \right\}. \tag{34}$$

3. Conclusions

In classical economic theory, any investment objective is to maximize profit. Usually, his means a monetary expression maximize gain. Oscar Wilde wrote that “beauty is in the eye of the beholder”; I would say that profitability is only a particular form of understanding economic benefit.

Usually consumption approach is by reference to a quantitative description expressed in value. Usually current practice discusses about specific consumption, specific costs and rarely about the price of sacrificing economic benefit or unrealized economic benefit price.

Addressing operational activities through the economic benefit prism is an approach somewhat different from the classical one. The proposed method provides a comprehensive analysis of the interrelations between all consumption and / or specific results, based on historical expertise of operational activities management. For a decision maker, taking into account all possible relationships and interrelationships provided and proved by historical practice is a highly complex task. The proposed method, even if the article has been presented, in the given limits, extremely brief, provides a very interesting approach, exciting, sometimes with surprising results. And, if it can be challenging to understand and apply, despite the mathematical instrument, inevitably necessary to understand the reasoning not at all difficult to apply.

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