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Aspects Concerning Modelling of a Risk-Free Investment in the Equity of a Company

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Abstract: *Through a specific method for risk assessment of operational activity is possible to determine the best operational practices to support an operational strategy to maximize operational control over the potential economic benefits, for determine the best operational practices to support an operational strategy for minimizing the transfer of economic benefits to investors trade or tax contingency or in determination of the best operational practices. This paper presents, in summary form, how to exploit the results in the establishment of derivative financial position and financial performance, and a wide variety of indicators of risk and of consequences of specific operational risks.*
Keywords: *risk indicators, indicators of investment risk, strategic risk indicators, risk indicators of financial balance*

Introduction

Data Envelopment Analysis is a method of analysis spectacular, especially through its wide applicability and in its use of computational tools handy knowing any medium knowledge of spreadsheet applications.

In this article will be present series of ways to exploit the results of the evaluation of an enterprise in different terms of operational risk.

By applying the method of valuation of the investment risk in operating activities of an enterprise is allowed to capture, in a first stage, everything in terms of overall activities or elementary area of interest under the influence of operational control law, area covered by regulated area covered claim or interest in the field of private interest in achieving good operating practices.

1. Valorisation of Results on the Application of the Best Strategy of Maximizing the Operational Control

1.1. Working Table

account analytical	function accounting	current operational activity		final financial position	
		$^{<}R_0$		$^{<}FS_0$	
		debit	credit	debit	credit
A	$f(A)$	$^{<}RD_0$	RC_0	$^{<}FD_0$	$_{<}^{RD_0}FC_0$
a^1	$f(a^1)$	$^{<}rd_0^1$	rc_t^1	$^{<}fd_t^1$	$^{<}fc_t^1$
⋮	⋮	⋮	⋮	⋮	⋮
$\mathbf{a}^i_{pfr}$	$f\left(\mathbf{a}^i_{pfr}\right)$	$^{<}rd_0^i$ $_{pfr^-}$	rc_t^i $_{pfr^+}$	$^{<}fd$ $_{(pfr^-)_t^i}$	$^{<}fc$ $_{(pfr^-)_t^i}$
⋮	⋮	⋮	⋮	⋮	⋮
$\mathbf{a}^j_{pfc}$	$f\left(\mathbf{a}^j_{pfc}\right)$	$^{<}rd_0^j$ $_{V}$	rc_t^j $_{Ch}$	$^{<}fd$ $_{(pfc^-)_t^j}$	$^{<}fc$ $_{(pfc^-)_t^j}$
⋮	⋮	⋮	⋮	⋮	⋮
a^k	$f(a^k)$	$^{<}rd_0^k$	rc_t^k	$^{<}fd_t^k$	$^{<}fc_t^k$
⋮	⋮	⋮	⋮	⋮	⋮
a^n	$f(a^n)$	$_{<}rd_0^n$	rc_t^n	$^{<}fd_t^n$	$^{<}fc_t^n$

Legend:

$^{\prec}RD_0$	the best practice operational support for a strategy oriented to the strengthen the operational control
$^{\prec}rd_0^k$	elementary values corresponding to the best strategies for strengthening basic operational control
RC_0	current operational activity for operational transfer
$^{\prec}FD_0$	final position for financial operational control achievable with the application of a strategy to maximize operational control on current operational activity
$^{\prec}fd_t^k$	basic financial position for a control element made specific, with reference arbitrary, as the best strategy to maximize operational control
$^{\prec}FC_0$	final financial position in the event of a transfer operational strategies to maximize operational control applicable current operational activity
$^{\prec}fc_t^k$	basic financial position achieved by a specific elemental transfer, arbitrary reference under the best strategy to maximize operational control

1.2. Determination of Risk and Its Consequences in Case of Application of the Best Strategies to Maximize Operational Control

Comparative analysis of the data from the array reference data, compiled based on the trial balance analytical, conduct, basically, in determining a number of risk indicators, both in terms of operational risk,

$$^{\prec}r(RD_0) = \frac{RD_0}{^{\prec}RD_0} \tag{1}$$

$$^{\prec}r\left(rd_0^k\right) = \frac{rd_0^k}{^{\prec}rd_0^k}, \forall rd_0^k \in RD_0, \forall ^{\prec}rd_0^k \in {}^{\prec}RD_0 \tag{2}$$

the final financial position of law covered

$$r(FD_0) = \frac{FD_0}{^{\prec}FD_0} \tag{3}$$

$$^{\prec}r\left(fd_0^k\right) = \frac{fd_0^k}{^{\prec}fd_0^k}, \forall fd_0^k \in FD_0, \forall ^{\prec}fd_0^k \in {}^{\prec}FD_0 \tag{4}$$

or the financial position of the claim covered

$$r(FC_0) = \frac{FC_0}{^{\prec}FC_0} \tag{5}$$

$$^{\prec}r\left(fc_0^k\right) = \frac{fc_0^k}{^{\prec}fc_0^k}, \forall fc_0^k \in FC_0, \forall ^{\prec}fc_0^k \in {}^{\prec}FC_0 \tag{6}$$

as well as the consequences of risk, d

$$^{\prec}d\left(^{\prec}RD_0\right) = {}^{\prec}RD_0 - RD_0 \tag{7}$$

$$^{\prec}d\left(^{\prec}rd_0^k\right) = {}^{\prec}rd_0^k - rd_0^k, \forall rd_0^k \in RD_0, \forall ^{\prec}rd_0^k \in {}^{\prec}RD_0 \tag{8}$$

$$d\left({}^{\prec}FD_0\right) = {}^{\prec}FD_0 - RD_0 \tag{9}$$

$${}^{\prec}d\left({}^{\prec}fd_0^k\right) = {}^{\prec}fd_0^k - fd_0^k, \forall rd_0^k \in RD_0, \forall {}^{\prec}rd_0^k \in {}^{\prec}RD_0 \tag{10}$$

$$d\left({}^{\prec}FC_0\right) = {}^{\prec}FC_0 - FC_0 \tag{11}$$

$${}^{\prec}d\left({}^{\prec}fc_0^k\right) = {}^{\prec}fc_0^k - fc_0^k, \forall rc_0^k \in RC_0, \forall {}^{\prec}rc_0^k \in {}^{\prec}RC_0 \tag{12}$$

2. Determination of the Degree of Risk and Its Consequences When Applying the Best Strategy to Minimize Operational Transfer

2.1. Working Table

account analytical	function accounting	current operational activity		final financial position	
		${}_{\prec}R_0$		$\left[\left({}_{\prec}RD_0\right)FS_0\right.$	
		debit	credit	debit	credit
A	$f(A)$	RD_0	${}_{\prec}RC_0$	${}_{\prec}FD_0$	${}_{\prec}FC_0$
a^1	$f(a^1)$	rd_0^1	${}_{\prec}rc_t^1$	${}_{\prec}fd_t^1$	${}_{\prec}fc_t^1$
⋮	⋮	⋮	⋮	⋮	⋮
$\mathbf{a}_{pfr}^i$	$f\left(\mathbf{a}_{pfr}^i\right)$	$rd_{0\,pfr^-}^i$	${}_{\prec}rc_{pfr^+}$	${}_{\prec}fd_{(pfr^-)_t^i}$	${}_{\prec}fc_{(pfr^-)_t^i}$
⋮	⋮	⋮	⋮	⋮	⋮
$\mathbf{a}_{pfc}^j$	$f\left(\mathbf{a}_{pfc}^j\right)$	$rd_{0\,V}^j$	${}_{\prec}rc_{t\,Ch}^j$	${}_{\prec}fd_{(pfc^-)_t^j}$	${}_{\prec}fc_{(pfc^-)_t^j}$
⋮	⋮	⋮	⋮	⋮	⋮
a^k	$f(a^k)$	rd_0^k	${}_{\prec}rc_t^k$	${}_{\prec}fd_t^k$	${}_{\prec}fc_t^k$
⋮	⋮	⋮	⋮	⋮	⋮
a^n	$f(a^n)$	rd_0^n	${}_{\prec}rc_t^n$	${}_{\prec}fd_t^n$	${}_{\prec}fc_t^n$

2.2. Determination of Risk and Its Consequences in Case of a Best Strategy to Minimize Operational Transfer

Comparative analysis of the data in the array reference data compiled based on the trial balance analytical results basically in determining a number of risk indicators, both in terms of operational risk,

$${}_{\prec}r(RC_0) = \frac{RC_0}{{}_{\prec}RC_0} \tag{13}$$

$${}_{\prec}r\left(rd_0^k\right) = \frac{rd_0^k}{{}_{\prec}rd_0^k}, \forall rd_0^k \in RC_0, \forall {}_{\prec}rd_0^k \in {}_{\prec}RC_0 \tag{14}$$

the final financial position properly regulated law

$${}_{\prec}r(FD_0) = \frac{FD_0}{{}_{\prec}FD_0} \tag{15}$$

$${}_{\prec}r\left(fd_0^k\right) = \frac{fd_0^k}{{}_{\prec}fd_0^k}, \forall fd_0^k \in FD_0, \forall {}_{\prec}fd_0^k \in {}_{\prec}FD_0 \tag{16}$$

or the financial position of the claim covered

$$_{\prec}r(FC_0) = \frac{FC_0}{_{\prec}FC_0} \tag{17}$$

$$_{\prec}r\left(fc_0^k\right) = \frac{fc_0^k}{_{\prec}fc_0^k}, \forall fc_0^k \in FC_0, \forall _{\prec}fc_0^k \in {}_{\prec}FC_0 \tag{18}$$

as well as the consequences of risk, d

$$_{\prec}d\left(_{\prec}RD_0\right) = {}_{\prec}RD_0 - RD_0 \tag{19}$$

$$_{\prec}d\left(_{\prec}rd_0^k\right) = {}_{\prec}rd_0^k - rd_0^k, \forall rd_0^k \in RD_0, \forall _{\prec}rd_0^k \in {}_{\prec}RD_0 \tag{20}$$

$$d\left(_{\prec}FD_0\right) = {}_{\prec}FD_0 - RD_0 \tag{21}$$

$$_{\prec}d\left(_{\prec}fd_0^k\right) = {}_{\prec}fd_0^k - fd_0^k, \forall rd_0^k \in RD_0, \forall _{\prec}rd_0^k \in {}_{\prec}RD_0 \tag{22}$$

$$_{\prec}d\left(_{\prec}FC_0\right) = {}_{\prec}FC_0 - FC_0 \tag{23}$$

$$_{\prec}d\left(_{\prec}fc_0^k\right) = {}_{\prec}fc_0^k - fc_0^k, \forall rc_0^k \in RC_0, \forall _{\prec}rc_0^k \in {}_{\prec}RC_0 \tag{24}$$

3. Valorisation of Results on the Application of Best Operational Practices

3.1. Working Table

account analytical	function accounting	current operational activity		final financial position	
		$_{\bullet}R_0$		$_{*}FS_0$	
		debit	credit	debit	credit
A	$f(A)$	$_{*}RD_0$	RC_0	$_{*}FD_0$	$_{*}FC_0$
a^1	$f(a^1)$	$_{*}rd_0^1$	$_{*}rc_t^1$	$_{*}fd_t^1$	$_{*}fc_t^1$
⋮	⋮	⋮	⋮	⋮	⋮
$\mathbf{a}_{pfr}^i$	$f\left(\mathbf{a}_{pfr}^i\right)$	$_{*}rd_{0\,pfr^-}^i$	$_{*}rc_{t\,pfr^+}^i$	$_{*}fd_{(pfr^-)_t^i}$	$_{*}fc_{(pfr^-)_t^i}$
⋮	⋮	⋮	⋮	⋮	⋮
$\mathbf{a}_{pfc}^j$	$f\left(\mathbf{a}_{pfc}^j\right)$	$_{*}rd_{0\,V}^j$	$_{*}rc_{t\,Ch}^j$	$_{*}fd_{(pfc^-)_t^j}$	$_{*}fc_{(pfc^-)_t^j}$
⋮	⋮	⋮	⋮	⋮	⋮
a^k	$f(a^k)$	$_{*}rd_0^k$	$_{*}rc_t^k$	$_{*}fd_t^k$	$_{*}fc_t^k$
⋮	⋮	⋮	⋮	⋮	⋮
a^n	$f(a^n)$	$_{*}rd_0^n$	$_{*}rc_t^n$	$_{*}fd_t^n$	$_{*}fc_t^n$

3.2. Determination of Risk and Its Consequences in Case of a Most Practical Operational

In this situation consequences determining the best operational practices, the number of risk indicators which can be calculated and watch to give the most complete picture of the company at risk.

Can be calculated, in this situation, activity reporting indicators derived from achieving optimal operational control over the potential economic benefits,

$$r^{*}(RD_0) = \frac{RD_0}{{}_{*}RD_0} \tag{25}$$

$$r^{*}\left(rd_0^k\right) = \frac{rd_0^k}{{}_{*}rd_0^k}, \forall rd_0^k \in RD_0, \forall {}_{\prec}rd_0^k \in {}_{\prec}RD_0 \tag{26}$$

$$d^{*}({}_{*}RD_0) = {}_{*}RD_0 - RD_0 \tag{27}$$

$$d^{*}\left({}_{*}rd_0^k\right) = {}_{*}rd_0^k - rd_0^k, \forall {}_{*}rd_0^k \in {}_{*}RD_0, \forall {}_{\prec}rd_0^k \in {}_{\prec}RD_0 \tag{28}$$

or indicators derived from optimal activity reporting of the transfer operations on the potential economic benefits,

$$r^{*}(RC_0) = \frac{RC_0}{{}_{*}RC_0} \tag{29}$$

$$r^{*}\left(rc_0^k\right) = \frac{rc_0^k}{{}_{*}rc_0^k}, \forall rc_0^k \in RC_0, \forall {}_{\prec}rc_0^k \in {}_{\prec}RC_0 \tag{30}$$

$$d^{*}({}_{*}RC_0) = {}_{*}RC_0 - RC_0 \tag{31}$$

$$d^{*}\left({}_{*}rc_0^k\right) = {}_{*}rc_0^k - rc_0^k, \forall {}_{*}rc_0^k \in {}_{*}RC_0, \forall {}_{\prec}rc_0^k \in {}_{\prec}RC_0 \tag{32}$$

Conclusions

Applying a method of evaluation in terms of operational risk additionally leads to setting the trend central operational risk in all aspects of global or elementary.

The possibilities given by the method of data envelopment basically leads to the identification of a number of indicators of risk in all respects.

Supplementary recommended readings

Cooper, W.W., Seiford, L.M., Tone, K., (2006), *Introduction to Data Envelopment Analysis and Its Uses*, Springer Science-Business Media Inc.

Cooper, W.W., Seiford, L.M., Tone, K., (2007), *Data Envelopment Analysis*, Springer Science-Business Media Inc.

Cooper, W.W., Seiford, L.M., Zhu, J., (2011), *Handbook on Data Envelopment Analysis*, Springer Science-Business Media, LLC

Thanassoulis E., (2001), *Introduction to the theory and application of data envelopment analysis*, Springer Science-Business Media New York

Fried, H. O. Lovell C. A. K., Schmidt S. S., (2008), *The Measurement of Productive Efficiency and Productivity Growth*, Oxford University Press, Inc.

Fried, H. O. Lovell C. A. K., Schmidt S. S., (1993), *The measurement of productive efficiency*, Oxford University Press, Inc

Färe R., Grosskopf S., Lovell C. A. K., *The measurement of efficiency of production*, Springer Science+Business Media New York

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