UNIVERSIDAD DEL CEMA
Buenos Aires
Argentina

Serie
DOCUMENTOS DE TRABAJO

Área: Finanzas y Negocios

THE GOVERNANCE-RISK SCOREBOARD

Rodolfo Apreda

Junio 2013
Nro. 512

THE GOVERNANCE-RISK SCOREBOARD

Rodolfo APREDA

Professor Rodolfo Apreda holds a Ph. D. in Economics (UBA, 1998) and a Master in Political Sciences (Ucema, 2005). He is director of the Ph. D. Program in Finance and director of the Center for the Study of Public and Private Governance, Ucema.

Personal Web Page: www.cema.edu.ar/u/ra   E-Mail Address: ra@cema.edu.ar

ABSTRACT

In this paper, we set forth a scoreboard for dealing with those risks that arise from the governance of any organization. Firstly, we introduce the subject of governance risks and, secondly, we move on to a cardinal index that not only measures up governance performance but also provides with a rate of governance risks. Next, we argue for protocol that builds up a staff unit to be held accountable for the management of such risks. Afterwards, the main components of the scoreboard are disclosed: on the one side, a governance-risk toolkit and, on the other side, policy-making guidelines, whose intertwining brings about a clinical approach to governance and the Governance-Risk staff unit report to the Board of Directors. Last of all, it is shown how to put the Scoreboard into practice.

INTRODUCTION

Although Corporate Governance is already a well-established field of learning and practice [Monks-Minow (2011), Kostyuk-Braendle-Apreda (2007)], scant attention has been given so far to governance risks for which the first attempt to furnish a quantitative analysis can be found in Apreda (2007a)[1]. We intend to make another contribution to the latter subject matter by putting forward what we have called the Governance-Risk Scoreboard[2].

The development of this paper will take four main sections. The first lays out a framework for understanding what the expression "governance risks" actually amounts to. The second looks at how to organize a staff unit accountable for the management of governance risks. In section 3, we deal with the Governance-Risk Scoreboard, its components and the joint action between a minimal governance-risk toolkit and a choice of policy-making guidelines pursuing the task of producing a clinical approach report and the Governance-Risk staff unit report to the Board of Directors. The final section delves into the usage of the Scoreboard in actual practice.

1. GOVERNANCE RISKS

Prior to introducing the notion of governance risks, let us agree what the expression "corporate governance"[3] stands for in the context of this research paper[4].

---

[1] This approach was later enlarged to embrace investment projects valuation, and the assessment of the cost of capital rate, adjusted for governance risks [Apreda (2011c, 2008a)].

[2] There are two precedents in the issue of corporate governance scoreboards, namely Kaplan-Palepu (2003) and Strenger (2004). A critical approach of them will be given in section 3, but we must point out that neither of them addressed the issue of governance risks and how to weigh such risks eventually.

[3] A comprehensive analysis of the semantics of governance was carried out by Apreda (2006).

[4] Definitions, within the scope of this paper, stand for a semantic and methodological vehicle on behalf of any considered reader who may ask himself: which is the meaning the author attaches to such and such expression? Under no circumstances our definitions intend to be regarded as the best available, still less the only ones that can be adopted.

Definition 1   ***Corporate Governance***

*The expression **Corporate Governance** refers to a field of learning and practice pertaining corporations and nearly alike organizations (including state-owned firms) that brings to focus the following issues:*

- *Ownership structure choice and owners rights.*
- *Company's founding Charter and by-laws; organization purposes.*
- *Board of Directors and Trustees; their fiduciary duties and the allocation of control rights.*
- *Managers' fiduciary duties and their decision rights; managerial performance and incentives.*
- *Accountability and transparency.*
- *Investors' property rights and protective covenants.*
- *Conflicts of interest between owners, directors, managers, creditors, and other stakeholders.*
- *Rent-seeking, soft-budget constraints, tunneling.*
- *Institutional constraints, the role of regulators and gatekeepers, compliance risks.*

We can't help noticing the significance of the nine issues embraced in Definition 1: each of them qualifies as a governance category of analysis that will play their part further in this section[5].

Our proposal for appraising up these substantive risks involves mapping the governance categories of analysis displayed in Definition 1 onto factual decision-making variables like the ones comprised in Exhibit 1 below[6], assuming that the latter run their values along a planning horizon $\mathbf{H = [\ t;\ T\ ]}$ starting at date $\mathbf{t}$ and ending at date $\mathbf{T}$.

The salient difference between governance categories and variables for decision-making can be stated in this way: the former lends a helping hand with the understanding and analysis of the main components of corporate governance as a field of enquiry, the latter moves on to the empirical sides of corporate governance, hence providing building blocks for the governance index we are going to introduce in section 1.1.

---

[5] I am drawing from earlier contributions of mine [Apreda (2012a, 2007a)]

[6] Like any other of the sort, our classification remains a matter of choice. Therefore, the mapping suggested in the box does not intend to be the only one available, nor the best among other candidates.

It's worth remarking that the foregoing arrangement of governance variables can be split into two functionally different groups:

− variables that are bound to governance actors:

Owners (s); Directors (s); Managers (s); Creditors (s)

− variables related to organizational design and relationships:

Governance architecture (s); Conflicts of interest (s) ; Deviant governance (s) and Overlooking and compliance (s)

Exhibit 1 **MAPPING GOVERNANCE CATEGORIES OF ANALYSIS ONTO DECISION-MAKING VARIABLES**	
Governance categories of analysis	**Governance variables G_k (s) for decision-making along $H = [t ; T]$**
ownership structure *owners rights*	$G (1; s) = $ Owners (s)
the board of directors or trustees *their fiduciary duties* *the allocation of their control rights*	$G (2; s) = $ Directors (s)
managers' fiduciary duties *their decision rights* *their performance and incentives*	$G (3; s) = $ Managers (s)
creditors' property rights *protective covenants*	$G (4; s) = $ Creditors (s)
the company's founding charter *internally enacted by-laws* *organization purposes* *accountability and transparency*	$G (5; s) = $ Governance architecture (s)
Conflicts of interest *a) among owners, directors, managers,* *and creditors* *b) with other stakeholders*	$G (6; s) = $ Conflicts of interest (s)
rent-seeking *soft-budget constraints* *tunneling*	$G (7; s) = $ Deviant governance (s)
institutional constraints *the role of regulators and gatekeepers* *compliance risks*	$G (8; s) = $ Overlooking and compliance (s)

Before defining governance risks, however, we notice that the expression "risk" points to the discrepancy or gap between both expected and realized values of time-dependent variables, the former value assessed at date **t**, the latter at date **T**, a meaning that has become streamlined in Finance and Economics.

Definition 2   ***Governance Risks***

*Along the planning horizon **H = [t ; T]**, by **Governance Risks** we mean those risks that arise out of the following time-dependent governance variables of analysis, namely*

- *Owners (s)*
- *Directors (s)*
- *Managers (s)*
- *Creditors (s)*
- *Governance architecture (s)*
- *Conflicts of interest (s)*
- *Deviant governance (s)*
- *Overlooking and compliance (s)*

Moreover, it is for definition 2 to bring forth a comprehensive set of time-dependent governance variables[7]

$$\{ \, G \, (k; s) \; : \; k = 1, 2, \ldots, 8 \; ; \; s \in R^1 \, \}$$

from which it can be established the risk-gap **Δ G(k; t, T)** for each of them, between the assessed value at date **t** and the final value attained at date **T**. In other words, and for each value of **k**:

(1)

$$\Delta \, G \, (k; t, T) \;\; = \;\; G \, (k; T; I(T)) \;\; - \;\; E[\, G \, (k; T; I(t)) \,]$$

---

[7] It will be read like "the set of the governance variables **G (k; s)**, where **k** is an index that takes values from 1 to 8, and **s** is any real number in the line of time."

where **I(t)** and **I(T)** stand for, respectively, the available information set at those dates.

The task ahead consists in making sense of those risks encompassed by relationship (1). To achieve a suitable metric of governance risks, I will set forth a cardinal index to follow up how governance performs within organizations. My purpose here is to develop the subject matter by means of an intuitive framework.

1.1   A CARDINAL INDEX OF GOVERNANCE PERFORMANCE

The index comes defined out of a universe of **M** available companies, also framed as a vector

$$\Gamma = [\ c_1 ; c_2 ; c_3 ; \ ...... \ c_M\ ]$$

Taking advantage of the mapping from governance categories onto governance variables introduced in section 1 and are displayed on Exhibit 1, the valuation of our index for any company **c** belonging to the set **Γ** turns out to be

$$G(c, s) =$$

$$= w(1) . G(c; 1; s) + w(2) . G(c; 2; s) + ... + w(8) . G(c; 8; s)$$

or, equivalently,

(2)

$$G(c, s) = \sum w(k) . G(c; k; s) \quad ; \quad k: 1, 2, 3, ..., 8$$

As we can see in (2), governance variables do take specific values for each company as time passes by, whereas weights will be kept fixed, for all the companies.

That is to say, the index is weighted-averaged[8]. For further details about the structure of the weighting system, the reader is referred to Appendix 1. We are going to make explicit each governance variable by means of a recursive relationship:

(3)

$$G(c; k; t; I(t)) \quad = G(c; k; t - 1; I(t - 1)) + \varepsilon(c; k; t - 1; t; I(t))$$

where

$$\varepsilon(c; k; t - 1; t; I(t)) \quad = \begin{cases} \mathbf{+1} \quad \textbf{(efficacy level)} \\ \text{if there is material evidence that the underlying variable has} \\ \text{moved for the better over the valuation period.} \\ \\ \mathbf{0} \quad \textbf{(neutral-efficacy level)} \\ \text{if there is no conclusive evidence that any material change has} \\ \text{taken place.} \\ \\ \mathbf{-1} \quad \textbf{(non-efficacy level)} \\ \text{if there is material evidence that the underlying variable has} \\ \text{moved for the worse over the valuation period.} \end{cases}$$

Summing up, the algorithm comprised in (3) defines each variable inductively. In other words, (3) conveys the idea of an accumulative process that holds for every company **c**. As time goes by, the process will reward good governance while punishing a failing governance, period after period. The formal treatment of this generative process, regardless of the distinctive set of governance variables the analyst might have resorted to, it can be found in Apreda (2012a, 2007a).

1.2   THE RATE OF GOVERNANCE PERFORMANCE
AND THE MEASURE OF GOVERNANCE-RISK

Let us denote as

r (gov; c)

---

[8] In Apreda (2012a, 2007a) we made a contrast between ordinal indexes like the one proposed by Gompers-Ishii- Metric (2001) *Corporate Governance and Equity Prices*, NBER, working paper 8449, and cardinal indexes like the one we are advocating here.

8

as the rate of change that will gauge the company **c** 's performance on governance issues, henceforth to be labeled **rate of governance performance**, and which comes defined as:

(4)

$$1 + \text{r (gov; c; t; T)} \ = \ G(c; T) / G(c; t)$$

If this rate attained a positive value, governance would be improving on the whole, but if negative it would stand to signal that corporate governance is worsening.

As we need a rate of change to measure the underlying governance risks of company **c**, we will be using the rate **r (gov; c)** in (4) to shape a discount rate

$$\text{r (govrisk; c)}$$

as from now to be called the **rate of governance risks**. This is easily attained by means of a basic theorem in financial mathematics stating that for any ex post rate of change of a financial variable, there exists an ex ante rate of discount that matches the former[9], so that it holds:

$$< 1 + \ \text{r (gov; c)} > . < 1 - \text{r (govrisk; c)} > \ = \ 1$$

The value of the rate of discount comes out from the equation above and leads to:

---

[9] Cutting down to essentials: in the context of financial mathematics, the theorem holds that

$$(\ 1 + i \ ) . (\ 1 - d \ ) \ = \ 1$$

which stands for the statement "the final value of a unitary capital, that is $(1 + i)$, when discounted by the rate **d**, attains a present value of $(1 - d)$." The enlargement to rates of change in financial or economic variables linked to cash flows is derived outright. On the other hand, this outcome is a well-known mechanism for arbitraging rates of interest in money markets. It can also be expanded to carry out arbitrage of financial assets in the capital markets, and also in foreign exchange transactions [on foundations and applications, see Apreda (2011b, 2008b)].

$$r (\text{govrisk}; c) = \frac{r (\text{gov}; c)}{< 1 + r (\text{gov}; c) >}$$

Which is the role that the discount factor **< 1 – r(govrisk; c)>** carries out eventually?

a) When the rate of governance performance **r(gov; c)** raises, the value of **r(govrisk; c)** increases but ultimately, being a discount rate, it takes value away from the own company's risk adjustment[10]. That is to say, good governance lessens the contribution of the discount factor to the risk adjustment in (5) by which the company **c** becomes less risky due to an overachieving governance.

b) On the other hand, if governance worsens, by a similar argument, we can state that **r(gov; c)** becomes negative (it decreases the final value of the index in contrast with the starting value), and **r(govrisk; c)** also turns out negative, being the final outcome that

$$1 - r(\text{govrisk}; c) > 1$$

hence the discount factor makes a positive and marginal contribution to risk adjustment by which the company **c** becomes riskier due to an under-performing governance.

2. THE GOVERNANCE-RISK STAFF UNIT

As we have dealt with elsewhere [Apreda (2011d, 2012b)], the Statute of Governance comes in handy by linking principles and good practices intended to foster the governance of organizations. However, there are key issues in governance that require a more focused approach, for which we need distinctive principles and specific good

---

[10] This can also be regarded, from a marginal standpoint, as a negative contribution to risk adjustment. See Apreda (2011c, 2007a)

practices. To work out these focal points we resort to protocols, which are constructs entailing the function of small statutes under the guise of internal by-laws. A case in point for the line of research adopted in this paper seems to be the Governance-Risk Protocol, a sample of which will be outlined next.

2.1   THE GOVERNANCE-RISK PROTOCOL

- **Principle 1**

In order to frame good and reliable governance, the organization must efficaciously deal with Governance Risks.

Practice 1   It is for the senior management to draw up the implementation of the Governance-Risk Protocol, and for the Board of Directors to discuss and agree with it, to later submission to stockholders for definitive approval.

Practice 2   A distinctive staff unit in charge of handling Governance Risks for the organizations, will be framed, budgeted and located properly. It will simultaneously report to the CEOs office and the Board of Directors.

- **Principle 2**

The Board of Directors is held responsible for the implementation of the Governance-Risk Scoreboard and the efficacy of the tools of governance ultimately adopted for the organization.

Practice 1   It is for the Governance-Risk staff unit to draft, implement, and sharpen up the following tools of governance, which are the building blocks of the Governance-Risk Scoreboard:

a) a distinctive choice of governance categories of analysis;
b) the incremental cash-flow model;
c) the periodical clinical report of the organization governance;
d) the index of governance performance and the rate of governance-risks;
e) the choice of policy-making variables.

Practice 2   It is for the CEOs office to discuss and approve the framework of the Governance-Risk Scoreboard and attain the Board of Directors approval of this construct.

Practice 3   It is for the Board of Directors to determine the most suitable starting and final date for periodical review, at least on an annual basis. At the starting date, the Governance-Risk staff unit must submit the expected appraisal of the Governance-Risk Scoreboard, whereas at the end of the period, the staff unit will submit a conclusive account of the Scoreboard.

Practice 4   The Board will review the Governance-Risk Report submitted by the Staff Unit, at the beginning and end of the planned decision-making period, so that gaps could be explained, accountability settled, and forward corrections streamlined.

3. THE GOVERNANCE-RISK SCOREBOARD

Once we have got the tool kit as demanded by the staff-unit protocol, the next step consists in making it fully operational. The task will be achieved by articulating the tools with policy guidelines, through a decision-making matrix embedded in the scoreboard.

But before dealing with our proposal, we are going to outline two former viewpoints about governance scoreboards that do not focus on governance risks, but on broad governance variables instead.

a) The first contribution we wish to highlight is the one by Robert Kaplan[11] and Krishna Palepu (2003), who advocate the usage of three balanced scorecards: the enterprise,

---

[11] Kaplan and Norton (1992, 1996) were the forerunners that installed the notion of balanced scoreboard as an instrument to foster better strategic decision-making and performance. It has been widely used and abused. In the latter case, many CEOs have been eager to show short-term outstanding outcomes and display a dream world to the board of directors and stockholders, misrepresenting the actual goals of the scoreboard in a similar fashion as they have done with the Economic Value Added (EVA) technology of analysis.

the board, and the executive scoreboards, which clarify goals, priorities, processes, and ownership, and define the linkages between desired financial results and the actions needed to achieve them. Their approach takes into account the whole enterprise, and perhaps the scoreboard most related to governance issues is the one devoted to the board activities and goals. However, it is not a truly special-purpose governance scoreboard and it falls short of quantitative structure.

b) The second contribution is certainly more focused on governance issues, and is due to Christian Strenger (2004), who involved himself in the German experience of setting a Code of Good Practices in January 2000, upon which a Scoreboard for German Corporate Governance was devised in June 2000, and updated in 2002. The main components comprised in the scoreboard are: corporate governance commitment, shareholders and the General Meeting, cooperation between the Management and the Supervisory boards, transparency, reporting and audit of financial statements.

Our scoreboard stands in stark contrast with the foregoing ones, not only on the actual framing, but mainly because its purpose consists in handling governance risks, a feature that is absent in the above mentioned contributions. In point of fact, it is operational and comes out of an all-encompassing structure of governance risks tools and policy variables[12] for decision-making, and it was firstly introduced in my book on governance risks [Apreda, 2012a].

Definition 3   Governance-Risk Scoreboard

*By the **Governance-Risk Scoreboard** we mean an agenda for decision-making whose goals are*

   – *to assess governance performance,*

---

[12] For the sake of semantics, we are going to understand by policy "a course or principle of action adopted or proposed by an organization or individual" (Concise Oxford English Dictionary, OUP, 2009) whereas policy-making will refer to the activity of formulating policies.

–   *to handle governance risks,*

by means of the design of a matrix-shaped scoreboard that bring together
- *the components of the governance-risk toolkit,*
- *a structure of policy-making guidelines.*

PRAGMATIC REMARKS
ON THE GOVERNANCE-RISKS SCOREBOARD

i) As we see in Exhibit 2, the files of the matrix comprise the following tools:
- The incremental cash-flow model structure.
- An index of governance performance stemming from the governance variables.
- The rate of governance risks.

ii) It's worth noticing the set of chosen policy-making guidelines. For the scoreboard to become a vehicle of governance strategy, it must follow up the behavior of the governance tools. I believe that, at least, three broad benchmarks come in handy to turn out the scoreboard a planning construct[13]:

- **Time frame performance**: to measure up the contrast between what has been expected at the starting point, and what has actually been delivered at the end point of the schedule.
- **Accountability of gaps and mistakes**: that comes closer to customary budget control procedures. We must explain divergences, finding out mistakes and holding managerial units accountable for them.
- **Learning from the past to make forward corrections**: this is the logic behind sound steersmanship[14], that is to say, governance in the flesh.

---

[13] A methodological caveat is due here: we intend to avail ourselves of three political benchmarks. Under no circumstances we claim that they are the best ones, or the only at the reach of any considered analyst.

[14] By the way, this is the etymological origin of the word governance (Concise Oxford English Dictionary, OUP, 2009).

iii) The cells in the matrix of the scoreboard are filled with two types of inputs.

  ▪ *Some of them will contain numerical values only.*

Example: the first file, "incremental cash-flow model" meets with the column "time frame" and it will be filled with the expected and realized values of the main components of cash flows that build up the model.

Exhibit 2 **GOVERNANCE-RISK SCOREBOARD**				
policy-making guidelines *governance-risk toolkit*	**Time frame**		**Explaining gaps and mistakes**	**Learning from the past to make forward corrections**
	Inputs assesments at date t	**Inputs assesment at date T**		
Incremental cash-flow model **Δ CF(assets)** **Δ CF(creditors)** **Δ CF(stockholders)**	Source: Table 1	Source: Table 1	**Clinical Approach Report**	**Clinical Approach Report**
Index of governance performance	Source: Table 2	Source: Table 2	**Governance-Risk Report to the Board of Directors** **inclusive of** **Compliance Officer Report to the Board of Directors**	**Governance-Risk Report to the Board of Directors** **inclusive of** **Compliance Officer Report to the Board of Directors**
Governance Risk Rate	Source Table 2	Source Table 2		

  ▪ *There will be cells containing brief notices referring to off-matrix reports.*

Example: the crossing of the first file, "incremental cash-flow model", with the column "explaining gaps and mistakes" will refer to the "Clinical Approach Report", which is an off-matrix report.

ABOUT THE MAKERS AND USERS OF
THE GOVERNANCE-RISK SCOREBOARD

i) The Governance-Risk staff unit is the ultimate maker of the scoreboard.

ii) The Scoreboard intends to provide managers and directors with a tool kit to scale up their decision-making pertaining policy benchmarks so as to curb governance risks eventually. They are the primary users of the scoreboard.

iii) Stockholders, creditors, banks, institutional investors, regulators, and gatekeepers are the secondary users of the scoreboard.

4. ON HOW TO USE THE GOVERNANCE-RISK SCOREBOARD

Let us assume that we face a planning horizon denoted as $H = [\ t;\ T\ ]$, and that we are placed at the end of such period[15], that is to say, at date T.

Furthermore, let us imagine that we are in charge of the Governance-Risk staff unit, and the Board of Directors will be holding a meeting next week to evaluate and give their approval to our Governance-Risk Report eventually. In order to draw up the Report, we need to frame the Governance-Risk Scoreboard by moving on through a stage-by-stage methodology, keeping and aye on Exhibit 2.

Stage 1: Table 1 design

This table displays relevant incremental cash flows as they were assessed at date t, and as they realized at date T. Our team in the staff unit provided us with the required table[16].

---

[15] Without any loss of generality, the period could be assimilated to the accountancy year.

[16] We assume that numerical inputs apply to a notional company for the sake of illustration. For an in-depth development of the incremental cash-flow model by means of a case-study, we refer the reader to Apreda (2012a, 2011a).

Table 1

INCREMENTAL CASH-FLOW MODEL

Incremental Cash Flows	Assessment at date t	Final outcomes at date T
Ebit	738	900
minus taxes	237	294
plus depreciation	100	100
Δ CF(operating cash flows)	**601**	**706**
minus provisions for working capital	0	(100)
minus provisions for non-current assets	200	700
Δ CF(from assets)	**401**	**106**
Interest	60	60
Plus debt principal	150	150
Plus debt repurchase	150	150
Minus new debt	300	700
Δ CF(to creditors)	**60**	**-340**
Dividends	200	400
Plus repurchase of stock	295	200
Minus new stock	154	154
Δ CF(to stockholders)	**341**	**446**

Source: Balance Sheet at date t, expected Balance Sheet at date T, and expected Earnings Report at date T.

Stage 2: Table 2 design

By the same token, our analysts at the staff unit build up Table 2 that consists of inputs needed to work out weighted averages so that we can work out the governance index and the governance-risk rate at date **T**.

Table 2

GOVERNANCE INDEX AND RISK-GOVERNANCE RATES

Governance variables for decision-making G(k, s)	Weights w(k)	Realized values at date t G(k, t, I(t))	Assessed values for date T G(k, T, I(t))	Realized values at date T G(k, T, I(T))	Gaps between realized values at dates t and T ε(k, t, T)
G(1, s): owners	0.10	5	6	4	-1
G(2, s): directors	0.15	6	6	5	-1
G(3, s): managers	0.20	3	4	2	-1
G(4, s): creditors	0.15	2	3	1	-1
G(5, s): governance architecture	0.10	3	4	4	+1
G(6, s): conflicts of interests	0.15	4	4	3	-1
G(7, s): deviant governance	0.05	5	6	6	+1
G(8, s): overlooking and compliance	0.10	2	2	1	-1
Governance index at date t G(t)		**3.65**			
Governance index for date T, at date t E[G(T)]			**4.25**		
Governance index at date T G(T)				**2.95**	
Rate of governance performance	1 + r(gov) = G(T) / G(t) r(gov) = G(T) / G(t) - 1				**-0.1918**
Rate of governance risks	r(govrisk) = r(gov) / [1 + r(gov)]				**-0.2373**

Stage 3: The clinical approach report

Taking advantage of Stage 1, we write down the Clinical Approach Report[17], which comprises a critical analysis, firstly, of cash flows from assets with their primary distribution and, secondly, of cash flows to creditors and stockholders, attaching a diagnosis for each case.

a) Cash flows from assets and primary distribution

The first step consists in comparing the ex ante and ex post valuations.

Ex ante Δ CF(from assets)   =   401
Ex post Δ CF(from assets)   =   106

Almost every ex ante assessment will usually differ from the corresponding ex post one, as a matter of fact. But here we have a deep fall in value creation that deserves to be explained. Let us move on the contractually payments to creditors.

Ex ante   interest + principal = 60 + 150 = 210
Ex post   interest + principal = 60 + 150 = 210

To start with, cash flows from assets are only a half of due contractual liabilities. Moreover, when we shift to distribution on behalf of stockholders, we bump into a long-winded discrepancy:

Ex ante   dividends = 200
Ex post   dividends = 400

Dividends have doubled the amount predicted at the onset of the horizon, and the board has to give reasons for such increase in dividends while the company was facing a deep fall in cash flows from assets.

---

[17] A full account of what we mean by a Clinical Approach in Corporate Governance, it can be found in Apreda (2012a, 2012b).

19

- The main contractual liabilities were successfully met.

- A higher investment in fixed assets, higher than expected, was required.

- The dividends allocation seems contestable.

b) Cash flows to creditors and stockholders

So far, the analysis has unveiled that something may be wrong within the company's governance. In search of better understanding, let us take a look at new funding needs:

Ex ante	new debt issue + new stock issue	=	300 + 154	=	354
Ex post	new debt issue + new stock issue	=	700 + 154	=	854

This is a rather suspicious outcome. While stock issue does not show any change at all, the new debt has more than doubled the ex ante value. It seems worthy of being checked whether any unexpected investment decision may throw light on such a huge gap between ex ante and ex post debt levels.

Ex ante	non-current financial assets + fixed assets	=	100 + 100	=	200
Ex post	non-current financial assets + fixed assets	=	500 + 200	=	700

Such comparison uncovers the fact that almost half as much of the new debt has been channeled to non-current financial assets or, still worse, cash flows from operations might have been diverted into a window-dressing exercise. In the latter setting, instead of financing a new investment project, managers built up a liquidity cushion. Last of all, let us examine what happened with debt and stock repurchases.

Ex ante	debt repurchase + stock repurchase	=	150 + 295	=	445
Ex post	debt repurchase + stock repurchase	=	150 + 200	=	350

Diagnosis

- The big issue here lies on new debt issue.

- Instead of being allocated to a new investment project, the money may have been allocated in the portfolio of non-current financial assets or to find out another choice for decision-making.

Stage 4: The Compliance Officer Report to the Board of Directors

This Report highlights sources of likely compliance risks, makes their diagnosis, and advises which sort of steps should be taken to prevent them from producing material costs to the company. For this period, the Compliance Officer listed three issues regarding, namely, to creditors, the Production Department, and Corporate Social Responsibility[18].

Creditors

The decision of issuing new debt so as to get available resources as from next year for compensating two hostile stockholders leaving the Board, conveyed compliance risks, which translated into the worsening of debt ratings. Early in October, the Compliance Office submitted an indictment against a measure regarded by our Office as ill-devised and risky, suggesting instead a symmetric reduction in dividends to set up a provision intended to address such compensations.

Production Department

In March, the Compliance Office issued a warning to the CEO's office, on the grounds of disregard and even neglect of new regulations concerning some technologies related to maintenance procedures in the production area. After some workshops with the people in charge of the Production Department, as well as urgent meetings held by the Executive Committee, healthy steps were undertaken to solve the problem, mainly by purchasing new fixed assets that had not been included in the Incremental Cash Flow Model used by the Governance-Risk Staff Unit, at the beginning of the year, which explains the increase in the final provisions to fixed assets.

---

[18] A detailed treatment of compliance risks, as well as the extension of the Bank of Basle's approach towards non-financial companies (2005), it has been carried out by Apreda (2007b)

Corporate Social Responsibility

By July, this Office forcefully advised the CEOs office against the building of a new factory in the company's industrial park, as the blueprints of the engineers did not include adequate anti-pollution machinery, bringing about likely complaints from authorities and groups of interest, with unavoidable litigation costs and sanctions in the near future. The CEO's office, after holding a general meeting with the Executive Committee and the contractors, established a new schedule for the project, and state-of-the art technology to set up the new factory.

Stage 5: The Governance-Risks Report to the Board Report

This report must contain at least three sections: an introduction to acquaint directors with the main lines of discussion; an explanation of the gaps between expected and actual values in the Scoreboard; and last of all, how the company should learn from the past to make forward corrections.

a) *Introduction*

On an ex ante basis we assessed an overall improvement in how the company would have handled its governance risks along the planning horizon. However, this hopeful review was not matched from the evidence gathered at the end of such horizon.

Failure in meeting the primary targets of good governance can be explained by a host of factors, whereby we must discern commitments that were not fulfilled as well as faulty decision-making for which we must demand accountability eventually.

Therefore, we have to keep track of the gaps highlighted in **Table 2** attached to the Governance-Risk Scoreboard, lay them bare, and move onto the learning process that would ensue afterwards.

b) *Explaining the gaps (see Table 2)*

At date **t**, and contingent to our information set **I(t)**, the company's governance was likely to improve with regard to the following variables: G(1, s), G(3, s), G(4, s), G(5, s), and G(7, s), whereas for the remaining variables we expected neutral valuations. At date **T**, however, only two variables showed an increase: G(5, s) and G(7, s), whereas six variables showed an utter failing performance.

So as to shed light on the gaps, we must also take advantage of the clinical approach report as well as the remarks made by the compliance officer in his own report. Our conclusions are displayed in Table 3.

Table 3 **ACCOUNTING FOR THE GAPS**	
Governance variables	*Critical analysis about the gaps*
G(1, s): owners	There was a conflict of interests among stockholders. Two of them set up a contrarian agenda and turned out to be a faction that would put the company's agenda in peril. They were forced to leave.
G(2, s): directors	To handle the conflict of interest among stockholders, the Board of Directors agreed with the Senior Management that compensation payments for the rebels had to be financed by issuing new debt. In point of fact, this decision doesn't stand up to scrutiny.
G(3, s): managers	Managers designed a bond to be privately placed with an institutional investor, disregarding the fact that the company had already two bonds placed in public offer that financed investment projects.
G(4, s): creditors	Rating agencies and market analysts were outraged for the golden shake designed to pay the exit of stockholders, and prices of former bonds were harmed by such decision, as well as their credit ratings.
G(6, s): conflicts of interests	There were a faction among stockholders, in quest for power and contesting the agenda of the company.
G(8, s): overlooking and compliance	The compliance officer's report gives ground for downgrading the performance of the company's governance.

Furthermore, as Table 2 conveys, the index of corporate governance dropped from 3.65 at the beginning to 2.95 at the end of the planning horizon. Hence, the rate of

governance performance was negative, reaching the value of –0.1913, which was translated by the negative value of the governance risk rate to –0.2373. Summing up, the company's governance hit rock bottom.

c) *Learning from the past to make forward corrections*

This staff unit sets forth the following corrective courses of action.

- In order to forestall ownership incidents and oncoming conflicts of interests, a Stockholder Agreement should be built up as soon as possible.

- Henceforth, any debt issuance that could entail compliance risks must get the approval of stockholders by convening a general meeting and voting.

- With regard to the company's portfolio of financial assets[19], the CEO's office must seek written agreement from the Board of Directors for the following decisions:

  a) The setting of portfolio management benchmarks; in particular, those referred to risk and return.
  b) Give grounds for investment decisions in contrast with ensuing opportunity costs.

CONCLUSIONS

By an adequate choice of governance categories of analysis and their mapping onto governance decision-making variables, we can profit from a cardinal index to

---

[19] Braodly speaking, banks term-deposits; government bills, notes and bonds; corporate commercial paper, notes, bonds, ordinary and preferred stock.

measure up the company's governance performance. Moreover, the rate of governance as well as the governance-risk rate can be brought to light from that index.

It was also advocated in this paper that a managerial staff unit should handle the Governance-Risk Scoreboard within the framework of a Protocol for the staff unit so as to grant accountability and transparency.

The Scoreboard was developed as a construct that delivers a clinical approach report and the Governance-Risk staff unit Report, through the intertwining of a governance-risk toolkit with policy-making guidelines.

REFERENCES

Apreda, R. (2012a) *Governance Risks in Organizations: A Clinical Approach with Tools for decision-making*. New York: Nova Science Publishers Inc.

Apreda, R. (2012b) The Clinical Approach. *University of Cema, working papers series, number 491.*
(downloadable from www.cema.edu.ar/publicaciones/documentos and www.ssrn.org)

Apreda, R. (2011a) Governance Risks (How to measure them by means of the incremental cash-flow model. *University of Cema, Working Paper Series, number 4.*
(downloadable from www.ssrn.org and www.cema.edu.ar/publicaciones/documentos

Apreda, R. (2011b) Multiplicative Models of Financial Returns: And what we fail to get when they are disregarded. *University of Cema, Working Paper Series, number 454.*
(downloadable from www.ssrn.org and www.cema.edu.ar/publicaciones/documentos

Apreda, R. (2011c) Cost of Capital Adjusted for Governance Risk through a Multiplicative Model of Expected Returns. *Risk Governance and Control: Market and Institutions, volume 1, number 1, pp.*
(downloadable from the author's personal web page: www.cema.edu.ar/u/ra)

Apreda, R. (2011d) The Statute of Governance. *University of Cema, working papers series, number 325.*
(downloadable from www.cema.edu.ar/publicaciones/documentos and www.ssrn.org)

Apreda, R. (2008a) Cost of capital adjusted for Governance Risk through a Multiplicative Model of Expected Returns. *University of Cema, Working Paper Series, number 383.*
(downloadable from www.ssrn.org and www.cema.edu.ar/publicaciones/documentos

Apreda, R. (2008b). Arbitrage in Foreign Exchange Markets Within the Context of a Transactional Algebra. In *"Trends in Monetary Policy Issues",* Tavidze, E. (Editor). New York: Nova Publishers Inc.

Apreda, R. (2007a) Factoring Governance Risk into Investors' Expected Rates of Return by means of a Weigthed Average Governance Index. *University of Cema, Working Paper Series, number 356.*
(downloadable from www.ssrn.org and www.cema.edu.ar/publicaciones/documentos)

Apreda, R. (2007b) Compliance Risk and the Compliance Function could Enhance Corporate Governance not only in Banks but in Other Kind of Organization as Well. *Corporate Ownership and Control, volume 4, number 3*, pp. 146-152. (downloadable from the author's personal web page: www.cema.edu.ar/u/ra)

Apreda, R. (2006) The Semantics of Governance. *Corporate Ownership and Control*, volume 3, number 2, pp. 45-53. (downloadable from the author's personal web page: www.cema.edu.ar/u/ra)

Basel Committee on Banking Supervision (2005) *Compliance Risk and the Compliance Function in Banks*. (downloadable from www.bis.org)

Kaplan, R. and Palepu, K. (2003) Boards and Corporate Governance: A Balanced Scoreboard Approach. *Harvard Business School, Working Knowledge, Research and Ideas*, pp. 1-5. (downloadable from www.hbs.edu./item/3708)

Kaplan, R. and Norton, D. (1992) The Balanced Scoreboard: Measures that Drive Performance. *Harvard Business Review, January-February*, pp. 71-79.

Kaplan, R. and Norton, D. (1996) Using the Balanced Scoreboard as a Strategic Management System. *Harvard Business Review, January-February*, pp. 3-13.

Kostyuk, A.; Braendle, U; Apreda, R. (2007) *Corporate Governance*. Ukraine: Virtus Enterprises.

Monks, A.; Minow, N. (2011) *Corporate Governance*. New York: Wiley (5th edition).

Strenger, C. (2004) The Corporate Governance Scoreboard: A Tool for the Implementation of Corporate Governance. *Corporate Governance: An International Review, volume 12, number 1,* pp 11-15.

APPENDIX 1   ABOUT THE WEIGHTING SYSTEM[20]

Starting from the universe of available companies, conveyed by the vector

$$\Gamma \ = \ [\ c_1 ; c_2 ; c_3 ; \ ...... \ c_M]$$

and taking into account the vector of governance variables

$$G \ = \ [\ G(1), G(2), ... \ ... \ ... \ ... , G(L) \ ]$$

we can define a sample space suitable for our purposes as the cartesian product

$$G \times \Gamma \ = \{ \ (\ G(i) ; c_j) \ | \ i : 1, 2, ... , L \ ; \ j : 1, 2, ... , M \ \}$$

Afterwards, we define a boolean-valuation function, **Bool**, from the cartesian $G \times \Gamma$ on the set

$$\{ \ (a_i{}^j)_{L \times M} \ | \ i : 1, 2, ... , L \ ; \ j : 1, 2, ... , M \}$$

of all real matrix of **L** files by **M** columns, in the following way:

$$\textbf{Bool} : \ \ G \times \Gamma \ \ \rightarrow \ \ (a_i{}^j)_{L \times M}$$

such that

$$\textbf{Bool} \ [\ (\ G(i) ; k_j) \ ] \ \ = \ (\delta_i{}^j)_{L \times M}$$

where [21]

$$\delta_i{}^j \ = \ \begin{cases} 1 & \text{if company } \textbf{j} \text{ is responsive to variable } \textbf{i} \\ \\ 0 & \text{if company } \textbf{j} \text{ is non-responsive to variable } \textbf{i} \end{cases}$$

---

[20] We are drawing here from our earlier paper on governance risks [Apreda (2011a)].

[21] That is to say, the matrix is boolean and its coefficientes are Kronecker's deltas.

Hence, from the sample space stems a matrix of coefficients, whose files stand for governance variables, and columns for companies, as shown below.

$$
(\delta_i{}^j)_{L \times M} =
\begin{pmatrix}
\delta_1{}^1 & \delta_1{}^2 & \delta_1{}^3 & \ldots\ldots\delta_1{}^M \\
\delta_2{}^1 & \delta_2{}^2 & \delta_2{}^3 & \ldots\ldots\delta_2{}^M \\
\delta_3{}^1 & \delta_3{}^2 & \delta_3{}^3 & \ldots\ldots\delta_3{}^M \\
\ldots\ldots\ldots & & \ldots\ldots\ldots & \\
\ldots\ldots\ldots & & \ldots\ldots\ldots & \\
\delta_L{}^1 & \delta_L{}^2 & \delta_L{}^3 & \ldots\ldots\delta_L{}^M
\end{pmatrix}
$$

Being responsive for the company **j** to the variable **i**, means at least three things:

- the variable becomes related to the company's governance in a distinctive way;
- we can ascertain whether the company is performing well or badly, regarding that variable;
- if the company **j** is unrelated to certain variable **i**, then there is no responsiveness and $\delta_i{}^j$ is zero.

We are going to take advantage of this matrix to set up the weighting system, by means of the cardinal number for the following finite set[22]:

$$
\#\{\textbf{File}(\textbf{h})\} = \#\{\ \delta_h{}^j = 1\ ;\ j\colon 1, 2, \ldots, M\ \}
$$

that is to say, we count the number of non-zero elements in such file.

Lastly, we reckon each weight, for any governance variable **h**, by solving

$$
\textbf{w(i)} = \#\{\ \textbf{File}(\textbf{i})\ \} / \sum \#\{\ \textbf{File}(\textbf{h})\ \};\quad \textbf{i: 1, 2, } \ldots \textbf{, L}
$$

---

[22] For ease of notation, we follow the widely used symbol # {A}, that stands for "the cardinal number of the set A", where A is a finite set.