

BANCA D'ITALIA
Vigilanza Enti Creditizi
Via Nazionale 187
00100 Roma

Basel Committee on Banking Supervision,
Bank for International Settlements
Basel Committee Secretariat
Centralbahnplatz 2
CH-4002 Basel
Switzerland
BCBS.Capital@bis.org

Milan May 18, 2001

Dear Sirs,

Based on the three Pillars specifications defined in the new Basel Capital Accord, Bipop has better engineered its Operational Risk Management project, whose organizational model is better specified in the attachment enclosed herewith, together with our comments.

We do not have any objection our documentation being published on the BIS's website.

GP Voarino
Corporate Auditor & Data Manager

Attachment:

- Operational Risk Management Process at Bipop

Operational Risk Management Process at Bipop

SUMMARY

The Operational Risk Management Process is the continuous process of integrated activities by which senior management, supported by Process Owners (who are responsible for all parameters of μprocesses), defines, identifies, communicates, controls, quantifies, and minimizes the potential impact of operational risks on the objectives and strategies for creating and increasing shareholder value.

Since February 1999, according to the recommendation of the Italian Supervisor (BANCA D'ITALIA) the Board has given senior management the general guidelines that should be followed to implement a rational, and effective Operational Risk Management Process based on appropriate systems infrastructures, including the Internet.

The Operational Risk Management Process at Bipop has been designed to be an integral part of the general Bipop's Internal Continuous Assurance Process (BICAP), which lays on a strong theoretical framework designed with the support of Rutgers University.

This framework is the basis to the Assurance = Insurance project, to the Internal Approach for Risk Assessment, and to the continuous process system reliability encompassing: 1) real time documentation and communication of corporate μprocesses and their integration with risk assessment, 2) monitoring of the resulting databases, and 3) accounting for comprehensive (technological and non technological) risks losses, in compliance with the Basel Committee foundations (pillars) for the Internal Model Approach (see www.bis.org the New Capital Accord).

Since 1999, under the Corporate Auditor supervision, a special EXTRAnet tool (360°Dashboard[®]) is maintained to provide Board members, senior management, Process Owners, and internal auditors, with relevant risk-μprocess communication covering: identified risks and their attributes (including reliability levels).

An integral part of the BICAP is the EPA (Extended to risk Process Auditing) carried-out by the internal auditors in order to provide Process Owners and senior management with the quality assurance of μprocesses business results and senior management with the information that all the various tasks of the Operational Risk Internal Model Approach are being performed as intended.

To answer the question whether this information be sufficient to enable senior management to answer the question, “How do we know?” for each of the critical Operational Risk Internal Model Approach tasks. For example:

How do we know that our risks are being continuously assessed?,
How do we know that the appropriate Process Owners are performing their assigned obligations?, and
How do we know that our processes are being continuously improved?

A major external auditing firm, different from the Group Financial Auditors (in order to avoid any conflict of interest) was asked to provide an attestation of the correct functioning of the system.

The communication of information from senior management to risk managers and Process Owners so that they have a clear understanding of the organization's risk management goals, objectives and strategies, and of their responsibility and accountability for designing, implementing and monitoring the effectiveness of risk control processes is realized integrating EXTRAnet and Intranet applications.

With latest acquisitions Bipop has become an even more horizontal organization, senior management has acknowledged that the span of control has therefore increased, in order to bridge this gap before it becomes critical an ad hoc EXTRAnet tool (QUALIdashboard[®]) will be implemented in order to

provide the organization with more formal online mechanisms to ensure there is proper information for decision making with respect to the BiCAP.

Such a corporate application (see http://www.bipopgroup.org/aaa_reference/Ref_Extranet.html) will facilitate the effectiveness of information for decision making by taking an ownership role in supporting the whole approach to and ensuring the effectiveness of the risk management process.

FOUNDATIONS

Following Supervisor's (BANCA D'ITALIA) suggestions, documented internal procedures in the form of a µprocesses manual (TUNE[®]) continuously up-dated and communicated over the Internet is maintained in the bank, since the beginning 1998.

The 360°Risk[®] self-assessment of all (360°) risks faced by the bank on each µprocess was launched by the Board to increase the awareness of risk exposures at all levels of the organization, at the end of year 1998.

This information, supplied and continuously refreshed by Process Owners, was published on the intranet as a link on each µprocess (http://www.taska.it/Prodotti/sator_demo/demo_spor_titoli/P1327.htm).

In fact, this manual (TUNE[®]) is obtained from a specific database, which is processed by the internal auditing for archiving each version of the manual (TUNE[®]) and to serve as an electronic procedural background (evolution of the check-lists) for the EPA (Extended to risk Process Auditing) inspections.

Since beginning of year 2000, this approach has become a standard practice throughout the Group, integrating also the ISO9000 quality system information, when available.

By the end of 2000, a specific EXTRANet application, overnight, makes a copy of the online TUNE[®] manuals of each major Italian Company of the Group and publishes them in the BANCA D'ITALIA compliance site (http://www.bipopgroup.org/aaa_reference/Ref_Italy.html).

On November 27, 2000 this approach was also completely cross-referenced to each single recommendation of the Basel Committee on Internal Control System (www.bipopgroup.org/GruppoBIPOP/External_Info/IDC_28-11-2000/SAP_OP_Risk_IDC.ppt).

Nevertheless there are some risk mitigation best practices, which are planned, but not implemented yet. In fact, Bipop believes that only solid, fully auditable applications, whose results must be acknowledgeable by Supervisors, worthwhile to be put in production.

Senior management believes to do its best to keep constantly these items under its control. In the near future questions such as, are there failures to:

- ⊙ establish appropriate risk tolerances (e.g., transaction authority limits)?
- ⊙ identify all risks?
- ⊙ define and document appropriate risk strategies?
- ⊙ design/implement specific risk controls/mitigations?
- ⊙ monitor in all key instances effectiveness of risk control processes, including the disposition of exceptions, etc.?
- ⊙ communicate appropriate information upward and downward in the organization regarding risk management activities?

will also be covered by the newly established Internal Control Committee (http://www.bipopgroup.org/aaa_reference/Ref_Extranet_Indep_Audit.htm).

Each Committee member will be given access to the above mentioned 360°Dashboard, thus providing an overall extra-cover to the Bipop Operational Risk Management Process, which under the Assurance = Insurance (A=I) project will also produce a capital charge, in line with the Basel Committee guidelines for the Internal Measurement Approach for Operational Risk assessment.

A=I project moves within the theoretical framework designed with the American University with the largest accounting web site in the InterNet (Prof. Miklos Vasarhelyi), lays its classifications on qualitative master-databases (μprocesses, risk definitions, audit-trails) and communication standards (TUNE®), processes its quali-quantitative data on client-server and internet applications, data-warehouse, risk quantification software tools, uses special information on technology risks provided by one of the largest Internet hardware and software supplier, it is managed and finalized with the help of world largest insurance broker (pooled internal loss data, supplemented with external data), and it is covered by an attestation of one of the most important external auditor on the ability of bank in gauging if the operational environment is accurately reflected in data aggregation and parameter estimates and on the effectiveness of Bipop continuous assurance system in improving its control environment.

Each Project Partner (see http://www.bipopgroup.org/GruppoBIPOP/External_Info/AIFIRM/Default.htm) acts within formalized objectives, criteria and Service-Level Agreements (S.L.As), in order to prototype the future routine Bipop Operational Risk Management Process to be acknowledged by Supervisor (BANCA D'ITALIA).

Bipop INTERNAL CONTROL SYSTEM (ICS)

The Bipop Internal Control System is based on # 5 levels of documented and communicated (over the internet) controls:

- level 0 **automated controls** within software applications, and **control activities** within μprocesses of the TUNE®;
- level 1 **line controls** within internal procedures, these controls are documented in bold in each μprocess of the TUNE®, in fact they identify the audit-trails which must always be present in each μprocess;
- level 2 **risk controls**, these are standardized controls performed on data-warehouses under administrated and documented conditions, within the boundaries of the Bipop's internal Continuous Assurance Process (BiCAP), which provides continuous assurance of key μprocesses operating results. Risks controls are structured in 3 different families of indicators: **Key Performance Indicators (KPIs)** for Supervisors and senior management overviews; **Risk Analytical Indicators (RAIs)** for Risk Control Units continuous monitoring activities, to keep under control Process Owners risk “appetite”; and **Process Owner Indicators (POIs)** for process owners daily tune-ups;
- level 3 **internal auditing controls**, these are standardized controls carried-out according to the **Extended to risk Process Auditing (EPA)** methodology, which interacts with information coming from level 0, level 1, level 2 controls. EPA also supports process owners in supplying their assertions to the CPA firm in charge of the Attestation of the Internal Control System. EPA major expected benefits are in the area of feed-backs to the POIs, RAIs and KPIs algorithms;
- level 4 **supervisory controls**, there are many Supervisors who hold a right to perform some audit activities over Company's operations. Bipop maintains a web site for each of them (www.bipopgroup.org , http://www.bipopgroup.org/aaa_reference/Ref_Extranet_Indep_Audit.htm) in order to promptly supply required information. Basel Committee Pillar 2 specification fit with the standards of this information, which is maintained in view of allowing Supervisors to exercise a continuous audit function thereon.

Objectives, criteria, **Service-Level Agreements** (S.L.As), and specific μ processes (TUNE[®]), associated with the theoretical specifications of each control level are also documented and communicated over the internet to all interested parties.

In order to properly define the boundaries of the Internal Control System, Process Owners are asked to specify delegations of powers as a starting point of each μ process (TUNE[®]). In particular, within risk control μ processes, the risk tolerance will be fully specified, setting limits, which will be administrated whenever feasible with automated systems.

Bipop's INTERNAL CONTINUOUS ASSURANCE PROCESS (BiCAP)

The Operational Risk Management Process (level 2) at Bipop has been designed to be an integral part of the general Bipop's Internal Continuous Assurance Process (BiCAP).

Board of Directors has started defining the organization's risk management goals, objectives, and methodology, from September 18, 1998. The model was first presented to BANCA D'ITALIA on December 22, 1998. Operational Risk Management Process was launched by the Board on September 22, 1999.

Line controls (level 1) objectives and methodology were established by the Board on November 5, 1997, while objectives and methodology (EPA) for Internal Auditing controls integrated with risks were approved on March 13, 2000.

On Feb 28, 2001 Bipop-Carire Board of Directors, stated the general rules for risk tolerances, boundaries, and limits, which will be soon specified and administrated using the automated platforms set forth risk control processes (e.g. VAR, Internal Ratings, Internal Measurement Approach).

Accordingly, senior management is setting objectives, criteria, service-level agreements, in particular for the Operational Risk Management Process, which are documented and communicated over the internet to internal resources and external partners.

OPERATIONAL RISK MANAGEMENT PROCESS

General

Today, the Operational Risk Management Process at Bipop is organized according to all available guidelines and standards of the Internal Measurement Approach (see Present results as an answer to BIS guidelines).

Board members and senior management are given an internet tool (360°Dashboard[®]) to monitor in a timely and systematic manner Bipop's operational risk drivers. They are, therefore in a position to assess the impact that significant environmental changes (e.g., industry, competition, technological change, legal and regulatory, political, financial markets, capital availability, resource availability, globalization, etc.) may have on the operational risk measures.

Also Process Owners are provided with specific views of 360°Dashboard[®], in order to participate at all levels with senior management, as it relates to their responsibility areas, in relevant environment monitoring; in evaluating new business investments, new product opportunities and business process improvement opportunities; and in evaluating related impact on operational risks.

This information is made available to Internal Auditors for EPA planning and programming.

TUNE[®] is based on a non overlapping μ processes architecture applied in the financial industry, since 1977.

Starting from a master-database of μ processes helped Bipop in cutting costs, implementation time, and it served as a benchmark not to forget relevant activities, which could generate risk.

Also risk non overlapping definitions were acquired from the market, communicated to the Supervisor, and finally shared with the world largest insurance broker.

Self-assessment of all risks

Each μ process-risk cell was then assessed by Process Owners. A qualitative bottom-up self-assessment of Loss Given Event (LGE) multiplied by Probability of loss Event (PE), which was first turned by the Board to the Supervisor (BANCA D'ITALIA), on April 20, 1999.

This approach was presented to the Italian Banking Association (ABI) Seminar on Operational Risk, on October 22, 1999 (www.bipopgroup.org/GruppoBIPOP/External_Info/OP_risk/Default.htm).

Ever since, this information is continuously up-dated by Process Owners and communicated over the internet to all users of the TUNE[®]. BANCA D'ITALIA, is copied daily this information via a protected web site.

Senior management has used the internet to communicate: objectives, policies, roles, responsibilities and defined activities for identifying, sourcing and measuring in a qualitative way all risks (including Operational Risk).

Validation

After the initial self-assessment, senior management has asked the internal auditors to systematically validate all risk figures provided by Process Owners, using EPA methodology. This way, audit reporting has been turned towards future trends, which can still be modified, instead of past behaviors, which can only be accounted for.

This validation is translated in a higher reliability factor associated with each μ process-risk cell. Also this information is communicated to end-users.

Quantification

Bipop senior management has a general policy: “you get what you measure”, which explains the great emphasis given to: Market risk, Credit risk, and Operational risk **measurements**.

On June 7, 2000 the Board approved a project to provide stakeholders with a reliable proxy of all quantifiable risks.

For market risk a project was launched on a SAP platform. Due date June 30, 2001.

For credit risk, on the basis of the bank's Internal Ratings present information, a QIS project was launched, to fill-in BANCA D'ITALIA requests to a “QIS” questionnaire. Due date June 1, 2001.

For Operational Risk, on the basis of the Self-assessment, and of the 3 different families of operational indicators, the A=I project was launched. Due date end of March, postponed to the end of June.

Assurance=Insurance (A=I) Project and Partners

For A=I project, please see above.

Operational Risk Indicators

For KPIs, RAIs, and POIs, please see above.

When POIs are available, this condition lifts the reliability factor associated with each μ process-risk cell to the maximum level. Also this information is communicated to end-users, via TUNE[®].

These indicators are used also as a feed-back to the risk-mitigation activities defined and classified according to a standard scale, in conjunction with each applicable μ process.

Risk authorities/limits

On the basis of the above Risk Platform, the Board is going to state the new senior management's limits and the policy for risk tolerances, and boundaries. Meanwhile, senior management will gradually revise present proxies on the basis of "you get what you measure, and you can control". Starting from a web application, which publishes present authorizations, a new proxy system will be implemented to clearly specify who is authorized to commit Company's resources in conjunction with identified risks (within specific μ processes, also for auditing purposes). This web application will communicate to all interested parties the new limits expressed, on the basis of risk values (VAR, Internal Rating Based approach -IRB-, and Internal Measurement Approach -IMA-).

Loss Log[®]/Claims Log

A client-server prototype of a general loss database ("Loss Log[®]") has been realized and populated with year 2000 test information. It records all historical loss figures broken-down by μ process-risk cells linked to a trigger event. In order to include all accruable losses it also integrates the official "claims log". Marsh (insurance broker), within the A=I project, has successfully used this information to test a database of pooled data in line with Basel Committee Pillar 1 specifications. Once fully tested within A=I project, Loss Log[®] will become a group web application (inserted in QUALIdashboard[®]).

Information hub

Bipop's goals and objectives for its risk management activities as well as the tolerances/limits for specific risks are clearly communicated over the web and made available to all interested parties.

Using the intra/EXTRAnet, management effectively communicates throughout the organization that risk management is everyone's job by inserting risk information in all μ processes communicated via TUNE[®].

Senior management receives accurate, timely and relevant information to fulfill its responsibilities in monitoring the risk management process.

All stakeholders, i.e., the Board, senior management, risk managers, business Process Owners, through the web, are continuously informed encouraged to and are able to freely communicate about business risk issues.

With a specific video presentation over the web, the Corporate Auditor is encouraging open candid communication on μ processes, risks, and controls.

More and more, continuous improvement information regarding risk management flows down from the Board and senior management and up from key risk managers and business Process Owners and across risk control activities.

CAPITAL BUFFER

the Loss Database (Loss Log[®])

The Bipop's loss database ("Loss Log[®]") has been conceived to become a robust reference for correctly booking all losses incurred in executing documented, communicated, and continuously up-dated μ processes. Loss Log[®], in order to include all accruable losses it also integrates the official "claims log". Loss figures are broken-down by μ process-risk cells linked to trigger events.

Marsh (insurance broker), within the A=I project, has successfully used this information to test a database of pooled loss data, in line with Basel Committee Pillar 1 specifications.

Some bookkeeping issues are still pending on how to record loss accruals by μ process-risk cell on Process Owners budgets, and how to post unrealized losses to under the line captions.

Once fully tested, the Loss Log[®] client-server prototype will become a web application included in the general group qualitative online reporting system named QUALIdashboard[®] (www.bipopgroup.org/aaa_reference/Ref_Extranet.html).

the Pooled Internal Loss Database

Using Bipop's input data from TUNE[®] (online manual grouping all μ processes documentation), from 360°Dashboard[®] (online risk reporting web application), and from Loss Log[®] (client-server prototype), the largest international insurance broker in the world has made a test of a database of pooled internal loss data. This information is based on a system of **net risk unit values** (by μ process-risk cells), which will be covered by a CPA attestation, starting from year 2000. System data are assessed and continuously up-dated by Process Owners, they are validated by internal auditors, and continuously assured in key instances by the operational risk control unit.

the Public External Loss Data

These qualitative data, complemented by Process Owners with monetary conversion parameters (for improving the level of correctness of broker's computations), are the basis for assessing the global capital charge for operational risk of the Bipop Group. The broker with its profound experience in evaluating client's self-assessment information, will soon produce a figure for the buffer Bipop should accrue for operational risk for year 2000..

For year 2001, Process Owners will be asked to assess, also, **gross risk unit values** (by μ process-risk cells), in order to supply the broker with another reference point for better judge external trigger events information available (to the broker) in external loss databases.

Conclusion

Pooling internal loss databases and assess a capital charge, which could be considered a realistic proxy of underlined risk, is an exercise that needs know-how and experience, especially for the conflict of interest perspective.

A question should be answered: "what is the expected return for supplying detailed, up-dated, real loss figures to this "rating" entity? We thought that only a well reputed rating agency, or a top insurance broker were in pole position to fit the request.

COMMENTS FOR BIS

Loss and limits Accounting

In our experience, the Internal Loss Database (Loss Log[®]), is going to become the stronger logical tool for a correct quantification of the Operational Risk, we suggest detailed accounting specifications should be provided by the Basel Committee for the correct accruals accounting of all operational losses incurred.

Losses should be recognized and classified the same way risks are (by μ process-risk cell).

For example, a wrong stock order processing, which has caused a posting in the property trading book, it should be also entered into the loss accounting with the VAR of that day, despite of the fact that this unintended purchase/sale has produced a profit or a loss in the property book.

Bipop believes that a reliable quantification of Operational Risk will allow a very efficient risk based limits management. These risk based limits will be monitored both on a cumulative and individual basis.

Auditable Pooled Internal Loss Database

In our experience and tests, we faced several issues/difficulties for which it would be useful further clarifications:

- What about the small losses (relevant to estimate the Expected Loss and thus the Unexpected Loss) if these are not included in the limits defined by the QIS 2 ($> 1000\$$);
- Standards to assess and quantify the goodness of internal controls (systems and procedures) and its impact on the economic capital requirement (gross loss – net loss);
- Criteria to define the impact/benefit of insurance coverage or other risk mitigation financial instruments on the economic capital at risk;
- Guidelines on statistical models, that best fits rare events, to be adopted for the operational capital calculation.

Requirements for Benchmarks of Losses (external databases)

Difficulties encountered:

- Lack of benchmarks to measure the potential loss (in terms of severity and probability) related to the Internet banking and Trading online activity;
- Lack of standards parameters to establish a relationship between the individual bank and the sample of losses.