



*BNP Paribas Position note*  
Consultation Paper 32 CEBS Guidelines on Stress Testing

BNP Paribas welcomes this document that outlines a coherent framework for developing stress tests to be included in the processes of running banking institutions. By specifying regulators' expectations regarding stress tests with respect to risk and capital management of banking institutions, it provides a useful complement to documents already published within the scope of Pillar 2.

However, the way this document is drafted calls for a few comments (general and particular) that are included below. These comments are followed by several points that are more technical.

### **General comments**

There are two general comments.

First, the CEBS's recommendations show a quantitative bias, to the detriment of expert (qualitative) judgement. The issue of stress tests is not just a question of a computational tool and process, even though that is necessary. It seems important to us to remind how essential the qualitative dimension of the stress test process is, including for the top-down exercises. This dimension also involves the association of business lines to the exercise which provides it all credibility.

This quantitative bias automatically results in a very systematic approach. It seems important to us, therefore, that this bias be counterbalanced by a stronger statement about a proportionality rule. This should particularly be the case in the guidelines of section 3 on methodologies and in the guidelines of section 6 on the SRA. This should also apply to prevent all stress exercises from going up to General Management automatically, or to prevent every business unit or every portfolio from having to be stress tested.

Secondly, deadlines are needed for the progressive implementation of the methodologies, tools and processes mentioned. In particular, it is difficult to consider the short - or medium - term preparation of coherent and detailed multi-risk scenarios, or to contemplate taking feedback effects into account at every level.

Indeed, what should be stated is a principle of realism. It is therefore requested that the implementation date of the plan (June 30, 2010) be pushed back, and the principle of a realistic and progressive implementation of the plan be shown explicitly in the text.

## **Special comments**

In addition to these general comments, which apply to the document as a whole, it seems important to us to highlight the following specific points:

### 1. Calculation infrastructure

This does not involve building *ex nihilo* a dedicated infrastructure. Rather, insofar as possible, it means creating linkages between existing systems in the business lines as well as in the “finance” and “risk” management departments, and to have the means for these systems to work in sync within the framework of stress exercises. With this perspective, dedicated teams are needed more than dedicated infrastructures.

The uniqueness of business lines/global methodologies cannot be guaranteed if the global exercises must systematically display a conservative nature that limits their inclusion in the processes of managing the business lines. Conservatism cannot systematically be the rule for management.

### 2. Preparation of scenarios

The preparation of complex – and specific – scenarios by banking institutions limits the ability of regulators to consolidate the results from different institutions. It should also be noted that regulators are in the best position to specify the effects of systemic risk.

The CEBS specified that the economic scenarios should be severe. It is important to point out, however, that the gravity of economic scenarios is not per se the most important factor. What is essential is the way an economic scenario impacts the portfolio. In the end, the pertinence of a scenario is evaluated in light of the results of the analysis.

With respect to evaluating the more or less plausible nature of a scenario *ex ante*, recent history shows that this is questionable.

Finally, past experience shows that developing an operational stress test plan leads to limiting the number of scenarios used in the analyses. This number is a management decision, and is also a condition of the use test.

### 3. Reverse Stress Tests

It seems to us that reverse stress tests, the purpose of which is not clearly defined in the document, can be seen as a way of questioning the hypotheses of the business models of the business lines, in order to understand the strengths and weaknesses. The fundamentally qualitative (expert judgement) nature of the exercise must therefore be kept in mind, and the extremely complicated nature of the technical methods of implementing it needs to be taken into account.

It is also requested that the results of these reverse stress tests not be reused for other purposes, and in particular, it should be stipulated that these results should not then be used again by a regulator as a basic scenario for the institution concerned. In particular,

this means that the reverse stress tests should not be viewed as a means of challenging the hypotheses used in constructing scenarios utilized for capital planning stress tests (which would automatically lead to incorporating them into these exercises).

#### 4. A multi-level approach

The CEBS proposal leads to distinguishing different levels of analysis based on blending the following key concepts:

- Business unit (from the individual portfolio to the firm-wide portfolio)
- Type of risk (from a unique type of risk to all types of risk combined)
- Type of approach (from sensitivity analysis to the forward looking scenario approach).

From this point of view, it is requested that the distinction between “business unit” and “legal entity” be clearly specified, and that the primacy of stress tests at the business unit level be posed, so as not to open the door to different legal approaches which do not provide much added value. In this connection, it will be noted that all of the analyses cannot be done at the level of a legal entity (particularly for operational risk).

#### 5. Link with insurance activities

The reference (§ 68) to a stress test of insurance activities that would be in addition to the stress test conducted on the banking business, in order to cover the full scope of consolidation of an institution involved in both activities, raises the question of the degree of coherence expected from these two exercises and of the possibility of aggregating the results from them. Consequently it is requested that the CEBS document make exclusive reference at this stage to the prudential banking business knowing that similar exercises may also be prescribed by the regulation specific to insurance.

#### 6. Results of a stress exercise

The CEBS requires that, in light of the results from a stress exercise, the management of a banking institution decide on corrective actions (“management actions”), and that these corrective actions:

- explicitly make up part of the stress documentation (second calculation, taking into account the effect of the decisions made upon completion of the first calculation);
- be “credible” (in one way or another management should be committed to them).

We agree that the management decision making should be documented and, as such, may refer to the stress test results as one of its grounds. We do not see then the need to systematically and formally tie a corrective action for every stress test exercise. Stress testing should be part of the management discipline and there is no ground then to question the management commitment to implement its own decision directly or partially based on this management tool.

In this context, the direct link established in the document between an institution’s appetite for risk and its capital planning stress tests raises a number of questions, and all the more

so in that the concept of appetite for risk remains an issue whose operational integration is to succeed.

Stress tests are only one element in the decision process. However, the credibility of decisions would be strengthened by referring explicitly to the stress tests.

### 7. Supervisory review

In addition to the general remarks made at the beginning of this document, it seems important to us to emphasize that creating a direct link between the capital planning stress tests and the determination of possible capital cushions could lead to calling into question the future of stress exercises. It should also be noted that the creation of a capital cushion is not the only response to the results of a stress test (see the preceding comment on the corrective actions expected of General Management).

### 8. Appendices

To conclude, it seems important to us to remember that the “proportionality” rule also applies to the contents of the appendices.

These appendices could take into account the work in progress within the scope of the reform of Pillar1 (see counterparty risk, collateral, liquidity, etc.) and it is essential to ensure the coherence of this work with the proposed plan.

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### **Technical points :**

- It seems to us essential to specify unequivocally the status of the examples provided in the draft guidance in order not to consider it as a reference in the future.
- The drafting of the following paragraphs should be reviewed:

## **Appendix 4 – Operational risk**

We provide hereunder the BNP Paribas's proposition of the framework Annex 4 – Operational Risk along with several comments.

### **Operational risk 1.**

§ 2. The stress assumptions may be different from the ones used in credit and market risk stressed scenarios and should be based on external events (e.g. including a stock exchange crash scenario causing an increase in litigation).

### **Operational risk 3.**

§8. The CRD, Annex X, Part 3 defines the four elements (internal and external data, scenario analysis, and business environment and internal control factors) which must be used within the AMA, and which must take into account all significant risk exposures and capture the major risk drivers. However, the CRD contains no specific requirements as to how the elements should be combined ~~or what weights should be assigned to the different elements~~

#### **BNP Paribas comment:**

*Depending on the methodology used, these four factors can be combined in a way which do not rely on weights, so no assumption of any weights should be included into the current document. The last part of the prior sentence should be then discarded*

Due to this, institutions need to implement stress tests which take into account their specific AMA. If the AMA is used together with a simpler approach (Partial Use) to calculate the operational risk capital requirements, the stress test results for the latter should be added to the stressed AMA capital within Pillar 2.

§ 9. Stress tests based on internal and external data should consider the occurrence of additional large but plausible losses, carefully analyse the boundaries of operational risk losses (e.g. large losses which are partly considered to be credit risk within the AMA model, could be considered to be pure operational risk losses),

#### **BNP Paribas comment:**

*This example is questionable, as regulation already requires that operational risk losses which are part of market risk nevertheless have to be fully included into AMA capital*

use scaling factors (e.g. in a situation where external data were scaled down, the scaling may be reduced or the data may even be scaled up accounting for, e.g., expectations on increasing inflation rates) and the criteria for determining the relevance of data (e.g. large loss data considered not to be relevant may be used within the stress test).

[...]

~~§ 12. Stress tests may include an increase in the confidence level of the capital calculation in accordance with the desired rating of the institution.~~

**BNP Paribas comment:**

*This paragraph should be merely suppressed. It refers to an economic capital issue which does not belong to this appendix and, moreover, that is not specific to operational risk.*

## **Annex 5 - Liquidity risk**

We provide hereunder the BNP Paribas's proposition for *changes* (in italic) of the framework Annex 5 – Liquidity risk along with several comments.

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***“Applicable to all institutions***

**Liquidity risk 1. In identifying the potential liquidity gap all material liquidity risk drivers should be considered. The drivers should incorporate both asset and liability side factors. The methodology used for calculating the shock effects is to estimate the net cash flows. For each scenario, at each stress level, the institution should identify cash inflows and outflows that can be expected to occur in each future time period and the resulting net cash flows.**

3. Liquidity risk arises for two sets of reasons, liability side and asset side, and institutions should consider both when identifying liquidity risk drivers. The liability side reasons include diminishing ability to raise new funding, failure to roll over liabilities and withdrawal risk (e.g. unforeseen withdrawal of deposits). The asset side (on- and off-balance sheet) reasons include the unexpected utilisation by customers of committed credit lines, back-up/stand-by facilities and other lending facilities. In asset side scenarios declines in value of liquid assets should also be taken into account as they determine the amount of liquidity an institution is able to generate from them. Asset side shocks could also cause declines in asset values which might lead to liquidity stress through margin calls (when those assets are pledged).

4. An institution should identify in each scenario at each stress level two types of cash flows, the contractual cash inflows and outflows, that can be expected to occur, either discretionary or non-discretionary, e.g. liquidity drains from margin calls and required posting of collateral, and the cash inflows and outflows resulting from customer behaviour. They should also cover the:

- a. impact of covenants - downgrade triggers;
- b. impact of non-contractual liquidity support (reputation-linked); and

### **BNP Paribas comment:**

*Not all non-contractual liquidity risks must be mitigated by a bank. The bank's "management body" should anticipate the portion of non-contractual (=reputation-linked) risk it wants to cover. As liquidity is confidence, the reputational risk must be essentially addressed by communication strategy and not by liquidity buffer.*

- c. impact of liquidity back-up/stand-by facilities.

5. By summing up all the cash flows an institution should end up with the forecast liquidity requirement for each time period in each scenario at each stress level. It should then calculate the net cash flow for each time bucket in each scenario at each stress level. This is the amount by which the forecast cash inflows exceed (or fall short of) the forecast outflows.

**BNP Paribas comment:**

**New:**

6. To the extent that liquidity risks may derive from other sources of risk positions, 'alternative liquidity scenarios' should be designed in liaison with other risks. When other risks materialise, they may impact liquidity position of an institution. Those spillover effects should be analyzed and measured within a globally consistent stress test framework. As an example, the impact of market risk on assets value, credit risk on assets value and expected cash flows and reputation risk should be appropriately incorporated into liquidity stress scenarios. Another example is when an institution rely on funding sources that are sensitive to interest rate, market, credit, and reputation risks.

**Liquidity risk 2. The liquidity stress testing should identify and quantify potential liquidity gaps in specified stress scenarios and identify means of closing those gaps.**

7. The liquidity gaps are created by loss of available funding (e.g. reduction in deposits) or increased demand for liquidity (e.g. funding contingent liabilities). The institution should define the different ways at its disposal to close those gaps according to the *contemplated* scenario (unsecured funding if assumed to be available, secured funding). Changes of business structure like reducing *loan origination* may be contemplated for long-lasting stress scenarios depending on the business model of the institution. In each case the funding cost is an important parameter.

**Liquidity risk 3. Institutions should apply three types of *liquidity stress scenarios*: idiosyncratic, market-wide, and a combination of the two.**

8. The core of the idiosyncratic stress should assume a *material loss* of unsecured wholesale funding, *broken down by types of counterparts* and some outflows of retail deposits. In addition, a typical bank-specific scenario is a downgrading (for example, a 3 notches downgrade) of an institution's debt instruments (including SPV issued CP) by external rating agencies. The market-wide stress should assume a decline in the liquidity value of some assets and deterioration in funding market conditions. In addition, market stress scenarios should involve market disruptions or changes in the macro-economic environment in which the institution is operating, or the downgrading of countries in which the institution is operating.

**Liquidity risk 4. A survival period of at least one month should be applied in specifying the chosen stress scenarios. Within this period, shorter time horizons should also be considered.**

10. The time period considered should be divided into two phases: a short acute phase of stress (for example, up to one or two weeks for idiosyncratic risks in order to cover such periods without having to change the business model) followed by a longer period of less acute but more persistent stress (for example, up to one or two months for more general liquidity risk). This approach has the merit of looking at different levels of severity for the stress scenarios. *The longer the stress scenario is, the more changes to be business*

*models can be embedded in the counterbalancing transactions to mitigate the stress test (ex: scale down assumption of non “on going concern” businesses of the institution). The stress tests complement the other risk measurement tools that apply to longer horizon (typically 1 year horizon and above) that are more business-as-usual based.*

**Liquidity risk 5. When considering the different types of shock and time horizons, a set of behavioural assumptions has to be designed for each scenario and time horizon.**

11. The behaviour of depositors and funds providers will be driven by several factors influencing their actions with regard to the specific institution. The degree to which these factors will result in withdrawal or withholding of funds is determined by their sensitivities to the perception of the soundness of the institution. This behaviour should be analysed and some assumptions should be made when constructing the stressed liquidity scenarios.

**Liquidity risk 6. The impact of the liquidity shock is on the net cash flow. However, the analysis should be extended to other metrics, such as liquidity ratios, liquidity buffer.**

12. Although net cash flows is the basic measure for liquidity stress testing the impact should not be confined to them but the institution should continue the analysis by calculating the effect on its liquidity ratios and liquidity buffer. The liquidity ratios can be simple liquidity ratios (e.g. loans/deposits) or more *risk-based liquidity ratios, be they supervisory ratios or management ratios*. The definition of the liquidity buffer is derived from the CEBS paper on liquidity buffers and survival periods: “the liquidity buffer should be the short end of the counterbalancing capacity. It is defined as the excess liquidity available outright to be used in liquidity stress situations within a given short-term period.

#### **BNP Paribas ‘s comment**

*The very role of the liquidity buffer is to be prepared for extraordinary situation. This requirement is far too extreme. It would basically require doubling the size of the liquidity buffer: in time of a crisis, if the buffer is actually used and the same ratios have to be abided by, there should be the same buffer at the end of the survival period: there’s a compounding effect that could be compounded infinitively.*

**Liquidity risk 7. When conducting liquidity stress testing exercises on a consolidated basis possible strains on transfers of liquidity among the entities in the group should be considered and incorporated into the relevant scenarios.**

13. Stress testing on a consolidated basis means that there should be free and unconstrained “movement” of liquidity among the entities of the group. In some cases there are legal and other types of obstacles and these should be built in to the scenarios. The problem may be particularly acute in the case of entities located in other countries. In these cases cross-border liquidity transfer problems should be considered. Apart from legal risk, other types of risk (e.g. country risk in the form of transfer risk) should be considered and incorporated into the liquidity stress testing scenarios. The potential for

ring fencing also underlines the need for performing stress tests at different levels, since the legal entity by itself needs to hold a certain amount of liquidity.

**Liquidity risk 8. The results of the stress tests should be used as an input for adjusting and improving liquidity risk management.**

12. Stress test results should be analysed precisely and utilised to verify and improve liquidity risk management, including internal policies, limits and contingency funding plans.”