

## Risk management

# Anticipation and control

The year's major event was the acquisition of Artesia Banking Corporation. Special attention was paid to controlling risks in the merger process. Two major issues were carefully addressed:

- ... in assessing Artesia BC's impact on Dexia's risk profile, it was necessary to assess the type and level of risks (loans, ALM, capital markets) of Artesia BC. Dexia's Management Board then adjusted the risk limits and policies applying to Artesia BC's activities in order to keep Dexia's low risk profile;
- ... in terms of organization and methods of the control framework, Artesia BC's merger required substantial consolidation of data and computer system adjustments. This process concerned mainly Dexia Bank and is not completely finished. In certain cases, in particular for the Capital Markets and Treasury business line, it was also necessary to adapt risk guidelines by rewriting rules and procedures and overhauling the Market Committees.

The other major project pursued in 2001 consisted in tightening liquidity risk control.

This section on risk management consists of five parts: one for each type of risk (credits, markets, ALM including liquidity, insurance, operational) plus a section devoted to Economic Equity and a summary of the proposed new Basel capital accord.

### ① Credit risks

#### > Organization

Credit risk management within the Dexia Group is organized as follows.

The Group Risk Management (GRM) oversees Dexia's Risk Policy under the guidance of Dexia's Management Board or specialized risk committees. It sets Group guidelines on limits and delegations, it sets and manages the risk surveillance function and the decision processes and it implements group-wide risk assessment methods for each of the bank's activities

and operational entities (Dexia Crédit Local, Dexia Bank Belgium, Dexia Banque Internationale à Luxembourg).

Three specialized risk committees have been set up at the Group's level in the field of credit risk management:

- ... the Credit Risk Policy Committee defines the Group's risk profile and the risk measurement rule;
- ... the Limits Committee sets the limits for each type of counterpart and/or sector and their allocation between the entities;
- ... the Dexia Credit Committee rules on questions that are beyond the scope of the delegations granted to the entities.

As far as the 'Capital Markets and Treasury Activities' business line is concerned, a delegation is also given to a specific committee to oversee the Credit Spread Portfolio.

#### > The major projects in 2001

In 2001, one of Dexia's major risk management projects was the merger of Artesia BC with the rest of the Dexia Group. The financial statements were consolidated in July 2001 with retroactive effect to January 1. Consolidation had limited impact on total exposure (16%) and on the breakdown in terms of geographic region and business sector. Total exposure in Belgium increased while there was a decrease in exposure to the local public sector.

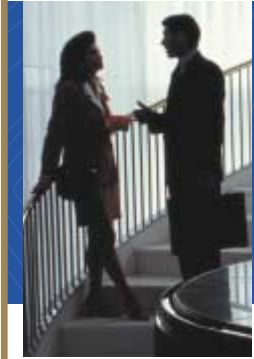
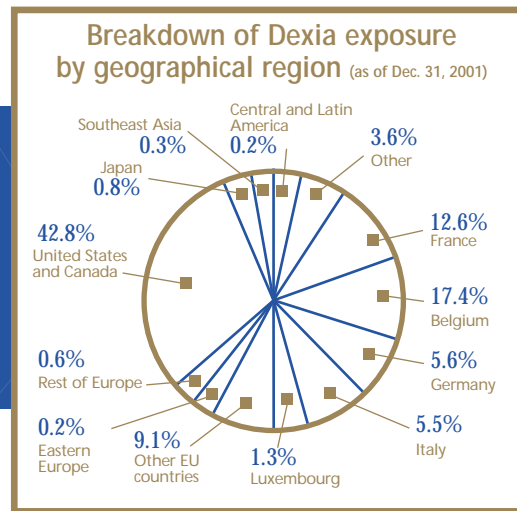
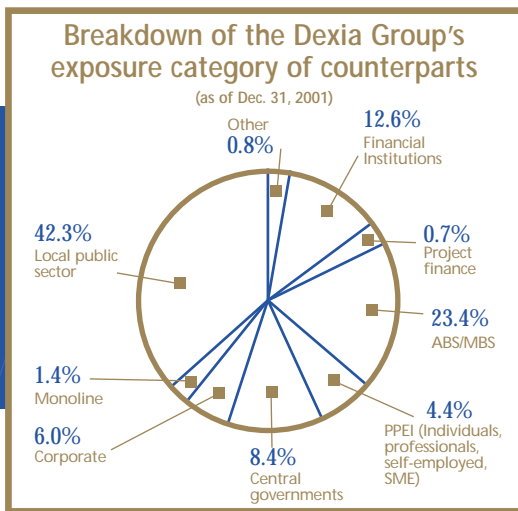
Consolidation was also an opportunity for putting into place new risk management tools by drawing on Artesia BC's advanced methods, particularly in the area of corporate finance.

The risk guidelines already applied at Dexia were also adjusted to adapt to the size of the new combined Dexia Bank-Artesia BC entity while maintaining Dexia's low risk profile.

In 2001, GRM also formalized the delegation given to FSA by laying down new guidelines defining:

- ... the types of transactions that FSA is authorized to carry out and their maximum amounts;
- ... procedures ensuring strict control of the Group's consolidated exposures including FSA's credit exposures.

# Anticipation



### > Industry analyses

In 2001, GRM conducted thematic reviews of specific industries such as the telecommunications and aeronautics industries which resulted in the implementation of specific limits and commitments policies reflecting the Group's conservative risk policy.

After a review of the Group global exposures to the corporate sector, the Group narrowed its target customer segments, focusing exclusively on companies involved in project finance and on companies having a strong presence in Belgium or Luxembourg.

### > Dexia's consolidated exposure as of December 31, 2001

#### Exposure by category of counterparts

The Group's total exposure rose 18% to EUR 610 billion compared with December 31, 2000.

Loans to the local public sector stood at approximately EUR 260 billion, making them the bulk of total loans (42.2%) although there was a slight decrease over the previous year in relative terms. Dexia's exposure to central governments was also significant. At EUR 51 billion, it accounted for 8.4% of total exposure.

Dexia's exposure to ABS rose to 23% of assets from 17% the previous year owing to the increase in FSA's business. These exposures have excellent quality with nearly 50% of the Group's ABS exposure being rated AAA (before any enhancement by Dexia or FSA).

#### Exposure by geographical region

As of December 31, 2001, the Group's exposure is concentrated mostly in Western Europe (52%) and North America (43%). Belgium (17%) and France (13%) are the two biggest country exposures within Western Europe.

Only 0.7% of total exposure is in Eastern Europe, Southeast Asia and South and Central America i.e. a negligible percentage and even a slight decrease compared to the previous year.

Total exposure in emerging countries i.e., classified as "non-

investment grade" by the rating agencies stood at EUR 275 million. Exposures in the riskiest Latin American countries are tightly contained. As a result, exposure subject to provisions for country risk in Argentina amounted to EUR 40 million, corresponding mostly to loans or bonds granted to local governments. Fifty percent of these have already been written down, even though most of these loans and bonds are still performing.

### ① The proposed new Basel capital accord

The new capital accord proposed by the Basel committee is intended to make comprehensive changes to the way credit institutions are controlled by their regulators.

The reform comprises three major components called "pillars". Pillar 1 redefines minimal requirements for regulatory capital that better reflects banking risks and their economic reality. Credit risks will be better assessed with different capital requirements depending on the quality of the counterparts. In addition the new rules will impose capital requirements for operational risks. A general objective is to make the concepts of economic capital converge with regulatory capital. Pillar 2 emphasizes risk control and strengthens prudential monitoring by national regulators. Pillar 3 defines market discipline and new rules for financial communication and disclosure.

### > Credit risks

The new Basel capital accord proposes a gradual approach with three options for calculating capital requirements for credit risks. For credit portfolios of average and high quality, capital requirements should be more favorable for banks being more advanced in their risk management techniques.

This will obviously encourage banks to adopt better practices. A standardized approach will define the requirements for regulatory capital in relation to the external rating of the counterparts. Two other approaches are based on banks' own internal credit rating systems to determine the regulatory capital



requirements, subject to an overall validation and supervision by the regulators; The second of these approaches, the “advanced” one, leaves more to the bank’s own estimates but at the price of greater requirements. The internal rating used in this advanced approach is called bi-dimensional in that it aims to measure both the borrower’s default risk and the specific risk of the transaction at the same time.

The effects of the proposed reform on capital requirements for credit risks vary considerably from one bank to another depending on its risk profile. When compared to the current situation, high quality risks get a clear benefit whilst more mediocre risks should be covered by significantly higher capital. The Dexia Group’s healthy risk profile, notably thanks to its strong presence in the local public sector, should enable it to benefit over time from a substantial reduction of its regulatory capital requirement.

Preparing for this reform will take a natural part in Dexia’s permanent effort to improve and enhance its risk management tools. It is indeed expected that the Group will draw important synergies from this effort with the work already being undertaken to achieve internal objectives in upgrading economic capital allocation and in implementing “RAROC” type approaches (pricing of individual transactions adjusted to account for the risk).

### › *Operational risks*

Operational risks are defined as “risks of losses resulting from the inadequacy or the lack of internal procedures, humans and systems or external events”. The regulatory capital requirements for equity in respect of operational risk will represent approximately 12% of total requirements.

Three approaches will be proposed: the “basic” approach, the “standard” approach and the “sophisticated” approach. The choice can be differentiated depending on the Group’s business lines (the Group may choose the more sophisticated approaches for business lines where traditionally the operational risk is strongest, market activities or asset management for example). Banks will, in any case, have to set up an efficient organization to manage operational risks, for instance by collecting operational risk events and losses.

### › *Diagnosis carried out and action plan launched*

Being ready for an optimal implementation of the new Basel capital accord is a strategic priority for Dexia. In 2001, as soon as the proposed reform was known with a certain degree of precision, a preparatory project was carried out throughout the Group with the support of a team of specialized external consultants. It included a diagnosis on the necessary preparation for the Group and the drawing up of an action plan.

As regards credit risks, all business units and the main divisions in the Group were reviewed within all aspects of the project: the fundamental methodologies as well as the information systems, going through all the procedures and internal credit scoring systems. A detailed action plan has been drawn up to bring all these aspects up to the high level of requirements needed for the internal rating methods as soon as possible.

Under the supervision of a steering group set up at the highest level of the Group, four teams corresponding to the four main types of counterparts will bring together specialists from Dexia Crédit Local, Dexia Bank Belgium and Dexia Banque Internationale à Luxembourg and will work together in 2002 and 2003 on the specific implementation of the project. Dexia has the advantage of having a strong mix of skills in its three major businesses that will drive this project forward for the benefit of the whole Group.

As for operational risks, the design of the new capital accord is less advanced and still somewhat imprecise. A management unit for operational risks was created at the Group level with sub-units in the three principal entities (Dexia Bank Belgium, Dexia Crédit Local, Dexia Banque Internationale à Luxembourg). Its task working with management in some operating segments (information systems, human resources, back-office...) is to develop plans for operational risk management in line with the new reforms and best practice. This risk management plan will be regularly reviewed by the internal audit department. Today, even if regulatory capital does not account for operational risks, Dexia’s internal valuation and allocation of economic equity are already taking into consideration operational risks, as they do for all other types of risks to which Dexia is exposed.

VAR 10 days – 99% EUR million	First 9 months (without Artesia BC)		Last quarter (with Artesia BC)	
	Average	Maximum	Average	Maximum
Total	14.9	29.6	27.8	36.4

## Market risks

Market risks are all the risks linked to the fluctuation of market prices (interest rates, exchange rates, share prices...) that result from the Group's capital market activities. The market risks generated by the other businesses are generally hedged and residual risks are handled by the Asset and Liability Management function (or ALM).

Dexia's market risk exposure is mainly to European interest rates. The risks in equities remain much smaller although they increased in 2001 with the integration of Artesia BC. Foreign Exchange risks are very small.

The main risk indicator within the Group is the Value at Risk (VaR). The VaR calculated by Dexia is a measure of the potential loss that can be experienced with a level of confidence of 99% and for a holding period of 10 days. It can be roughly compared to a VaR with a level of confidence of 99% and a holding period of 1 day through the division by 3.16. For most positions, the "parametric" method is applied. For some optional positions, a "historical" VaR, or a specific VaR on the "vega" (sensitivity to market volatilities) is computed.

Besides the VaR, the risk level is also constrained by nominal volume limits, limits on basis point interest rate sensitivity and spread sensitivity, limits on option sensitivities (delta, gamma, vega, theta, rho). The main decisions for the Market Risk Management (overall risk limits, choice of the risk indicators, organization of the reporting and of the decision processes) are taken by Dexia's Management Board, advised by the Group Risk Management (GRM).

It is then the task of the GRM, in collaboration with the Risk Management teams of the entities, to translate these decisions into precise and detailed limits and procedures. The GRM is also in charge of defining the calculation methods that are to be applied within the Group for the computation of the P&L as well as for measuring the risks.

The day-to-day operational control (computation of the risk indicators, control of the limits...) is first carried out by the entities. The work is coordinated by the GRM responsible for ensuring the coherence and the quality of risk control within the Group.

The risk indicators are further consolidated by activity line in the entity where the line is the most important and are finally consolidated at the Group level by the GRM.

The reporting process ensures that the Group's management is closely involved. The main risk exposures are monitored in a weekly committee meeting composed of the Management Board of the entity concerned as well as the head of Capital Markets at Group's level (member of the Management Board) and the GRM. The Management Board of the Group is informed by the GRM of any change in the risk profile at least every three months, more frequently if necessary.

### > Risk exposure

The integration of Artesia BC, in mid 2001, has had a noticeable impact on the Group's market risk exposure. Artesia BC was indeed more involved than Dexia on market activities. As it has been decided to maintain Dexia's low risk exposure, the market limits of Artesia BC were reduced in order to preserve a stable ratio between the Group's overall VaR limit and its capital. From an operational point of view, Artesia BC was quickly and efficiently integrated within the risk control framework of Dexia and from the third quarter of the year, it was possible to compute a VaR integrating Artesia BC at Group level. Hence, we show below two series of VaR statistics, figures for Dexia without Artesia BC for the first three quarters of the year and figures with Artesia BC for the last quarter. Notice that Artesia BC has brought in a new activity line, "Proprietary Management", which operates both in the interest rates and equities markets (see section on Capital Markets and Treasury Activities). The above figures show an increase of the risks levels with the arrival of Artesia BC, which is not surprising. Nevertheless, Dexia's market risk exposure still remains low. The "average VaR to Tier1 Capital ratio" for the last quarter is indeed, at 0.29%, lower than what it was in 1999 for Dexia alone (0.36%), though higher than in 2000 (0.18%) when the risk exposure was very low. Finally, it should be noted that the market limits, especially of the Proprietary Management, were further reduced at the beginning of 2002.



In 2001, Dexia also purchased Kempen&Co in the Netherlands. The process of integrating the positions of Kempen&Co, mostly in equities, into Dexia's risk control framework is still under way. The positions are small and will have little effect on the final results. Notice that this new acquisition led to a global reorganization of the equity line within Dexia. In particular, the small trading activity that existed in Kempen&Co was closed.

As part of its general policy of prudence the Dexia Group has continued its policy of low exposure to ALM risks in 2001. Artesia BC's arrival has not changed this situation. Artesia BC's ALM risk profile was in fact lower proportionally than Dexia's and the monitoring methods (VaR and sensitivity of the Net Present Value) were the same. The ALM management division of Dexia Bank and Artesia BC has been unified and it has naturally taken its place in the existing organization.

## ① Asset and liability management (ALM) risks

Measurement of the balance-sheet risks is harmonized among the Group's various entities. A calculation of "Value at Risk" (VaR) – with a confidence level of 99% and a holding period of 20 days – and of the sensitivity of the Net Present Value of the ALM positions (sensitivity of the NPV) are used. The risk exposure is primarily to long-term interest rates in Europe and results from the difference between the amortization profiles of the fixed-rate assets and liabilities.

Even though the operational asset and liability management remains decentralized in Dexia's three major subsidiaries, two regular monitoring processes allow Dexia's ALM risks to be supervised globally:

- ... A monthly meeting of the ALM managers where they share their views on the evolution of the markets and the details of the hedging policy contemplated for the coming month. This meeting gives rise to a proposal which is formally validated by the Dexia Management Board.
- ... The Dexia ALM committee, which meets quarterly and includes the members of the Management Board, monitors the overall consistency of the Group's asset/liability management. The ALM committee also decides on the methodologies and the risk measurement guidelines, notably on the investment of shareholders' equity and on internal transfer pricing mechanisms.

In addition, a monthly report on the positions is made to the Management Board.

## > Liquidity management

Given the size of Dexia's balance sheet, the balance between its resources and their use is carefully managed. In practice, attention is paid to two main concerns:

- ... the adequacy of expected new lending (in maturity and amount) with the available resources;
  - ... ensuring the Group's liquidity needs, even in troubled times.
- The first question is addressed in the annual planning process. Each year, the forecasts for new lending are compared with the funding capacity. The purpose is to preserve an acceptable liquidity gap profile for the Group (i.e. the evolution over the years of the cash shortages/surpluses resulting from the difference between the repayments dates of the assets and of the liabilities). Besides, the Group has decided to improve its analytical accounting process, in order to reflect more accurately the funding cost of the transactions originated by the business lines, whether they require funding or bring funding. The purpose of this sort of "internal market" for liquidity is to provide the right incentive to the business lines to achieve a natural match between lending and funding capacity. The second question is addressed by way of various scenarios representing highly-stressed situations. These scenarios are then translated into a set of limits and ratios. They are designed so that Dexia can withstand for several months, thanks to its liquidity reserve, a total shortage of funding and stress on deposits while maintaining its lending activity. The liquidity position is monitored and controlled from one day up to several months. Hence, great care is given to the forecast of the expected liquidity needs in the main currencies as well as to the estimate



of the liquidity reserve. Special attention is also paid to off-balance sheet liquidity commitments of the Group. Given their importance, all the main issues regarding the liquidity of the Group are directly controlled by the Group's ALM committee which includes all the members of the Management Board.

### ① Insurance risks (excluding credit insurance of FSA)

The main risks to which the insurance businesses are exposed (DVV Insurance and Dexia Insurance) are risks related to their investment portfolio and to technical risks such as correct pricing and adequate technical provisions.

The Dexia Group's insurance companies have put in place a certain number of rules and procedures to comply with regulations and internal management goals.

#### > Risks related to the investment portfolio

DVV Insurance's investment portfolio is managed by DVV's Finance Division, and audited by its middle office which is independent and part of DVV's Risk Management Department. Dexia Insurance's investment portfolio is managed by Dexia Asset Management under a discretionary asset management mandate.

The portfolio's investment policies in terms of credit risk are very conservative. Only investments with a rating higher than BBB are authorized. Only 25% of the portfolio's assets may have ratings of A or lower. Currently, the portfolio's average rating is AA-. Other rules are in place to ensure that the portfolio is diversified. Market risks such as interest rate risk are closely tracked.

#### > Technical risks

The acceptance and rate policy is set and updated by continuously tracking the underwriting results of the insurance divisions and systematically monitoring competitor's rates. An efficient acceptance and rates system has been put in place for

ordinary risks on the retail market (auto insurance, fire insurance, etc.). There are specific delegation rules and certain files must be sent to the head office for acceptance. A team of managers handles the acceptance process for non-standardized risks.

The insurance businesses also use reinsurance in order to curtail certain risks and to improve solvency ratios.

#### > Claims management

A quality claims handling system has been implemented to raise sales staff's awareness and encourage a professional and ethically correct approach to processing claims.

#### > Level of technical reserves

The rules for calculating technical reserves are very conservative. The adequacy of these reserves is checked systematically. If the amount is deemed inadequate, the businesses may decide to allocate additional provisions and/or change the rates and risk acceptance policies.

### ① Economic equity

The Group implemented a risk-based equity allocation system at the end of June 1998. The aim is to provide each business line with the capital required to cover its maximum potential losses under a worst case scenario and thus to measure the economic profitability. The economic equity allocated to the Group's business lines covers all types of risks (credit risk, market risk, operational risk, business risk...).

During the year 2001, economic equity was adjusted to take account of changes in Dexia's businesses, the expansion of the Group and the ongoing drive to control risks.

As of the end of December 2001, total economic equity amounted to EUR 7.93 billion (EUR 6.96 billion as of the end of the year 2000), before the "portfolio effect". After diversification between the Group's business lines, this figure was EUR 6.65 billion (EUR 5.98 billion as of the end of the year 2000). This difference



of EUR 1.28 billion (EUR 0.98 billion as of the end of 2000) corresponds to the portfolio effect due to the presence of different business lines within the Dexia Group which are subject to partially independent risks. This portfolio effect is estimated through a very conservative “top-down” approach.

The amounts allocated by business lines at year-end 2001 are the following:

- ... Public/Project Finance and Credit Enhancement: EUR 3.52 billion (EUR 3.34 billion as of the end of 2000). This increase is a result of the integration of Artesia BC's corporate lending business. FSA's credit enhancement activities (municipal and asset-backed securities) represent EUR 1.43 billion.
- ... Retail Financial Services: EUR 1.73 billion (EUR 1.35 billion as of the end of 2000). This increase is explained by the integration of Artesia BC's retail (BACOB Bank) and insurance (DVV Insurance) businesses.
- ... Investment Management Services: EUR 0.59 billion (EUR 0.60 billion as of the end of 2000).
- ... Capital Markets and Treasury Activities: EUR 1.33 billion (EUR 0.99 billion as of the end of 2000). This increase is due to the integration of Artesia BC's capital market activities. The new limits of Dexia Bank were reduced in the process of integrating Artesia BC and Dexia Bank.
- ... Equity not allocated to the business lines: EUR 0.76 billion (EUR 0.68 billion as of the end of 2000).

Economic equity takes into account all the risks faced by the Group under catastrophic scenarios. The difference between this amount and the shareholders' equity is thus an indication of the equity funds available. The difference represents 20% of the shareholders' equity as of the end of 2001 (8% as of the end of 2000). It should be noted that the general banking risks reserve is still an additional reserve fund.

## ① Capital adequacy and risk-weighted assets

### > Capital adequacy

The Group's Tier 1 capital and total regulatory capital increased in 2001, by 40% and 64% respectively, owing mainly to the inclusion of Artesia BC into the Dexia Group and, to a lesser extent, thanks to retained earnings.

The equity and capital adequacy ratios remain high and are slightly ahead of the Group's goals: 9.3% for the Tier 1 equity ratio and 11.5% for the capital adequacy ratio.

### > Risk-weighted assets

The Dexia Group's total risk-weighted assets remain modest because a sizable portion of the assets are low or zero-weighted assets. As of December 31, 2001, they amounted to EUR 103.6 billion, a rise of 40% over the end of 2000.

The main reason for the sharp rise of the 100%-weighted counterparts was the inclusion of Artesia BC into the Dexia Group in 2001 which brought EUR 27.3 billion in risk-weighted assets.

## ① Asset quality

The rise in provisions as from June 2001 is due mainly on the one hand to the merging of Artesia BC into the Dexia Group and on the other hand to the deterioration of economic and business conditions. Despite this increase, asset quality remains high and the coverage ratio of doubtful and non-performing loans amounts to 58.3%, a conservative level though decreasing compared to the previous year. At 0.53%, the bad debt ratio is still very small as a percentage of total outstanding loans. At the beginning of 2002 a major loan transaction was settled, which will have a positive impact on the level of doubtful and non-performing loans as from March 31, 2002. Excluding this transaction, the coverage ratio would amount to 62%.



## ① Ratings

The high rating levels reflect Dexia Group's solidity. In June 2001, Moody's ratings of Dexia Bank Belgium and Dexia Crédit Local were changed to Aa2 from Aa1 following the acquisition of Artesia BC. During 2001 last quarter, Fitch confirmed its AA+ rating.

The rating of FSA and Dexia Municipal Agency are the best financial ratings that could be given to a counterpart (Aaa/AAA/AAA by Moody's, Standard & Poor's and Fitch).