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Enterprise Risk Management at ABN AMRO

ERMT023

This case was written by **A.V Vedpuriswar**, with the help of **Padmini Dittakavi**. It was compiled from published sources, and is intended to be used as a basis for class discussion rather than to illustrate either effective or ineffective handling of a management situation.



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Enterprise Risk Management at ABN AMRO

Introduction

Holland's leading bank, ABN AMRO and its subsidiaries operated more than 800 offices at home and another 2,600 in 75 other countries. In the US, ABN AMRO owned Chicago-based LaSalle Bank and Standard Federal Bank, one of Michigan's largest banks. ABN AMRO also had a large presence in Brazil (through its ownership of Banco Real and Paraiban) and Malaysia (where it had operated for more than 100 years). The bank was expanding its presence in the Philippines, India, Singapore, Taiwan, and Thailand.

ABN AMRO had three major business segments: private clients and asset management, consumer and commercial clients, and wholesale clients. Responding to the economic recession, the bank was trimming staff at home and abroad. It was also closing or reconfiguring about one-third of its 830 domestic branches.

Background Note

ABN AMRO was the product of a 1991 merger between the Netherlands' two largest banks -- Algemene Bank Nederland (ABN) and Amsterdam-Rotterdam Bank (AMRO), respectively. ABN's origin went back to the Netherlands Trading Society, which had been founded in 1824, to finance business ventures in the Dutch colonies, in the East Indies. Although the firm weathered the First World War and the Depression, the Second World War was catastrophic. Germany occupied the homeland and Japan took over the Dutch East Indies. The Netherlands Trading Society never recovered, and in 1964 it merged with Twentsche Bank (founded in 1861 as an agricultural bank) to form Algemene Bank Nederland.

AMRO had been formed by the merger of Amsterdam Bank and Rotterdam Bank in 1964. Founded in 1863, Rotterdam Bank financed commercial activity in the colonies before refocusing on the shipping business through Rotterdam. Amsterdam Bank had been founded in 1871 by several Dutch and German banks and was the largest Dutch bank when it merged with Incasso Bank in 1948. In 1964, the new entity added the operations of Hollandsche Bank - Unie.

ABN was smaller than AMRO until it bought merchant bank Mees & Hope (1975) followed by the purchase of Chicago-based LaSalle National Bank (1979).

After the merger in 1991, the bank turned its attention to overseas markets like the American Midwest, where LaSalle National Bank began to gobble up competitors like Talman Home Federal Savings (1991). ABN AMRO also took control of European American Bank (EAB), which had sustained heavy losses in real estate deals and Third World loans. The company bought investment banks Chicago Corp. and Alfred Berg in 1995.

Expansion brought internal oversight problems during the next few years. In 1995, Swiss banking authorities asked ABN AMRO to better police its branches after the bank lost as much as \$124 million due to embezzlement. In 1997, the firm closed its diamond office after losing about \$100 million due to fraud.

Exhibit: I
ABN AMRO: Business Principles

Our Business Principles, which are based on our Corporate Values (Integrity, Respect, Teamwork and Professionalism), guide all ABN AMRO employees in their daily work.

In summary, the principles are:

- We are the heart of the organisation
- We pursue excellence
- We aim to maximise long-term shareholder value
- We manage risk prudently and professionally
- We strive to provide excellent service
- We build our business on confidentiality
- We assess business partners by their own standards
- We are a responsible institution and a good corporate citizen
- We respect human rights and the environment
- We are accountable for our actions and are open about them.

Source: ABN AMRO Annual Report, 2002

In 1998, ABN AMRO bought Brazil's Banco Real and Bandepe banks (and then closed their European and US offices). The next year, it began buying minority interests in banks in Italy. Also in 1999, the company decided to be a major player in European real estate with the acquisition of Bouwfonds Nederlandse Gemeenten, the Netherlands' fifth largest mortgage lender. As part of this effort, it expanded its mortgage-servicing portfolio with the purchase of Pitney Bowes subsidiary Atlantic Mortgage and Investment Corp.

Exhibit: II
ABN AMRO: Key Results

	2002	2001
Total revenues	18,290	18,834
Operating expenses	12,823	13,771
Operating result	5,467	5,063
Provisions	1,695	1,426
Value adjustments to financial fixed assets	49	24
Operating profit before taxes	3,713	3,613

Source: ABN AMRO Annual Report, 2002

ABN AMRO cut 150 branches in its saturated home market (and about 10% of its Dutch workforce) in 2000. It bought the energy-derivative business of Merrill Lynch, Barclays' Dial car-leasing unit, and Alleghany Corporation's asset management unit.

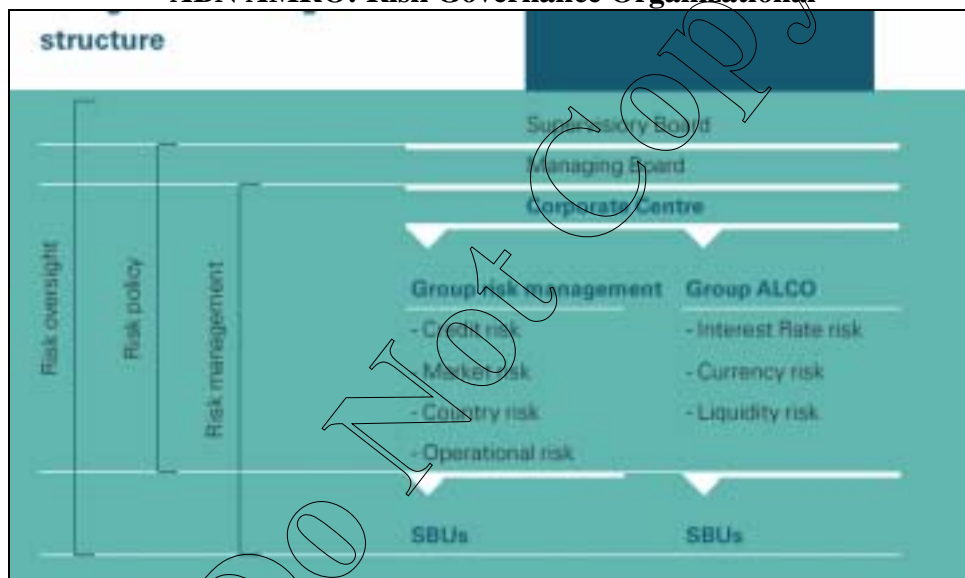
In 2001, ABN AMRO sold EAB to Citigroup and bought US-based Michigan National Corporation from National Australia Bank and merged it with another Michigan holding, Standard Federal Bancorporation, to form Standard Federal Bank, one of the largest banks in Michigan. It also bought the US brokerage and corporate finance operations of Dutch rival ING Groep in a quarter-billion dollar deal.

Risk Governance

The Managing Board established the risk philosophy and policies for ABN AMRO under the guidance of the Supervisory Board. Responsibility for the overall implementation of risk policy lay with the Chief Financial Officer, who was a member of the Managing Board.

Risk was managed through two principal departments: Group Risk Management (GRM) and Group Asset and Liability Management (GALM). GRM was responsible for the management of credit, country, market and operational risks and was also responsible for leading the assessment of the impact of the New Capital Accord (Basel II) and its implementation. GALM attempted to protect the earnings and capital position of the bank from adverse interest rate and currency movements. GALM also managed the group's longer-term liquidity profile. Overnight liquidity or cash management was taken care of by the Treasury department in WCS (Wholesale Client Services).

Exhibit: III
ABN AMRO: Risk Governance Organizational



Source: ABN AMRO Annual Report, 2002.

Group Risk Management

The Group Risk Committee (GRC) was the highest-ranking committee on policy and exposure approval for credit, country and market risk.

GRC's main responsibilities were to:

- Determine the risk policies, procedures and methodologies for measuring and monitoring risk
- Set delegated credit authorities for lower committees and authorized individuals within GRM, C&CC (Consumer and Commercial Clients) and PC&AM (Private Clients and Asset Management)
- Approve credit, market and operational risk associated with new products
- Approve risk transactions larger than the delegated authorities of lower committees
- Set the overall value-at-risk (VAR) for the bank's trading products globally
- Oversee the bank's overall portfolio for WCS, C&CC and PC&AM.

Exhibit: IV
ABN AMRO: Consumer & Commercial Clients

Selected information			
Financial	2002	2001	2000
Net interest revenue	6,853	6,812	6,970
Net commissions	1,658	1,852	1,968
Results from financial transactions	226	272	260
Other revenue	1,645	1,287	902
Total revenue	10,382	10,203	10,020
Operating expenses	6,710	7,052	6,800
Operating result	3,672	3,151	3,217
Provisioning for loan losses	881	802	612
Valuation adjustments to financial fixed assets	8	2	
Operating profit before taxes	2,783	2,347	2,605
Taxes	744	584	700
Minority interests	21	99	129
Net profit	2,018	1,664	1,776
Total assets	229,161	242,406	223,154
Risk-weighted assets	143,449	152,145	157,385
Full-time equivalent staff	71,340	69,736	75,867
Number of branches and offices	3,078	3,161	3,238

Source: ABN AMRO Annual Report, 2002

The credit risk organizations of C&CC and PC&AM had a local focus and were overseen by GRM. The WCS risk function had been integrated into GRM. Market risk and operational risk were separate risk functions within GRM. Country risk officers were part of GRM and provided local oversight.

The main responsibilities of C&CC, PC&AM and GRM were:

- Overseeing all credit, market and regulatory matters and ensuring compliance with local laws
- Approving risk transactions within delegated limits or advising on credits, which exceeded such authority
- Implementing review and control policies on all risk portfolios
- Establishing and maintaining operational risk control discipline
- Ensuring compliance with the bank's Values and Business Principles.

Basel Framework and Status

In January 2001, the Basel Committee on Banking Supervision (BCBS) published its second Consultative Document reviewing the Basel Accord of 1988. The European Commission also published a new draft Directive. In 2002, the BCBS delayed publication of the New Capital Accord to the end of 2003, simultaneously delaying its implementation until 2006.

The BCBS launched its third Quantitative Impact Survey (QIS3) in October 2002, which incorporated potential changes to the second Consultative Document, in line with some industry recommendations. The BCBS was expected to finalize the Accord partly on the basis of the results of QIS3. ABN AMRO participated in the survey as part of its close involvement in the consultations on the New Capital Accord.

ABN AMRO supported the increased risk-sensitive nature of the proposed New Capital Accord. The resulting regulatory framework was much more detailed and complex. ABN Amro believed there was a need for balance between the appropriate risk sensitivity, a level international playing field and the regulatory burden.

The bank had set up a project group to work on the implementation of the coming capital adequacy regulations on an Internal Rating Based basis for credit risk and Advanced Measurement Approach for operational risk.

Exhibit: V
ABN AMRO: Wholesale Clients

Selected information			
<i>(in millions)</i>	2002	2001	2000
Net interest revenue	2,115	2,378	1,683
Net commissions	1,866	2,220	2,819
Results from financial transactions	1,092	1,322	1,458
Other revenue	223	273	436
Total revenue	5,296	6,193	6,394
Operating expenses	4,549	5,302	5,175
Operating result	747	891	1,219
Provisioning for loan losses	742	143	148
Value adjustments to financial fixed assets	4	25	143
Operating profit before taxes	1	720	1,114
Taxes	78	124	285
Extraordinary results after taxes	(205)		
Minority interests	12	17	19
Net profit	(294)	187	819
Total assets	238,703	294,711	269,665
Risk-weighted assets	67,236	95,171	88,451
Full-time equivalent staff	20,238	22,423	23,003
Number of branches and offices	122	173	274

Source: ABN AMRO Annual Report, 2002

Exhibit: VI
ABN AMRO: Private Clients & Asset Management

Selected information			
<i>(in millions)</i>	2002	2001	2000
Net interest revenue	369	330	293
Net commissions	932	983	920
Results from financial transactions	42	43	23
Other revenue	80	63	115
Total revenue	1,423	1,419	1,351
Operating expenses	1,094	1,136	992
Operating result	329	283	359
Provisioning for loan losses	13	13	1
Value adjustments to financial fixed assets	1		
Operating profit before taxes	315	270	358
Taxes	96	84	138
Minority interests	2	3	25
Net profit	217	183	295
Total assets	17,000	16,653	15,887
Risk-weighted assets	6,751	6,529	5,942
Full-time equivalent staff	6,179	5,879	5,275
Number of branches and offices	84	116	100

Source: ABN AMRO Annual Report, 2002.

Credit Risk

Credit risk was inherent in ABN Amro's business. All commercial activities, which committed the bank, to engage in transactions involving credit risk, required prior approval by authorized individuals or committees. The Managing Board delegated approval authority to GRM and further down to the SBUs. Decision authority was based on Global One Obligor Exposure (GOOE), which combined all direct and contingent credit limits to a given relationship globally, and the Uniform Counterparty Rating system (UCR), which was the risk rating of the individual counterparty.

The UCR was an important pillar of ABN's decision-making and portfolio management processes. The UCR was important for:

Exhibit: VII
ABN AMRO: Total Net Loans with 2002 SBU Breakdown

Total net loans with 2002 SBU breakdown (in billions)	Total 2002	C&CC	WCS	PC&AM CO&ALP	2001	2000
Public sector	7.4	1.2	5.0	1.2	14.1	15.0
Private sector	247.2	172.5	52.1	22.6	260.2	245.5
Total net loans*	254.6	173.7	57.1	23.8	274.3	260.5

* Excludes professional securities transactions.

Source: ABN AMRO Annual Report, 2002.

- Defining the appropriate credit authority for approvals on a risk-based matrix and setting the frequency of reviews
- Identifying general trends in the quality of the bank's credit portfolios and consequent adjustment to credit strategies
- Generating key data for Risk Adjusted Return on Capital (RAROC), economic capital and expected loss calculations.

ABN AMRO had developed rating tools to determine UCRs. Rating tools were available for corporate clients worldwide, SMEs in the Netherlands and Brazil, project finance, banks and insurance companies.

ABN AMRO applied an internally developed multi-factor RAROC model and a Loan Pricing Tool to evaluate transactions. Criteria used for evaluating transactions included return on economic capital, the expected loss, UCR, tenor, collateral, exposure, pricing and country.

C&CC was the largest SBU, holding 68% (up from 66% in 2001) of total loans outstanding, with WCS second, at 22% (26% in 2001). PC&AM and other businesses within the group accounted for the remainder. The Netherlands continued to have the largest asset base, accounting for 54% of total loans outstanding, followed by North America with 27% and Brazil with 2%.

Consumer & Commercial Clients

The Netherlands represented 62% of total C&CC loans outstanding (57% in 2001), followed by North America at 32% (36%), and Brazil at 2% (3%). The relative increase in the importance of the Netherlands mainly reflected the appreciation of the euro against the US dollar and the Brazilian real.

Exhibit: VIII
ABN AMRO: C&CC – Total Private Loans for 2002

loans for 2002 <small>(in billions)</small>	Total 2002	North America	Nether- lands	Brazil	Rest of the World	2001
Commercial	70.1	35.1	29.5	1.3	4.2	75.4
Consumer	102.4	20.8	77.1	2.4	2.1	105.5
Total Private Loans	172.5	55.9	106.6	3.7	6.3	180.9

Source: ABN AMRO Annual Report, 2002

The consumer business (for example mortgages, car financing and personal loans) accounted for 59% of total C&CC private loans, while commercial loans to middle-market companies accounted for the remaining 41%.

In the Netherlands, mortgage lending was the most important part of the consumer portfolio. The mortgage portfolio was over EUR 52 billion. Bouwfonds, ABN AMRO's subsidiary, had a mortgage and real estate financing portfolio of EUR 22 billion.

In the US, ABN AMRO functioned as a large retail and commercial bank through its subsidiaries, LaSalle Bank and Standard Federal Bank. LaSalle primarily concentrated on commercial business in the Midwest and represented 55% of the total US C&CC loan portfolio. Standard Federal (45% of the total outstanding) also had a commercial business and was one of the largest mortgage service providers in the US.

Brazil was mainly a consumer franchise. Consumer products for individuals represented 63% of C&CC's loan portfolio. The main products were auto loans and loans to individuals.

Wholesale Clients

These clients were mostly located in developed countries. The most important geographical concentrations were Europe at 54% (49% in 2001), and North America at 28% (30%) of total limits as of year-end 2002. Market conditions and exchange rate movements caused a noticeable shift of WCS total limits from North America to Europe during 2002.

In terms of client Business Units (Bus), Financial Institutions & Public Sector (FIPS) was the largest at 63% of the portfolio, based on GOOE, followed by Country Coverage at 13%, Integrated Energy at 10%, Telecom, Media, Technology & Healthcare (TMTH) at 9%, and Consumer at 5%. In terms of individual industries, the largest was utilities at 3.8%, followed by telecom at 3.3%, manufacturing at 3.2%, and oil and gas at 3.2%. All industry exposures were controlled under agreed caps and diversified across geographic markets.

Exhibit: IX

ABN AMRO:

Net Additions to Specific Provisions per SBU & Non-performing Loans

Net additions to specific provisions per SBU (in millions)						
	Total 2002	C&CC	WCS	PCAAM/CC/Other	2001	2000
Total for loan losses	1,681	881	760	40	1,342	814
Sovereign risk	14	-	(18)	32	84	(197)
Total specific provisions	1,695	881	742	72	1,426	617
Specific provisions to average RWA <small>2002</small>	66	58	89	37	51	24

Non-performing loans			
	2002	2001	2000
Total non-performing loans (in million)	2,132	5,858	5,122
Non-performing loans to private sector loans (gross, in %)	7.44	2.21	2.05
Allowances for loan losses to private sector loans (gross, in %)	1.64	1.70	1.68

Source: ABN Amro Annual Report, 2002

In 2002, ABN Amro significantly reduced corporate limits and tightened exposure caps on non-investment grade counterparties. It imposed limits on certain industries with an unfavourable economic outlook. The bank undertook stress tests on individual portfolios, hedged through credit default swaps; and conducted secondary market sales to reduce exposure. Credit quality, as measured by weighted-average UCR, remained at investment grade levels (BBB range) at the end of the year.

Provisioning Policy

ABN AMRO had developed specific provisioning policies for its businesses. Credit officers continually monitored the quality of the bank's loan portfolios. A provision was made if deterioration of either the quality of a loan or the financial strength of a borrower gave rise to doubts about repayment. Provisioning for consumer loans was made on a portfolio basis, with specific allowances maintained at a level commensurate with the portfolio size and loss experience.

Consumer & Commercial Clients

C&CC's total provision for 2002 was EUR 881 million, representing an increase of 10% over total provisions in 2001. Provisions moved from 51 bps of average RWA in 2001 to 58bps in 2002. Of the total provisions in 2002, 37% related to consumer loans and 63% to commercial loans.

In 2002, weaker economic conditions in the Netherlands were reflected in somewhat higher provisions. Textiles and infrastructure accounted for much of the increase. Nevertheless, given the market environment, ABN Amro considered the results at 25 basis points (bps) of average RWA as acceptable.

Difficult credit conditions continued in the US through 2002 and resulted in provision levels of 62 bps of average RWA. Most sectors, including the commercial and asset-based lending businesses were affected. The commercial real estate portfolio remained resilient because of conservative underwriting.

In Brazil, provisions of EUR 193 million (unchanged from 2001) were mainly on account of consumer lending and charges related to discontinued (1999) USD car leasing portfolios. Provisions moved from 250 bps of average RWA to 265 bps in 2002. Credit protection measures instituted by local risk committees and GRM enabled ABN AMRO to weather the market volatility and economic turmoil in the region. ABN Amro believed that the quality of the local C&CC portfolio remained satisfactory.

Wholesale Clients

Provisions increased to EUR 742 million from EUR 543 million in 2001, due to difficulties in the telecom, integrated energy sectors, as well as in Argentina. Provisions were also adversely affected by corporate governance and disclosure malpractices, which led to unexpected and specific corporate failures, notably in the US. Nevertheless, the bank considered current provision levels to be adequate.

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Exhibit: X
ABN AMRO: Cross-border Exposures

Region	Total cross-border exposure			After mitigation		
	2002	2001	2000	2002	2001	2000
Brazil	3.7	4.1	2.9	0.9	1.2	0.9
Other Latin America (incl. Mexico)	3.7	4.3	3.9	2.5	2.8	2.5
Asia / Pacific	7.1	6.8	7.4	4.8	5.0	4.1
Eastern Europe	3.0	2.9	3.3	1.6	2.0	2.3
Middle East and Africa	2.7	3.0	3.7	1.9	1.9	1.9
Total	20.2	21.1	21.2	11.7	12.9	11.7

Note: Mitigated exposures commonly include transactions covered by credit derivative swaps, political risk insurance, cash deposits or securities placed offshore, specific guarantees, ring-fenced funding or any other mitigation instruments available in the market.

Source: ABN AMRO Annual Report, 2002

Country Risk

ABN Amro managed emerging market country risk, on a portfolio basis. The cross-border exposure measurement covered all on- and off- balance sheet assets that were directly affected by transfer and convertibility restrictions. ABN AMRO had been monitoring cross-border exposure for many years by using a VAR model to determine the cross-border risk on the total portfolio.

In absolute terms, cross-border exposure in 2002 fell by 4.3% compared with 2001. This decline was mostly due to lower exposure to Latin America, mainly Brazil and Argentina. At end of 2002, cross-border exposure to Brazil accounted for 18.1% of the total cross-border risk exposure. Of this amount, 76% was mitigated since it was trade-related or insured.

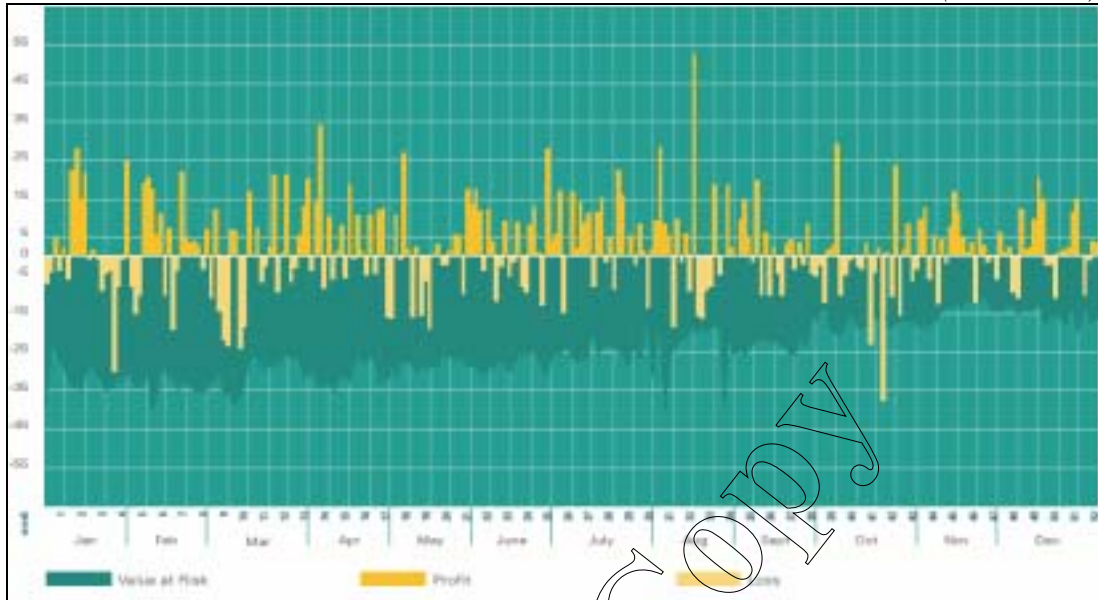
Market Risk

Market risk was the possibility of movements in financial markets changing the value of the bank's trading portfolios. Market risk arose from the bank trading on behalf of clients and on its own account.

In trading activities, risk arose both from open (unhedged) positions and from imperfect correlations between market positions that were intended to offset one another. ABN AMRO measured and monitored different market risk factors such as interest rate sensitivity, open currency position, stock prices, spread sensitivities, greeks (delta, gamma, vega, rho). In addition, ABN AMRO calculated and set limits for VAR, stress tests, scenario analysis, position concentration and ageing. Market risks were monitored at different levels, starting from single trading portfolios to key aggregation levels.

Figure (i)
ABN AMRO: Value Risk versus Hypothetical Profit & Loss for Trading Portfolios for 2002

(in millions)



Source: ABN AMRO Annual Report, 2002

Internal models met regulatory requirements and were approved by the Dutch central bank for the calculation of solvency requirements for market risk.

ABN Amro used VAR as the primary tool for day-to-day monitoring of trading-related market risk. VAR was calculated by Historical Simulation, based on four years of historical data. The bank used a one-day holding period, relative changes of historical rates and prices, a 99% confidence level and equally weighted simulations. The VAR was reported daily to the senior management of the BUs, GRM and members of the Managing Board.

Exhibit: XI
ABN AMRO: VAR for Trading Portfolios

VaR for trading portfolios (99% confidence level, one-day holding period) (in millions)	31/12 2002	Minimum	Maximum	Average	Average in 2001
Financial Markets	16	13	51	27	33
Global Equity	7	4	15	8	10
Total trading	17	13	49	30	41

Source: ABN AMRO Annual Report, 2002

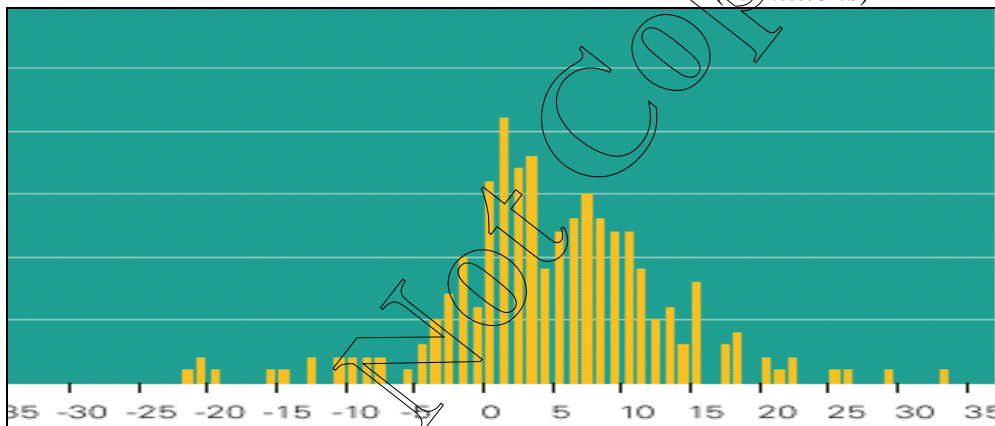
The effectiveness of VAR was assessed by back testing, which counted the number of days when the losses were bigger than the estimated VAR figure. Theoretically, with a 99% confidence level, it was expected that on one out of every 100 trading days a loss which exceeded the VAR might occur. The back testing was performed on the actual profit and loss (P&L) and a hypothetical P&L, which measured a P&L on market risk exposure against movements of financial market prices and excluded effects of commissions, origination fees and intra-day trading. The results of

the back testing on the actual and the hypothetical P&L were regularly reported to the Dutch central bank. The hypothetical back testing was also an essential instrument for validation of the bank's internal models.

The back-testing result showed that the hypothetical P&L exceeded the calculated VAR only on two days in 2002. This was within model expectations. Extraordinary events, for example July-October 1998, in the historical data, along with certain conservative assumptions made when aggregating risk factors, had led to a relatively conservative VAR estimate.

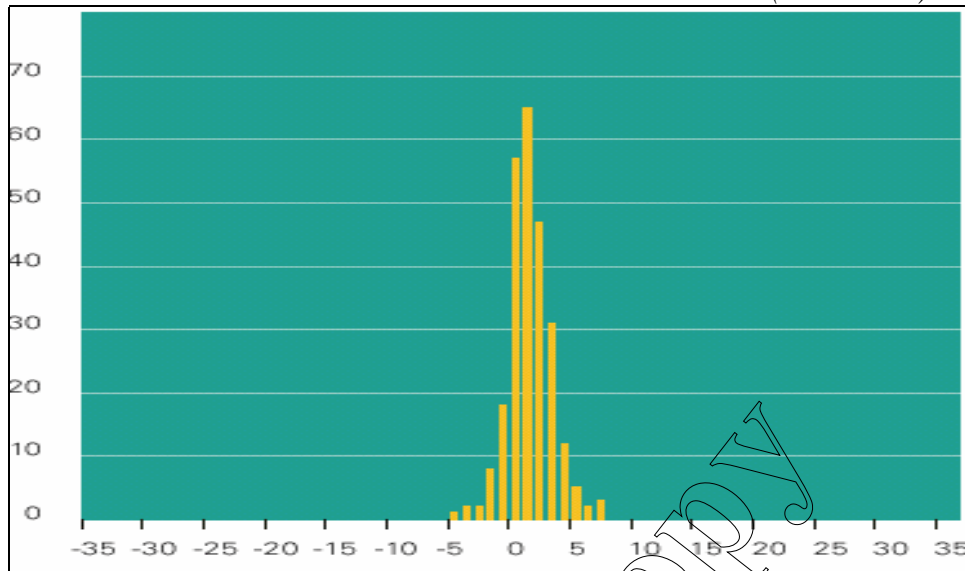
The VAR measure was supplemented by a series of stress tests and scenario analyses, which shed light on the behavior of a portfolio under extreme market events. Stress tests had been developed internally to reflect specific characteristics of the bank's portfolios, while scenarios were based on historical market events, like the financial markets crisis of July-October 1998. Both stress tests and scenario analyses were performed daily for each trading portfolio and at several aggregation levels, including the bank-wide total.

Figure (ii)
ABN AMRO: Distribution of Daily Revenue for FM for 2002
 (in millions)



Group Asset and Liability Management (GALM) protected the earnings and capital position of the bank from adverse interest rate and currency movements and managed the bank's liquidity. The Group Asset Management and Liability Committee (Group ALCO), whose members were drawn from finance, treasury and risk management, had global responsibility across the SBUs. It also monitored the activities of local asset and liability management committees in the bank's home markets. ALCOs existed in other countries, but their interest risk came under the market risk management framework monitored by GRM.

Figure (iii)
ABN AMRO: Distribution of Daily Revenue for GED for 2002
(in millions)



Note: The Graphs show the distributions of actual daily revenues in 2002 from activities (including commissions, fees, origination profits, and so on) for each BU: Financial Markets (FM) (Graph 2) and Global Equity (GED) (Graph 3). Overall, a distribution around a positive average was visible, especially for GED where commissions were an important source of revenue.

Source: ABN Amro Annual Report, 2002

Interest Rate Risk

Group ALCO set limits to ensure that the potential adverse impact on trading and non-trading earnings, due to market movements, was well controlled.

Group ALCO monitored the activities of ALCOs in the US, the Netherlands and Brazil. Some other countries had ALCOs with centrally approved limits. In smaller countries, all interest rate risks (trading and non-trading) were managed within the market risk framework.

Several methods were used to monitor and limit non-trading interest rate risk - scenario analysis, interest rate gap analysis and market value limits. Model-based scenario analysis was used to monitor the interest rate risk positions denominated in EUR and USD in Europe and the US. Interest rate risk positions in other currencies and other countries were managed by gap analysis and/or market value limits, as these positions were typically less complex.

Simulation models and estimation techniques were used to assess the sensitivity to movements in the shape and level of the yield curve. Assumptions about client behavior played an important role in these calculations. This was particularly relevant for loans such as mortgages where the client had the right, but not the obligation, to repay before the scheduled maturity.

On the liability side, the re-pricing characteristics of savings and deposits were based on estimates since the rates were not coupled to a specified market rate. A statistical approach was used for forecasting and sensitivity analyses because it best suited these products. Although comparable with macro-economic forecasts in many ways, this approach was based on information in individual client contracts.

The sensitivity of net interest revenue to interest rate conditions was estimated, assuming an immediate and lasting shift of 100 bps in the term structure of interest rates. ABN Amro's sensitivity analysis indicated that such an upward movement would lower net interest revenue by 3.8% in the first year after the rate jump. A downward shift would raise net interest revenue by only 1.1%, (based on the bank's positions as of 31 December 2002). This asymmetric outcome was largely due to the historically low levels of interest rates in the US and Europe in recent times, leading to unprecedented pre-payment behavior in the US and leaving limited scope to adjust rates on the liability side in the US and Europe.

Currency Risk

Currency risk was the result of investments in the bank's overseas operations and through trading activities. In trading portfolios, exposures to exchange rate movements were managed through market risk limits based on VAR. Short and long positions were monitored to ensure compliance with the GRC's limits. Gains or losses in the trading book were reported in the P&L. ABN Amro pursued various hedge strategies with respect to investments in overseas operations to protect itself against the adverse effects of translating foreign currency into euro, the reporting currency:

- *Ratio hedge*

The Bank's BIS-ratios (tier-1 and tier-total capital as a percentage of RWA) were protected against fluctuations in the EUR / USD rate. As capital and RWA were subject to foreign currency translation, this was done by maintaining the BIS-ratios for USD elements close to the overall BIS-ratios.

- *Capital hedge*

Investments in overseas operations denominated in currencies other than USD were hedged selectively. Hedging was considered when the expected currency loss was larger than the interest rate differential between the two currencies (the interest rate differential represented the cost of the hedge). Gains and losses on these capital exposures were taken through equity, as were the costs of hedging.

As of 31 December 2002, an increase of 10% in the value of the euro against all other currencies would have led to a EUR 437 million reduction in reserves, and vice versa. On this basis, there would have been no material impact on the Bank's BIS ratios because the ratios were hedged against changes in the EUR / USD exchange rate.

- *Profit hedge*

Profits were hedged selectively to dampen the impact of currency movements on the P&L. The decision criteria for profit hedging were similar to capital hedging. As of 31 December 2002, all budgeted net USD profits for the years 2003 and 2004 were sold forward at a rate of USD 0.8994 per EUR and USD 0.9563 per EUR respectively.

Liquidity Risk

Liquidity risk was an integral part of ABN Amro's business. Liquidity risk would arise if, for example, the bank was unable to fund its portfolio of assets at appropriate maturities and rates or was unable to liquidate a position in a timely manner at a reasonable price.

ABN Amro managed liquidity on a daily basis throughout the 66 countries and territories in which it operated. Each national market was unique in the scope and depth of its financial markets, competitive environment, products and the characteristics of its customer profile. Local line management was therefore responsible for managing local liquidity requirements under the supervision of Group ALCO. Each location needed to comply with local liquidity regulations.

On a day-to-day basis, ABN Amro's liquidity management depended on the proper functioning of local and international financial markets. The bank had established group-wide contingency funding plans that anticipated changes in the bank's structural liquidity under different scenarios and set out damage-limitation procedures in case of crises. These plans could be activated in the event of a dramatic change in the normal business activities or in the stability of the local or international financial markets.

As part of its liquidity management contingency planning process, ABN Amro regularly assessed potential trends, demands, and commitments, events and uncertainties, which might have an impact on structural liquidity. More specifically, ABN Amro considered the impact of these potential changes on the bank's sources of short-term funding and its long-term liquidity planning horizons.

At a group level, stress testing of liquidity was conducted several times a year and the outcomes were reported to Group ALCO. To mitigate the liquidity risk, the bank had a liquidity buffer consisting of unencumbered liquid assets, such as marketable securities and other short-term investments. These included Dutch government bonds, US Treasury and US government agency paper and other OECD government paper, which could be readily converted into cash. The size of the liquidity buffer was linked to the outcomes of these stress tests.

At all times, on a group-wide basis, the bank maintained what it believed were adequate levels of liquidity to meet deposit withdrawals, to repay borrowings and to fund new loans, even under stress conditions.

The ability to sell assets (apart from marketable securities) quickly was an additional source of liquidity for the bank. The bank's loan syndication and securitization programmes were part of liquidity management activities. ABN Amro believed the diversity of the banks funding sources and funding providers increased funding flexibility and limited dependence on any source of funds. The bank was an active participant in the capital markets, issuing commercial paper and medium-term notes, as well as debentures, subordinated debt and preferred stock. Diversity of funding products, market and maturity played an important role in funding decisions.

Operational Risk

ABN Amro defined operational risk as the risk of loss resulting from inadequate or failed internal processes, human behavior and systems or from external events. This definition captured events such as IT problems, shortcomings in the organizational structure, lapses in internal controls, human error, fraud, and external threats.

ABN Amro had established a dedicated Operational Risk Management (ORM) discipline in 2000 to manage operational risks. ORM was similar to the credit and market risk functions. ABN had launched several initiatives to ensure compliance with the regulatory criteria of the New Capital Accord and the requirements of the Dutch central bank.

ABN Amro's Group Operational Risk Policy and Group Risk Framework outlined the tasks and responsibilities at each organizational level. The Group Operational Risk Committee was the highest approval authority for operational risk policy and consisted of members from GRM and the relevant business lines. ORM managers were assigned throughout the bank to assist line management in fulfilling this responsibility. The bank used various tools to support business management.

- *Risk Self-Assessment*

This was a structured approach, which assisted line management in identifying and assessing risks and to take corrective actions. The risks were assessed with the assistance of ORM personnel.

- *Corporate Loss Database*

This was a database that allowed for the systematic registration of operational risk-related losses. This tool assisted in the analysis of operational risks for senior management, and provided a basis for capital allocation computations.

- *Risk Approval Process*

A comprehensive approval process that included an explicit assessment of the operational, legal and reputational risks was inherent in all new business proposals. The process included sign-offs by relevant parties and approval by an appropriate committee.

- *Key Risk Indicators*

Key risk indicators were used for trend analysis over time and to trigger off escalation procedures.

- *Key Operational Risk Control*

This reference guide provided clear descriptions of the typical key risks and required controls for a given process. These descriptions contributed to improved risk awareness and provided inputs for Risk Self-Assessment.

An internal methodology for allocating capital for Operational Risks was introduced in 2001, under the supervision of Group ORM. Committee chaired by the CFO. In 2002, more advanced approaches consistent with current regulatory proposals were being evaluated. The bank continued to monitor regulatory and methodology developments through participation in industry working groups.

Exhibit: XII
ABN AMRO: Financial Highlights (Euro)

Income statement (in millions)	2002	2002 (USD)	2001	2000	1999	1998	1997	1996	1995	1994	1993
Net interest revenue	9.845	9.355	10,090	9,404	8,687	7,198	6,294	5,230	4,646	4,442	4,013
Total non-interest revenue	8.435	8.015	8,744	9,065	6,840	5,340	4,491	3,433	2,708	2,353	2,405
Total revenue	18.280	17.371	18,834	18,469	15,527	12,538	10,785	8,663	7,354	6,795	6,418
Operating expenses	12.823	12.185	13,771	13,202	10,609	8,704	7,450	5,867	4,962	4,595	4,256
Provision for loan losses	1.695	1.611	1,426	617	653	941	547	569	328	681	681
Fund for general banking risks (movements)	-	-	-	(32)	(20)	(101)	179	66	308	-	-
Pre-tax profit	3.713	3.528	3,613	4,725	4,250	2,897	2,626	2,175	1,743	1,526	1,437
Group profit	2.620	2.490	2,615	3,401	2,930	1,989	1,872	1,563	1,233	1,081	955
Net profit	2.207	2.097	3,230	2,498	2,570	1,828	1,748	1,499	1,187	1,037	918
Net profit attributable to ordinary shareholders	2.161	2.053	3,184	2,419	2,490	1,747	1,666	1,414	1,075	925	835
Dividends	1.462	1.389	1,421	1,424	1,250	906	844	733	623	550	486
Balance sheet (in billions)											
Shareholders' equity	10.8	11.3	11.8	12.5	12.0	10.7	11.7	11.3	9.2	8.8	8.7
Group capital	30.1	31.6	34.0	32.5	28.9	24.4	24.1	20.1	15.2	14.2	13.8
Total client accounts and debt securities	360.7	378.5	384.9	339.8	284.2	243.5	221.1	159.3	147.3	138.5	136.3
Loans	310.9	326.2	345.3	319.3	259.7	220.5	201.1	150.5	132.8	122.8	121.7
Total assets	556.0	583.4	597.4	543.2	457.9	432.1	379.5	272.0	248.0	229.0	222.8
Contingent liabilities and committed facilities	180.3	189.2	193.4	187.5	159.0	124.0	102.8	80.9	63.8	51.0	45.3
Risk-weighted total assets	229.6	240.9	273.4	263.9	246.4	215.8	208.7	176.7	149.6	136.9	130.5
Ordinary share figures¹											
Number of shares outstanding (in millions)	1,585.6	-	1,535.5	1,500.4	1,465.5	1,438.1	1,405.6	1,364.5	1,255.6	1,213.3	1,173.7
Average number of shares outstanding (in millions)	1,539.3	-	1,515.2	1,482.6	1,451.6	1,422.1	1,388.7	1,346.3	1,232.5	1,193.3	1,141.3
Net earnings per share (in euros) ^{2,6}	1.52	1.44	1.53	2.04	1.72	1.23	1.20	1.05	0.87	0.78	0.73
Fully diluted net earnings per share (in euros) ^{2,6}	1.51	1.43	1.52	2.02	1.71	1.22	1.19	1.03	0.83	0.74	0.71
Dividend per share (in euros, rounded) ³	0.90	0.93	0.90	0.90	0.80	0.58	0.54	0.48	0.41	0.36	0.34
Payout ratio (dividend/net profit) ⁷	59.2	-	58.8	44.1	46.5	46.9	45.5	45.5	46.9	46.9	47.4
Net asset value per share (year-end, in euros) ^{3,4}	6.28	6.59	7.13	7.78	7.59	6.85	7.71	7.62	6.21	6.08	6.21

Ratios (in %)												
Return on equity	22.6	-	20.5	26.5	23.7	16.9	15.7	16.4	13.9	12.4	12.0	
BIS tier 1 ratio ⁴	7.48	-	7.03	7.20	7.20	6.94	6.96	7.21	6.51	6.74	6.85	
BIS total capital ratio ⁴	11.54	-	10.91	10.39	10.86	10.48	10.65	10.89	10.80	11.02	11.20	
Efficiency ratio	70.1	-	73.1	71.5	68.3	69.4	69.1	67.7	67.5	67.6	66.3	
Number of employees (headcount)												
Netherlands	32,693	-	36,984	38,958	37,138	36,716	34,071	32,531	34,587	35,677	37,393	
Other countries	73,745	-	74,726	76,140	72,800	71,014	42,678	33,641	29,107	26,504	23,058	
Number of branches and offices												
Netherlands	627	-	736	905	921	943	967	1,011	1,050	1,102	1,330	
Other countries	2,819	-	2,836	2,774	2,668	2,640	921	706	620	601	503	
Number of countries and territories Where present	66	-	67	74	76	74	71	70	67	64	60	

Source: ABN AMRO Annual Report, 2002.

Prior year figures have been restated for comparison purposes.

¹ Adjusted for shares repurchased to cover staff options granted.

² Based on the average number of ordinary shares outstanding and adjusted for increases in share capital.

³ Where necessary, adjusted for increases in share capital.

⁴ Including reclassification of the provision for general contingencies at 1st January 1997.

⁵ Income Statement figures have been translated at the average dollar rate and balance sheet figures at the year-end dollar rate.

⁶ Including extraordinary result, 2002 net earnings per share amounted to EUR 1.39 and fully diluted 2002 net earnings per share amounted to EUR 1.38.

⁷ Payout ratio is excluding ordinary results; including extraordinary result for 2002 is 64.7%.

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