CEBS
Committee of European Banking Supervisors

Annex to the Report on Industry Practices for Large Exposures

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Austria

(1) Approaches to the internal measurement and management of single name concentration risk.

Main focus of the smaller respondent is the fulfilment of regulatory requirements as prescribed by the Austrian banking act and to use the results of the regulatory requirements for his internal purposes as well. Basis for the measurement of the exposure is the definition contained in the Austrian banking act. Basis of the management are limits who can be also deducted from the Austrian banking act[1].

The larger respondent measures single name concentration risk by using the following indicators:

- EAD (Exposure at Default according to BASEL II IRB-Advanced) for classic credit risks
- Utilization of placement risks in the bank (investment) book
- Expected positive exposures for counterparty risks (or adequate approximations)

Additionally, the larger respondent takes secondary risks and indirect (e.g. lessee) risks into account as far as measurable.

He does not take Market maker limits, strictly internal limits and shares and similar products in non banking affiliates into consideration.

By using a statistical approach lines and commitments will be weighted to a Gross Exposure. The Gross Exposure is additionally adjusted for collateral to a Net Exposure. Multiplied with an EDF (Expected Default Frequency) and expected Loss factor the bank finally derives a Standard Risk Cost factor.

In the next step a matrix of weighting factors for each type of risk based on an internal statistical survey is used to aggregate the risks.

To perform portfolio risk calculations and to estimate economic capital contributions for all assets exposed to default risk (loans, contingencies, bonds treasury transactions) the larger respondent is using a structural asset value model. Asset value return processes are defined for specific industry or country sectors and are described by macroeconomic factor returns. Customers assigned to different sectors show different dependencies on these factors and are therefore variably correlated to each other. A Monte-Carlo simulation is performed to simulate possible states of the economy and to estimate the effects of these factor changes on the default behaviour of each customer. The economic capital, defined as the VaR at the 99.95% confidence level less the expected loss (EL) of the portfolio, can be estimated based on the final loss distribution. Finally, the economic capital of the portfolio is allocated to each customer by calculating the VaR contributions, which incorporate sectoral or geographic as well as single name concentration effects.

(2) Approaches to the measurement and management of "other" (sectoral, geographic) concentration risk.

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[1] Please take into account that the Austrian banking act includes in its definition of large exposure a reference to either the credit institution's own funds or of the group of credit institution's consolidated own funds and in addition a de minimis level of at least 500,000 €.

The smaller respondent focuses on clients and group of connected clients. According to his view, geographic risk and sectoral risks can best be controlled through the proximity of a small institution to its customers.
For the larger respondent see the answers to (1) and (5).

(3) Exposure calculations.
The smaller respondent bases his exposure calculation on the Austrian banking act.
The larger respondent uses a matrix of weighting factors for each single type of risk based on an internal statistical survey and a mathematical model. For details see the answer to question (1). Regarding securities financing transaction the following regime is in place:

- Unused commitments are part of the exposure definition and are calculated on an expected usage at default basis.
- Repo business is watched on a daily basis by market risk management. Limits for each risk involved are based on a VaR (NORRISK) basis.
- Commodity lending limits are monitored via a VaR approach based on the prospective positive exposure. This takes into account settlement risk, delivery risk, performance risk and the off-taker risk.

(4) "Connected" counterparties
Both respondents use the definition of the Austrian Banking Act for "connectedness" for reporting as well as internal purposes. This definition is in line with the large exposure definition as stated in Art. 1 lit.25 of EU directive 2000/12/EG.
However, the large group is currently re-evaluating their management of concentration limits. The possible outcome could be the replacement of the current look through approach with a more sophisticated statistical model.

(5) "Group" questions
Only the large respondent is a "group".
Within the larger respondent limits are set on each level of the Group but are broken down from an overall group limit. The following basis principles are in use:
Basic Principle:

- The Net Exposure is the primary measure to limit concentration risk. It is measured and limited on a Group level.
- There are likewise limits to the Gross Exposure.
- Tenor limitations are usually set by the responsible risk managers on a single group of connected customers and single customer level.
- Limitations are set in conjunction with ratings of group of related customers and single counterparties.
- Limits are set in absolute figures based on the risk appetite of the Group.
- The economic capital of the portfolio is allocated to each customer by calculating the VaR contributions. This is done by generating the partial derivative of VaR of the portfolio with respect to the weight (exposure at default) of each customer.
- Country Limits are set up in absolute amounts per country taking into account transfer risk, determined by a combination of economic and political factors and resulting in a rating. Country limits are subdivided

by product types based on the likelihood of default in case of fx-shortages.
- Bank Limits (for credit institutions) are also absolute limits. They are determined based on both business opportunities and in consideration of the credit risk (external and internal rating) of a credit institution and are limited by relative factors (eg the lower amount of a certain percentage of the third bank's and our own equity). Bank limits are again subdivided by product types differentiating between commercial and treasury business and shareholdings and maximum tenors per category.
- Sovereign Limits (in absolute amounts) apply to the central government of a country (including its ministries and embassies) and are again set based on business needs and the rating (usually same as the country rating). Sovereign Limits are subdivided much in the same way as bank limits.
- Net Exposures to large corporate clients are managed by the business unit 'Active Credit Portfolio Management' (ACPM). For these exposures capital market instruments are used in order to mitigate concentration risks. Such instruments are mainly Credit Default Swaps for liquid names and Credit Linked Notes for less liquid names. Additionally larger scale securitization measures (CDOs) are planned. Concentrations are managed both at the single name and sector level.

(6) Credit risk mitigation

Both respondents use funded as well as unfunded credit protection. For internal purposes the smaller respondent allows also the use of collateral that is not fully compliant with the CRD requirements. The large respondent uses all eligible collateral for an AIRB bank. A special focus is laid on the legal enforceability of the collateral.

In the large group the net Exposures to large corporate clients are managed by ACPM (for a definition see (5) above). For this purpose, assets acquired by the origination business units (e.g. loans, credit lines, guarantees) are converted into loan exposure equivalents. The loan exposure equivalent net of all collateral is transferred to ACPM via an insurance mechanism: Origination pays a transfer price linked to CDS spreads of similar credit rating and maturity to ACPM. In exchange, ACPM assumes the credit risk of the Net Exposure.

ACPM as the portfolio manager uses credit derivatives to hedge exposures and to reinvest. Hedging instruments as described below are used for the following reasons:

- To avoid a negative impact on the risk-return relation in respect of the anticipated worsening credit quality in cases where ACPM has a negative view on the exposure.
- To reduce Net Exposure in order to facilitate new business with a particular client, i.e. to reduce the Net Exposure below the concentration limit.

As a portfolio manager ACPM has a more stringent view on concentration risks, i.e. ideally the portfolio should be balanced without particular peaks. In this regard ACPM aims at reducing all peak exposures, even if they are not considered concentration risks as defined in the comment to question (1).

Funded Protection:

- All types of collateral, which are eligible collateral in the AIRB-approach, to reduce large exposure calculation for internal purposes. Not legally

enforceable collateral are not valuable and not considered in the calculations.
- There is no systematic differences in CRM-calculation (e.g. haircuts) between large exposures and other exposures. Determination base for a concentration risk limit is the Net Exposure to the customer / group of connected clients. The allowed size (in %) of the Net Exposure depends primarily on the rating (and other characteristics) of the customer / group of connected clients. In the context of the regularly credit monitoring a worsening of customer creditworthiness triggers further measures to risk reduction, e.g. re-margining of collateral or limit reductions.
- Possible correlations between credit quality of the counterparty and the collateral value will always be considered in the valuation of collateral (e.g. haircut 100%). But the effects of a large amount of collateral wouldn't be taken into account.

Unfunded protection:
- All eligible types of guarantees and credit derivatives (except CLN) will be recognised as unfunded protection. For unfunded protection only the substitution approach (PD-adjustment method) is in use. The effect of risk reducing for all unfunded protections is not determined by the LGD of the obligor but primarily by the PD of the collateral provider. Therefore we consider all unfunded protections is considered as PD-reducing collateral (compared to a funded protection, which is mainly a LGD-reducing collateral).
- In case of unfunded credit protection the rating of the collateral provider is the relevant parameter for the secured exposure instead of the rating of the obligor. The respondent has implemented a so-called "risk transfer", where the secured exposure of the obligor (based on the material value of the unfunded protection) will be transfered to the collateral provider under certain conditions. This "secondary" exposure/risk is part of the total limit of the collateral provider and will be appropriately monitored. We use a specific system for limit administration.
- In the context of collateral valuation various rules must be fulfilled, which are monitored automatically and constantly by the collateral system. E.g.: The collateral provider must not have a worse rating than the obligor and must not be in the same rating class. If these criteria do not apply, the material value of an unfunded protection will be set automatically to zero with a warning message.
- Additional rules and policies apply to sovereigns (incl. public sector entities) and financial institutions.

Legal enforceability is a pre-condition for valuation for both funded and unfunded protection. The legal enforceability will be confirmed by the bank's legal department (this concerns both standardised and individual contracts).
As mentioned in (1) the larger respondent takes secondary risks and indirect (e.g. lessee) risks into account as far as measurable.

(7) Governance and reporting

The current regime within the larger respondent requires that for each client group (e.g. industry) a responsible Senior Risk Manager has to define a policy which is reviewed by a Senior Credit Committee (SCC) annually. Each group of connected clients are monitored at least once a year depending on the rating of the group. Breaches of limits have to be reported without undue delay to the next SCC or respective decision body. The SCC/decision body decides on the

further procedure to return to the general or special defined limit, using all kinds of available measures and tools to limit the risk. Any limit breaches are reported automatically to the next decision level, whereas reporting sequence depends on the type of the risk.

(8) Regulatory environment

The larger respondent appreciates the current initiative of CEBS and the European Commission in this area. His own approach goes far beyond the current legal requirements in Austria.

The smaller respondent emphasizes the need for proportionality and would prefer to wait with work in this area until the new CRD is implemented into national law. Specific points he raised are:

- No need for a rigorous and uniform stress testing regime as the heterogeneity of institutions and the scope and size of their activities counteract a detailed common approach prescribed by CEBS/the Commission;
- No need for additional requirements for large exposure under Pillar II;
- Especially no need for a regulatory prescribed VaR for small institutions.

Belgium

(1) Approaches to the internal measurement and management of single name concentration risk.

In general, the risk is regarded as the possible loss due to the failure of a large counterparty (or connected counterparties).

The single name concentration risk in the institutions is mainly managed via limits (related to the own funds). Particularly smaller institutions indicated that their internal approaches to measure single name concentration risk are identical to or closely related to the current regulatory regime. They apply the same approach for the calculation of the concentration risk, but have installed a different (level of the) limit for all counterparties or sometimes only for a subset of particular counterparties. At least one institution declared that the internal calculation of the concentration risk deviates from the regulatory regime.

One institution has internally fixed a limit in absolute terms for customers in a particular segment. By applying this fixed limit these exposures could not exceed the regulatory large exposure limits.

Some institutions declared that they also take into account the creditworthiness of the counterparties by differentiating the level of the limits according to the creditworthiness of (a sub-set of) counterparties. One institution indicates that it is following the ratings of the counterparties and when the creditworthiness of the counterparty is below a certain level, the exposure on this counterparty is to be sold.

One institution has internal limits for the management and monitoring of the single name concentration risk and in addition to that uses the economic capital to monitor the concentration risk on an overall level.

One institution does perform stress tests on concentration risk and has created specific scenarios for stressing the single name concentration risk. Other institutions do not perform stress tests at the moment, but one of these institutions has indicated that it will develop stress tests in the near future.

(2) Approaches to the measurement and management of "other" (sectoral, geographic) concentration risk.

Besides the single name concentration risk, institutions do pay attention to the sectoral and geographical concentration risks, but they have installed different approaches to capture the sectoral and geographic risk.

Where one institution has defined internal limits for sector risk but not for country risk, another institution has limits for country risk but not for sector risk. The activity of the institution is an important driver for this policy.

Another institution has not installed any limits for sector or geographic concentration risk but tries to manage these risks by a strict acceptance policy. For some risk factors which are considered by the institution as an important underlying element of the sector or geographical concentration risk, strict standards are set in the acceptance policy. Even though no limits are applied and thus no "corrective" measures are taken, a frequent monitoring and internal reporting is in place (e.g. comparing the actual exposures by the forecasting of exposures).

No stress tests focusing on the sectoral and geographic concentration risk are currently applied. One institution is currently investigating the possible stress tests it could perform on this aspect of concentration risk.

(3) Exposure calculations.

Most institutions have indicated to use the exposures as prescribed in the current regulation, for internal purposes.

However, one institution does deviate from the exposures as they are defined in the current regulation. It uses own haircuts or risk factors when calculating certain exposures (like for derivatives) and includes intra-day exposures.

Institutions stated that they did not "look through" structured products for the measurement of the single name concentration risk.

(4) "Connected" counterparties

The connectiveness of the counterparties when monitoring the single name concentration is based on the regulatory definition. The primary factor taken into account is the legal link between the counterparties (parent-subsidiary relation). Though sometimes the economic dependency between counterparties is also taken into account, it is clearly considered as a difficult factor to integrate and manage.

Institutions are aware of the importance of the data quality of the databases containing the links between the counterparties. The data could be gathered from external databases or from information received when an application file is introduced. The same information is used for the credit risk and the management thereof. In that light, credit officers review this information on a regular basis.

(5) "Group" questions

One institution declares that its subsidiary should monitor its single name concentration risk taking into account the local regulatory regime (including the limits in intra-group transactions). Information on the local positions is sent on a quarterly basis to the head office where the positions are consolidated to monitor the limits on a consolidated basis.

When the subsidiaries on a solo basis are not subject to the single name concentration risk limits (e.g. because it is a financial but not regulated institution), it could be that the concentration risk policy of the parent company is not applied at the level of the subsidiary. At the consolidated level, the exposures of the subsidiary are included in the calculation and as such taken into account in the single name concentration risk monitoring.

Intra-group exposures are often closely monitored but not subject to a limit.

(6) Credit risk mitigation Includes "indirect" concentration risk

Most institutions declare that the CRM is primarily a part of the credit policy. So it is the credit risk and the credit policy that determines the type of collateral or amount. Nevertheless, institutions report that they do monitor and report on the collateral that is taken into account for mitigating the credit risk and as such taken into account for mitigating the concentration risk.

The credit risk mitigation techniques available are most of the times integrated in the concentration risk policy according to the rule in the current large exposure regulation. One institution declared that it applies own haircuts on the value of the collateral when applying it as a mitigant for single name concentration risk.

Some institutions mitigate the single name concentration risk by reducing (selling) the exposure on the counterparty when there is an indication that the

limit is (about to be) reached. So diversifying the counterparties is actively used as a mitigant.
Also the creation of a structural portfolio that is not affected by the single name concentration risk (0% risk weighted sovereign exposures) was mentioned as a reaction to reduce high single name concentration risk.
A second institution also reduces the exposure on particular counterparties when the counterparty is downgrading below a specified level. At that moment the exposure on that counterparty is eliminated.
Indirect risk is not taken into account by any institution. One institution is questioning the incorporation of indirect risk. By transferring the concentration risk from the obligor to the issuer of pledged collateral you could have an important concentration risk on the issuer. However there would have to be a double default (both the obligor and the issuer would have to be in default) before the concentration risk would have occurred. Particularly when several independent counterparties have pledged collateral from one issuer, this is considered as too conservative. Nevertheless, this institution does monitor the issuers of pledged collateral and possible concentrations.

(7) Governance and reporting

As mentioned before, the internal limits are sometimes identical and sometimes stricter than the regulatory limits. One institution has stricter limits with regard to the credit portfolio but the limits for the investment portfolio are comparable to the limits in the regulatory regime. The institutions based their limits on their risk appetite.
One institution indicated that large exposures are as such no structural problem and thus the regulatory reporting on large exposures are used for internal purposes as well.
The institutions find it important to monitor the large exposures. An indication for this is the regular internal reporting to the higher hierarchies present in almost all institutions. This reporting can take place on a daily, weekly, monthly, quarterly or yearly basis depending on the nature and the details of the reported information.
Sometimes these internal reports are based on a level of risk which is lower than the internal limits. Institutions also prepare on aspects of the concentration risk for which the institutions have no limits set (e.g. sector risk, concentration in collateral)

(8) Regulatory environment '

Smaller institutions state that the current regime is sufficient in terms of risk appreciation and monitoring, where as a larger institution specifically asked for the incorporation of internal ratings and a closer alignment with the new capital regime.

Cyprus

(1) Approaches to the internal measurement and management of single name concentration risk.

1.1 In general terms, all sample banks' approaches to the internal measurement and management of single name concentration risk are consistent with the limits and reporting requirements contained in the national regulatory regime, though, not in all cases absolutely identical. Two of the reporting banks stated that for certain types of risks (e.g. exposures to Banks and Sovereign, treasury activities, market risks) they use internal models for measuring the risk and set internal limits, expressed in terms of a percentage of their capital base and/or in an absolute figure, which in certain cases are more conservative than the regulatory limits. Another two of the reporting banks stated that they have no internal approach to concentration risk measurement and they adopt fully the regulatory approach. The type of the counterparty and the counterparty's creditworthiness are significant factors in determining the sample banks' approach and internal limits. The internal concentration limits are monitored regularly and violations are reported to the senior management. The approaches applied are closely integrated into the sample banks' internal business decision making process.

1.2. Two of the reporting banks adopt a similar definition of "concentration risk", which refers to the risk of loss arising from concentration of exposures to individual customers, groups of individual customers, customers in specific geographical location, specific industry sectors, specific products and demographic population. Another bank defines concentration risk as any single exposure or group of exposures with the potential to produce losses, large enough to threaten the bank's health or ability to maintain its core operations. The other two banks have not defined "concentration risk".

(2) Approaches to the measurement and management of "other" (sectoral, geographic) concentration risk.

2.1 Three of the reporting banks have in place internal processes for the measurement and management of "other" concentration risk. One of the remaining two relies only on the portfolio breakdowns by industry sectors as required for regulatory purposes, whereas, the other one stated that it applies no systematic approach to manage "other" types of concentration risk, e.g. sectoral, geographic, collateral issuer etc.

2.2 One of the three banks that have in place internal processes for "other" concentration risk stated that it carries out a portfolio analysis at the end of each year, whereby, detailed breakdowns of exposures in each sector are reported along with the financial performance of each sector, derived from expert rating systems. For Banks and Sovereigns it limits geographic concentration risk by setting country limits based on the rating of the country, its size and the bank's needs. Another bank, in evaluating credit proposals, assesses also the risk involved in the geographic area of the customers. It also sets and monitors country and industry concentration limits. The third bank considers that the sectoral concentration is easily measured as every single credit facility is classified per economic sector in accordance with the national regulator's guidelines. Though it measures Geopraphic concentration, it considers it to be of no significant importance because of the small size of our country. It also recognises and measures concentration risk in collateral in the form of residential or commercial real estate.

(3) Exposure calculations.

3.1. As a general rule, the exposure amount of funded and non funded credit facilities (e.g. loans, revolving current accounts, guarantees etc) is considered to be the commitment (e.g. approved limit) or the outstanding amount whichever is the higher. To arrive at the amount at risk the value of the recognised credit risk mitigants (see point 6) is taken into account. One of the reporting banks defines the amount at risk as the amount of loan/facility plus the amount of accrued interest. Most of the sample banks stated that they do not usually take positions in entities consisting of underlying assets or instruments.

3.2. The methods applied for calculating the exposure amount of other types of risks differ among reporting banks. In one of the reporting banks, the amount at risk in respect of banks and sovereigns depends on the type of product. Money Market and Bond transactions are scaled according to their maturity and risk factors are applied to the exposure based on the maturity of the instrument. The exposure value of derivatives is arrived at by discounting the nominal value of the contract by a percentage in the range of 10% to 20% according to the type of the contract. The settlement limit is set at 50% of the total limit of each counterparty. Another bank stated that for other types of risk e.g. market risks, several other definitions exist for amounts at risk, depending on the methodology being used, eg. VaR, gap definitions e.t.c. In the rare cases that it takes small positions in entities consisting of assets or instruments, it adopts a "look through" approach. One of the sample banks confined its reply to treasury operations, stating that the market risk is measured on the basis of the regulatory guidelines. Finally, one of the reporting banks stated that no derivative exposures, structured transactions, e.t.c., currently exist in its portfolio.

(4) "Connected" counterparties

4.1. In general terms, the sample banks adopt the regulatory definition of "connectiveness" and determine "connectiveness" by applying the regulatory criteria. Effectively, a group of connected persons is determined, by having regard to control through common ownership, 20% or more of the voting rights, or in any other manner, and financial interdependence. One of the reporting bank specified that it determines "connectiveness" on the basis of common ownership, common management and guarantors. All reporting banks emphasized the importance of "connectiveness" of counterparties in relation to internal concentration risk measurement and/or management purposes. They take into account the relationship/connections between counterparties throughout the credit evaluation process and monitor the position regularly.

(5) "Group" questions

5.1. Three of the sample banks set the concentration risk limits at Group level and allocate sub-limits to branches/subsidiaries as appropriate. Intra group limits are not set. The remaining two banks have no subsidiaries or overseas branches therefore they apply the regulatory limits at individual level. One of the latter banks reports quarterly the exposures exceeding 10% of its shareholders' funds to its overseas parent bank for measuring concentration risk at group level.

5.2. One of the reporting banks commented that the limits for single name concentration risk are set by the regulator at group level, adding that for Banks and Sovereigns the group limits are allocated to the various Group locations

according to their size and needs. Another bank stated that each subsidiary has its own limits, while all subsidiaries are subject to the regulatory 25% limit at group level. One of the reporting banks stated that the concentration risk measurement and management policies (treasury activities) are applied at a group level and the limits are monitored both at "business unit" level and at group level.

(6) Credit risk mitigation

6.1. All sample banks use credit risk mitigation techniques as part of their approach to reduce single name concentration risk. These include various types of collateral, including unfunded protection e.g. guarantees. The major types of funded and unfunded protection utilised include cash collateral, government guarantees, bank guarantees, mortgages on real estate, pledge of shares and bonds and assignment of life policies. For regulatory "large exposure purposes" only cash collateral and government guarantees are recognised, while bank guarantees are partly recognised. Collateral haircuts are applied to certain types of collateral, i.e. taking a percentage of their security value. In the case of a guarantee, the guarantee amount counts in the issuer's exposure.

6.2. In calculating the amount at risk, one of the reporting banks subtracts from the exposure amount only cash collateral and government guarantees. Another bank stated that it has no limitations as to the security utilised for credit risk mitigation purposes. It applies collateral haircuts on certain types of security and uses netting sets to calculate the net exposure. One of the banks uses only the collateral types and valuations recognised for regulatory purposes. In addition to the types of protection referred to in 6.1 above, the protection utilised by one of the reporting banks includes fixed and floating charges, discounting of cheques, personal guarantees and assignment of sale agreements and contract proceeds.

(7) Governance and reporting

7.1 Three of the sample banks have in place internal governance and reporting procedures for the management of concentration risk. In general, these procedures involve the setting of an appropriate structure within the group (e.g. ALCO, Risk Management Committees etc) for the approval, monitoring, reporting of violations to the senior management, ratification of violations and taking of appropriate corrective action. For certain types of risks internal limits are stricter than the regulatory ones. The regulatory and internal limits are applied on a consolidated basis. The remaining two banks confine their approaches to the regulatory guidelines and requirements. In the case of the foreign owned subsidiary, strategic decisions are, in general, taken by its parent bank. It stated that it identifies certain limitations/weaknesses in monitoring compliance with the limits set by its parent bank in relation to indirect exposures to third banks.

7.2 One of the reporting banks requires that single name exposures in excess of 10% of its capital base are approved by the Board of Directors. In addition, it has procedures in place for the monitoring, reporting and ratification/approval of violation of the applicable limits. A report indicating in detail the counterparty placements by bank and by country is submitted to local ALCOs monthly. Another reporting bank stated that the reporting of single concentration risk to senior management is divided into Banking Sectors and takes place monthly. The limits are strictly adhered to. It is not an acceptable practice to break them. At the other bank, ALCO is the responsible body for approving the risk management framework and, thus, concentration limits on a country and counterparty basis.

Violation of the approved limits by less than 10% is reported to the Group Risk Manager and over 10% to the ALCO Committee. Violations of a repetitive nature may prompt re-examination of the limit size. The ALCO committee receives on a monthly basis a full documented report of the violations, the reasons that triggered the violations and the measures taken for rectification. Rating upgrades and downgrades may prompt the immediate reduction/increase of concentration limits. Concentration Risk related to Treasury activities is monitored on a daily basis with the use of expert systems.

(8) Regulatory environment

8.1. All sample banks consider the current regulatory regime for large exposures satisfactory and effective in addressing the key risks inherent in large exposures/concentration risk. In addition, banks stated that their internal management practices are consistent with the regulatory regime. Two of them have also commented that the current regulatory limits are satisfactory both from the prudential and level playing field perspective, while, another one described the current regulatory regime as prudent and simple. Two of the sample banks highlighted the importance of the large exposure regulatory provisions on the banks' business decisions, competitiveness and profitability.

8.2. Two of the reporting banks suggested that the regulatory regime could be improved in specific areas. One of them suggested that a more uniform approach to cross border harmonisation of customer group should be applied and the other expressed the opinion that the regulatory regime could capture and limit other kinds of concentration risks (e.g. sectoral), as the small and open economy of Cyprus is volatile to external factors.

Czech Republic

(1) Approaches to the internal measurement and management of single name concentration risk.

In general the approach of most banks adopts the regulatory principles and reporting requirements stated in the respective rules of the CNB. In banks who are members of big international groups this approach is mixed with the exclusively internal principles of the concentration risk measurement and management, but the regulator rules represent a basis and framework for internal regulations of the banks. Banks write out a report of large exposures on monthly basis for own management as well as for the supervisor showing debtors whose gross commitment of the bank portfolio exceeds 10 % of the bank capital at the last working day of the respective month.

All banks named single name concentrations on the first place, which include not only single customer but the economically linked groups of person as well.

The banks recognize other concentration risks as well – industrial and country and monitor them on monthly basis, but they do not use them in modeling of the concentration risk.

Some banks take also collateral issuer concentrations into account.

Single name concentration risk:

Type of counterparty is always considered. In general banks apply stricter approach to the management of risk towards corporates than towards banks, other financial institutions and sovereign entities.

The creditworthiness of the counterparty is expressed in the internal rating and represents the most crucial factor.

The limits are used as a basic tool for management of risk. They are set in absolute amounts related to the rating of the customer and to the collateral coverage ratio. The limits for maximum single client exposures are calculated on the basis of the regulation framework, i.e. in relation to the regulatory capital.

(2) Approaches to the measurement and management of "other" (sectoral, geographic) concentration risk.

Some banks set up limits for some types of risk (countries, some collateral or insurance issuers). The criterion for setting up the country and sovereign limits are the rating of the accepted ECAIs.

Some other risks are managed as well but in a more informal way – e.g. industry or sector limit is always assessed within credit approval process. The exposures vis-à-vis individual industries is closely monitored and reported. It is an obligatory part of credit application.

(3) Exposure calculations.

In their internal approach most banks measure exposure as maximum exposure amount, but only for banking book exposures. For the individual products the amount at risk is the following:

loans = outstanding

undrawn limits = face value

guarantees = face value

derivatives = market value + add on

repo-style transations = market value

(a) Single name concentration risk is measured, managed and reported on the basis of value-at-risk measured against profit and capital. The largest single exposures are measured as a ratio related to the whole portfolio.

One of the answering bank checks gross credit exposure of the biggest loan customers and economically linked groups of persons each third day. List of its clients and economically linked groups of clients exceeding defined amount of gross commitment is sent to authorised staff specified by managers of individual divisions. If the net commitment of a specific client or economically linked group of persons exceeds 80% of limits set by the regulator, clear management reporting rules are set up. If the gross commitment of a customer or economically linked group of persons exceeds 10% of the Bank's capital, before making a deal, clear reporting and authorisation rules are being set. The same procedure applies to clients or economically linked groups of persons whose gross commitment would by making the intended deal exceed 10% of the bank's capital.

(b) Other concentration risk is measured on the basis of portfolio shares (e.g. individual industries and/or countries against the whole portfolio). Some banks set up absolute limits for industries which portion on the portfolio exceeds 5%. The country/sovereign concentration risk is usually managed at group level and the main criterion is the rating of the respective country/sovereign.

Concentration risks are taken into account in credit decision process. Single name concentration risk is managed through large exposure policy which is in most banks written document defining maximum exposures based on the rating of customer and on the risk mitigant factors. The basis for large exposure policy is in VaR calculations. Also industry and region (country) exposure concentrations are evaluated within approval of each individual credit case (individual industry analyses, industry exposures reports).

Only one bank replied that it measured repo-style transations on the basis of market value and that it did not use "expected positive exposure" method.

<u>Stress testing :</u>

The banks have already started stress testing as a part of risk measurement, but they use various scenarios. Some banks apply stress testing for event risk measurement and work with stress scenarios reflecting shocks in

- default of all last non default notch rated customers
- downgrade of customers by one notch
- default of one of largest 20 customers

These stress scenarios are measured against profit and capital.

The other banks measure expected loss of the portfolio under normal and stressed conditions and compare both. The procedure is following:

a) Portfolio is divided into sub-portfolios. Single name concentrations are identified as counterparties or counterparty groups, which portion of exposure is higher then defined amount.

PD of such clients is being stressed.

b) Furthermore clients are divided into industrial segments. Based on analyses for each branch, with consideration of special industrial risk, the PD of such clients is being stressed.
Should with some clients both (a) and (b) cases of downgrading be applicable, only the worst one is taken into consideration.
Gap in expected loss under normal and stressed conditions is set and used for further calculations considering portfolio impairment.

(4) 'Connected parties'

Definitions of " groups of related customers" are derived from the central bank regulations. The basic and first criterion is the controlling ownership stake. In addition also another factors that can result in payment / financial troubles of the connected customers are assessed (personal relations, business relations, connection by credits and/or guarantees, etc.). Various both public and internal sources are used for the identification of relations between counterparties (e.g. RES, press releases, annual reports, credit applications).
These exposures to entities or products consisting of underlying assets or items (e.g. exposures to special purpose entities, collective investment units) are reported as exposures towards the issuer of the security / unit and are 100% risk weighted. The internal analysis of underlying assets ("look through approach") is performed if the relevant information on these assets are available. The banks which are members of international groups invest preferably into the same issues as the parent bank, use its analysis of the underlying assets and share the risk within the group. Rating agencies reports and analyses of the underlying assets are used for this purpose.

(5) ' Group' issues

In case the answering bank is member of an international group it manages concentration risks and sets up limits at all levels (individual, sub-group and group levels). The limits are applied as the main tools for management of concentration risk within group.

In most banks the intragroup exposures are managed and monitored in a more stricter way than "normal" exposures. This approach comes from more prudent regulatory rules of the central bank which impose certain restrictions on the lending and exposures within one banking group. When managing the cross-border exposures in addition the country limits have to be considered (if applicable, i.e. if the particular country exposure is not "unlimited").

(6) Credit risk mitigation

All banks use credit mitigants. As a rule, for collateral of receivables of bank arising from credit transactions run the following principles:
a) collateral represents prophylaxis and protection of bank's position as creditor,
b) collateral, apart from being a securing tool, represents only a secondary source of repayment
c) the choice of individual collateral and the structure of the security depends on the credit product for which the collateral is used (for instance pledge of commercial receivables is typically used as collateral for overdrafts), on the bank requirements and on the professional assessment by the responsible member of

the bank staff, who must also consider the possibility of a problem-free realization of the proposed collateral in the individual case,
d) the primary source of a credit repayment in case of entrepreneurs is principally the cash flow; for this reason entrepreneur's business activities in particular are assessed and closely observed when processing entrepreneur's credit applications and when managing these credits,

From the eligible collateral techniques the banks use both funded and unfunded protection, however they use netting very rarely and as reported they do not use credit derivates.

Funded credit protection : Pledge of real estate, of some types of movables (mainly cars), of securities and of receivables are used as a main collateral instruments for LE. Exceptionally other movables, business shares or letter of comfort can be reconsidered as acceptable collateral for internal purposes (not for regulatory purposes).

Collateral value is determined with valuation according to the market price. For the purposes of this regulation the term "market price" is defined as a usual price (sale price) or the price established by using other method of valuation, however it is always determined with regard to all circumstances that influence the price. If in a particular transaction case there are available several market prices of a collateral, determined by different valuation methods, the lower or the lowest market price will be applied. From the market price of collateral the effective value is calculated by the multiplying with collateral coefficient. Collateral coefficient represents the collateral recovery rate (if known) and other troubles during the collateral execution (legal discrepancies, enforceability of collateral, change in legal rules etc.). Loss reduction is calculated based on the collateral recovery rate. Haircut therefore is in banks' view taken as a collateral coefficient. To remain clear, we do not consider haircut only for purpose of re- valuation of financial collateral, but in broader sense as a cut in the value of any funded collateral. The correlation between collateral asset values and events is not followed in most banks. Nevertheless, they always apply a conservative approach to the collateral valuation, especially valuation of items and rights by an expert. Therefore the credit officer always inspects collateral and its enforceability and valuation.

Unfunded credit protection : Only guarantees are used, credit derivates mainly due to insufficient legislative framework are not reported to be used. The protection is considered as a substitution by the PD of the guarantor, however the adjustment of loss estimates in LGD calculation is not ruled out. The correlation between the credit quality of the protection provider and events is recognized in the collateral coefficient. The collateral coefficient is chosen base on the rating of protection provider. There is a scale of rating vs. coefficients. Therefore the better rating means better valuation.

Indirect Concentration Risk' :

This kind of single name exposure is monitored within credit approval process. Indirect exposure vis-a-vis countries is not explicitly monitored and managed. The most important indirect exposures are managed through limits. Particularly, the banks apply these limitations for banks and insurance companies as well as for selected corporate guarantors.

(7) Governance and reporting

The banks have clear rules for management of these risks. There are reports on both the largest single name and industries / countries exposures prepared on

monthly basis and delivered with the same frequency to business lines and to credit risk management managers. There are also reports to the Managing Board and in case of banks-members of international groups reports to the parent banks with various frequency, but usually on quarterly basis. There are also reportings of limit excesses, usually to the Chief Credit Officer on weekly basis, and to the Credit Committee of the Board quarterly. The credit risk and relationship managers of the banks also follow the limit violations and excesses on daily basis to adopt the respective measures.

(8) Regulatory Environment

Only one bank has provided its views on the matter: "We evaluate the current large exposure regime to be effective. The regulator sufficiently manages (by limits) large exposures on individual and consolidated levels. In addition the credit exposure reports are regularly audited by both internal and external auditors. Limits are insufficient for the exposures towards our parent bank and to the subsidiaries as well. Due to this we are sometimes restricted in our business decisions. Limits for sectors or geographical regions should not be set up by the regulator as a general principle. Limitations of this kind are sufficient if done within discretion of individual banks. The regulatory limits are consistent with internal credit risk management practices.

Denmark

(1) Approaches to the internal measurement and management of single name concentration risk.

Measurement

Large bank: Concentration risk is for the internal purposes not a well-defined concept. Concept is both based on regulatory requirements as well as internal economic capital framework. However, for the purpose of limiting the exposure to single names – using the wider definition of customer group aggregations - and industry and country aggregations there are

- limit systems for both single names and other segmentations in the credit approval process
- capital allocation mechanisms aiming at punishing larger concentrations and allocating the capital need to cover concentration risk on portfolio level. The latter uses the portfolio model Creditmanager (CreditMetrics technology) as the tool for quantification of capital requirement.

Local and regional banks: Only regulatory limits

The measurement methods:

Large bank: The concept of Exposure at default (EAD) is applied, where EAD is defined as the sum of utilized exposure and a part of the unutilized exposure that is expected to be utilized in the event of default. The latter is calculated using Loan equivalent factors (LEF). For a large part of derivate exposures a different method is used, the so called Expected Positive Exposure. Intraday exposures and settlement exposures are limited but not included in the quantification of capital.

Local and regional banks: They do not differ between different categories but include the whole exposures lines.

- The risk management

Large bank: Concentration risk management is based on customer and customer group limits set by relevant decision-making authority according to the size of limit. Limits are absolute i.e. defined as specific amount and limit setting is based on detailed customer and credit quality analysis and banks strategy for the customer. Customer group limit is divided to customer limits within customer group and customer limits are divided for products with credit risk.

Portfolio concentrations are dealt with through the establishment of specific Industry Credit Policies, which should be established for industries where at least two of the following criteria are fulfilled:

* Significant weight of the bank's portfolio
* High cyclicality and/or volatility of the industry
* Special skills and knowledge required

There is a cap set for the Group's total exposure in such an industry and a monitoring group is set up for monitoring and directing the Group's credit activity within their industry.

All Industry Credit Policies are approved by the Executive Credit Committees and confirmed annually by the Board Credit Committee.

Local and regional banks: The management is based on customer and customer group limits set by legal requirements.

Creditworthiness is not accounted for in the internal measurement of single name concentration risk

(2) Approaches to the measurement and management of "other" (sectoral, geographic) concentration risk.

Large bank: Concentration risk is for the internal purposes not a well-defined concept. Concept is both based on regulatory requirements as well as internal economic capital framework. However, for the purpose of limiting the exposure to single names – using the wider definition of customer group aggregations - and industry and country aggregations there are

- limit systems for both single names and other segmentations in the credit approval process
- capital allocation mechanisms aiming at punishing larger concentrations and allocating the capital need to cover concentration risk on portfolio level. The latter uses the portfolio model Creditmanager (CreditMetrics technology) as the tool for quantification of capital requirement.

Local and regional banks: It is usually only single name risk that is measured and managed.

(3) Exposure calculations.

Both large banks and local and regional banks: off balance sheet items, derivative exposures, security finance transactions, structured transactions, intra-day and settlement exposures, "look through" approaches, are included

(4) "Connected" counterparties

Large bank: Usually customer groups (parent and subsidiaries, according legal structure or other considerations) are considered as a single customer.

Local and regional banks: They use the Credit Institutions Directive (2000/12/EC), the concept of "connected clients" ("interdependent") is described as either

a. two or more natural or legal persons who, unless it is shown otherwise, constitute a single risk because one of them, directly or indirectly, has control over the other or others or

b. two or more natural or legal persons between whom there is no relationship of control as defined in the first indent but who are to be regarded as constituting a single risk because they are so interconnected that, if one of them were to experience financial problems, the other or all of the others would be likely to encounter repayment difficulties.

However, in its practice so far the Danish FSA has also given emphasis to other aspects when determining whether interdependence exists, eg. in the form of joint management.

The following are examples of groups of connected ("interdependent") clients:

1. Companies of the same group.
2. Cohabiting persons, irrespective of whether they are married or not.
3. A partnership and the individual partners.
4. A principal shareholder in a limited company or a limited liability company, and the shareholder's company.
5. The individual entities of a housing association and the housing association, and the entities mutually.

(5) "Group" questions

Large bank: Concentration risks are measured on a group level and concentration add-on in economic capital framework is similar in each country unit.

Local and regional banks: The measurement and management of single name risk is decided at the group level.

(6) Credit risk mitigation Includes "indirect" concentration risk

Large bank: The amount of exposure is measured using Exposure At Default (EAD) adjusted with certain product specific risk weights. Collaterals and guarantees are not considered as a reduction in exposure when concentration add-on for economic capital is calculated. However, collateral and guarantees are reducing the capital requirement through a reduction the applied LGD. In the case of single name credit protection exposure is added to protection seller's exposure.

Local and regional banks: They do not consider this.

(7) Governance and reporting

Large bank: Concerning concentration risk for individual customers or customer groups it is limited by a decision made by the relevant committee. A committee that consists of members from the bank's top management decides the highest concentration risks by customer.

A report is made quarterly to executive management showing the highest individual concentration risk.

From another perspective of concentration risk the bank has chosen a number of key industries, which are monitored following a special routine. For each of these selected industries a monitoring group is formed. This monitoring group is responsible to follow the development of the bank's business with the customers in the industry and the related credit risk development. Once a year or if the credit risk demands it with a higher frequency, the monitoring group write a memo analysing the business and credit risk of the industry.

Approval of the limits for the different industries monitored are made by the executive management and confirmed by the Board Credit Committee.

Local and regional banks: Frequent reporting to the management and executive management.

- Indicate whether the internal limits used by management are the same as the regulatory requirements

Local and regional banks: They are usually lower.

- Do the institutions apply these limits at the individual institution or consolidated level?

Local and regional banks: Consolidated level.

- How the institutions monitor the limits, allocation of capital and how do they monitor cross-border exposures?

Local and regional banks: Frequent reporting to the management and executive management.

Internal reporting and policies the institutions have in place to monitor the exposures:

Large bank: Concerning concentration risk for individual customers or customer groups it is limited by a decision made by the relevant committee. A committee that consists of members from the bank's top management decides the highest concentration risks by customer.
A report is made quarterly to executive management showing the highest individual concentration risk.
From another perspective of concentration risk the bank has chosen a number of key industries, which are monitored following a special routine. For each of these selected industries a monitoring group is formed. This monitoring group is responsible to follow the development of the bank’s business with the customers in the industry and the related credit risk development. Once a year or if the credit risk demands it with a higher frequency, the monitoring group write a memo analysing the business and credit risk of the industry.
Approval of the limits for the different industries monitored are made by the executive management and confirmed by the Board Credit Committee.

Local and regional banks: It differs substantially among banks

Stress test:
Large bank: No, stress testing is not explicitly used for managing concentration risk**.** However stress testing is an important part of the ICAAP which means that different scenarios will have different effects on the credit portfolio which in turn gives valuable input to the management of the credit portfolio.
Local and regional banks: No.

(8) Regulatory environment
Local and regional banks: In general the institutions take a positive view on the current LE regulation, but will probably be negative towards a revision of the regulation that will include concentration risk.

Finland

(1) Approaches to the measurement and management of single name concentration risk.

All respondents have built on risk concept used in the current regulatory regime. All respondents measure risk relative to the own funds.
In addition to the regulatory definition, some respondents have also developed their own risk concepts by using internal economic capital framework. Some of them use the portfolio model Creditmanager (CreditMetrics technology) or creditVAR. An investment firm responds that regulatory requirements, in their line of business, provide a reasonably robust framework for ensuring risk diversification.
A common approach is to set risk limits to customers and customer groups. Banks have also adopted credit risk policies, which define principles concerning the composition, diversification and customer selection and use of collateral and covenants. Concentration risk may also be monitored by business areas.
Collaterals and security coverage are also an important tool for all respondents.

On stress testing

One respondent uses in a quarterly risk analysis calculation so-called loss bearing capacity stress test for the bank level, where a capital buffer exceeding the targeted tier 1 level is calculated. Stress tests have been carried out randomly e.g. by testing the effect of deterioration by one rating class of the entire corporate exposure portfolio on the Group's risk position and capital requirement. Another respondent says that stress testing is not explicitly used for managing concentration risk but they are an important part of the ICAAP, which means that different scenarios will have different effects on the credit portfolio which in turn gives valuable input to the management of the portfolio. Creditworthiness is taken into account in the internal rating of the customer. The customers' creditworthiness has also impact on the powers of decision-making bodies and definition of the level of the decision-making.

(2) Approaches to the measurement and management of "other" (sectoral, geographic) concentration risk.

Credit risk is analysed at the portfolio level, e.g. concentrations on certain industries and countries. The measurement is based on economic capital considerations in two of the banks. One of them has set a specific monitoring limit.
A common approach to manage geographical risk is to determine risk limits for countries. Risks are also monitored by industries and product types. One respondent has a specific industry credit policy and sets a cap for the group's total exposure on that specific industry. One of the respondents mentions that a limit may also include restrictions in terms of time or product.

(3) Exposure calculations.

The exposure calculation is generally based on regulatory concepts, but collateral is often deducted from the exposure. The banks are moving towards Basel II concepts in their internal analysis.
Intraday exposures and settlement exposures may be limited, but sometimes they are considered as mere extra information. Two respondents say that look through approaches are used selectively (i.e. when considered necessary).

(4) "Connected" counterparties
Determination of connectedness starts from the legal group, but for all respondents the customer group is wider concept and takes into account other considerations e.g. the existence a financial interest group. Considerations vary between crossing or joint collateral, or real power vested on a single party in a case by case basis.

(5) "Group" questions
Banks put emphasis on managing concentration risk on a group basis. However, each supervised entity needs to comply with the regulatory limits.
Only one respondent states that internal limits are set for both sub group and single entity levels, if necessary.
Only one respondent has determined for particular transactions individual limits in proportion to the group member's own funds.

(6) Credit risk mitigation Includes "indirect" concentration risk
A wide range of collateral is taken, when available. Banks are of the opinion that collateral, even though unrecognised by the regulatory rules, do give in practice bargaining power e.g. floating charges, mortgages on commercial real estates or on all business is a security. Guarantees are quite common. Credit derivatives are rare at the moment. The effect of collateral is sometimes calculated by using EAD and then collateral reduces the capital requirement through a reduction in the applied LGD.
Indirect concentration risk is rarely taken into account.

(7) Governance and reporting
In general, banks have set principles for credits approval, collateral valuation, internal ratings and risk management on different level of the organisation. The objective is to ensure that a bank does not develop excessive risk concentration by country, industry or customer group.
Corporate customers have an account officer which monitors the customer's financial position and analyses any event's influence to the customer's ability to repay its credit. In addition, a company analyst analyses at least once year the customer's annual report and interim reports. The amount lent to the customer and the customer's credit rating, influence the scope, frequency and amount of details according to which the monitoring and internal reporting are carried out. They also have an effect to the level of decision making.
The risks taken are regularly analysed by the banks' relevant decision making bodies.

(8) Regulatory environment
One respondent is satisfied with the current regulatory regime and considers current regulations sufficient.
Another one emphasises that the concept of exposure should be the same both for capital adequacy and large exposure purposes. Even minor changes in the concepts are very costly and burdensome. It would be ideal if one report would be sufficient. In their opinion, regulatory limits for country and industry risk would be difficult to implement in practice. A domestic, local bank has enormous amount of country risk. Diversification is not always sensible if the institution lacks experience on particular market and product. Limits on industry are also difficult for specialised institutions with experience on that industry.

The current frequency of reporting is acceptable, as internal reporting on certain areas is monthly. Reporting should be kept simple.
According to one respondent, regulations are to a high degree consistent in countries where they mainly operate. For cross-border operating supervised entities, regulatory reporting even with slight differences are burdensome and a bank emphasises that one report should be sufficient. In its view, the limits for industries are not easy to execute in practice, for e.g. industrial conglomerates which operate in several lines of business.
One investment firm advocates the look-through options for mutual fund holdings, and fund holdings should be allowed to be treated as if they were direct holdings in the underlying securities. According to it, funds adhering to the UCITS Directive are already diversified by definition. Direct UCITS investments are monitored by the supervised entity itself, indirect UCITS investments are monitored by three separate entities (the supervised firm, the manager and the depositary). It does not see any objection why the large exposure rules should not allow a firm to invest all of its assets via one fund, as long as the fund itself is diversified (through the 10 % and 5-40 % rule etc.). In cases where the fund manager does not provide the largest holdings to the investor (plus any other data that may be necessary to asses the underlying risks) frequently and timely enough, the supervised entity should be allowed to opt for assuming the maximum concentration of risk as according to the current fund prospectus. Further, it advocates that firms with higher capital adequacy ratios should be allowed to have larger and more risky exposures than those with a ratio at or slightly above the minimum. Smaller financial firms do not take risk, as part of their normal course of operations. They often carry "excess capital" relative to regulatory requirements. For rapidly growing smaller firms, receivables from clients may easily exceed the large exposure limits. It suggests that the large exposure limits should be limited to that part of the own assets that is only needed to cover the regulatory requirements, plus some possible buffer zone. The rest of the assets could then be designated as "free zone", which can be invested in as risky assets as the owners see fit, or alternatively distributed back to owners.

France

(1) Approaches to the measurement and management of single name concentration risk.
For the larger reporting institutions, it is evident that they have their own sophisticated approaches to concentration risk and large exposures with strict monitoring based on a defined set of indicators – notably economic capital with all three banking groups reporting that its calculation is based on Monte Carlo simulations taking into account full portfolio effects. All take into account the creditworthiness of the counterparty as part of the economic capital inputs. Exposures are defined as direct and indirect exposures, settlement and delivery risk. The nonbank establishment does not use models. But each exposure to a counterparty is treated on a case-by-case basis.
Distinctions between trading and non trading portfolios come from their respective horizons of management: non trading portfolio's risk is managed on a longer time horizon than trading portfolio's risk. Counterparty risk from trading portfolios is taken into account in credit risk concentration analyses.

(2) Approaches to the measurement and management of "other" (sectoral, geographic) concentration risk.
For sectoral and geographic concentration risks, the large banking institutions indicated the use of an economic capital approach and the measurement of correlation across industry sectors or geographic regions. Sectoral risks are measured and managed the same way as single exposures (economic capital + exposure amounts). The measures of expected loss, economic capital and adjusted profit and loss adjusted for risk, are used as part of the credit granting process decision. The banking institution respondents indicated they perform regular economic studies and set sectoral limits (albeit soft or definite limits) based on these economic studies, historical experience with the sector and the perspectives and type of clientele. One institution indicated that it divides industries into 33 industry sectors. Industry sector concentration is then measured both in economic capital terms and in expected loss terms through maturity. For certain sectors, limits were set up and in those cases, they are expressed in nominal amount. For those sectors with limits, usually there are other rules also set up to monitor these credits such as diversification rules, average rating, etc.
One institution indicated that full simulation economic capital is the bank's key reference measure to detect concentrations since it allows capturing the combined effect of exposures, risk profiles and correlations. These economic capital measures are then combined with absolute exposure amounts. Country risk exposures take into account the country rating.

(3) Exposure calculations.
The approaches all are consistent with the regulatory approach although the calculations vary. All define exposure as the sum of direct and indirect exposures plus settlement and delivery risk. One of the institutions indicated that the amount at risk is an exposure at default (EAD) which may or may not be the same as that described in Basel II. Another indicated that to calculate direct exposure, it equals nominal loan exposure, including undrawn portion of committed credit facilities, guarantees, issuer risk in the trading and banking

book; and replacement risk for derivatives measured CVAR and CAR (Current average risk).

(4) "Connected" counterparties

For reporting institutions, risk control is based on the connected counterparty "group" concept. The Client group is determined via common ownership or control as well as economic or "risk affiliation" links. These groups are then monitored as a "group" (see below). Definition of such a "connectiveness" is subjective and may stem from multiple sources such as those companies with a significant share of their assets invested in another entity, significant financing dependency, or family links between significant shareholders and/or the management of legally independent companies which otherwise appear to be unrelated.

In the case of special purpose vehicles (SPVs), to determine connected risks for those used to finance projects and other assets, it is worth examining the level of connection with the sponsor as well as the impact of potential financial impact of the sponsor on the SPV. One of the respondents further elaborated that for joint-venture SPVs, it shall be treated as part of the corporate group of the main shareholder; airline SPV financing – usually consolidate with the airline company since that is where the risk is; project financing – usually without recourse so therefore not consolidated.

(5) "Group" questions

Concentration risk is determined at the group level. This includes limits for single names, emerging countries and industry sectors. One bank indicated that intra-group exposure limits are set up and measured as defined above in question (4). Two reporters indicated no formal limits to intra-group exposures and all indicated they are not subject to an economic capital allocation. One bank indicated that these intra-group exposures need to be authorized by a specific committee on a case-by-case basis. One bank indicated that at the group level, limits and country risk exposures are reported net of qualified eligible protection. Another's approach was to utilise a "budget" of risk weightings allocated annually by entity within the framework established by the solvability ratio.

(6) Credit risk mitigation

Credit risk mitigation techniques are embedded in the economic capital calculation. Some of the techniques used to reduce or diversify the counterparty risks in the portfolio include guarantees, financial collateral, credit derivatives, syndications, insurance. Two institutions specifically mentioned the use of credit default swaps (CDS) as a hedging mechanism to mitigate exposure concentrations in the portfolio. Guarantees are also an important part of the regime.

For unfunded CDS, one institution indicated that the protection is considered a 100% risk mitigant as it results in a full reduction of nominal exposure and also fully offsets EL or economic capital calculations. Another institution pointed out that to take into account the funded credit protections in the LGD, they determine the expected recovery independently for each and distinguish funded credit protection for which an economic value can be assessed with objectivity and those for which there is no easily justified value. One bank indicated that with the exception of counterparty risk for OTC derivatives,

collateral does not reduce the exposure, but rather the LGD. Please refer to the detailed responses in the tables below.

(7) Governance and reporting

All reporting institutions discussed the importance of integrating the credit extension decision-making process into the management and monitoring of exposure and concentration risk. Often for single name exposures to sensitive counterparties, they are subject to stress testing at loan origination. Single name concentrations are typically managed through approved lending limits and committee oversight. There appear to be regular monitoring of these risks at an executive committee level to detect concentrations (absolute, relative to peers or economic) with the aim of reducing the sensitivity of the bank to large unanticipated credit losses.

For monitoring sectoral risk, there appear to be committees that set limits on sensitive industries and report on these industries on a regular basis. For country risk, top management proposes the limits. For some respondents, sector and geographic extensions were subject to "hard" limits and for the others, "soft".

All reporting banking institutions indicated regular stress testing of all concentrations, whether routinely (one bank performs on a semi-annual basis) or due to a particular event (troubled economic driver(s))

(8) Regulatory environment

Two institutions deferred to the response offered by the French Banking Federation (see below). The nonbank company indicated that their business is not a regulated banking activity in northern Europe as such, competition in those countries does not follow regulatory concentration limits. One institution reported that it does not use the current CRD methodology in its monitoring of concentration risks (it utilises a more sophisticated and stricter monitoring approach) and indicated that the current limits and reporting requirements in the LE regulatory regime are not relevant to them. However, they indicated that such a regime might be helpful as guidance to avoid excessive concentrations. It further suggested, as did the French Banking Federation, that it would prefer that the LE regime use the same risk weightings as the CRD.

French Banking Federation's views on Large Exposures Industry Practices Questionnaire:

- French banks are clearly in favour of the status quo for now as far as the Large Exposure (LE) regime is concerned. This appears to be more of a timing issue (implementation of the CRD) rather than an absolute desire to maintain status quo. They prefer some time to implement the CRD and think that an appropriate interval would be two years.
- Nonetheless, they do not feel that the current regime is satisfactory and could be marginally improved.
- They suggest updating the LE regime by way of using the risk weights identical to those in the CRD.
- The industry favours a single regulatory regime applicable to all banks regardless of size and complexity.
- Even though banks may use other tools and techniques to limit their concentration risk, regulation of such regimes could end up being costly.

- Single name, industry, and country concentration limits should be tailored to the specific risk profile of the institution
- Would like to maintain the current LE limits but suggest reviewing the 300 million euros reporting threshold for gross exposures after using the CRD risk-weightings.
- Would like new products such as credit derivatives to be taken into account.
- Are not aware of regulatory discrepancies across member states.
- Would like this survey to be made public.

Germany

(1) Approaches to the measurement and management of single name concentration risk.

Some of the small investment firms report that they do not have any concentration risks at all. Most of the small investment firms have only a small number of customers who constitute a concentration risk (e. g. risks resulting from fee receivables which are credited to their bank account). Due to the rare occurrence of concentration risks most small investment firms use an approach to the measurement and management of single name concentration risk that is closely linked to the regulatory provisions. Furthermore, some of the small institutions, most of the medium-sized institutions and the banks which belong to the Association of German Banks (BdB) use more sophisticated approaches to the measurement and management of single name concentration risk, e.g. by calculation Value at Risk (VaR). Most respondents define concentration risk as a lack of diversification of a credit portfolio.

Medium-sized banks which belong to the Central organization of the cooperative banking group (BVR) e.g. use the sophisticated approaches of their association. One approach is based e.g. on prudential risk models (VaR) and analytical management tools. Another medium sized portfolio manager calculates Credit-VaR based on CreditMetrics.

One small broker e.g. calculates VaR by using a Monte Carlo simulation (review period 1 year, confidence level 99%, external ratings). The probability of default by the borrower is calculated on the basis of external ratings. If an external rating is not available, an internal rating is allocated. This is done using a simple, pragmatic method based on available external ratings for comparable borrowers. As this estimation of risk is not comparable with a 'genuine' rating allocation, the broker assumes a negative rating instead as a precaution. If the Monte Carlo simulation suggests that a borrower will default, the amount of the loss is calculated from the current risk position, less an appropriate repayment quota.
The Energy Commodities Traders-Group (ECT-Group) reports that usually all physical and financial derivatives (forwards, futures, options) on the commodity electricity are measured on the basis of settlement once a day in regard to the exposures. Composition: Aggregation of the mark-to-market exposure (usually current future exposure, sometimes potential future exposure additionally), the claims after delivery and some additional factor which consider prospective developments in the markets and some additional factor which considers prospective developments in the markets.
One small securities trading bank (commodity trader) which is not supervised anymore adopts an approach which meets internal risk management strategies. The securities trading bank has implemented an absolute limit system on company and group-level which is determined by internal and external ratings and the size of the companies (not trade-volume). If a limit is breached a collateral call follows immediately and has to be paid within 1 day. For each counterparty the securities trading bank calculates a CEE (credit exposure equivalent) per time buckets respectively PFE (Potential Future Exposure) and a close out scenario. For calculation the securities trading bank uses proper

calculated volatilities. It has defined a kind of single-name concentration risk as a risk caused by little or no diversification in the portfolio.
Concerning the definition of concentration risk banks which are associated with the BdB consider it as a lack of diversification of a credit portfolio. According to these banks in most cases concentration risk is defined as the risk of an unexpected accumulation of credit related losses within a given time horizon. The origin of the accumulation (single name vs. aggregates by selected attributes) is a priori not relevant here. Concentration risk accounts disproportionately for unexpected losses and less for expected losses. Whether a risk will be considered a concentration risk depends on the level of the unexpected loss, which is usually measured as (Credit)-VaR. In practice the risk is often computed given the actual portfolio, assuming correlations or dependence between the obligors. That means there is no separate measure of concentration risk, only of total credit risk, which is measured by a credit portfolio model. According to these banks concentration risk is conceptually related to tail events – as only high portfolio losses contribute to the tail of a portfolio loss distribution. Several banks which are associated with the BdB answered that the measurement of single name concentration risk is integrated into the economic capital framework on the basis of a Credit VaR approach. Credit VaR will be determined for individual business transactions. In a second step they will be aggregated; single name concentration then is the sum of all Credit VaR amounts which are allocated to one risk basket. This allows for calculating Credit Risk Economic Capital across the whole capital structure and across and within groups and issuers via a loss distribution approach and for allocating it down to transaction level by the Expected Shortfall measure. In some cases issuer risk is also captured within the Economic Capital process, but a variety of risk metrics are used within the daily monitoring.

Most of the institutions manage their concentration risks via internal limits. The utilisation of these limits is constantly monitored (sometimes at minute's interval). The limits are often set on a single and, where applicable, on a group level. The internal concentration risk limits are often fixed below the regulatory limits. One small securities trading bank also defines loss limits which pop up and give the trader a notice when he comes close to the loss-limit. Others have unsecured credit limits or sectoral limits, structural limits (e. g. private, commercial).
Most of the institutions have a credit risk strategy. They define criteria for managing their concentrations risks.

When managing concentration risk, most banks which are associated with the BdB use the following parameters (or some of these): Limit and Risk Capital consumption for each credit unit; share of top clients by limit, usage, Risk Capital, also for each industry sector; limit, usage, LGD, EAD and Risk Capital share per size class, maturity, region and industry sector. Some banks also distinguish between the portfolio level (strategic level) and the single name level (operative level). Besides Economic Capital, risk sensitivity considerations, portfolio approaches and approaches on the level of single credit units are an integral part of the banks' credit decisions, pricing, limits, decisions about the usage of credit risk mitigation techniques, ICAAP process, strategy making and reporting to the top management and/or the supervisory board. Those credit units are considered a concentration risk that account for more than certain amount of economic capital. The limit is set at a certain higher amount of

economic capital; exceptions are possible with the approval of the management board (in this case a special risk management including for example CDS is triggered). The major driving forces for the calculation of economic capital are volume, duration/maturity and creditworthiness which themselves are influenced by sectoral and regional aspects.

Stress-tests are only conducted by some banks which are associated with the BdB, some medium sized institutions and few small investment firms. There is no common approach to conduct stress tests.
One medium sized bank bases its stress tests on the following criteria: 10% fall in collateral, loss of the ten largest exposures, loss of the unsecured parts of the ten largest exposures, loss of the loans in the 'potentially vulnerable to default' and 'imminently vulnerable to default' risk groups. Another medium sized bank performs worst-case scenarios and simulates their impact. A medium sized portfolio manager does stress tests only sporadically to analyse the impact of special shocks or disruptions. The ECT-Group reports that stress testing is not a common approach to manage concentration risk. According to this group only a few companies evaluate future risks mostly by using Monte-Carlo-Simulation (best practice). One small securities trading bank (commodity trader) calculates for each counterparty a CEE per time buckets respectively PFE and a close out scenario. However, instead of calculating linear shifts (which are typical for stress tests) this securities trading bank uses proper calculated volatilities which it updates daily. Furthermore the securities trading bank calculates a medium stress scenario by computing probabilities of default if the rating of the counterparty decreases by 1 rating level or the recent trend in downgrading (if there is any) is carried forward. Finally its Monte-Carlo Simulation for the calculation of CVAR is a kind of stress testing. Several banks which are associated with the BdB do not conduct stress tests for single name concentration risk at all as they do not consider them methodologically appropriate. In other cases stress tests are being applied using a single client approach (analysis of selected large clients under scenario assumptions) and a global approach in order to evaluate scenario impact on Risk Capital and Expected Loss. Single borrowers as well as sectors/regions with significant sensitivity on certain scenarios are being identified by these approaches. Scenario impact on correlations is considered in the stress testing approaches. In the process of calculating economic capital some banks which are associated with the BdB do not only stress the PD and the LGD but also the correlation matrix. Additionally, for special events a qualitative impact assessment will be conducted for the whole portfolio.

Creditworthiness of a borrower plays an important role for each but one institution. A good rating sometimes requires less capital or cash flow. One medium sized bank reports that there is a restriction on certain creditworthiness categories (at least A-). All small investment firms stress that creditworthiness is the basic condition for doing business with a client. One small investment firm reports that the nature of the services (investment advice, portfolio management) implicates that it is well acquainted with the financial circumstances of its clients. This investment firm does not anticipate any default as a result of poor creditworthiness but as a result of the risk that clients may not be willing to pay the fees agreed. Some institutions make a thorough due diligence. One medium sized bank takes the relevant corporate and product risks into account and evaluates them as part of the customer

rating procedure. This customer rating is based on a default matrix which shows the probability of default for an exposure over a defined time horizon. The probability of default is, in turn, used as a basis for calculating the risk premium for the transactions in question.

(2) Approaches to the measurement and management of "other" (sectoral, geographic) concentration risk. Includes (for trading book and non trading book):
Most of the small institutions do not have other concentration risks like sectoral or geographic concentration risks. In contrast medium-sized institutions and banks which are associated with the BdB consider other concentrations risks, like sectoral or geographic risks.

Banks which are associated with the BdB regard the following concentration risks: Countries, regions, industry sectors, maturity, size class or credit risk mitigation. The risks associated with these aspects are considered as significant deteriorations of market conditions for all clients within one region/industry sector, e.g. caused by macroeconomic development, law changes or other stress events and correlations between borrowers within one market, region etc. Most of these banks use Credit VaR approaches similar to those adopted for single name risk. A Credit Risk Economic Capital results on transaction level can be aggregated by various attributes including industry class or geographical region. The limitation of risk on a portfolio level (industry sector, regions) is ensured for example by 'traffic light' approaches (signals are being given to the operative units and have to be taken into account in the credit decision process). Within credit portfolio models certain driving forces of risk concentration (for example region or industry sector) affect the results of the Credit VaR calculations and thus influence the advantageousness of individual business transactions.
Medium sized banks which use the sophisticated approaches to the measurement and management of concentration risks of their association can distinguish between several sectors in managing the sectoral concentration risk. According to one of these banks an analysis from a geographical perspective is not necessary as lending business is restricted to borrowers within the business sector. One medium sized securities trading bank has country limits. One small portfolio manager considers aspects like industry, country, region, ecology or legal risks (tobacco) in his risk management. According to a small broker defaults that arise as a result of sectoral and country risks are controlled on the basis of internal reports which pinpoint risk concentrations. The risk managers of this broker decide whether diversification is necessary. One small securities trading bank (Commodity Trader) calculates sectoral concentration risks and reports them monthly. However these risks were not subject to a limit system.

(3) Exposure calculations. Includes (for trading book and non trading book)
Concerning exposure calculation in broad terms some small institutions, most of the medium-sized institutions and banks which are associated with the BdB use a more sophisticated approach, especially based on internal models, than the pure application of the regulatory provisions. For the rest it was difficult to get a clear view of exposure calculation because most respondents answered only to some aspects.
One small securities trading bank is quantifying single name concentration risk by cumulating all positions of a counterparty. Exchange listed companies are

cumulated with their market values. None-exchange listed companies are cumulated with their book values unless there are no other indicative values (e.g. as a result of a new valuation due to a capital increase, exchange listing etc.).
Banks which are associated with the BdB use various approaches. In some banks to different limits (within the bank) even different exposure definitions might be applied. In some cases each transaction receives an EAD, which, where applicable, is identical to the EAD under IRB-AA.

On balance-sheet items
Concerning off balance-sheet items only one respondent reports hat various definitions are being used for loans (utilisation + CF* Free Limit; 100% for outstanding).

Off balance-sheet items
Banks which are associated with the BdB use various approaches e.g. for undrawn facilities (utilisation (=0) + CF* Free Limit; specific CCF; depending of the backtested possibility of drawings within a one year horizon) or guarantees and similar obligations (CF* Aval Limit; specific CCF; depending on the guaranteed obligation and the PD of the borrower).

Derivatives
Derivatives are calculated in various ways, often including a mark-to-market/PFE methodology. According to the ECT-Group usually the calculation covers claims after delivery and current future exposure, sometimes PFE as well. One small securities trading bank (Commodity Dealer) calculates the Mark-to-Market Exposure taking into account forward prices. It calculates a Pre-Settlement Exposure (PSE) which is equivalent to a CEE respectively a PFE. Then it calculates the Actual Settlement Exposure which covers amounts invoiced and amounts receivable and payable. Furthermore the securities trading bank calculates Future Settlement Exposure which is equal to future expected cash flows. It does not calculate Expected Positive Exposure. Banks which are associated with the BdB adopt various approaches e.g. depending on: Limit monitoring (Peak exposure until maturity, 95% confidence level), internal capital (treatment among banks is different: current credit exposure (CCE), average expected exposure over 1 year, time dependent expected exposures until maturity), Basel I (CCE + add-on) or Basel II (EPE, 1 year). Netting and margining considered within respective eligibility.

Securities financing transactions
Banks which are associated with the BdB report that a variety of related simulation based approaches, which only differ in parameterisation, exist to calculate securities financing transactions:

- See above ('Derivatives'). The approach outlined applies to securities financing transactions but is not limited to them. Average expected exposure is related to EPE but not identical as it does not comprise the unjustified assumption that exposure may never come down again.

- A Worst Case Exposure (PFE) based on simulations will be calculated (confidence level of 97,5%, duration of 10 days).

- Single name exposures are calculated following an EPE methodology. Within this approach netting and margining rules (e.g. within collateral agreements) are integrated as well. EPE are principally simulated as time dependent profiles.

Structured transactions, 'look trough' approach
Only few respondents reported how they consider structured transactions and if they use a 'look through' approach. One medium sized portfolio manager uses the 'look through' approach whenever possible. However, due to a lack of information for many investments the 'look through'-approach is not possible or only feasible by high investment in IT-infrastructure. Some banks which are associated with the BdB said that in the area of structured transactions there is so much change under way, therefore they would use various options. Several banks answered that the issue is pragmatically addressed by a 'look through' approach, often based a gain vs. cost assessment. However, the degree to which the 'look through' approach is being used often depends on aspects such as: the available amount of information on the underlying assets, how the credit risk of an asset pool is divided into pieces and which piece the bank holds, whether a rating exists for the respective company or its product and the size of the exposure. One bank stated that their internal risk measurement Economic Capital (EC) is currently based on the US GAAP consolidation circle. As such they would typically calculate EC on exposures to special purpose entities if they are not consolidated under US GAAP or booked within these special purpose entities if they are consolidated. One bank answered that they may adopt the 'look through' approach in the calculation of market risk EC on trades made up of numerous underlying positions (e.g. a position in a standard index). The decision to apply the look through approach is based on a number of factors, including data availability and system constraints. Another bank stated that in most cases they would currently not adopt a 'look through' approach.

(4) "Connected" counterparties
All institutions but one include groups of connected clients in their measurement and management of concentration risk. Nearly all institutions define connectedness in accordance with the large exposure provisions. Furthermore, a lot of institutions use a wider definition of connectiveness.
Banks which are associated with the BdB assume 'connectedness' when the risk profiles of different counterparties depend on the same risk factors. Most of these banks focus on the group dimension. The focus lies on the economic linkage between counterparts and not on the legal dimension (economic obligor concept). Often they generally follow the structure of the group hierarchy as provided by the client, but, if appropriate, may add risk that is economically tied to the same group (e.g. related to guarantees, special purpose entities, leasing, single supplier relationship etc.). According to one medium-sized bank in specific cases additional links between enterprises over and above the large exposure provisions may induce the bank to form more extensive risk units. One medium sized portfolio manager measures risks only on basis of connected counterparties – nevertheless he allows exceptions whenever the parent company has or has not the power to have influence over the management of the potential subsidiary. One small investment firm reports that its counterparties are not connected because of the nature of the company's

business. A small portfolio manager considers any financial, legal, management quality and product (product liability) relationship to determine ‘connectedness’.

(5) "Group" questions

Most of the institutions determine concentration risks at a single and a group level and they do not consider intra group exposures.

According to the banks which are associated with the BdB mostly the limits and policies are applied on a group level. However in some cases limits are also set on a single entity level. (Group level only: All credit exposures are consolidated both on a client and on own group level to a total group limit and exposure. Individual entity level will neither be able to identify true concentration nor diversification. Mixed approach: Concentration risk management uses varying level depending on the importance of the particular issue: Group, Sub-Group and Legal Entity).

(6) Credit risk mitigation

Most of the institutions take account of credit risk mitigation. Only two medium sized respondents do not use any credit mitigation techniques at all. However credit risk mitigation is used by respondents with varying degrees of sophistication depending upon the size of the institution. As only few respondents expressed themselves about their treatment of indirect concentration risks it was difficult to get a clear view. On the basis of the responses, one could note that most institutions do not measure or manage indirect concentration risks.

A small portfolio manager uses mortgages and guarantees as collaterals. He uses ratings, cash flow of guarantor or value of real estate mortgages to decide whom he will recognise as a credit protection provider. Another small securities trading bank uses credit risk mitigation methods mainly for allocating cash positions and in the frame of the accompanied IPO processes.

According to the ECT-Group the following credit risk mitigation techniques are common in the companies, which trade with commodities: (bank-) guarantees, netting (close-out netting, payment/delivery netting) letter of comfort, cash-collateral. On the whole, the companies have not yet dealt with internal risk measurement of indirect concentration risk, reports the ECT-Group. One small securities trading bank (Commodity Trader) explains that counterparties are always required to pay margin calls within one day. The securities trading bank uses cash collaterals, letters of credit, guarantees (PCG (partial credit guarantees -only from credit institutions)), close-out netting, payment/delivery netting. It does not need haircuts for its collaterals as they consist of cash to 100%. The securities trading bank does not deal with internal risk measurement of indirect concentration risks.

The following risk mitigation techniques are used as part of risk management of one medium size bank: Reduction in lending commitments/undrawn facilities; increase in collateral following calculation using the realisation principle (safety margins); joint loan extension with its central credit institution or formation of committed and non-committed contingency reserves. If necessary, collateral is valued using the realisation principle in order to take account of the effects resulting there from, reports this bank. According to another medium size bank the primary approach to reduce single-name concentration risk and procedures for mitigating concentration risk is, for one, the acceptance of loan collateral in line with banking practice and, for another, the conclusion of joint loan

extensions (insofar as these are acceptable and practicable). If the bank becomes aware of indirect concentration risks, i. e. any shortfall on the part of the issuer of the underlying, it endeavours to respond in an appropriate manner in order to counteract such indirect concentration risks at an early stage.
Banks which are associated with the BdB report that all kinds of techniques (including guaranties, netting, hedging) that can be evaluated are being used in order to enhance risk management discipline, improve returns and use capital more efficiently. The ambition is to reduce single-name and industry credit risk concentrations within the credit portfolio, and to manage credit exposures actively by utilizing techniques including loan sales, securitization via collateralized loan obligations, and single-name and portfolio credit default swaps. Reflecting any mitigant within its potential is essential to correctly assess the bank’s risk profile. Impersonal collateral is e.g. valued at liquidation value minus haircut. Margining is considered by setting time horizon accordingly. Legally enforceable netting is considered – generally a superset of netting agreements eligible for regulatory purposes. Unfunded protection is taken into account by joint default simulation. Legal risks that are associated with credit risk mitigants are e.g. taken into account as follows: The availability of netting agreements is taken into account within the simulation of expected future exposure. Existing agreements, where the delivery of collateral in case of rising exposures is part of, are simulated separately. The focus on this simulation is explicitly on the margining process, depending on predefined thresholds. Synthetic bond positions are created to cover bought or sold protection from credit derivatives. The off-set between long and short bond positions is defined within a separate policy. Counterparty Risk against the protection seller (guarantor) is reflected as a separate position. The correlation between issuer and guarantor is reflected within the internal credit portfolio model. Recovery values for collateral (depending on collateral type) and guarantees (depending on the guarantor’s rating) are used within the calculation of LGD values. Therefore no correlation between obligor and guarantor is taken into account.

Concerning indirect concentration risks banks which are associated with the BdB have separate approaches to the measurement and management: The credit risk review reflects these as ‘below the line’ risk, which is subject to a separate level of credit authority (similar to e.g. settlement risk). Economic Capital is calculated for basis risk of hedges and credit default swap protection sellers but the banks do not yet aggregate indirect guarantee exposure to the EAD of the underwriter for technical reasons. Due to the low risk (double default) this risk will not be addressed. As far as indirect exposures occur from derivatives (for example counterparty risk in CDS) they are part of the concentration risk measurement. Apart from this indirect exposures are not part of the concentration risk measurement.

(7) Governance and reporting

Governance and reporting differ from institution to institution, although there seem to be some commonalities. Counterparty exposures are e.g. reported to senior management on a regular basis. In all cases the management is informed at once if there is a breach of limit. Moreover monthly or quarterly reviews are common but the frequency of reviews can vary significantly from daily to annually.

Banks which are associated with the BdB use a variety of internal governance and reporting policies: In principal credit risk management and controlling is based on extensive internal organizational and procedural guidance. Hard limits exist as well as soft limits (only recommendations for the desirable structure of a portfolio; closer monitoring and implementation of action plan/measurements). Management competencies for new lending decisions depend on creditworthiness and loan size. Reporting requirements defined by the supervisor are being covered by regular reports addressed to the Board and the Supervisory Board quarterly. The reports cover e.g.: Clients exceeding a certain Risk Capital threshold; new lending business, incl. largest new loans; portfolio concentration analysis by size class, maturity, region and sectors in case of significant changes occurred since the last report; every industry sector is being analysed at least once a year by sector-specialists, including largest loans, concentration by region, size class, maturity. Sectoral and geographical limits will be proposed by a limit committee and approved by senior management (board of directors). The limit committee consists of representatives of the operative market units, risk management, treasury and risk controlling. The limits will be controlled by risk controlling; the reaching of limits will be reported to the top management regularly. Key monitoring tool for large loan purposes is the monthly large loan report which covers all counterparty groups where regulatory exposure approaches or exceeds the large loan threshold of 10% of our capital – reported to regulator quarterly. Breaches of individual credit limits are monitored by EDP systems and flagged to the responsible credit officer on a daily basis, who then acts accordingly. Monitoring frequency is mostly influenced by volatility, size and reaching of limits. The large loan report is distributed to senior CRM management monthly to help in monitoring of concentration risk. Nonetheless, key concentration risk monitoring happens on a per-counterparty basis. Degree of detailed information and frequency depends on the particular case. There is no general rule for the reporting to the top management (apart from legal requirements and relevance). Often special cases will be reported on an ad-hoc basis. Monthly reports including new lending business, portfolio breakdowns by industry size class, maturity, industry sector, and region. Detailed analysis takes place on a quarterly basis. Detailed industry sector reports including single name, regional, size class and maturity concentrations at least once a year for each industry sector. Ad-hoc reports in case of significant changes/special events. If limits will be exceeded this will be reported immediately to the top management and the operative units. Furthermore, an at least annual review of concentration risk is performed on a per-industry basis, combining industry and risk portfolio review with a review of our largest counterparties in each industry and the determination of an industry risk appetite. This review results in a per-industry strategy for the following year, reviewed and approved by a senior risk committee.

In one medium sized bank the credit risk controlling unit, which is responsible for analysing and reporting, belongs to the corporate service area (not the front office). This unit draws up the regular risk reports (on a monthly and quarterly basis as well as *ad hoc* if limits are exceeded) and forwards them to the executive board as well as the responsible front and back office areas. The supervisory board is informed regularly at quarterly intervals; guidelines have been laid down stipulating when *ad hoc* reports are to be provided. If limits are exceeded, the executive board decides on and initiates the further measures which are to be taken. Moreover, there is a risk controlling cycle in which

overdrafts, turnover, exposure developments and any negative features are examined and reported each month.
One medium sized portfolio manager has implemented hard limits, which are set by senior management. He has an escalation process in place which describes the necessary steps that have to be taken in the event of a limit breach. The monitoring frequency is highly depending on the availability of the relevant information. Limit breaches are reported at once. A regular reporting is done on a monthly basis.
According to a small investment firm risk management and monitoring fall within the remit of the company's management which is supported by the Compliance and Internal Audit departments. The statutory requirements that apply to the monitoring of credit risk including the related reporting requirements, are according to the investment firm time and resource-intensive for financial services institutions that do not trade for their own account and are not authorised to obtain ownership or possession of funds or securities from customers and do not result in any corresponding added value for either the group of financial services institutions or for the economy as a whole. In order to fulfil its supervisory requirements, the small investment firm has recruited two employees to the Compliance department out of a total of 21 employees as at the end of 2005.
One small securities trading bank has absolute and relative limits. The securities trading bank has defined absolute amounts as position limits related to the affiliation to an Index (because of the market liquidity and for derivate instruments (options, futures etc.) others than for the underlying (indices, shares etc.). Different relative loss limits are defined related to the instruments. The head of trading is able to admit or to defeat the limit extension within his area of discretion and to the point of the upper limit, which is enacted by the executive board. All the limits are set-up by the executive board and the upper limit is a hard one even though some limits might be lower than the regulatory permitted limits due to banking-strategy reasons. The head of trading has to ask the board to amend the limit before breaching it, which would be the third grade of extension. The board could admit or defeat the limit extension.

(8) Regulatory environment
All medium sized institutions regard the large exposure provisions as principally effective. Complaints mostly affect particular areas, e. g. the treatment of derivates and credit derivatives or selective inconsistencies of large exposure provisions across Europe.

The Association of German Banks (BdB) reports that there is an inconsistency of large exposure regulation with internal risk management practices in many areas and that due to this the current regulatory regime has constraint business.
The central organization of the cooperative banking group (BVR) complains e. g. that the time spent on the preparation of the quarterly notifications on large exposures is too high compared with the benefits derived from them. Furthermore, the BVR asks for a de minimis threshold for the defined large exposure limits at €750,000. This threshold should at least be discussed in connection with the threshold for the notification obligation.
Small institutions complain about the burdens (costs, time and effort) due to the large exposure rules. Nearly all small investment firms complain about the lack of benefit for the institutions. The reporting requirements and

administration efforts would avoid the development of further controlling instruments which would fit better to the business models and to internal requirements.
One small securities trading bank (Commodity Trader) considers the regulatory framework as inappropriate for the commodity business.
Most of the institutions ask not to regulate other concentration risks, e. g. geographical or sector risks.

Complains in detail:
The Association of German Banks (BdB) considers the existing large exposure regime principally effective in addressing the key risks inherent in large exposures in traditional commercial banking products, typically held in the Banking Book. In the Trading Book, however, the regime does not always properly reflect the true risk mainly because the prescribed rules are to simplistic and hence misrepresent the risk of today's more evolved trading products and strategies.
In the Banking Book as well as in the Trading Book the current large exposure regulation is comprehensive and encompassing when it comes to product coverage. Also, for products typically held in the Banking Book the association considers the measurement rules comparatively simple, but broadly in line with internal risk management practices. Nonetheless, there are also examples in the Banking Book - such as the limited recognition of credit protection and guarantees - where it considers the current large exposure regulation overly conservative.
Predominantly in the Trading Book the current large loan regulation substantially deviates from today's risk management practices. Examples are the treatment of options in the net buy position, the regulatory add-on calculation for derivatives counterparty risk and the treatment of credit derivatives in the net buy position. The latter gives rise to a number of problems, one of which originates from the focus on nominal values. This becomes particularly relevant for CDO tranches, where cash losses resulting from the default of a certain underlying reference name may be fully offset by MTM gains on other transactions in the portfolio, but only the potential cash loss is captured in the large exposure regime whilst MTM gains are ignored. As a result a trading book position which would be considered flat from an internal risk management perspective would systematically lead to an open and often material large loan exposure. This apparently fundamental difference in the approach is made worse by the fact that the regulations lack clear guidance for such products. A simple worst case consideration on the basis of nominal values in this area leads to implausibly high exposures.
The current 25% limit appears overall adequate. Nevertheless, in the association's view regulators may want to consider limits depending on the financial institution's ability to manage risks. In contrast, an alignment with the overall risk profile of the institution does not seem to provide any benefit, as institutions with a low risk profile in the area of large exposure, such as well capitalised retail banks, will anyhow stay within the limits and do not need to be rewarded by higher limits. The lower limit for the non-Banking Group seems unjustified as Groups with an adequate risk management framework will manage funding and capital within the Group tightly and appropriately.
The current regulatory regime has constraint business in the past in areas where internal risk management practices substantially deviate from the regulation, such as the regulatory add-on calculation for derivative exposure

and particularly the limited ability to net down fully collateralised add-on exposure under the current regime. In some cases banks have spent money on hedges deemed economically unnecessary; considerable management time has been invested into managing inflated large loan exposure and business opportunities could not always be pursued in full or in time.
Due to the inconsistency of large loan exposure regulation with internal risk management practices in many areas the former is often only used for comparison and monitored as an outside restriction of business, while steering mainly relies on internal measures.
The association does not consider any additions to the large exposure regime on other concentration risks, e.g. on geographical or sector risks, desirable. These concentration risks should be viewed in the context of the Basel solvency regulations and financial institutions should be allowed to use their own estimations of correlation for their capital adequacy calculations. Large exposure regulation would be overburdened by capturing sector or geographic concentration risks and a substantial new stream of complex new regulation alongside the detailed solvency rules would develop with no apparent benefit.
While key elements seem to have been implemented consistently across many countries in Europe, small differences can put institutions at clear disadvantages as recently witnessed by the discussions on the counterparty/product weighting of LCH.Clearnet. Another example of an inconsistent and to various extents incomplete implementation of large exposure rules is the treatment of complex credit derivatives, leaving institutions with a considerable uncertainty and putting the idea of providing a level playing field at risk. In general, the association advocates a consistent and transparent application throughout Europe strictly on the basis of the requirements of the EU directive.
It is not fully transparent to what extent national supervisors tolerate deviations from the large exposure regulation. Examples of such a situation could be short term limit excesses as a result of unusual mega transactions in the market. It appears to the association that supervisory practices can deviate to a substantial degree under such circumstances.
Cross-border harmonisation between the European large exposure regime and other regions of the world appears as largely non-existing. Certainly the European large exposure regime is assessed as much more restrictive than the US regime. Consequently, a regulation on Basel level is desired.

The central organization of the cooperative banking group, the BVR, complains:

a) The members of the BVR are of the opinion that the key risks inherent in large exposures are being captured and processed in full, but that in some important segments (such as loans to governments, highest utilisation of the limits per quarter, outstanding loan commitments), this is being done in a too detailed manner. Meanwhile the institutions have installed systems through which they monitor their large exposures regularly and in a timely manner. This development is partly due to regulatory requirements and the application of the Minimum Requirements for Risk Management (*Mindestanforderungen an das Risikomanagement* - MaRisk)). Furthermore, the exposures are subject to an annual audit. The supervisory authority receives detailed information on these exposures. Generally, the institutions do not benefit directly from the large exposure notifications. Therefore, the institutions are of the opinion that, especially with regard to the cost-benefit ratio, efficiency could be considerably improved and that the time spent on the preparation of the quarterly

notifications on large exposures is too high compared with the benefits derived from them. In the view of the BVR, the banking supervision should inform the institutions of the exact purposes for which the data on large exposures are needed and of the conclusions the banking supervisor intends to draw from these data. This way, a dialogue could be established about the type and extent of the data to be submitted to the banking supervision.

b) Regarding the current limits and especially with a view to a level playing field, there is a need to implement a clear definition of the limit for large exposures. Large exposures of small credit cooperatives which sometimes start at €100,000 cannot be relevant for the banking supervisors. However, under the existing regulations, it is the smaller credit institutions that have to cope with a disproportional burden of administrative work because they are forced to apply the time-consuming reporting procedure for their comparatively small exposures, while large institutions do not have to make such efforts. This leads to unnecessary administration costs which cause a distortion of competition. In the opinion of the BVR, the de minimis threshold for the defined large exposure limits could be fixed at €750,000. If it is not intended to include such a limit in the regulations concerning the definition of the large exposure limit, it should at least be discussed in connection with the threshold for the notification obligation.

Concerning the question whether the system should be oriented towards individual risk profiles rather than to an objective value, as is now the case, the BVR doubts that this approach could actually help to increase efficiency. The shift from an objective value to individual risk profiles would mean that the system would be 'subjectified', which would invariably lead to different interpretations and applications. Whether this would indeed help to reduce bureaucracy and further the deregulation of procedures appears doubtful. If need be, it should be made obligatory to consider the criterion 'risk profile' only in conjunction with the criterion 'relevance' (see above).

c) Further regulations, such as taking into account sectoral and geographic concentration risk, would lead to an even more unfavourable cost-benefit ratio. Moreover, extending the current large exposure rules to specific sectors would not be advisable since a determination of fixed caps could not sufficiently take into consideration the sector-specific risks per se. Nor could the different correlations, which are generally subject to change, be adequately accounted for. The introduction of geographic limits would clearly disfavour regional banks in their competition with other banks, and the BVR strongly disfavours such an impairment of competition. Such a regulation would discriminate against the principle of regionality without accounting for its inherent advantages, i.e. a deeper knowledge of the regional particularities. The BVR would further like to point out that the aforementioned risks are already reflected and made transparent in Germany by the provisions of the MaRisk. Hence, there is no need for further regulation in this field.

d) With regard to the impact of large exposure rules on business decisions, it is criticised that there is absolutely no differentiation between customer transactions and transactions for own account, especially in investment and securities trading. In some sectors the large exposure provisions are regarded as not being very sensible and too excessive. A more differentiated regulatory approach is requested for transactions in securities with a low risk profile (based on ratings) and loans granted to certain borrowers (e.g. countries).

The BVR's conclusion is that an overall review of large exposure reporting would certainly be advisable. A first step would be to grant so-called small and

smallest credit institutions exemptions and simplifications within the framework of large exposure regulations, in particular with regard to formal aspects, and to introduce additional regulatory measures only if they have a demonstrable added value with regard to risk aspects both for the banking supervision and the institutions concerned.

The ECT-Group reports that until now the relevant companies of the ECT-Group have had positive experience in interacting with the regulator: The rules applicable in business were applied adequately most of the time. The regulator grants a flexible handling of applicable legal rules, e.g. imputation of securities to limits, if he deems it justified by the systematic differences of the energy sector. The firms which are associated in the ECT-Group think that the actual flexible and commensurable handling of rules is a very important factor, because these 'banking-rules' are not always applicable to the specific characteristics of the energy sector. Unlike banks, which can trade their products (credits and deposits) globally, the energy markets have a minor number of possible counterparties which is inter alia one reason for the strong connection to certain regions, explains the ECT-Group. For that reason, the rules for the energy sector should not be too restrictive; otherwise it would be not possible to fulfil those requirements. A drop out of market players would be the consequence and liquidity would be further reduced. Furthermore, the ECT-Group considers it questionable if concentration in the portfolio of an energy firm has the same risk effect like concentration in the portfolio of a bank (in the sense of protection of investors and stability of capital markets). According to the ECT-Group, under the actual European regulation regime each energy trader has to apply for a separate licence in every member state. With view to the barriers for competition, this approach is regarded as very questionable and, due to the ECT Group, there should be an implementation of a 'European Passport' which allows to trade cross-border on basis of one licence. After all, competition in the energy markets is a declared aim of the EU (EU Internal Market Directive), which also implies cross-border energy trading. The ECT-Group demands that the national requirements should be flexible enough to allow small and medium-sized companies to join cross-border trading. This would result in a decrease in transaction costs, a reduction of market barriers and in higher liquidity in the markets. It is assessed important to achieve harmonization of the exemptions given in MiFID. Otherwise, this would lead to a distortion of competition between different member states. In this connection, effectiveness (regarding to protection of investors and stability of capital markets) and efficiency (Minimization of economic costs) on the European level must be considered, demands the ECT-Group.

One small securities trading bank (Commodity Trader) considers the regulatory framework regarding credit risk as inappropriate for the commodity business (for details, please regard the attached chart.)

One broker reports that for an investment services enterprise counterparty risk is of very secondary significance. The reasons for this are: (1) the very short exposure holding periods (securities positions) intra-day with only small risk positions after close of business, held overnight, (2) very short reaction time and the ability to sell risk positions when the broker become aware that the credit rating of an issuer has deteriorated, on an intra-day basis, the broker is in a position to close positions in seconds, and certainly no more than a few minutes; and (3) comparatively good credit rating of issuers of listed securities, defaults or significant worsening of credit ratings seldom occur, and then over a relatively long period, so that individual negative trends are generally covered

implicitly by the market price risk. To that extent, losses occurring in practice are not as a rule recognised as counterparty defaults, but allocated to the market price risk as normal price fluctuations.
One small investment firms which is only authorised to provide the service of investment advice and/or receive and transmit orders from investors without holding money or securities belonging to its clients and which for that reason may not at any time place itself in debit with its clients (Art. 3 Paragraph 1 lit. (b) (iii) of Directive 2006/48/EC) asks to be released from the large exposure rules. A radical simplification of the regulations, namely the abolition, without replacement, of all large exposure provisions for this kind of investment firm would be unlikely to result in any substantial disadvantages for the economy as a whole. Since institutions in this group do not have a licence to conduct safe custody business, abolition could not endanger the security of the assets entrusted to these institutions.

Greece

(1) Approaches to the internal measurement and management of single name concentration risk

All the credit institutions stated that their internal approach on concentration risk is principally based on the national regulatory regime and is closely linked to the requirements of the new Directive, especially concerning the large exposure definition (10% limit) and the upper limits (20%, 25% and 800%). However, one bank stated that in terms of monitoring concentration risk, every three months the Risk Management Department monitors, on a group basis, the concentration risk for the groups of clients that the total exposure exceeds 2% of the regulatory capital. Another institution stated that, on a quarterly basis, limits over € 30 mil[2] are monitored. One bank also mentioned that they identify concentration risk as the Unexpected Loss (UL) from large single / group exposures. It is related to 'tail event' losses and ideally it would be calculated and controlled by the appropriate Credit VaR methodology. Specifically, this bank estimates Credit VaR via Monte Carlo simulation (despite the fact that this approach has not yet been integrated into the bank's internal business decision-making, it provides useful information to the management).

All the respondents agree that the risk is measured and managed by setting absolute limits, based on the type of the counterparty as well as on the creditworthiness of the counterparty. These limits may be further broken (divided) by product, especially for counterparties that are credit institutions.

Three of the credit institutions stated that they set the absolute limits both at a group and single name counterparty level especially for corporates. One of these banks stated that the limit for treasury products is set only at the counterparty upper level (parent), while another one sets the limits for credit institutions only at the group level.

Also, one credit institution stated that single name concentration risk is taken into account by Business Managers in daily business development decisions (e.g. extending credit limits, targeting new prospects, pricing etc).

(2) Approaches to the measurement and management of "other" (sectoral, geographic) concentration risk.

The 'other' concentration risk that all the responding banks are monitoring, are sectoral and geographical-mainly country risk even in the cases they have not set limits.

One respondent explained that in terms of the conceptualisation of concentration risk, they identify concentration risk as the Unexpected Loss (UL) not only from single / group exposures, but also from sectoral / geographic areas. The rest of the respondents consider 'other' concentration risk as the exposure to particular sectors or countries.

Concerning country risk, two credit institutions have set absolute limits based on the country's credit rating.

In terms of sectoral exposures one bank responded that the same methodology of measurement is used for both single name and other concentration risks. It sets sectoral limits as a percentage of the total portfolio

[2] Less than 1% of own funds

and for certain specific sectors, i.e. construction and media, absolute limits apply as well. Sectoral concentration is also taken into account by Business Managers in daily business development decisions (e.g. extending credit limits, pricing, targeting new prospects etc).
Another institution stated that it is consistently monitoring exposures against industry sectors, even though it has not set absolute limits.
One respondent monitors changes in the amount of the required provisions according to stress test results, which are performed to economic sectors or geographic areas. If the required increase in the capital requirements and / or the required provisions is not acceptable by the Senior Management, either the exposure to these sectors/ geographic areas must be reduced or the collaterals must be increased (this procedure has not yet been integrated into the bank's internal business decision-making and is at a pilot stage, but it provides useful information to the management).
Two banks responded that they are developing comprehensive stress testing policies considering concentration risk aspects. At the moment, one of them is conducting stress-testing exercises on the consumer portfolio where the impact of unemployment increase on the total portfolio is measured. In addition, the mortgage portfolio is stressed with respect to commercial values of the property and interest rates.
All four respondents have participated in the stress testing exercise concerning specific industry sectors (textile, shipping and construction) according to IMF requirements. For each sector the PD was increased by 100% percent.

(3) Exposure calculations.
Three respondents measure the exposures for the credit portfolio (single client and/or group of clients) as follows:
-For corporate loans, letters of guarantee and interbank placements they use the 100% of the balance of the relevant accounts.
-For undrawn facilities one bank uses the 100 % of the undrawn facilities while another uses the 50%.
-For derivative exposures all three respondents use the "mark to market" approach (Annex III: The treatment of off-balance-sheet items of the 2000/12 EC Codified Banking Directive). One bank also uses for some other cases (more complex – exotics) an Internal Methodology (i.e. Peak Potential Future Exposure – 95% confidence interval).
-For securities financing transactions only two banks have a material activity. One of them uses a fixed risk weight on the notional and the other uses the approach of positive difference between the market value of the securities and the market value of the collateral.
-For guarantees they use the substitution approach.
The fourth bank simply stated that the amount at risk is defined in terms of two parameters, the current exposure and the credit line (the maximum amount that can be loaned to a single debtor).
No bank is using the "look through" approach.

(4) "Connected" counterparties
Three banks define the 'connectiveness' of counterparties according to the legal and regulatory framework (CRD document, Article 4, paragraph 45: a) two or more natural or legal persons who, unless it is shown otherwise, constitute a single risk because one of them, directly (parent-subsidiary) or indirectly, has control over the other or others or b) two or more natural or

legal persons between whom there is no relationship of control as defined in the first indent but who are to be regarded as constituting a single risk because they are so interconnected that, if one of them were to experience financial problems, the other or all of the others would be likely to encounter repayment difficulties). One respondent stated that another factor defining connectedness is the existence of cross guarantees.
The fourth respondent mentioned that the factors they consider to determine 'connectedness' are a) Groups of individual counterparties or related entities, b) Geographical area, c) Economic sector, d) Product type.

(5) "Group" questions
Limits are set and concentration risk measurement and management policies are applied at both individual entity and group level.
In particular, one institution sets absolute limits for every group of clients and every three months the Risk Management Department is monitoring, on a group basis, the concentration risk for the group of clients that the total exposure exceeds 2% of the regulatory capital.
Intra-group exposures are not treated in a particular way. However, one respondent pointed out that cross border intra group exposures are accounted for the estimation of country risk. According to our information, most credit institutions share this particular approach regarding intra-group exposures.

(6) Credit risk mitigation Includes "indirect" concentration risk
Collateral and guarantees appear to be the only forms of credit risk mitigation techniques used, as credit derivatives and netting were not mentioned by any respondent (on balance sheet netting has not yet been recognized by the Bank of Greece as a credit risk mitigant).
Regarding collateral and guarantees the eligibility status and the haircuts applied for capital requirements purposes, are also used for the monitoring of concentration risk.
Two institutions stated that they take into account of unfunded protection by using the substitution approach.
In relation to indirect concentration risk, one institution pointed out that in measuring the exposure to a client or to a group of connected clients, guarantees and checks/bills of exchange issued by that client or group of connected clients as collateral to third parties are added to the total exposure. Another one closely monitors concentrations in receivables and segmentation of real estate used as collateral.

(7) Governance and reporting
The Risk Management Department, the Executive Risk Committee (ERC) and the ALCO Committee were mentioned as being responsible for measuring, monitoring and controlling risk concentrations.
The limits set are based on regulatory requirements, however, lower “soft” limits are also set and they are used as monitoring triggers. Concentration in particular sectors (as a percentage of the total exposures) is also monitored.
A respondent indicated that both single name and sectoral concentration risks are taken into account by Business Managers in daily business development decisions.
Another institution described an approach to identify and measure concentration risk. Although this approach is still at a pilot stage it provides useful information to the management. Even at this stage, if significant

concentrations are indicated the results are submitted to the ALCO Committee, which provides guidance for specific actions.
The relevant quarterly – in two institutions - or semi-annual – in one institution - report is submitted to the senior management. In particular, this report comprises counterparties with the largest exposures: one institution noted providing information for the 20 largest exposures for each type of counterparty while another for corporate group exposures in excess of € 30 million. The report also incorporates a sector analysis to assist in targeting potential concentrations: one respondent indicated that this analysis included a comparison with approved limits and stated that for breaches of limits an escalation procedure is followed to different levels of management depending on the significance of the breach. It also noted that all breaches are included in the quarterly ERC meetings.
Concentration analysis per geographic area, borrower's rating, type of collateral etc, also feature in the above-mentioned report of one respondent.

(8) Regulatory environment

Concerning limits, a certain number of criticisms have been formulated. According to one respondent, the 10% threshold which is taken into account when qualifying an exposure as large is set too high and in addition, does not take into consideration the borrower's rating and credit risk mitigation. It is worth mentioning here that another institution also emphasized the fact that the current regime does not take into consideration sophisticated financial products . The same institution pointed out that the 25% limit is set too low, thus constraining business decisions and lacking in competitiveness, for example by limiting the opportunity to gain in a short-term excess exposure.
There were diverging views as to whether or not the regulatory regime should capture and limit concentration risks. One institution indicated that there should be limits regarding the sector or the geographic area. Another institution stressed that the regulatory framework should provide guidelines with respect to effective concentration risk management without setting stringent and detailed limits, thus allowing institutions to operate within that framework and monitoring them for compliance. Adopting a more radical approach, a third respondent called into question the need of a regulatory regime for concentration risks by stating that concentration strategy should be subject to the risk appetite of each financial institution and to market trends.
Finally, one respondent pointed out that the exposure figures should be substituted with risk-adjusted figures (this will be made possible with the implementation of CRD framework).

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Hungary

(1) Approaches to the measurement and management of single name concentration risk.

In their **definition** of large exposures banks, in general, align themselves with the Hungarian regulation (which is the same as the EU-regulation – 10 percent of own funds).

In their **measurement** of such risks it is common to use percentages in terms of regulatory capital. Two banks indicated to apply limits on the above percentage and one of them on the absolute size of total exposure, as well. Banks set up some forms of limits and procedures that are more stringent that the regulation. One bank has lower internal limits for single name exposures – these can be exceeded by the explicit permission of some higher body (ALCO, Board). Another bank stated to have limits for all of its clients (not only the ones the exposure to which is above a certain level).

Credit risk mitigation is stated to be recognised in one bank, where collaterals and guarantees only of the highest quality are accepted (e.g. bonds of 0% risk weighted sovereigns, guarantee of 0% risk weighted guarantor).

No banks indicated to use stress testing. As regards **monitoring**, in one bank, if the total exposure of a client is above an absolute limit a detailed report about the client is prepared every three month to the management. For such exposures where the client is qualified to be of high risk, reporting occurs every two weeks. At this bank creditworthiness, in general, is stated to determine the frequency of monitoring.

(2) Approaches to the measurement and management of "other" (sectoral, geographic) concentration risk.

In the "other" concentration type section, in Hungary, it is worth to make difference between the **country risk** and the other "other" risks. Banks are legally obliged to hold capital to cover "country risks", as follows. There are four country groups. The limits, in terms of banks' regulatory capital, are: 100%, 75%, 50% and 20%, respectively. For the part of an exposure exceeding these limits, but not exceeding the regulatory capital 20%, 25% and 30% additional capital charge applies in group 2, 3 and 4, respectively. The part of an exposure that exceeds the regulatory capital has a capital charge of 100%. Beyond the above regulatory treatment no bank reportedly applies internal country risk rules. One bank includes in its own definition of concentration country risk.

Regional limits (other than the above country limits) are not reported to be applied in any of the banks. However, the regional distribution of exposures is generally monitored.

As regards **sectoral concentration**, two banks reported to apply corresponding limits. In one of them the monitoring frequency is three-monthly; and limits are determined on a group-wide basis. Another only applies this limit to banking book items. A third bank has no limits but conducts regular industry analyses. In this latter institution an industry provision might be assigned to exposures.

Two banks reported to have three-monthly credit **reports** that include the analysis of the breakdown of the credit portfolio into regional/sectoral categories.

(3) Exposure calculations

According to the regulation, the basis for risk weighted exposure value calculation for balance-sheet items is the **book value** and for off-balance sheet items the value at which these are **recorded** minus risk provisions. Banks doesn't seem to have different definitions for exposure.
As far as large exposures are concerned, the regulation allows that in the case of **certain off-balance** sheet items (e.g. guarantees, other contingent liabilities) that are qualified as riskless or of very low degree of riskiness not the total exposure value should be considered but only its 50%. Banks did not refer to similar, internal rules.
One respondent notes that it treats positions in UCITs as prescribed by the regulation and this treatment doesn't contain the "look through" approach.

(4) "Connected" counterparties
One bank reported that when it can be suspected that a client is connected to another they turn to the company register and/or to the client itself for information on the relationship. Suspicion can be aroused when the two firms operate in close cooperation, have common members in management, etc. Connectedness is discovered more directly when a firm applies, for example, for financing, because in the application firms have to detail their ownership structure.

(5) "Group" questions
In one bank if an exposure is related to a LE client of the parent the parent allocates limit to this exposure (but the bank is only informed about the limit and not involved in the process). If the country risk limit of the parent is significantly stricter then the Hungarian regulation then the bank might be prescribed to use the former (however, no such situation has occurred so far).
Another bank, member of a group, stated that there is a group-wide sectoral limit system. Limits are set by countries and then are allocated to group members in the respective countries. The charge of limits is reported quarterly.

(6) Credit risk mitigation
"Indirect concentration". According to one respondent, indirect exposures are treated the same way as direct exposures. As regards a guarantee, for example, the credit quality of the guarantor has to be assessed, the risk has to be reflected in the risk weight, capital should be charged; and there is a limit for the guarantor that works the same way as for other clients. Thus, such indirect concentrations are also reflected in the large exposure framework.
Another institution has "indirect limits" but these are added to the regulatory limits (e.g. in the case of collateral).

(7) Governance and reporting -As regards reporting, please cf. (1) and (2).
With regard to governance, the internal limits, decision about the exceedance of these limits and the limit system as a whole are the competencies of higher bodies of the institutions (ALCO, Board of Directors or Supervisory Board). Generally, the internal reports, as well, are prepared for these bodies.

(8) Regulatory environment
One respondent underlines that according to the present Hungarian regulation exposures in the form of minimum reserves required by the central bank are risk weighted with 0% and this should not change as a result of the new regulation.

Ireland

(1) Approaches to the internal measurement and management of single name concentration risk

Most of the respondents depict concentration risk in similar terms, such as, any single exposure or group of exposures, based on common risk characteristics, with the potential to produce losses large enough, relative to a banks capital, total assets, earnings, or overall risk level, to threaten a banks health or ability to maintain its core operations.

Single name concentration risk was viewed as the risk that is specific to an entity and is not related to the risk of general market movements.

Most of the respondents advised that their approaches are aligned with regulatory approaches. Most respondents advised that their own internal concentration limits are set below regulatory limits and hence are tighter requirements and that their LE policies are more conservative than regulatory requirements.

One respondent advised that its credit risk management and regulatory reporting requirements for LE measurement are not unified and cannot be described as closely linked.

In general, exposures are measured as the gross nominal amount of all facilities, actual or contingent, to an entity or group. Several of the respondents also calculate Loss Given Default (LGD) and Exposure at Default (EAD). Most of the respondents use limits that are aligned with, or more restrictive than, regulatory limits. Two respondents measured credit risk using VaR.

Most respondents manage single name concentration risk by way of a credit committee or a number of committees. Internal ratings models are generally employed as well as information from external credit-rating agencies. The smaller institutions use internal policy limits while the larger institutions use internal ratings models and matrices. Desk limits are applied in the case of trading activities.

The retail respondents focus on repayment capacity and credit grade. One of the larger respondents advised that it used risk-adjusted return on capital (RAROC) analysis for all LEs. This approach uses a combination of Probability of Default (PD), LGD and operational risk inputs. Another respondent uses its own highly detailed customer hierarchies. Techniques such as scenario analysis are used by several respondents.

Daily monitoring of risk weighted exposure and daily reporting of counterparties with potential exposure on trading products is carried out in several institutions.

One respondent carries out detailed reviews in line with strategic reviews of its business. Another respondent advised that its policy is to ensure that all credit risk counterparties irrespective of type are reviewed at least on an annual basis.

Most of the large and medium-sized respondents carry out single name stress testing or selective stress testing. A number of small to medium-sized respondents do not carry out stress testing in relation to concentration risk, other than on an individual credit or regulatory stress test basis.

With regard to creditworthiness the retail banks concentrate on repayment capacity and credit grading. An investment firm in its internal review of its single name and group credit exposures also includes internal credit risk grade.

Most respondents use a combination of qualitative and quantitative factors including relationship with borrowers, risk profile of borrower, security held and the size of the counterparty. Other factors include purpose of credit, sources of repayment, PD, EAD, LGD, Expected Loss (EL), risk-adjusted return, adequacy and enforceability of any risk mitigation and legal and reputational risks.

(2) Approaches to the measurement and management of "other" (sectoral, geographic) concentration risk

Other concentration risk is generally defined by sector and by geography. Several respondents assess country risk. Other categories include product, industry and asset type.

Country risk relates to large concentrations of exposures to countries where the geopolitical or economic risks are significantly greater than in core markets.

Industry sector risk relates to the risk of loss due to concentrations in an individual sector or across sectors that are vulnerable to similar stress events.

Most respondents measure sector, geographic and product concentrations by exposure (balance and limit) and as an aggregate measure. One respondent advised that it performs VaR calculations on all its portfolios, including both credit and market risk. Several respondents advised that they used similar methodologies for single name and other concentration measurement.

Measurement Factors include rating or grade profile, trends in profile, maturity band, potential loss and sector risk, including PD, EL, LGD and Economic Capital. Other factors include existing relationships, risk-adjusted returns on transactions, the degree of correlation within the sector and the percentage of Tier 1 Capital represented by the sector.

With regard to management several respondents carry out sector reviews which assess the risk drivers of the sector, such as economic outlook. Several respondents use limits that are closely aligned to regulatory requirements. Some respondents use soft limits and others do not have specific internal limits set (apart from those set by the Irish Financial Services Regulatory Authority).

Other forms of management include dynamic credit policy formation, pricing hurdles, capital allocation and general portfolio diversification. Techniques such as sell down strategies and scenario planning are also used by several institutions.

Most respondents assign country limits or country grades based on fundamental analysis and geopolitical and macroeconomic factors. Limits are regularly reviewed. Formal stress testing is used in several instances.

Creditworthiness Factors include PD, EL, LGD and Economic Capital. Existing relationships, risk-adjusted returns and the complexity of the sector are also taken into account.

(3) Exposure Calculations

Loans and Un-drawn Facilities

Most respondents use the maximum value of the facility. For residential mortgage lending, the current debt outstanding is used.

Guarantees

Most respondents measure the exposure of guarantees as the face value of the guarantee, or less if there is a permanent diminution of the underlying obligation.

Derivatives

Credit risk is measured in terms of marked-to-market exposure plus an estimate of the potential future exposure. One responded that it measures derivatives on a percentage of cash versus maturity basis. For another respondent, the amount at risk is the deemed risk amount, for example, in the case of interest rate swaps the deemed risk amount is 1/20 of the nominal value.

Structured Transactions

Structured transactions are treated on a case-by-case basis and are disaggregated and measured according to their component parts.

Intraday and Settlement Exposures

For settlement exposure, one respondent uses a Monte Carlo simulation for counterparty portfolios with different currency pairs and at least one currency option. Where no options are present in the portfolio, settlement exposure is measured with a simple aggregation of the notional amounts. Other respondents measure settlement exposures on a gross/net basis to reflect legal documentation and by balance sheet or nominal value. One respondent measures settlement exposure as the amount due by counterparty during settlement after payment by the institution and settlement risk as the settlement exposure multiplied by Default Probability multiplied by LGD.

Most of the respondents apply a look-through approach in relation to projects such as CDO/CLOs, SPVs and securitisations. In calculating the exposure consideration is given to the underlying assets or counterparties, the structure of the vehicle, external ratings, trustees, fund managers and loan originators, where applicable.

(4) "Connected" Counterparties

A small number of respondents advised that they used regulatory guidelines which require use of the legal definition. They advised that this does not necessarily always follow their internal risk management processes, but that both definitions are used to ensure that the legal as well as the risk connectedness is established.

Most respondents gave similar definitions of "connected" counterparties, such as two or more natural or legal persons that are so closely associated that they constitute a single risk, for example customers who hold joint borrowings, customers acting as guarantors in support of another customer, companies/entities under common ownership, control/direction/management or common material influence.

A small number of respondents used the concept of 'control', whereby one entity, either directly or indirectly, has control over another, or where both are subject to common control. In addition, the concept that one party would have an impact of the financial soundness of another is considered.

With regard to monitoring most respondents advised that they use internal or group policies and adopt a conservative approach. One respondent in particular gave a detailed description of its procedures, which include, in its day-to-day risk management, an assessment of the risk of connected parties by assessing whether deterioration in the quality of one connected party would automatically cause deterioration in the other. This involves assessing many issues, including: the level of business relationship between the parties and their mutual dependence; whether external factors would have an impact on both parties e.g. interest rates, rent levels, etc.; whether there are implicit or explicit guarantees provided by one party to another; the management

independence exercised by the parties and the level of common ownership or control.

(5) "Group" Questions

Most respondents advised that single name concentration risk was primarily managed at a group level with product or sub-sector limits monitored at a divisional level. Several institutions advised that they have allocated tiered lending authority to their divisions.

With regard to intra group exposures several respondents advised that regulatory LE limits were the ultimate cap on size limits. One respondent advised that it was not necessary to look at intra-group exposures from a credit concentration perspective as long as the group as a whole was viable. Another respondent advised that because it utilises an array of risk mitigation techniques, such as netting, guarantees and collateralisation, the active management of intra-group exposures was limited.

In larger institutions intra-group exposures may be managed as part of its Group ALCO process or they may not treat intra-group exposures as a credit risk when dealing with 100% subsidiaries. In this regard standard lending principles and limits apply when less than 100% subsidiaries are involved. A smaller institution advised that intra-group limits were set on an "as-required" basis.

(6) Credit Risk Mitigation

Most respondents make use of security and collateral. Both physical assets and financial assets are used. Several institutions also use legally enforceable netting arrangements and guarantees. Additional techniques include limit setting; sell down strategies, the purchase of insurance, credit default swaps and early termination options.

In the case of derivative contracts, netting is used because standard ISDA agreements provide for legally enforceable netting. Other transactions are supported by third party guarantees. Institutions perform a full analysis of the creditworthiness of the guarantor to ensure that they will be in a position to perform under the guarantee if required.

Credit default swaps are used for certain transactions and are treated as similar to guarantees from an underwriting point of view. Analysis of the financial strength and liquidity of the swap provider is performed.

Some respondents advised that the technique employed depends on the underlying transactions and counterparty relationship.

With regard to indirect concentration risk one respondent advised that indirect concentration risk is monitored and reported in the credit system but is not subject to formal limit setting. Another respondent advised that it attempts to minimise indirect concentrations but that it is a largely manual process involving judgement on the part of the analyst. Another advised that indirect concentration risk is assessed at the deal proposal stages based on counterparty ratings and the accumulation of same name counterparty risk. Indirect exposures to the issuers of collateral and to the providers of unfunded credit protection are modelled using scenario analysis to assess the distressed value of collateral to a sudden drop in value of up to a 70% drop in price for equities.

Some respondents have systems limitations in place for indirect exposures. One respondent aggregates indirect exposures to the issuers of collateral or the

providers of unfunded credit protection and sets limits on the aggregated exposures and another institution manages indirect risk in the same way as direct risk.

Funded and unfunded mitigants include physical assets (property, plant and machinery, vehicles, ships, aircraft, etc.), financial assets (cash, bonds, equities, etc.), receivables (debtors or other receivables) and guarantees (from parent or other related companies, insurance companies, banks and government entities).

(7) Governance and Reporting

With regard to single name concentration risk most respondents use limits or 'ceilings'. Most respondents also have policies and procedures in place to cover the review and approval of transactions that could lead to breaches of limits. One respondent advised that its internal limits were soft and that regulatory limits were hard. Additional features include balances, excesses and turnover statistics.

With regard to other concentration risk most respondents cited sector/industry and geographic/country limits. Sectoral reviews and a country risk advisory forum were also included.

Some respondents advised that internal limits are generally more conservative than regulatory limits. Others advised that regulatory limits were hard and internal limits were soft, in that exceptions to internal limits may be approved by the appropriate credit authority.

Almost all respondents apply limits at a consolidated level, in addition to individual institution limits.

Most respondents monitor limits though regulatory returns i.e. the LE Return and the Sectoral Return. Several respondents advised that all accounts were reviewed on at least an annual basis and that daily management took place in relation to individual credits and regulatory limits.

Most internal reporting is in line with regulatory reporting. In addition internal reporting includes VaR reports, reports from internally developed monitoring systems, reporting to credit committees and risk committees, reports on excesses and reporting to senior management and the board.

A small number of respondents do not carry out formal stress testing in relation to concentration risk but one does perform scenario analysis.

All other respondents carry out stress testing, both on a single name and a sector-specific basis. Generally, macroeconomic analysis and scenario analysis are performed in most cases.

(8) Regulatory Environment

- Most respondents advised that the current regulatory requirement to report the top 30 (or 50 for consolidated reporting) non-MFI exposures, even where they fall outside the 10% of Own Funds rule, is onerous. Most institutions find the process cumbersome.
- Most respondents advised that the regulatory requirement to report exposures where the level of exposure was higher than at the reporting date at any time during the quarter reporting intervals places a significant burden on monitoring systems. One institution noted that it must monitor large exposures daily and report breaches to the Financial Regulator and therefore, did not see the need for quarterly reporting. One investment firm advised that the expenditure requirement was sufficient and works better than the large exposures regime. In this regard it noted that any default by a client would affect profit and hence be covered by the expenditure requirement.

- One investment firm advised that if a portfolio manager has only one client and is due performance/management fees, the level of fees due, and not yet paid, to the firm can often cause it to be in breach of the large exposures limits. In this regard it states that the large exposures regime seems to penalise such institutions for being successful in the performance of the fund it manages.
- Several of the larger institutions advised that the incremental costs of regulatory reporting were minimal. Some of the smaller to medium-sized institutions advised that the LE process was costly to administer with limited benefit to the institutions.
- Many of the respondents advised that the current framework does not take into account the risk profile of the actual loans and is at variance with the move towards risk rating of assets under the CRD. Most respondents advised that their internal reporting systems, such as those operating on a PD and LGD basis, were more effective at capturing concentration risk. One respondent advised that the inflexible nature of the LE limits work contrary to their own risk standards, in that they take effect in areas of relatively low risk (e.g. intra-group exposures) yet do not act when risk is higher (e.g. emerging market risk). Some respondents advised that insufficient allowance is made for the impact of credit risk mitigation and hedging techniques on the reduction of exposures.
- Respondents advised that they consider internal concentration risk management systems to have overtaken LE rules in terms of sophistication, scope and prudence. Several respondents advised that they considered concentration risks to be better managed via the Pillar 2 framework. They advised that the LE framework was viewed as an "add on" required for regulatory reporting rather than as an effective credit risk control.
- <u>25% Limit</u>

Two of the respondents advised that the 25% hard limit is too high and that it could lead to an unacceptable single counterparty concentration in the absence of significant mitigants. They view the 25% limit as a minimum standard and advised that their own internal approaches, based on LGD, escalate exposures to a senior level earlier than the LE regime. One institution advised that an increase in the limits is necessary to allow for the changing banking environment. One investment firm referred specifically to UCITS and stated that breaches of the 25% limit should be considered a technical breach as UCITS are regulated and have clear accounting rules.

- <u>Sectoral</u>

Most respondents advised that the additional concentration limit (i.e. sectoral limit) that institutions "shall not have the risk assets amounting to more than 200 per cent. of own funds concentrated in any one sector of business or economic activity which is subject to a common predominant risk factor; where a common risk could be considered to apply to two or more separate sectors… not more than 250 per cent. of own funds shall be employed with such sectors in aggregate" was restrictive and was not in place in other EU countries.
Most respondents advised that the 200% limit was restrictive and did not represent the inherent counterparty and correlation risk. Respondents advised that monitoring concentrations by sector code could be "misleading" and that such an approach does not reflect the relative risk profiles of the individual sectors and applies a single limit regardless of sector risk factors used for internal sector limits.

Respondents also advised that the terms "economic activity" and "predominant risk factor" were open to interpretation.
Several respondents advised that the sectoral reporting limits in Ireland create an additional reporting burden and cause competitive disadvantages versus other European locations.

- Consistency

Several respondents advised that they had no experience of the operation of the large exposures regime in other member states and so were not in a position to comment on consistency. Most institutions advised that regulatory regimes were broadly consistent across borders apart from the additional sectoral limits.
Several respondents advised that the rules in Ireland were broadly similar to those of other member states although actual reporting requirements were more complex in Ireland. Another institution advised that there were inconsistencies across Europe in relation to exposure calculations, capital calculations and legal definitions.

- Concentration Risk

Several respondents felt that the regime should not be extended to capture sector and geographical risks because it would be counterproductive to growth opportunities in new market areas. They advised that definitions would be difficult to agree, the process would be complex and the costs would outweigh any potential benefits.
Some respondents are of the opinion that incorporating the assessment of concentration risk into the Pillar 2 framework would strike an appropriate balance between meeting the needs of both the Regulator and the industry.

Italy

(1) Approaches to the internal measurement and management of single name concentration risk.

The definition of single name concentration risk used more or less by all intermediaries is the following: the risk of suffering high losses in the event of default by one or more large customers. For internal purposes banks use concepts of probability of default and distribution of the exposures.

In general, the first step for measurement and management of large exposures by all banks and banking groups is the same: the regulatory approach

Moreover, for internal purposes most intermediaries (including some smaller banks) consider it not sufficient and also adopt internal methodologies and processes to better assess and manage concentration risk.

Measurement

A more sophisticated approach to measurement is adopted by all largest banks and by most medium-sized banks which use concentration indicators (i.e. Lorenz Curve and Gini coefficient), portfolio models and stress testing techniques. Different approaches are used although the rationale is the same: calculation of the economic value at risk that can be put down to the distance from perfect granularity of the actual portfolio of each bank. We report two approaches adopted by two large banks:

Case A: Single name concentration is considered in simulating the default / no default event. The number of defaults occurring for each cluster is simulated (from a Bernoulli distribution) on the basis of a parameter that is computed using a "diversity score" approach in order to take into account infra-cluster concentration: the total number of exposures in the cluster is set at the reciprocal of the Hirschmann- Herfindhal concentration index, which takes into account the actual exposure of the bank towards the various counterparts. In this case perfect diversification corresponds to the infinite granularity hypothesis: in the model framework, this can be obtained by simulating the Expected Loss distribution instead of the Actual Loss distribution, i.e. avoiding to simulate, for each cluster, the actual (not the theoretical) number of defaults.

Case B: Single name concentration risk is measured by the calculation of a concentration ratio which explains what is the negative effect on the Capital at Risk (CAR) of the different distribution of an ideal portfolio, infinitesimally granular, compared with the actual portfolio of the bank. The capital is allocated among the sub-portfolios in order to take into account the effect of concentration, particularly for significant exposures versus the largest groups of borrowers. The concentration ratio is calculated only on a consolidated basis and not for every single counterparty and takes into account the risk of contagion from a counterparty to another one belonging to the same group. The concentration ratio is calculated as the difference between the Component CAR and the Granular CAR of every sub portfolio divided by the Granular CAR of the whole portfolio (it is equal to the sum of all Granular CAR of every sub portfolio). The ratio is equal to 0 if there is absence of concentration (infinite granularity hypothesis).

Local associations of smaller banks are devoting significant efforts to improving the assessment of concentration risk, experiencing VAR models (i.e. Credit Risk+) in order to calculate expected and unexpected losses deriving from this

kind of risk. Probabilities of default are substituted by historical default frequencies provided by the Bank of Italy.

Management

In general, all banks and banking groups adopt more stringent limits compared with the regulatory ones and monitor strictly them. Smaller banks also verify and monitor periodically the incidence of more significant exposures on total outstanding loans.

The use of the above mentioned methodologies for internal business decision-making is various, depending on consolidation of practices inside the bank and on the sophistication of the approach used by banks. Sometimes they are used for a wide range of activities: loan approval and control process, pricing at origination, business units' risk adjusted performance measurement, limit setting for financial institution and country exposures. Sometimes they are used only for risk management measurement purposes.

Most medium-sized and smaller banks do not measure and manage concentration risk related to trading book instruments. Moreover this kind of risk is traditionally very low.

Stress testing

Stress testing techniques are used only by the largest banks but not according to a regular testing program. Stress tests are as usual performed whenever events or situations occur whose impact could be negative in term of losses.

Creditworthiness

Creditworthiness of counterparties is always considered by all banks to set limits to counterparty exposure; differences occur in the instruments used by banks (internal rating, external rating, scoring, judgemental assessment). In general, the largest banks and some medium-sized banks use ratings (internal and external); scoring systems are used by medium-sized banks and also by several smaller banks in addition to external ratings.

(2) Approaches to the measurement and management of "other" (sectoral, geographic) concentration risk.

Definition

Other concentration risk is defined as the loss due to the simultaneous default of a set of exposures because of sectoral or geographical factors; it could be sometimes overlapping between the two factors considered where economic district specialised in a specified sector exist.

Measurement

For sectoral and geographical concentration risk, banks use the same methodologies adopted for single name concentration risk. The focus is on infra-sector correlations, among sectors and among geographical areas (most frequent among countries). Some banks highlight that some caution is needed in interpreting the results deriving from these methodologies because correlations are usually estimated through proxy variables, and sectors or areas are aggregated according to arbitrary criteria, so that results are subject to what can be defined model risk or model dependencies. Even if correctly estimated, correlations can be subject to structural breaks as a consequence of stress situations on the economic context, thus originating losses potentially higher than the ex-ante estimated "concentration risk". Some banks manage this situation through "stress test" analysis, taking into consideration also correlation stressing.

Sometimes, banks do not consider the largest exposures in the assessment of sectoral and geographical concentration because they are separately managed and monitored.
In general, the largest banks consider geographical concentration by countries and international areas (i.e. Europe, USA, other countries of America, Far East, Japan, other countries of world) while medium-sized and smaller banks take into account Italian regions or provinces. For smaller banks geographical concentration is a non-diversifiable risk because the business is concentrated either by regulatory constraints or by the small number of branches; for these banks single name and sectoral concentrations are crucial.
Management
The largest banks use the above mentioned methodologies to calculate the capital absorbed for risk management purposes and to set limits in term of maximum exposure for each sectors or geographical areas.
In addition, the results of these instruments (portfolio models, concentration risk indicator, stress testing, scenario analysis) are used to build up credit policy strategies and to provide to the management body a detailed reporting for an effective management of credit risk.

(3) Exposure calculations.

For Large Exposures regulatory reports banks follow regulatory rules while in internal models most of them transform undrawn lines and other off-balance sheet exposures into cash equivalent exposures through a system of internally estimated credit conversion factors (CCF); medium-sized banks use more simplified algorithms. Credit risk equivalent of derivatives is generally calculated according to a Current Exposure Method, aligned with the 1996 Basle Accord Amendment.
SPE are generally considered like single name entities and also specialised lending operations. In these case it is crucial to assess the effect of contagion effects to the promoters of the vehicles.
Only large banks deeply involved in business of credit derivatives use a "look through approach".
Some large banks consider collateralised loans, margins lending and securities agreements in their concentration measures because the facility is applied to the total counterparty's exposure and collateral is only reducing LGD measures.
Repo-style transactions are treated like counterparty's exposure only for a small amount, being directly guarantied by underlying securities available; some banks are moving to a "look through" approach to take into consideration issuers behind securities to be repurchased.
A large bank uses a "peak exposure" method for securities financing transactions. This approach is based on Monte Carlo simulation calculating several scenarios for each exposure up to maturity. The value of "peak exposure" in a specified scenario is the value of the exposure in the scenario for a given percentile.
Large banks and some medium-sized banks are currently migrating to the new standardised approach for counterparty credit risk, as of the Capital Adequacy Directive. Very few intermediaries, and only for a small part of the portfolio, are going to apply internal model approach according to the new Directive.

(4) "Connected" counterparties

All banks and banking groups define "economic group" a plurality of entities which are connected to each other by at least one of the following relationships:

1. Legal relationship: one of them has the control power over one or more of the others. The minimal content of "control" is defined by the Italian civil law.
2. Economic relationship: counterparties economically connected when among counterparties such links exist so that if one of them faces financial troubles, the others are very likely to face difficulties in debt repayment, even though relevant links are not explicit. Moreover, there are differences, not so relevant, among banks about the definition of economic relationships. Finally, some banks do not consider economic relationships when the exposure is below a threshold reported in term of nominal amount.

Banks and banking groups implementing the IRB approach under new Directive are developing databases of economic groups and connected clients. Thus these banks are paying more attention than in the past to the definition, management and monitoring of maps of connected clients. Several external databases provided by local Chambers of Commerce, by specialised data providers are used in addition to information received from the network of the bank or from press news.

(5) "Group" questions

In general for large and medium-sized banking groups, risk measurement and management policies are defined by the relevant functions of the parent bank and are in force at the group level. As a general principle, risk coming from each transaction is measured as contribution to the group risk. Consequently, risk measures are independent of the organisational structure of the group. The parent bank also performs general functions of risk management and control and makes risk acceptance decisions in the case of major risks. The group companies that generate credit risks are assigned operational limits and each has its own control structure. For the main group banking networks these functions are carried out, pursuant to an outsourcing contract, by the parent bank's risk control functions, which periodically report to the Board of Directors and the Audit Committee of the subsidiary.

Regarding the approaches to intra-group exposures by large institutions, if they involve material credit risk, they are assessed and approved at the group level; marginal capital impact is also assessed (ex ante) and measured (ex post) at group level.

The need to set limit and to manage infra-group transactions arise in the following cases:

-when a group subsidiary takes on an exposure too large for its individual regulatory rule, the parent bank issues a guarantee to take on part of this risk;

-when the subsidiary originating the exposure or taking the book is different from the one managing the risk, then both companies enter an internal deal to transfer risk.

However, since for risk management purposes the group is managed as a single entity, no limit setting for intra-group exposures are in place nor are those exposures included in capital allocation processes.

According to the answer of one large bank, the results of the measurement of concentration risk are not included in the strategic decision making process yet, but they are planning to use them in the future.

In medium-sized banks limits and concentration measures are applied in terms of exposures of the overall group towards the economic group. It means that the measurement of single name concentration risk is performed as the sum of the exposures to the economic group to which the borrower belongs and by calculating the ratio of the "*n*" largest exposures to the overall credit portfolio for each bank and for the group.
Small banks apply current Italian regulations. It means that the limits are complied with on a consolidated basis and single subsidiaries abide by less stringent individual limits (i.e. 40% instead of 25%).

(6) Credit risk mitigation
In general, the use of credit risk mitigation techniques is improving according to the new rules stated by new Directive.
Only few large intermediaries actually adopt sophisticated approaches to CRM. One of these banks provided answers to the questionnaire. According to it, concentration risk is considered part of credit risk, measured by the same metric (economic capital absorption) and so mitigation policies for concentration risk are the same as credit risk (i.e.: collateral and guaranties, reduce concentration risk because they reduce the amount at risk; third parties' guarantees vis-à-vis any single counterparty reduce concentration because somebody else is sharing the counterparty's credit risk). Strong mitigating factors are financial collateral and residential mortgages. Other mitigating factors are non-residential mortgages and pledges on marketable assets. Also facility type, in particular self liquidating finance, can be a source of risk mitigation.
Mitigating factors not eligible for regulatory purpose can sometimes be accepted (e.g. non marketable collateral or negative pledge) but are assessed on a case by case basis. No mitigating value is assigned to collateral whose value is correlated to obligor's credit quality. Mitigating effects of guarantees and credit derivatives are assessed on the basis of PD substitution, taking into consideration a conservative assessment of double default effects. The security package is generally defined in the contest of loan structuring and it is designed to optimise the risk profitability relationship. Only seldom can collateral or guarantees be explicitly requested to satisfy regulatory Large Exposures limits. However, in order to reduce exposures without notifying customers, banks sometimes use credit derivatives or risk reduction through cash collateralised silent participation of other banks.
At the moment financial collateral is considered like guarantees, not direct exposure to the underlying issuers. For repo-style transactions banks are moving to a "look through" approach to measure potential concentration in the event of substitution risk. The feeling is that this revision will not highlight particularly high concentration because of indirect risk. As for unfunded credit protection, guarantors are subject to the same credit approval and management process as direct exposures. In particular, for banks, which are the most important credit protection providers, both direct and indirect risks are included in the limit system mentioned above and taken into consideration for concentration purposes.
One medium-sized bank uses all available credit risk mitigation techniques, both funded and unfunded, including ISDA and CSA contracts for derivatives exposures. Another medium-sized bank reported that credit risk mitigation techniques are commensurate with borrowers' creditworthiness and type of credit.

Small banks use, as mitigating factor, guarantees and residential mortgages for an amount of approximately 150% of the loan.
In general, indirect concentration risk is not considered with exception of very few large banks.

(7) Governance and reporting

According to large banks, regulatory limits are monitored ex ante in the approval process. In no case breaching of these limits can be authorised. The situation of Large Exposures is reported periodically (monthly or quarterly) to the Audit Committee, Executive committee and the Board of Directors. In one case such reporting includes also an overall portfolio credit risk analysis, in which economic capital (and thus concentration risk) is embedded and for banks, financial institutions and country risk limits are monitored daily and their situation is reported monthly to the Financial and Market Risk Committee and to the Executive Committee. In one bank also an "ad hoc stress test" analysis is reported either to the Audit Committee or the Financial and Market Risk Committee according to the nature of risks considered. Also in one large bank a report focused on large exposures is provided to the chair of the board of directors, to the CEO and to the key managers twice a month.
In medium-sized banks, the Board of Directors approves the guidelines and the overall limits, as they are defined by the Executive Committee upon proposal by the Credit Committee. More generally, the credit department periodically produces a report on large exposures (in one case including loans, derivatives and bonds) with focus of the 50 largest for the Group and for each bank.
One small bank uses an "early warning system", based on the periodic verification of some indicators, to monitor the evolution of large exposures in order to intervene in case of deterioration.

(8) Regulatory environment

Large banks think that, in principle, the Large Exposures regulation is an effective way of dealing with single name concentration risk. The current regulation, however, can be improved by making weights to be assigned to the exposures risk sensitive, consistently with the general philosophy of the Basle 2 framework. In particular, they are in favour of the application of the Basle 2 Standardised approach to measure risk exposures, which differentiates risk weights according to counterparty agency ratings. This system would have also the benefit of concentrating the exposures, within the counterparts group, to the rated companies, which are generally the most marketable names and can be more easily hedged or sold to the secondary market when necessary.
One large bank reported that the Large Exposures regulation is not sufficient to deal with the management and measurement of concentration risk for strategic purposes, so they thought it necessary to create an ad hoc model.
In one case they answered that in their opinion sector and regional concentration risks are too complex to deal with in a simple and level playing field set of rules, because they depend on the whole portfolio structure and must be analysed with sophisticated tools, such as portfolio models. As a consequence, they think that supervision on these types of risks should be submitted to the Pillar 2 framework and the SRE process.
Also medium banks answered that they overall appreciate the current regulation about large exposures, but, given the increased diffusion of rating systems, they think that regulators could introduce also the rating class dimension within the large exposure provisions.

As to the experience of other supervisory approaches to concentration measurement and control, one large bank reported that, on the basis of its limited direct experience and after considering the overall economic and financial picture, concentration is rising, particularly for some big international banks that are deeply involved in specific product market making activity. According to some international statistics, only few investment banks are operating on the credit derivatives market providing protection for a rather small number of names but on an enormous notional amount. Regulation on concentration limits in a globalised environment is essential because capital market is intrinsically globalised and breaches in some part of the market could affect the system as a whole.
Small banks did not answer the question.

Lithuania

(1) Approaches to the internal measurement and management of single name concentration risk.

Internal approach for measurement and management of single name concentration risk is more or less linked to the national regulatory requirements. Institutions use regulatory definitions of large exposure and maximum exposure value to one obligor.

All institutions use an approach based on limits, that is:

- regulatory limits linked to large exposure regime (limits to the amount of the maximum exposure to single borrower and limits to the amount of the maximum exposure to parent undertaking, subsidiaries or subsidiaries of parent undertaking, limits on excess of large exposures in trading book),
- limits derived from the regulatory limits (only small parent bank for internal purposes uses more conservative percentages than regulatory percentages subject to internal ratings of obligors or facilities),
- limits applied in accordance with the national legal requirement for banks to nominate their own internal limits on such type of lending (limits on internal lending and limits on lending to the persons related to the bank),
- internal concentration risk limits.

The practice in many cases is to set limits relative to total capital. Medium financial brokerage firm also sets limits relative to nominal, book or market value of purchased object. In addition to percentages, institutions also apply monetary limits to:

- potential exposure growth (large bank; limits are set internally for one-year term);
- the maximum amount of the exposure to single borrower and connected counterparties (small bank);
- value of the exposure included in trading book at the moment of purchase (medium financial brokerage firm stated, that this value can not exceed the value of liquid capital);
- the maximum amount of the exposure (excluding investments in shares) to controlled undertaking (small bank);
- exposures to institutions (medium bank, this limit is stated in accordance with bank's capital, particular institution's capital, rating, product, maturity).

Medium bank applies limits to repo transactions in accordance with an issuer and liquidity of each security of this issuer. This banks states limits to 1) each type of securities of issuer, 2) maturity of repurchase transaction, 3) ratio of price to market value, 3) concentration limit relative to the capital of the client (set individually for each company), 4) concentration limit relative to bank's capital, 5) price limits.

In the case of small bank there is a direct differentiation of internal limits, which are derived from regulatory limits, but are more conservative, subject to credit quality of obligors or exposures. Bank uses 3 groups of these limits, stated in accordance with internal ratings. Each obligor is evaluated individually and limits system is applied to each loan, using such indicators:

- compliance with negotiated agreement,
- obligor's financial condition;
- legal aspects (arrests, trials and other);

- external ratings.

Application of some limits is connected to credit approval process (small bank applies limits to maturity of exposure, ratio of collateral's value to loan's value, ratio of installment to month's income).
In addition to an approach based on limits, in order to manage single name concentration risk 2 banks apply stress testing, which is performed at least once a year:

- Changes of credit concentration and potential losses are evaluated in accordance with different economic scenarios. These scenarios are determined subject to forecasted possible events, which could have negative impact on bank's capital adequacy or use of collateral, taking into account sufficiency of granted credits' insurance, reduce of collateral market value, liquidity of collateral, insolvency of particular group of clients (small bank);
- Credit risk and concentration is evaluated taking into account possible changes of general economical, political situation (bank evaluates all onbalance-sheet and offbalance-sheet exposures, value of which exceeds 7% of bank's capital) and liquidity risk of collateral of these tested exposures (medium bank).

Institutions also use other methods (loan insurance, individual assessments, timely monitoring of performance of exposures) for management of single name concentration risk. Medium financial brokerage firm uses preconceived individuall assessments of every potential investment in order to reduce single name concentration risk. Small bank uses credit granting, credit risk monitoring and assessment system with written procedures, allowing in accordance with monitoring and evaluation of obligor's financial condition to state potential problems in advance, control the compliance with loan agreements, evaluate collateral market value, determine connected counterparties and inform bank's management.
Due to the nature of business of financial brokerage firms (securities trading and brokerage), the vast majority of credit risk arises from financing of client's trading position. This in turn mostly takes a form of securities repurchase (repo) transactions, whereby a client is obliged to provide the sufficient amount of securities as collateral. As the collateral is deemed to be the liquid marketable securities, neither internal limits are set with respect to a single client nor such limits are set by capital adequacy regulations. Therefore financial brokerage firms don't use any internal procedures to quantify and manage concentration risk. Small financial brokerage firm does not have trading book, so it does not face many forms of credit and trading portfolio risks. All trades on the name and account of it's clients are registered at Vilnius Stock Exchange with settlement of DVP (delivery versus payment) principles, so it says that there is no counterparty risk. If this firm has the license to provide all brokerage services (to have trading book, market trading, bonds underwriting), then it will need to set up trading policy with all risk management procedures: limits for trading portfolio, limits per issuer, type of securities, trading limits, stop loss limits and etc.

(2) Approaches to the measurement and management of "other" (sectoral, geographic) concentration risk

Institutions relate concentration risk of credit portfolio to insufficiency of diversification of credit portfolio or to portfolios, which are not diversified. Large

bank defined loss of concentration risk of credit portfolio as loss, resulting in excess of expected average loss of portfolio, due to insufficient diversification. Medium bank stated that concentration risk of credit portfolio will arise, if credit portfolio is not diversified or is wrongly diversified.

Respondents don't use mathematical portfolio models or internal economic capital distribution models. There's a distinction between local institutions and subsidiaries of EU parent institutions: if parent institution applies mathematical portfolio models or internal economic capital distribution models, subsidiary will apply them too. Intentions of EU parent institutions could change after implementation of IRB approach, because quantification of credit risk components (PD, LGD, EAD) would provide possibility to apply portfolio models. Local institutions, in order to apply sophisticated models, should merge or apply pooled data because their internal databases are insufficient.

All institutions use an approach based on limits, which are applied simply adding values of exposures, correlations are not taken into account. Exposure value is measured in accordance with LE regime. Limits are set relative to total capital, total amount of loans, total assets, book and market value of purchased exposure. Institutions apply:

1) regulatory limits (limit to the total amount of large exposures, limits to trading book and banking book and other);

2) limits, derived from regulatory limits (small bank uses more conservative percentages than regulatory limits subject to internal ratings);

3) limits applied in accordance with the national legal requirement for banks to nominate their own internal limits on such type of lending:

- economic sector limits (2 banks; One bank stated that limits are defined in relation to total credit portfolio, economic sectors are defined in accordance with the Classification of Economic Activities of the European Union (NACE), creditworthiness is taken into account setting these limits. Another bank stated that in some cases economic sectors can be divided into smaller groups in accordance with their specific features);
- limits for country risk are not applied, but respondents use external country ratings;

4) internal concentration risk limits:

- ratio of loans value to total amount of assets (2 banks);
- ratio of past due loans value to total amount of the loans portfolio (large bank);
- risk cost (large bank).
  - 5) monetary limits: limit to the total amount of large exposures (small bank);
  - limit to the total amount of loans (small bank);
  - exposures to institutions (3 banks; medium bank stated that these limits are set subject to bank's capital, particular institution's capital, rating, product, maturity).

Banks apply passive strategy of management of portfolio risk, concentration risk is managed using an approach based on limits, other methods (securitization, sale of loans or derivatives transactions) are not used for this purpose. Large bank stated that possible liquidity issues are taken into account.

In addition to an approach based on limits, stress testing is used:

- for corrections of risk appetite in particular sectors/ exposure groups (3 banks);
- changes of credit concentration and potential losses are evaluated in accordance with different economic scenarios (3 banks);

- for evaluation of country risk (1 bank).

Medium bank stated that issues of exposures to entities or products consisting of underlying assets or items are carefully monitored and reviewed at least quarterly and large bank stated that there's no specific practise defined for mentioned cases, as these are very rare, however, the same regulations as for all regular cases apply.

Medium financial brokerage firm tries to compose such structure of it's portfolio, which would be appropriate to avoid large losses, arising from changes of prices of short term securities. This financial brokerage firm stated that it doesn't have approved policy for sector or country concentration risk and doesn't perform peer group analysis, comparing the results of different companies in the same economic sector or in the same geographical region, because every company has individual advantages and disadvantages.

(3) Exposure calculations.

Exposure value is measured in accordance with large exposure regime: for on balance-sheet exposures exposure value net of value adjustments is used, for off balance-sheet exposures nominal amount of claims is applied, without the application of appropriate conversion factors. For traded off balance-sheet items, the value is determined from the application of Standardised method or Original exposure method, mentioned in Directive 2000/12/EB. Exposures in the trading book are calculated in accordance with Directive 1993/06/EB.

In case of repurchase transactions, large bank stated that due to rather small relevancy of repos for this bank, conservative approach is used and total financing amount is equalled to the amount of risk.

(4) "Connected" counterparties

The definition of connectedness is inseparable from supervisory regime and is defined in legislation. All institutions except small bank for internal purposes apply definitions of "persons related to obligor" and "group of interrelated clients", provided in legal acts.

Persons related to obligor are defined as persons, belonging to the same group of interrelated clients. Group of interrelated clients means two or more clients of a financial institution (or of several financial institutions belonging to the same financial group) who are interrelated on the grounds that:

1) one of the clients may, directly and/or indirectly, control other clients;

2) the clients are interrelated so that, if one of them failed to meet its obligations to the financial institution, the other client or other clients would also have difficulties in meeting their obligations to this financial institution. Such mutual relations shall be a person's assurances, guarantees or other means of securing the performance of obligations for another person or joint obligations arising from concluded transactions or direct business interdependence, where mutual business relations may not be terminated or replaced by other business relations, or the clients are related by blood as well as by marriage;

In addition, respondents expand and clarify the conception of "direct business interdependence", applying some soft factors depending on judgement, large bank stated that apparent control over business decisions also implies connectedness.

Small bank, in addition to direct or indirect control, assigns to interrelated clients such counterparties: 1) head of administration, coordinating enterprise's activities, or third person, according power of attorney designated to manage

on the name of head of administration; 2) persons, indirectly connected through property relations. This bank uses written procedure and information system, allowing to state relations between connected counterparties.
Banks also check information against the information institutions have to provide to Central Credit register of the Bank of Lithuania.

(5) "Group" questions
Institutions state and apply limits both on group level and individual entity level. Usually general policy for measurement and management of concentration risk is determined on group level, but appropriate decisions are taken on subsidiary level as well.
Large bank stated that specific purposive limits – the ratio of past due loans to total amount of the loans portfolio and risk cost- are approved on group level by Board of parent bank and other applicable limits- on individual institution level. Intra-group exposures have to comply with limits set on solo basis as well as on consolidating basis, capital is allocated in accordance with many factors: forecasted growth, expected loss of portfolio and others.
There is a distinction between local banks and subsidiaries of EU parent banks: local parent banks usually allocate separate limits to their subsidiaries, operating in Lithuania, and EU parent banks don't allocate such sub-limits for subsidiaries, operating in other countries. One subsidiary of EU parent bank stated that because of different economic conditions this parent bank doesn't nominate exact concentration limits to be applicable on individual entity level in different countries.

(6) Credit risk mitigation Institutions don't use sophisticated credit risk mitigation techniques of credit portfolio. Application of credit risk mitigation, including funded and unfunded credit protection, for the purposes of management concentration risk is connected with large exposure regime. Often credit risk mitigation is assessed as part of the credit approval process and agreed and documented post-approval.
Large bank stated that in particular financial collateral (cash deposits) and state guarantees are used for the management of concentration risk. Usage of these mitigation techniques is very specific to every particular case. This bank stated, that indirect concentration risk is not differentiated from direct concentration and is subject to similar regulations. Medium bank stated that in order to manage indirect concentration risk in case of insurance the wide list of professional insurance firms with good reputation and good operating history is used.
Large financial brokerage firm in case of repurchase transactions determines the list of securities eligible for collateral based on their market liquidity and company's ability to subsequently repo them out to other financial institutions. The initial margin requirement varies from 50 to 30 % for equities. The maintenance margin is usually set at ½ of the initial margin. If the client's own equity falls below the maintenance margin, the client is asked to provide additional collateral, or the collateral is sold at prevailing market prices and repo transaction is terminated immediately.

(7) Governance and reporting All institutions use an approach based on limits (regulatory, derived from regulatory, internal limits or limits, nominated in accordance with national requirements to state internal limits for such type of lending). Institutions apply limits both on group level and individual entity

level, it depends on which level appropriate limits have been approved. Approvement of appropriate limits is performed by different units:

- Board of the parent bank;
- Board of the bank;
- Assets and liabilities management committee;
- Credit committee;
- Risk management committee;
- Risk office.

Institutions apply such practises:

  - at least monthly all questions related to risks are considered by risk management committee, the implementation of prevencial tools is determined and controlled (medium bank);
  - the control of compliance with approved limits is performed automatically, using information systems on daily basis (small bank);
  - the control of compliance with approved limits is performed on different levels: board of the bank, risk management committee, credit committee, risk office, appropriate structural divisions;
  - once a year the review of internal documentation, regulating credit risk management, and information system, ensuring appropriate distribution of loan portfolio as well as possibility to control risk, is performed (small bank);
  - exact frequency of the changes of limits is not stated, it depends on the results of stress testing (large bank).

Reporting is based on the framework of limits system. All information provided for regulatory purposes also is used for internal risk assessment, but in order to assess risk more detailed information is analysed. Usually finance office, credit risk management department, structural units or risk office provides regular internal reports to creditcommittee, risk management committee, appropriate institution's division or to the board of the institution. Frequency of internal reporting varies from monthly basis to quarterly basis. Medium financial brokerage firm stated that managing director informs the board about all potential negative situations.. Institutions usually provide information about:

- credit risk management of credit portfolio and it's quality;
- evaluation of the compliance with approved limits;
- possibilities to improve credit risk management tools and procedures;
- performance of approved rules;
- suggestions to adjust internal limits.

(8) Regulatory environment

According to respondents, current regulatory regime provides good trade off between cost of compliance and level of risk, current limits are satisfactory, both from prudential and level playing field positions. However, harmonization of EU financial system is time-consuming process and will require additional cost.

Large bank stated that current regulatory regime has not constrained their business and it is consistent with internal practices.

Medium bank stated, that it is not purposeful to nominate common regulatory limits for other concentration risk because the amount of risk in each bank is dependent on it's experience in particular sectors and it's ability to reduce risks using collateral.

Small bank stated that as far as it's management of concentration risk is quite conservative, new regulatory regime will not impact the processes of collection

and reporting of information used for internal purposes. But new regime will increase bank's cost, require to adjust information systems for financial reporting and reduce the ability for small banks to compete with large banks because cost would exceed benefit.

Luxembourg

(1) Approaches to the internal measurement and management of single name concentration risk.

Most institutions provided general definitions of concentration risk.

For one respondent, concentration risk arises from any single large exposure or group of exposures to one common risk factor, which might produce losses large enough to threaten the institution's financial viability and survival.

The most common and straightforward risk factor is the counterparty (or debtor/issuer) default risk. Concentration risk is intimately related but not confined to credit risk and might also involve transfer risk, legal risk, market risk and others. The risk of loss resulting from concentration risk may arise from both idiosyncratic risks, in the case of large single name exposures, and systemic risk, which may affect a group of counterparties (debtors/issuers).

A second institution considers as concentration risk the risk of incurring a substantial loss due to the default of:

- One specific counterparty or group of counterparties not able or not willing to respect their obligations towards the bank
- One specific country defaulting on its own sovereign debt or imposing restrictions on its residents (banks, corporates and/or individuals) which make it impossible to those residents to respect their debt obligations towards foreign creditors

In their replies, all respondents referred to their limits based approach. As specified under (7) below, the limits used by the institutions are generally more stringent than those foreseen in the regulatory framework. Single name concentration risk is measured by summing up the weighted notional exposures across all types of transactions towards any given counterparty (or debtor/issuer) or group of linked counterparties.

One respondent also mentioned the IRB approach and the use of expected shortfall.

None of the respondents currently utilises VaR or stress testing. The responding banking association pointed out that these approaches are confined to large institutions and are, for the time being, not often used by Luxembourg-based small or mid-sized institutions. However, in the context of the Basel II framework and the CRD, many institutions will develop a credit risk model under the IRB approach.

All respondents have adopted a framework of counterparty limits. These limits are defined either in absolute amount or in percentage of equity capital. Institutions differentiate between types of counterparties (individuals, sovereigns, banks, corporate, etc …) Differentiation may occur through absolute limits of total authorized exposure per counterparty or by the delegation model which defines different levels of authorization powers to decide on limits to be put in place. More generally speaking, the institutions have clear rules for assigning credit limits. Credit risk analysis focuses on single names as well as on group exposures. Effective limits may exist on group level, entity level and 'type-of-instrument' level. The sum of all effective limits may not exceed theoretical maximum limits at the level of the counterparty. Within the limit supervision system all on- and off-balance sheet exposures are aggregated on a single name and eventually on a group level, such as to allow the Bank to monitor exposures in real time on a consolidated as well as on a non-consolidated basis.

Business decisions are subject to the availability of limits, respectively, in the case of credit and investment decisions, to the approval of executive management or the appropriate level of delegation.
One of our medium sized respondents, in addition to its limits based approach, also uses time-bands as a further risk management tool. Allocated amounts are decreasing by time-bands (0 - 3 months, 3 months - 1 year, 1 - 5 years, 5 - 10 years ...). The lower the creditworthiness of the counterparty, the stronger the credit limit decreases in time.
All respondents reported that creditworthiness is an important, respectively the most important factor in the context of risk management and hence in the process of setting their internal limits.
For most respondents the theoretical maximum credit limit is a function of the counterparty's credit rating (external or internal), the own funds of the counterparty and the institutions own funds.

(2) Approaches to the measurement and management of "other" (sectoral, geographic) concentration risk.
As already mentioned under (1) above, institutions provided general definitions of concentration risk. Institutions indicated no differences concerning the measurement of single name concentration risk and other concentration risks. As for single name concentration risk, all institutions made reference to their limits based approach. These limits are defined either in absolute amount or in percentage of equity capital.

Geographic concentration risk:
All respondents have internal country limits. For some of the respondents these are structured and decreasing by time-bands.
The country limit represents the maximum commitment amount that the institution is able to take on a country.
One respondent mentioned that in addition they are checking major geographical world zones, like OECD and non OECD countries, Asia, Africa, and Eurozone etc. This institution also referred to five sub-limits of the country limit.

Sectoral concentration risk:
Most institutions reported that they have sectoral limits. Examples given include: residential real estate, commercial real estate, airlines, telecommunication, insurance, media, technology, tourism …These limits may be fixed according to the overall economic situation or follow-up needs of some exposures. They are regularly reviewed and completed.
Another respondent mentioned that even though they have not in place formal sector limits, they monitor on a quarterly basis the exposures on the different sectors, with a special emphasis on sectors defined as "sensitive sectors". The definition of sensitive sectors may change over time depending on decisions taken by the Group or by the local management or by requests from the local regulator.

Other forms of concentration risk:
In addition to the above, one of the large institutions sets up limits by product if necessary. Twenty-five different kinds of products are used in their main management and reporting local IT system (for example, credit is only one of those products) on risk.

As indicated under (1) above, creditworthiness is a very important factor for all our respondents, and credit ratings have an impact on the internal limits set by the institutions. No differentiation between single name concentration and other forms of concentration risks was made by respondents in this regard.

(3) Exposure calculations.

Respondents use a number of ways to measure the amount at risk.

For one of the respondents the amount at risk is the estimated loss in case of default of counterparty (debtor/issuer). The amount at risk within their Group is commonly measured as a percentage of initial notional exposure.

In particular, all types of credits granted, guarantees, money market loans and securities in the banking book are valued at 100% of the notional amount outstanding. Credit lines are valued at 100% of the commitment.

Outstanding treasury transactions are valued by applying an appropriate weight to the (initial) notional amount outstanding for every transaction. The appropriate set of weights is a function of the type of transaction (repurchase agreements, foreign exchange, swaps...) and its maturity and has been set by a decision of the Executive Committee. Risk exposures are measured from trade date to maturity for all transactions.

Settlement exposures are measured at 100% of the notional amount in those cases where a settlement risk has been identified.

Another respondent reported that they consider on- and off-balance sheet exposures within the credit limits. On-balance sheet exposures, mainly loans and bonds, usually impact the credit limits with their nominal amount. Credit Default Swaps (in case the institution is the risk taker), are considered for their notional amount, whereas equities (almost exclusively trading book) are considered for their market value. Off-balance sheet items impact credit limits by applying the risk weightings as determined for the various instruments and time horizons.

In the case where they have signed an ISDA - Credit Support Annex with counterparty (only well rated, highly sophisticated banks), the credit risk linked to off-balance sheet exposures is derived from a transaction netting based on a marked-to-market evaluation.

Where an exposure may fluctuate, for example due to repayments made prior to the final maturity date or due to the granting of drawing facilities, they use a conservative approach such as to over-estimate the exposure rather than to under-estimate it. Un-drawn committed credit lines are impacted one to one on the credit limits.

A third respondent mentioned that for loans, they take 100 % of the drawn amount and 100% of the un-drawn amount. Intraday exposures are at 100%. Settlement risk is used for their FX deals, and they use “CLS Bank” to settle a part of their deals. For securities financing transactions, they consider the underlying assets with very conservative weightings using haircuts and margin calls.

<u>CRD impact</u>:

In the context of the CRD implementation, many respondents pointed out to imminent changes with regard to their exposure calculation methods in order to be in conformity with the CRD rules. One of the respondents specified that their group is in the process of shifting the measurement of notional exposures towards marked-to-market exposures, and taking account of future possible market developments by adding a percentage of notional exposure (add-on).

(4) "Connected" counterparties

In their answers respondents referred to the regulatory definition as contained in CSSF circular 2000/10, which reads as follows:

"group of connected customers: two or more physical persons or legal entities which are connected in such a way that one of them, directly or indirectly, has control over the other or others.

A group is also deemed to exist if two or more physical persons or legal entities are so interconnected that, if one of them were to experience financial problems, the other or all of the others would be likely to encounter serious financial difficulties.

Connections as defined in the first two paragraphs above may also exist between two or more physical persons or legal entities in the circumstances described below:

- *one holds rights over the other as defined in Article 77 (1) a) to d) of the Law of 17 June 1992 on the accounts of credit institutions (as amended)*
- *they are both subsidiaries of the same parent undertaking,*
- *they share common shareholders, partners or directors,*
- *they are connected by virtue of cross-guarantees or do business mainly with each other (sub-contracting, franchises, etc.).*

A presumption exists that parties are economically interdependent if the physical persons or legal entities concerned are connected by virtue of direct or indirect participating interests of more than 50 per cent.

Credit institutions are deemed to be in possession of the necessary information to assess whether or not their customers are If a credit institution can supply proof that the risks taken with regard to the physical persons or legal entities referred to in the first and second sub-paragraphs above are sufficiently independent of each other, the Commission may, on receipt of a written request, grant an exemption from the requirement to combine the said exposures.

The CSSF reserves the right to require that exposures to connected customers should be combined if this appears prudent taking into account the connections that exist between the customers in question."

Furthermore, respondents elaborated on specific elements going beyond the aforementioned definition. In this respect it was mentioned that in principle, Special Purpose Vehicles are included in the group that sponsors them. Reference was also made to the special case of joint ventures and consortiums: Associations of persons and/or companies working together in a business venture where none of them owns directly or indirectly more than 50% of the shares or exercises a clear financial/managerial leadership. In this case, the risk is allocated to more groups, in consideration of the estimated responsibility/ shareholding in the venture.

(5) "Group" questions

Most of the respondents (to whom these questions are applicable) indicated that the limits are decided at the group level. However in some cases credit risk measurement techniques might differ slightly across the group.

With regard to intra group exposures, one of the respondents reported that special intra-group limits are set according to (mainly) the business needs of a given group entity. The other respondents indicated that limits for intra-group exposures are defined the same way than limits for any other counterparties.

(6) Credit risk mitigation Includes "indirect" concentration risk

Respondents pointed out the increased use of credit risk mitigation techniques. Most institutions pursue a policy of encouraging bilateral and multilateral netting agreements. They also make extensive use of collateral through repurchase agreements and secured security lending. Some of the respondents reported that for the time being collaterals are not managed separately by applying specific limits to them. They specified that the correlation between exposure and collateral is avoided by the use of common sense, but pointed out to ongoing internal developments in this field.

Institutions recognised that indirect concentration may occur. Most of them stated that even though they currently do not specifically manage indirect concentration risk, they did not consider having an unacceptable indirect concentration risk. One respondent argued that the granted credit limits are usually below the theoretically acceptable amounts - with respect to the institution’s internal rules for granting limits. Another respondent referred to their stringent rules of eligibility governing their collateral, which imply that concentration can only occur within top-rated issuers (and very liquid securities).

Respondents seem to rely mainly on funded protection. One respondent uses unfunded protection (credit derivatives). One other respondent, referring to unfunded credit protection, pointed out that they do not generally search such protection, and that it may only occur on a case by case basis. The protection used by the respondents, is currently only partly recognised for regulatory capital purposes.

(7) Governance and reporting

As already indicated under (1) and (2) above, institutions all reported to rely, inter alia, on a set of internal limits with regard to concentration risk management. They further specified that these limits are hard limits and that every overrun of the limits has to be explained and regularized within a short period of time. An overrun of the limits also triggers a reporting requirement to the relevant hierarchy level.

All respondents replied that they have internal limits in place which are more stringent and more numerous than those foreseen by the regulatory framework.

One respondent pointed out that the limits apply to the group as a whole as well as to each of its subsidiaries.

Most respondents referred to either daily or ongoing monitoring of risk exposures and of the internal limits in this regard. Monitoring is done by the credit department or by the risk management function within the institution. Breaches of the limits are usually subject to immediate reporting to the relevant hierarchy level in the institution (senior management, executive committee, credit committee).

Most respondents indicated that they have in place procedures for regular internal reporting with regard to exposures. Internal reporting is either done on a monthly or on a quarterly basis. This reporting to senior management includes:

- A report on all outstanding counterparty overdrafts recorded at the end of the month in each group company
- A report on all outstanding country overdrafts in each group entity
- A report on all consolidated single name overdrafts during the month

- A report on large single name exposures (above a certain limit fixed by the institution) in the credit portfolio
- A report on exposures in the different rating categories.

Respondents furthermore pointed out to other internal reports on geographical and sectoral concentration risk which, depending on the institution, are done on a monthly, semi-annual or annual basis. Finally an annual overview on effective and theoretical counterparty limits and the changes that occurred during the year is presented to the senior management of some of the respondents. One respondent indicated that on top of reporting to the local management, they also report to their group parent company. Currently none of the respondents is resorting to stress-testing. However most of the respondents indicated that in the context of the imminent implementation of the Basel 2 framework they either will have to develop a credit risk model under the IRB approach, which will also have to be stress-tested or that they were considering the introduction of stress tests.

(8) Regulatory environment

All respondents criticised the inconsistencies between the current large exposure regime and some requirements of the CRD. Respondents think that large exposures should be calculated in the same way as required capital and be part of a single reporting framework. The limits should be commensurate with the risk profile of each individual group of clients as determined by the CRD rules.

However respondents recognised that the current large exposures regulatory regime ensures a complete reporting as it covers all balance sheet exposures as well as off balance sheet contingent liabilities, commitments and derivative instruments relating to one client or to a group of connected clients.

With regard to the costs, one of our medium sized respondents indicated that the cost of the reporting is manageable.

One institution thinks that the European large exposures regulatory regime should not capture and limit concentration risks of geographical and sectoral nature. They explained that the specific economic tissue of each country would make it difficult to harmonise geographic and sectoral limits at European level.

Portugal

(1) Approaches to the internal measurement and management of single name concentration risk

In general terms, for internal purposes, institutions in Portugal have adopted an approach to concentration risk measurement and management which is closely linked to the limits established in the current national regulatory regime. Therefore, single name concentration risk measurement and management considers on and off-balance sheet positions related to single costumers, closely linked costumers and economic groups.

For internal control purposes, an absolute credit limit is established for each counterparty. Exposures, at nominal values, are regularly measured against internal limits. Limits may apply to instrument, maturity, currency or counterparty rating level. Any excess over a limit is reported and corrective measures are enforced, if needed.

One institution referred that for derivatives a maximum potential exposure is calculated (using simulation models based on historical volatility of prices or rates) with a given statistical level of confidence and that maximum potential exposure will affect the limit (except where there is a collateral agreement, in which case the threshold plus an *add-on* for each transaction will affect the limit). A daily control assesses if limits have been breached.

Other institution pointed out the use of internal ratings and scoring scales to measure the ability of borrowers to comply with their obligations. The mitigating effects of the underlying guarantees are taken into account and the materiality level is assessed (as a percentage of available capital). It was also mentioned that the assessment of the borrowers' ability to comply with obligations is usually revised by credit analysts every 6 months.

Other institution said that concerning the recognition of netting agreements related to derivatives, for internal purposes, it follows a slightly different approach than the regulatory one, as it opts to fully consider all add-on values, except for sell options.

The same institution uses an economic capital model which estimates the unexpected losses over one year time horizon for a given confidence level. Although economic capital consumption by counterpart, economic group, rating class, business industry and country are monthly monitored and reported, there are no established limits based on these indicators.

One of the respondents said that for costumers with committed credit lines the amount at risk depends on the amount and limits of exposure to different obligations (loans, guarantees, etc.), while for costumers without credit lines the amount at risk meets the definition of the greater amount that the exposure can reach in this situation. It was also pointed out that usually volatility is not considered to measure future risk exposure for products where the exposure level may fluctuate.

Concentration risk is understood from a single name, sectoral and geographic perspective. One of the respondents said that in practical terms the same sector in a different geographic area is considered a different sector.

The same institution has also mentioned that internal credit limit framework distinguishes three major types of counterparts: i) issuers, ii) corporates and iii) financial institutions. Credit limits for issuers are set according to specific investment policies that define, among others, the single-name maximum exposure, the lowest rating to invest, the maximum exposure by business

sector. The credit limits established for corporates rely on the credit approval process, which defines maximum exposures by counterpart taking into account the instruments and the internal ratings. To what concerns financial institutions, limits are defined according to the counterparts' rating.
Regarding the management of concentration risk, stress testing exercises are not performed on a regular basis.
Regarding single name credit risk, institutions use a control system based on absolute limits. These limits are set as a result of an analytical study of the counterparty in question (and are applied after a study of each individual transaction with the counterparty).
These analytical studies differ with the type of counterparty under scrutiny. There are different methodologies for the analysis of banks, of local governments, of large corporates, of small and medium businesses and of physical persons. Also, special (or very large) operations will have *ad-hoc* approaches.
These studies take into account different inputs, are made with more or less advanced statistical models, and always take into account potential mitigation factors. These studies are more or less standardised for physical persons, other banks and for small and medium businesses. They are less standardised for corporates (especially as they increase in size) and are custom-made for special lending transactions, or for special counterparties, such as big corporates, local governments and other institutional counterparties.

(2) Approaches to the measurement and management of "other" (sectoral, geographic) concentration risk

Some respondents have pointed out that besides the measurement made according to legal requirements they use other indicators like the distribution of credit by corporate sectors, geographic areas and business lines. Sometimes the level of concentration of clients' deposits and interbank funding are also calculated. The indicators, as well as macroeconomic analysis, are used as a basis for senior management decisions.
It has been referred that sectoral concentration comes from large exposures to groups of counterparties in the same economic sector whose probability of default derives from common factors, such as:

- Economic sector
- Geographic localisation
- Financial instruments
- Political risk
- Financial and economic position

One of the respondents said clearly that the most usual practice is the establishment of "debt" limits on a consolidated basis:

- For corporates (short term exposures), limits are usually fixed, while for long term exposure limits are usually linked to projects and cash flow analysis.
- The exposure to each country is based on the information received by central services from branches and subsidiaries abroad.
- The definition of credit limits to financial institutions is based on external ratings (if not available, an internal rating is defined according to a specific methodology).
- The establishment of a limit to a specific sector depends on the ratings of the companies that are already clients within that sector, on the current exposure to the sector and on expected developments. The information is collected through data provided by sectoral associations and related news. A specific

company is often analysed in comparison to the evolution of its sector/sub-sector.

- The analysis of concentration to a certain country is based not only in the rating of the countries located in the region, but also in the most recent developments, as well as in the forecasts of international institutions (e.g. IMF, OECD, European Commission). The whole exposure to the region is also taken in consideration.
- Concerning economic risk, the capacity of a country to deal with an eventual debt default, whether public or commercial, is usually taken into account, considering that the state/central bank may assume in certain cases the private sector's debts. That capacity depends mainly on the country reserves, on the level of the interest rate, on the exchange rate, amongst other monitored economic indicators.
- The establishment of geographic limits is also dependent of other monitored factors such as political risk, social stability, and the political regime.

(3) Exposure calculations

Because institutions for internal purposes have adopted an approach to measurement closely linked to the current regulatory regime, asset and off-balance sheet items (irrespective of belonging to the trading book or to the non trading book) are considered as the following:

- Asset items, at their book-value, minus specific credit risk provisions/impairment;

- Off-balance-sheet items listed in the current Annex II of Directive 2000/12/EC, at nominal value;

- Off-balance-sheet items, at the value resulting from the application of one of the methods mentioned in the current Annex III of Directive 2000/12/EC, without application of the weightings laid down *vis-à-vis* the counterpart;

- The two tranches of securities issued within the scope of securitisation operations with the highest extent of subordination, by the double of their respective amount, provided that institutions have the possibility to determine the identity of the counterparts of the transferred assets, and up to the limit of the exposure, *vis-à-vis* these entities, that existed before the securitisation operation.

One of the respondents explained that exposures from securities financing transactions are calculated as the value of the positive difference between the current value of the security and the present value of the future cash payments.

Regarding the nature of the transactions, another respondent pointed out that the measurement procedures are set up on a case-by-case basis.

Other respondent clearly said it does not apply the EPE approach.

Lastly, one of the respondents answered that it is adopting internally the Basel II IRB Foundation approach on the measurement of the exposure related with these instruments.

(4) "Connected" counterparties

Definition of connected counterparties is usually taken from regulatory rules. Therefore, a group of connected clients is understood as two or more individual or companies that constitute a single entity from the point of view of underlying risk, because they are so associated, that if one eventually faces financial problems, the others will probably have difficulties facing their obligations. It is considered that this relation exists namely when one entity has, directly or

indirectly, a relationship of control over the other or others, or when all are subsidiaries of the same parent company.
A relation of control is understood as a relationship between any natural or legal person and an incorporated company when any of the following applies:
a. The natural or legal person has a majority of the voting rights;
b. A shareholder has the right to appoint or remove more than half of the members of the management or auditing boards;
c. A shareholder has the right to exercise a dominant influence over the undertaking, pursuant to a contract entered into or to a provision in the undertaking's articles of association;
d. A shareholder controls a majority of the voting rights, pursuant to an agreement with other shareholders;
e. A shareholder has a participation in an undertaking, representing 20% or more of the capital, provided that a dominant influence is exercised over the undertaking or where both the dominant body and the undertaking are subject to joint management.
Besides the situations referred to above, the existence of a group of connected clients may also be identified when there are common shareholders, associates or managers and cross-collateral, or when the direct business inter-dependence cannot be replaced in the short run.

(5) "Group" questions
In general terms institutions tend to establish a risk and control management at a group level. However, if subsidiaries are set up in rather different markets, as some Africa countries for instance, or if the IT systems do not cover the entire group, exceptions can be found.
One respondent mentioned that limits are set at an individual entity level. However, on a quarterly basis, risk exposure is assessed at a group level and the significant credit transactions are revaluated on a group basis.
Other respondent explained that counterparty limits are applied at a group level and thereafter distributed by the branches according to commercial needs. The global amount of each limit is defined by the Risk Department and allocated to Commercial Areas.
The regulatory regime establishes that:
- exposures incurred by an institution to its own subsidiaries, to its parent undertaking and to other subsidiaries of that parent undertaking are exempt from the large exposures limits, in so far as they are covered by supervision on a consolidated basis to which the institution itself is subject and provided that they all have their head office situated in Portugal and;
- pending prior authorisation of Banco de Portugal, such exemption may be extended to other institutions subject to supervision on a consolidated basis, in compliance with Directive 2000/12/EC, or with equivalent regulations in force in a third country, provided that, in the latter case, the equivalence is proven by the institution in question and accepted by Banco de Portugal.
That is the reason why two of the respondents have mentioned that they are not establishing limits to intra group exposures, in the sense that these exposures are considered risk free exposures at a consolidated level.
Other respondent, however, pointed out it has explicit credit limits to all its group entities, either if they are based in Portugal or abroad.
Other respondent referred that credit lines approval procedures to group entities are similar to those applied to other counterparties and that it does not specifically allocate economic capital to these transactions.

(6) Credit risk mitigation

In general terms credit risk mitigation is not a tool that is used as a technique to reduce *ex post* the exposure to a certain counterparty. Indeed, exposure is limited by mitigation *ex ante* any given transaction. The most common credit risk mitigation technique involves the use of guarantees and collateral on mortgage loans.

Haircuts are set taking into account the type of asset presented as collateral. In general haircuts are set for a given instrument taking into account the volatility of its price (and, when relevant, its maturity or other characteristics).

Some credit risk guarantees notwithstanding the fact that they are not yet accepted for regulatory purposes, are used to reduce the risk of corporate and personal loans. In the case of netting arrangements, net exposure results in an offset of balance sheet assets and liabilities.

In derivatives and repos, and for some counterparties, collateral agreements may exist to keep exposure at given desired levels, but the levels were set before transactions were made (and transactions were made because the collateral agreements exist).

The reinforcement of mitigation for a certain counterparty due to concentration concerns is usually only performed in an ad-hoc basis.

In general institutions use the substitution approach; the indirect exposures become direct exposures and affect the limits established *vis-à-vis* the issuers of collateral or the providers of unfunded credit protection.

Two of the respondents said that currently indirect concentration risk is not assessed.

(7) Governance and reporting

In general institutions have an executive committee for credit risk responsible for credit risk management, including credit risk concentration issues. The executive committee approves credit limits which are proposed by commercial units, followed by an independent analysis/recommendation issued by a risk department.

New transactions can only be carried out if they are within the limits, and the exposures are adequately controlled and reported by a risk department. Every exposure that exceeds the approved limit needs a specific approval and whenever a limit is breached by a significant value, for instance 10%, or tends to be kept during a significant period, for instance 10 days, a board approval may be needed.

Large exposures related to market risks tend to be reported weekly, while the more common situation regarding credit risk is a monthly report to the committee. The reports are produced by independent risk units within the institutions' structure.

Regarding the management of concentration risk, stress testing exercises are not performed on a regular basis.

(8) Regulatory Environment

The respondents said that the regulatory regime is adequate from a prudential and implementation perspective, when addressing key inherent risks and concentration risks exposure limits.

However, for sectoral concentration risks, the current regulatory regime does not refer to any exposure limits, although there is an implicit obligation on providing statistical information. For geographic concentration risk exposures,

there are specific risk limits considering the large impact on business, pricing and mandatory provisions that a deterioration of the credit standing may imply. No significant impacts have been identified in business due to the EU harmonised regulatory framework regarding large exposures.

Slovenia

(1) Approaches to the internal measurement and management of single name concentration risk

Banks internally adopt an approach to concentration risk measurement and management which is more or less closely linked to the national regulatory limits and requirements. Majority of banks see a single-name concentration risk as the main element of concentration risk. Limits of exposures to both single companies as well as groups of connected companies are used in this respect, (on both the bank and group level). Some banks, especially bigger ones set some stricter limits with regard to concentration risk, especially for granting delegated powers to persons and bodies involved in the banks' credit procedures.

Measurement of single-name concentrations

For internal measurement purposes the exposure at risk is defined in most banks by the total of loans, un-drawn facilities, guarantees, letters of credit and similar obligations. Some banks differentiate between payment and commercial guarantees – the latter are taken with a 50% weight. After measuring the whole exposure some banks take into account the risk of a client, expressed through its credit risk grade and the probability of default, as well as the potential loss in the case of default. Level and the quality of collateral are also considered.

For measuring single-name concentration risk combination of the relative size of the respective exposure (relative to the bank's capital) and the level of risk of a client are taken into account. The measured level of risk can be a result of internal analysis or external sources, like ratings from international rating agencies. Single name concentration risk can also be measured by a dispersion curve showing the relative share of clients (in number of clients) in function of the % of the whole portfolio of the bank (in amount).

Approaches used for measuring single-name concentration risk are generally closely integrated into banks' internal decision-making processes. Measures and procedures are put in place that imply that occurrence of all exposures must be a result of appropriate level of approvals. The approvals themselves must be based on proposals that include analysis of concentrations and all relevant facts and figures that are necessary to make informed decision about placements of banks' funds and full understanding of potential risks involved.

Management of single-name concentrations

Most banks manage single-name concentration risk by setting limits for each single client company as well as for groups of interconnected companies in terms of percentage of banks' regulatory own funds. Some banks set also limits for certain types of exposures / products, e.g. credits, lines of credits, guarantees, securities underwriting. Limits are established in absolute terms and reflect the upper level of debt that individual clients are able to service without problems. Limits are enforced both on the bank and the banking group level and are usually reviewed at least once per year.

Sometimes different approaches are used for lending to different types of clients, e.g. banks, investment firms, other financial institutions, government and state-related entities, retail clients, individual entrepreneurs, small companies, domestic corporate clients, foreign corporate clients, groups of companies.

As far as creditworthiness of the counterparties is concerned, one bank stated that this is not a factor to have an influence on defining concentration risk; the

others however find it as a very important factor in the management of concentration risk. Concentration risk is managed by distributing the bank's credit portfolio between numerous clients on one hand, but on the other hand new clients are not acquired to diminish concentration if they do not adhere to high standards of creditworthiness. Beside creditworthiness of the counterparties other factors are also taken into consideration when setting limits, like type of counterparty, product type, banking book / trading book, tenor, maturity, etc.
Portfolio effects are taken into account as well; in the process of approving new loans and other products an assessment of their affect on the overall portfolio is made.
Other approaches used in the process of managing single name exposures are selling risk to other banks, risk participation and loan syndication.

(2) Approaches to the measurement and management of "other" (sectoral, geographic) concentration risk

Regarding other concentrations, larger banks are enforcing also sectoral concentration limits. As regards sectoral concentration banks control the distribution of their exposures by economy sectors and its evolution in time. Special attention is paid to the most sensitive sectors, taking into account the general economic situation of the sector and the risk of correlation between companies in a particular sector. Real estate, textiles and agriculture sectors are usually considered as more sensitive ones. Sectoral and other aspects of concentration risk however are rarely integrated in the current business decision process.
As regards geographical concentration some banks active in the international market have put in place strategies for entering new markets and established some quantitative limits to manage country risk. Many country-risk exposures are also insured with the national export agency.

<u>Measurement of other concentrations</u>

For measuring other concentration risk combination of the relative size of the respective exposure (relative to the bank's capital) and the level of risk of a sector or a country are taken into account. The measured level of risk can be a result of internal analysis or external sources, like ratings from international rating agencies. Definition of sectors used in measuring sectoral concentration risk depends on the official national statistical classification. When deciding upon limits to foreign countries many different relevant factors are taken into account, like the size and the level of economic development in each country, its rating by major international rating agencies etc.

<u>Management of other concentrations</u>

Regarding other concentrations, some banks enforce both sectoral and geographic limits. When dealing with industry sectors, banks are on one hand trying to avoid or decrease their exposures to deteriorating industries while on the other hand to prevent overly exaggerated concentrations of their exposures to different industries which might at present still be doing fine. The tools to manage sectoral risk are charts of distribution by sectors and stress test. There are, however, limiting factors, which affect banks' ability to manage sectoral concentrations. Management of sectoral concentrations is hampered by the small size of our country (it happens that only a handful of companies represent a certain sector).

Regarding geographic concentration some banks have put in place comprehensive strategies for entering new markets. Placements in other countries are strictly controlled in accordance with risk policies. When deciding upon limits to foreign countries many different factors are taken into account, like the size and the level of economic development in each country, credit rating issued by major international rating agencies etc. To further mitigate exposures to country risk many of banks' exposures to high-risk countries are insured with the national export agency.
Portfolio effects are taken into account as well; in the process of approving new loans and other products an assessment of their affect on the overall portfolio is made. Banks check their impact on the structure of portfolio by sectors, countries, types of products and other important aspects.
Stress tests
Only the biggest banks use stress testing as an additional tool to analyse sectoral concentration risk. Stress scenarios are defined for each sector and the sensitivity of the portfolio to these scenarios is measured by way of a degradation of the rating of the counterparties. Stress tests are performed quarterly.

(3) Exposure calculations
Derivative and structured exposures are considered either on a 'mark-to-market' basis plus 'add-on', or at nominal value as established by the national regulatory regime. A bank using an internal credit risk model measures replacement risk on derivatives by a credit VaR model, with a confidence interval. Settlement exposures are not considered in the total exposure, although they are monitored for banking counterparties.
In relationship to securities financing transactions, which are rare in our country, different methodologies are used for measuring single-name exposures. Some banks use the fair value, i.e. mark-to-market approach (exposure equal to the current fair value of transactions that are favorable to the bank and potential exposure from market movements per types of instrument). When it is impossible to establish the current market price of the underlying securities, the nominal value approach is used. Some banks which are part of international banking groups use the expected positive exposure methodology.
Exposures to entities or products consisting of underlying assets or items don't represent an important type of exposures of our banks and are generally treated in the same way as other single-name concentration risk exposures. Some banks consider such exposures in the calculation of concentration risk of any participant either on a proportional basis (when the management of the entity is considered self-governing) or on a full basis (when the participant has a significant influence on the management of the entity).

(4) "Connected" counterparties
Direct or indirect ownership connections are prevailing factor in determining connectedness of different counterparties. 50% ownership rule is used in most cases. Other factors, such as business dependencies, existence of common management etc., by which a possible default of one company could significantly affect ordinary activities of another company, are also taken into account.

One of the problems encountered in Slovenia being a small country is that the interconnectedness of companies is big and increasing, which makes identification of groups of connected clients quite challenging.

(5) "Group" questions

Banks which are part of international banking groups are included in the monitoring of the concentration risk at the group level.

Banks which are part of international banking groups usually follow concentration risk policy dictated by the parent bank, but nevertheless limits are set at individual entity level as well. Banks with their own groups set limits and apply the concentration risk measurement and management at a group level. All members of the group must provide the parent bank with the data about their exposures to all their clients on a regular basis. They must also provide the parent bank with the data about credit grades, customers' performance etc. Upper limits for exposures to a particular client or group of connected clients are established, based on the criteria of client's overall ability to service the given level of debt. Established limits are then applied to all members of the banking group. The same methodologies for establishing limits are enforced throughout the entire group.

In banks which are part of international banking groups intra-group exposures are monitored within limits authorized at the banking group level. In banking groups headed by Slovenian banks limits are set also for intra-group exposures. This process differs from setting "ordinary" limits in a sense that the parent bank has much greater control, information etc. of companies in the group. The parent banks regularly analyses and reviews the portfolios of other group members, their bad loans provisioning, risk management, loan approval processes, strategies and other important aspects of their operations.

(6) Credit risk mitigation

Collaterals and guarantees are extensively used in order to mitigate single-name concentration risk. There are usually no distinctions between the uses of mitigation techniques for internal or regulatory purpose.

<u>Funded protection</u>

In general, three basic groups of collateral can be distinguished:

- Prime-grade collaterals (e.g. cash deposits, securities of EU governments…),
- Real estate-based collaterals;
- Other collaterals.

With prime-grade customers collaterals are used primarily for exposures with long-term maturity, while with sub-prime grade customers collaterals are also required for exposures with short- to medium-term maturity.

Collaterals are valued in accordance with regulatory rules and are periodically revised with the aim of reestablishing original margins. Valuation of collaterals takes into account the actual possibility of realizing the counter value by placing the item on the market. When calculating large exposures the full value of the prime-grade collaterals can be deducted from the amount at risk. Nevertheless, both the client and the true value of collateral are continuously monitored. If the value of the collateral deteriorates, the value used to calculate the exposure has to be reduced. As banks are well aware of potential high risks arising from real estate, the value of real estate collateral is not deducted when calculating large exposure concentrations.

The "top slicing" approach – use of credit protection to reduce the uncovered part of the exposure that would exceed internal or regulatory limit is used only

in case of high-grade clients. Netting has been used as a risk mitigant only in few cases, i.e. in case of derivatives and only with clients that have signed the netting agreements (within ISDA agreement).
Unfunded protection
Guarantees are also extensively used as risk mitigants. The most commonly used guarantees are those issued by first-class banks. Creditworthiness of these banks has to be periodically revised. In case of international banking group guarantees from the parent bank are also a widespread way of reducing exposures which would otherwise exceed the regulatory limit. Some banks require state guarantees when dealing with larger exposures to government related clients (e.g. infrastructure-related project like roads or power-plants). When dealing with customers in countries with non-prime grade rating, insurance from national export agencies is used to mitigate country risk.
Unfunded protection consisting of an irrevocable guarantee from prime-grade guarantor is taken into account two-fold. First, its amount is deducted from the large exposure calculation of the debtor. Second, it is deducted from the credit limit of the guarantor. In such a way the risk is effectively relocated from the debtor to the guarantor. In order for the guarantor to be recognized as credit risk mitigant, it must have prime-grade credit rating as well as sufficient strength that enable him to finance his guarantee in case of the primary debtor's default. He should also not be overly leveraged and have sufficient free credit limit with the bank.
Both forms of credit protection, i.e. collaterals and guarantees must be thoroughly checked in order that they cannot be legally challenged later. If there are any doubts from the legal perspective, they cannot be taken into account in the process of calculating the exposure.
Indirect exposures are considered in the same way as direct risks and are consequently fully included in the calculation of the concentration risk. The aggregate amount of direct in indirect exposure must not exceed the limit of exposure established for the particular client.

(7) Governance and reporting
Big banks have developed comprehensive systems of obligatory measures and procedures that ensure that each new exposure must be approved by appropriate level of authority within the bank's decision-making hierarchy. While smaller loan or other exposure approval can be decided upon at the branch level, larger amounts (measured in terms of percentage of bank's capital) must be dealt with at higher decision-making levels of authority. The biggest exposures must be approved either at the level of the board of directors or the supervisory board. The information presented to the mentioned managerial levels must also include calculation of risk concentration (in terms of percentage of bank's capital). Additionally all risk concentrations and large exposures are analysed at least quarterly, usually by the risk division. Control of limits is also part of the regular audit missions.
Smaller banks have put in place simpler systems for controlling the concentration risk limits and reporting of exposures and their breaches to the regulatory authority as well as to the authorized persons in banks. Mandatory monitoring frequency is linked to the regulatory reporting requirements.

(8) Regulatory environment
Banks consider the large exposures regulatory regime prudentially sound, simple and effective. It has been successful in preventing major problems for

banks in our country arising from default of large borrowers. Beside that it can be credited for creating awareness of importance of managing large credit risk concentrations in the banks. Because of its relative simplicity it is also quite cost effective.
It can, however still be further improved in a sense that the regulatory limits could be somewhat higher for prime-grade clients. The current regulatory regime has namely sometimes constrained banks' business decisions in a sense that it has in some cases reduced their ability to fully service their largest prime-grade clients while in other cases it has induced additional costs on their business because they had to obtain third party collaterals or guarantees for reducing the regulatory calculation of such exposures. Banks' exposure towards their parent banks are another example of exposures where the limits could be eliminated as such exposures don't represent a risk for banks. In case of different risk profiles of institutions (e.g. investment vs. universal banks) it could be sensible and desirable to have different limits.
Current regulatory limits are to a large extent consistent with banks' internal management practices. Therefore they are able to use the information that they supply to meet the regulatory requirements for large exposures, and the systems that they use to capture and process that information, in their own risk management.
Regarding sectoral limits it can be argued that in a small country it can be difficult to capture such concentrations within a regulatory regime in a sensible and practical way as there may be a specific industry structure and just a few major economic regions within a small country. More feasible it appears to establish limits in terms of country concentration risk.
International activities of our banks have not been impacted by the differences in regulatory regimes between different Member States, which arise in banks' opinion mostly from different market conditions.

Spain

(1) Approaches to the internal measurement and management of single name concentration risk.

Concept
In general, single name concentration risk is defined as the risk coming from large individual exposures which are economically interrelated and that can negatively affect the solvency of the institution.
Some definitions pointed out different aspects like:
- The impact should be ¨significant¨ or that it should affect institution stability.
- The importance of the unexpected nature of this risk and that a greater concentration should be accepted in groups or sectors considered strategic for the institution.

Only one institution in the sample[3] defined the loss derived from concentration risk as an unexpected loss dependent on the correlation within the portfolio, ownership or other.
Measurement/Management
The risk is measured in terms of capital and, in some cases, also in terms of total assets. In addition, one institution also calculates limits in terms of capital and assets of the counterparty.
All of the institutions take account of single name concentration in their risk management practices. In general, there is a special monitoring of large exposures.
The risk is managed using internal limits that are in most cases more stringent than the regulatory limits (e.g. Definition of large exposure: 5%, limit of each individual exposure: 20% and limit for the total large exposures: 4 times own funds).
The limits are taken into account in the granting of credit and in the monitoring of the risk. The limits used are calculated in terms of capital but are translated into absolute amounts for operative reasons.
Creditworthiness
The creditworthiness is a crucial factor in determining the internal limits in the majority of the institutions of the sample and in general in all the process of measurement, control and management of this risk.

(2) Approaches to the measurement and management of "other" (sectoral, geographic) concentration risk.

Concept
The general definition of sector concentration risk is the risk coming from groups of individual exposures subject to the same determinant factors affecting its probability of default (same sector, same geographical region...) that can negatively affects the solvency of the institution.
Some of the considerations made in part (1) on the concept also apply here.
Measurement/Management
Sector concentration is always taken into account in a way or another. The risk is managed using internal limits in terms of capital (e.g. sector 15%) or assets.

[3] This sample is formed by Spanish small and medium institutions.

Some institutions perform analysis on the sectors on which the institution activity is more concentrate (e.g: real estate).
Geographical concentrations are taken into account at national level in relation with real estate.
The most developed procedure described for an institution was the following:
The sector concentration risk is calculated in a different way for the retail activity and wholesale activity. For the retail activity it is distinguished by the legal nature of the counterparty, great activity sectors, and sectors following the classification of the Banco de España. However, for the wholesale activity it is used the sector definition from Bloomberg.
The geographical concentration is also obtained differently for the retail business and wholesale business. In the first case it is grouped by provinces without personal guarantees or shares. The wholesale activity is grouped by countries.
Other concentration analysed are: by residual term, by type of guarantee (only retail) and by credit rating (only wholesale).
Creditworthiness
The creditworthiness is taking into account in some cases, but neither stress test nor scenarios analysis is performed.

(3) Exposure calculations.
The general approach is:
. On-balance sheet items are calculated at balance sheet value.
. Off-balance sheet items are accounted at the potential loss in case of contingent assets and in case of derivatives the notional value once adjusted by the corresponding regulatory coefficients of reduction.
The most sophisticated approach is the given for one of the largest institutions:
. For retail the exposure is calculated following the current regulatory rules. For wholesale the exposure is calculated with the following formula: max value (market value, 0) + potential future exposure) * % weight of the counterparty. There is no netting with additional guarantees, collateral, credit derivatives, netting, etc.
. For sector, geographical and other concentrations the exposure is calculated: 100% of balance + disposable + 100% personal guarantees + market value of fix interest rate securities + market value of shares

(4) "Connected" counterparties
In general institutions define the connectiveness of counterparties following the legal definition of ¨economic group¨ given in our regulation based on the political control of the institution.
Many of them have IT system that allows identifying and taking into account these relationships in the management, both in the granting of credit and in the monitoring of the credit already granted. Indirect connectiveness is also taken into account by considering its creditworthiness at the time of granting the credit and by monitoring this type of assets once the credit is granted.
Other factors that determine connectiveness apart from the ownership are the joint management or administration, commercial links, control, unit of decision, financial support, etc.
Although a few admit not having a definition of connectiveness, and not take into account this connectiveness in the management, neither the indirect exposures.

(5) "Group" questions
Two institutions have limits on both at consolidated and on a solo basis. Other two said that they have limits on a consolidated basis. The rest declared that they have limits on individual basis but there should be not a great difference given the nature of the groups.

(6) Credit risk mitigation
The most used mitigator is real state guarantees, real financial guarantees (collaterals with very stable values), personal guarantees enough solvent and SGR (the Reciprocal Guarantee Company). Some use ¨outline agreements¨ and netting contracts. Credit derivatives are only used on exceptional situations.
Sometimes indirect concentration is taken into account.
The creditworthiness is an important factor in the use of risk mitigators.

(7) Governance and reporting
The four largest institutions in the sample have in place very well defined governance and internal reporting systems based on the following pillars:
1) Delegation of functions on credit issues from the Board of Directors based on the amount the credit represents in terms of capital or assets.
2) Definition of internal limits approved by the Board of Directors
3) Monitoring of the accomplishment of the internal and regulatory limits by the Committee in charge of the credit policy.
4) Regular reporting to the Board of Directors
5) Internal Audit review of the largest exposures and limits.

The four smallest institutions in the sample have less defined governance and reporting concerning concentration risks. In general they perform regular reports on the largest concentrations, and periodically report to the management.

(8) Regulatory environment
In general the institutions think that the current regulatory regime is appropriate, although it should be more sensible to the creditworthiness of the counterparty and the use of CRM.
Some pointed out that the criteria to establish connectiveness is not enough clear in the regulation.
All agree in that regulation should also take into account other type of concentration. However four expressed that it should be done at a qualitative level by requesting institutions for appropriate procedures to identify, monitor and manage this risks. Other pointed out the difficulty of establishing these limits in absence of a common definition of sectors or geographical areas, etc. The key is that the institution defines its internal limits, asses the potential losses and has in place contingent plans in case of a potential capital deficit.
The current limits are considered appropriate both on a prudential and a level playing field perspective. Although some stated that the limits should be sensible to the risk profile of the institution. The regulatory limits are viewed in general as consistent with internal practices.
The limits in general do not represent a constraint because internal limits are more stringent. But in specific circumstances they could transitorily represent a problem. One institution declares that limits represent a constraint in its cash management activity.

The regulatory reporting is not in general take into account for management purposes only for those institution that rely the most on the regulatory framework to manage this risk.

Sweden

(1) Approaches to the measurement and management of single name concentration risk

The single name concentration risk in the banks is typically conceptualised via the requirements that the Swedish Finansinspektionen has endorsed. The Swedish banks has models in place for measuring concentration risk or is in a process of implementing models for measuring concentration risk. The models are either in house developed or using external recognised models.

The risks are managed through internal limits, which normally are substantially lower than the levels that the regulatory regime stipulates. Limits are on a gross basis (of course there are exceptions for different financial instruments) and add-ons are used for covering future potential increase in market values for certain financial instruments. Some banks also take netting effects and collateral management into consideration in the calculations including capital allocation to cover the potential loss for the exposures. Policy guidelines are in place and decisions for concentration risk are handled by the relevant credit granting committee.

The Swedish banks has risk classification systems in place which means that the counterparties are risk rated internally and thereby the creditworthiness of the counterparty is taken care of.

Different forms of stress testing practices of concentration risk are in place. This varies to a large extent in the Swedish banks. Some banks has come quite far while others has to deepen their knowledge and develop their thinking further in this area.

(2) Approaches to the measurement and management of "other" (sectoral, geographic) concentration risk

The large banks measure and manage the other (sectoral, geographic) concentration risks. This could be done by monitoring on a regular basis the portfolio by industry sectors, certain financial instruments as well as countries. However, the picture seems rather split among the banks and no clear conclusion can be drawn from this.

In some cases limits are set by sector, financial instruments or geographical region where in others cases no limits are set for industry sectors. There are examples of banks, which have policy guidelines in place for limiting exposures to industry sectors.

Normally there is no regular stress testing of industry sectors so this activity is done more on an ad hoc basis (for instance; what does the bird flu means to the agricultural business and our credit portfolio to that particular sector?).

(3) Exposure calculations

Different methodologies are used to define the exposure values for different financial instruments. Basically, nominal values are used for a number of financial instruments on balance, while for a number of derivatives the exposures is compiled from market values plus an add-on for potential future exposures.

The add-ons differ for different transactions where the tenor and the type of financial instrument are taken into consideration.

(4) "Connected" counterparties

The banks have systems in place to determine “connectedness” for counterparties. This would normally include legal requirements as well as soft requirements such as what kind of influence that one party have over another party or mutual relations those parties has towards each other.
The systems include structures for limit decisions, risk ratings and reporting requirements.
Concerning the issues of exposures to entities or financial instruments consisting of underlying assets or items the banks ambition is to take care of this as much as possible under the single name regime.

(5) "Group" questions
Concentration risk is primarily measured and managed on a group-level in the larger banks (because that is how the banks are operating). In some banks the intra-group exposures is limited and monitored on subgroup and individual entity levels as well. However, normally economic capital allocation is excluded for the intra-group exposures.

(6) Credit risk mitigation
The banks normally use credit risk mitigation techniques to reduce single name concentrations risk. Consideration is for instance given to the legal enforceability and suitability for the particular counterparty. However, the techniques to measure the exposure after taken credit risk mitigation into consideration seem to be rather split among the larger banks.

(7) Governance and reporting
The banks have routines and systems in place to limit the risks by the relevant committee. Reports are sent to the executive management, and in some cases also to the board of directors, normally on a quarterly basis.
The unit in charge of monitoring, controlling and reporting of the credit operations and the credit risks are deemed to be independent and separated from the business units and business operations. Limits for individual customers, costumer groups or key industries are subject to frequent review (for instance on an annual basis).
There are examples of banks that have chosen not to answer this question and instead have referred to the answer given by European Banking Federation

(8) Regulatory environment
Reports are sent to the Swedish Finansinspektionen and the Swedish Central Bank (Sveriges Riksbank) on a quarterly basis. The reports to the Finansinspektionen and to the Riksbanken are regulated by instructions from the respective authority.
There seems to be a rather spilt opinion among the Swedish banks about the consistency of the regulations for large exposures in the EU Member States.
There are examples of banks that have chosen not to answer this question and instead have referred to the answer given by FBE.

United Kingdom

(1) Approaches to the measurement and management of single name concentration risk

Large UK financial institutions have internal single name concentration risk management policies and systems in place which respondents argue bear little relation to the regulatory requirements and are often more conservative. More sophisticated UK institutions generally have two kinds of limits: (i) an internal maximum exposure guideline (internal limits), and (ii) a regulatory large exposure limit (regulatory limit)

UK firms indicate that single name concentration risk is a key aspect of their overall risk and credit risk management. In general terms the approach adopted appears to be related to preventing severe 'tail events'. One respondent said 'the risk is related to the loss of a significant part of capital due to the bankruptcy or failure to pay of a single borrower or borrower group'. Another said 'single name risk can be considered to be a particular case of concentration risk and is defined as the risk that the default of a single customer or connected group of customers results in impairment in a given period that is out of line with external expectations causing a disproportionate reduction in market capitalisation or in extreme cases that is large enough to threaten the [institution's] health or ability to maintain its core operations.'

In general terms the approach adopted by most or all firms places a significant emphasis on the establishment of internal limits or 'maximum exposure guidelines' in relation to single name counterparties. Respondents indicated that they take a variety of factors into account when setting limits. These include, to a greater or lesser extent, the creditworthiness of the counterparty (including variously obligor grades, rating agency ratings, qualitative analysis, etc), the nature of the product (including in some cases correlations with the counterparty's operating environment), maturity/tenor, estimated loss given default, etc.

One respondent for example indicated that it uses an LGD concept for setting limits and provided the following description of how it sets limits: 'The creditworthiness of the counterparty is a key consideration in setting individual customer limits, which are set in absolute values.' A range of qualitative and quantitative factors are taken into account, including:

- Purpose of the credit and sources of repayment
- Current customer risk profile and its sensitivity to economic and market developments
- Compliance with any applicable credit risk policy requirements, risk appetite statements and lending assessment guidelines
- Compliance with affordability tests
- Customer's repayment history and ability to repay
- For business customers, the customer's position within a sector and the outlook for the sector
- Credit risk measures appropriate for the type of customer such as credit grade, Probability of Default (PD), Loss Given Default (LGD), and Expected Loss (EL)
- Adequacy and enforceability of any risk mitigation

- The legal and reputational risks associated with the proposed facility/relationship

One respondent indicated that for financial institutions it uses a 22 point internal customer rating scale. Limits are driven by this and by the capital resources of the counterparty 'based on a matrix which allocates maximum exposure guidelines on a tenor basis'. Limits are 'generally set as a percentage of capital base'. Some respondents report that they apply limits at different levels – for example counterparty limits for a product category, or business area, combined with an overall appetite for the counterparty. In general respondents adopt a 'multi-level' approach to the setting and application of limits, to the review and monitoring of limits, to the approval of excesses over the limits, and to reporting of single name risk concentrations.

Most respondents have processes for determining/reviewing when a limit might be exceeded. Some respondents indicate that the limits may be exceeded up to a certain level subject to designated approval and/or review processes. Other exemptions might need to be cleared at a global head level. Where limits are described as, for example, maximum exposure guidelines again exceeding these guidelines needs to be approved – for example by a group risk committee. One respondent indicated that the limit is set by the credit officer based on a formal analysis, this is then supplemented by monthly reports containing several 'top 20 schedules' which is reviewed by senior risk management. (See further the section on corporate governance/reporting below.) Some respondents set limits in terms of monetary amounts. Others indicate that limits are expressed in terms of a percentage of the counterparty's capital and reserves.

One respondent said that while not specifically requested by the questionnaire, it wished to comment that it had processes and procedures in place in respect of the measurement of issuer risk as this was thought to be important given its large derivatives book. It undertakes "jump to default" analysis of investment and non investment grade items (this is in reference to underliers/notionals within derivative positions). The respondent said it additionally "looks at jump to default risk in the market risk space on a top ten basis of high yield names" and "currently adopts a risk sensitive capital charge to jump to default, based on the top ten analysis".

Stress Testing

The degree and nature of use of stress testing in managing single name concentration risk appears to vary amongst respondents. One respondent indicates that they carry out routine stress tests (for example 'as part of the suite of stress testing procedures, our monitoring of 95th and higher percentile exposures and our "economic capital model"') and through the efforts of a scenario analysis team which has responsibility for identifying potential risks and scenarios for further analysis at single name and portfolio levels. Another indicated they continually monitor 'jumbo' clients both for marketing opportunities and for the monitoring of risk – 'simple ad hoc "what if" tests is one of the various methods used to that end' and in addition group-wide annual stress tests incorporate large name risks. Another indicated that scenario exposure reports are run on a monthly basis which highlight the top 25 investment grade and non-investment grade exposures in each region based on

a defined set of scenarios. Others appear to use limited stress-testing in relation to single name exposures. One respondent indicated that while it does not currently carry out concentration risk stress-testing they are currently undertaking work in respect to introducing the stress testing required in relation to the implementation of the CRD.

(i) Investment management firms (ii) Small private client investment managers/stock-brokers

Respondents (e.g. private client investment managers / stock-brokers and investment managers) which do not have significant credit risk activities or for whom credit risk is of a particular type (e.g. settlement risk) indicate that, in addition to their management of their risks, they use relatively simple aggregation methodologies to ensure that they do not breach the regulatory limits. One respondent indicated that it considered it was adequately managing its settlement risk by having sufficient regulatory capital for large exposures not to become an issue. This respondent indicates that for it the management of single name concentration risk flows automatically from the good day-to-day management of all settlement risk regardless of its distribution amongst counterparties.

The Investment Management Association notes that credit risk is not considered to be a business risk of any significance by its members. It notes that those 'concentration' aspects that are of significance to a particular institution will be expected to be carefully monitored (e.g fees owing, concentration of assets under management or clients in a particular market, sector or geography). It suggests that even smaller investment management firms regularly undertake 'what if' exercises on the value of assets under management to see how the business would perform with different assumptions. In terms of 'credit risk concentration limits' their approach is driven (unduly they argue) by the regulatory requirements. Responses from individual asset management companies supported this analysis.

(2) Approach to the measurement and management of 'other' concentration risk ie. sector, geographical etc

As with single name concentration risk, sector, geographical and country risk is monitored, reported and managed at group and divisional levels for the larger institutions. Descriptions of the risk include: 'risk of the loss of a significant part of capital as a result of sequential bankruptcies or failure to pay of clients in the same industry or geography over a period of time in response to cyclical industry factors, or country risk events'. Respondents consider this to be an important risk to be address. Respondents use a mixture of tools and approaches to address this risk. The tools include the use of limits, reporting and management response, judgemental considerations around high-risk areas, and scenario analyses and stress testing. One large trading respondent indicates that it has tools and procedures in place to identify aggregate exposures using criteria such as product, industry, region and country.

Measurement of exposures across these criteria is done on a routine basis and reported weekly, monthly or quarterly to senior management. There is a country status list – determining how much business can be done in each market and Sovereign limits which are reviewed monthly. There is a weekly review of new exposure-generating trades in emerging markets. And there is a High Risk Country List and all business in these countries is required to be

approved. Where concentrations of risk are identified (depending upon the nature of the risk, the vulnerability of the sector and the amount of the exposure) management require to be notified and further in-depth analysis may be required.

One respondent indicated that exposures to emerging markets are constrained through country limits. There is weekly monitoring of these and several levels of limits. Concentration risk for industry sectors is calculated by aggregating 'potential exposure' amounts. A monthly global credit risk report is produced which includes the top 20 industry exposures. These are compared to capital and wherever trigger levels are exceeded these need to be discussed with the Chief Credit Officer. Scenario exposure reports are run on a monthly basis which highlight the top 25 investment grade and non-investment grade exposures in each region based on a defined set of scenarios. Scenario parameters shifted include fx rates, interest rates, equity prices and credit spreads. Specific emerging market crisis scenarios are used for concentration risk in emerging markets leading to scenario exposure limits at the country and regional level.

One large bank respondent considers its risk appetite from two perspectives – financial volatility (level of losses prepared to sustain at relevant parts of the risk profile); and 'mandate and scale' (additional limits and triggers to ensure that concentrations do not give rise to undue losses). So limits are set capping exposure in respect of industry (e.g. property), sector (e.g private finance initiatives), product type (e.g. mezzanine finance) and geography. Limit parameters are defined in terms of definitions (for example exposure to all counterparties in a particular industry sector classification), the limit (exposure at default, economic capital, total limits) and the allocation of limits across business units and territories.

In setting the limits a variety of factors are considered including overall economic outlook, group strategic constraints for risk appetite, current and forecast exposure, market growth rates, risk return considerations, nature of the risk (volatility, term, etc), modelling capability, etc. This respondent stress tests for issues of particular concern in response to requests from higher management or as part of annual group wide process. Events to be tested for are selected on a potential impact basis. Sector deterioration analysis are conducted which feed into 'add ons' in respect of one-year forward looking expected average losses across the loan book. A large bank – indicates that there are three components to its approach on this aspect.
(1) key sectors are defined and prioritised for review based on for example, sector size as part of bank portfolio, an unfavourable assessment of the risk drivers, including economic outlook, for the sector. A number of aspects – credit risk amount, maturity etc; identification of key trends, opportunities and threats; assessment of macro-economic factors; etc – leading to definition ('positive'/'cautious'/'negative') and implementation of credit risk appetite and lending assessment guidelines.
(2) portfolio triggers and caps. While focus is to select highest quality assets rather than apply sector limits, in exceptional circumstances portfolio triggers or caps will be applied. (Triggers are used to instigate a review of credit risk appetite.)

(3) stress-testing is an important part of sector concentration risk management process. This looks at potential loss over a one year time horizon based on reasonably plausible events (i.e. not tail events). They take account of ten to fifteen non-systemic stress scenarios. Takes into account inter-sector correlation. A 'trigger' limit is set based on percentage of group profits is set based on the scenarios. Analysis is also carried out to assess the impact of macroeconomic recessions on the Group's portfolio.

Country risk is managed based on limits derived from country grades (related to tier 1 capital). It is based on an unexpected loss approach. A bank respondent said it carries out selective stress-testing on portfolios deemed to offer particular risk ('of gapping'). Select country portfolios – determined on a risk-based approach – are stress-tested weekly. This focuses on specific portfolios – e.g fx bond spreads/prices, equity indices). Stress testing of mortgage and loan portfolios is also undertaken.

(3) Exposure calculations
Responses in respect of exposure calculations from the more sophisticated institutions were to a certain degree gnomic and in need of further interpretation/elucidation. While respondents take credit risk mitigation into account in calculating exposure values, this is dealt with separately below.
There seems to be a certain degree of commonality between respondents and a degree of difference in approaches – as would be expected.

Concerning loans, facilities and guarantees respondents generally adopted a 'full amount at risk' approach – ie a 100% conversion factor. In relation to OTC derivatives many respondents adopted a simulation/modelling approach to arrive at a PFE/mark-to-market through time value. Different confidence intervals were used with often more than one being calculated. One respondent indicated that it also used stress-testing. One respondent indicated that its approach was based on stress of the underlying risk factor. Another indicated that it used current mark-to-market and potential future exposure (PFE). One respondent indicated that the group estimates exposures at the 95% worst case level using a Monte Carlo simulation model including the effects of netting and collateral and correlations amongst risk factors.

In respect of calculating the exposure value for repo-style transactions (and in some cases margin lending): one respondent indicated that it uses VaR methodology to simulate changes in value and collateral. Another indicated that it uses a PFE methodology using simulated exposures based on underlying market risk factors. Another explained that the exposure is measured net of collateral using 'Potential Credit Exposure'. 'PCE is calculated as the sum of the worst-case increase in the price of the securities calculated with 99% confidence over the risk interval plus the margin call threshold plus the margin given to the counterparty (if any)'. Another said that for securities financing transactions, exposure is measured based on 95th percentile stress of the underlying bond. One respondent said it uses a VaR-based approach for hedge fund clients and an MTM plus add-on for non-Hedge fund clients (for margin lending it uses a VaR based approach).

In respect of intra-day and settlement exposures respondents adopted a variety of approaches which were not clearly explicated. One indicated while tightly

managed these exposures were excluded from single name limits. One indicated that for settlement exposures it uses a monte carlo simulation at the counterparty portfolio level 'with different currency pairs and at least one currency option'. One indicated that for 'free of payment' settlement exposures, exposure is calculated – and as the FX portfolio is the biggest driver of risk daily settlement limits are also established. Another indicated that 'regular way' cash trading was not monitored actively except for extended settlement, while for 'free of payment' settlement exposures the notional amount of the payment needs to be pre-approved. And another indicated that settlement exposures are measured on a gross/net basis to reflect legal documentation.

One private client investment manager / stock-broker respondent indicated that settlement risk is the only exposure class relevant to its business. They define the amount at risk as the potential loss of having to strike a trade in the market to replace one that has failed with a counterparty. In short, it is the adverse difference between the considerations of the failed and replacement trade.

Structured products and Special Purpose Entities

In general respondents adopt a differentiated approach to exposures to entities or products consisting of underlying assets or items. For example one respondent indicated that in relation to exposures to ring-fenced SPEs these are assessed and reported on a 'stand-alone' basis unless a look-through approach should be adopted. The examples of look-through given by this respondent involved look-through to a third party (e.g. where the SPE is owned and consolidated by the seller of the assets, or where there is recourse to a third party). Another respondent indicated that it is necessary to look beyond the structure to identify the counterparties to whom they are taking the exposure. Another respondent appeared to indicate that they adopt a bifold approach – keeping the SPE as a stand alone entity in the credit system but also capturing exposures to underlying reference names. For mutual funds a different approach is adopted separating out the asset manager from the group to which it belongs. Another respondent said that 'structured products are disaggregated and treated according to component parts'.

(4) Connected Counterparties

Bank and institutional respondents often define connectedness(of third parties) as one of the following:

- **Ownership**: parental ownership is generally defined as an equity interest of above 50%. Some firms can organise counterparties into group hierarchies of legal ownership (including shared ownership etc.)
- **Management control**: where the management of one entity controls the management of another.
- **Financial dependency**: such that one entity's financial difficulties would affect another.

One institution questioned the treatment of all intra-group exposures as connected counterparties subject to the same limit in aggregate as for a single third party exposure, when the only 'connection' is ownership by the firm that has the exposure.

The relevant credit officer may determine connectedness based on the risks involved in the particular transaction/structure. In some cases, the system is flexible enough to allow counterparties to be linked together in circumstances

other than those outlined above and the credit officer considers it to be relevant (for example, customer- supplier relationships etc.). Generally, the entity can be identified on the system as a corporate or another type of entity (for example, sovereign, Fund, Individual etc). For concentration purposes, risk is measured primarily at group level. However, some respondents commented that it may be impractical to aggregate all exposures to connected counterparties. Therefore, "de minimis" limits are set below which aggregation is not required, although these are regularly reviewed. It appears that, generally, the nature of risks is re-assessed on a regular basis. In some circumstances connectedness is monitored by an independent team, whose responsibilities include managing and documenting linkages between entities. However, many respondents did not comment explicitly on the monitoring of connectedness.

In line with regulatory requirements, connectedness of counterparties is determined by whether they meet either or both of the control and financial soundness tests. Banks' control tests considers the degree of control that one counterparty has over another. In situations where there is full or majority ownership or the financials of one counterparty are consolidated with financials of another, then control is presumed to exist. In some cases, control may be more difficult to determine. Risk assessors often look beyond legal structures in order to determine where control exists. If this is the case, then counterparties are aggregated. Counterparties are also considered connected where the financial soundness of one or more parties may affect the financial soundness of the other(s) or the same factors may affect the financial soundness of both or all of them. Where counterparties are agreed to be connected then it is standard requirement for some UK banks that credit exposures to those counterparties are aggregated for credit approval and relationship management purposes.

Private client investment manager and stock-broker
For one respondent due to the nature of their business their only credit risk is settlement risk. They define the amount at risk as the potential loss of having to strike a trade in the market to replace one that has failed with a counterparty. They do not recognised 'connectedness' of counterparties – 'all counterparties are therefore treated as single name counterparties. They believe this simplification is reasonable for the business they undertake.

(5) Groups questions
Level of application
In terms of the level within the banking/investment firm group at which concentration risk is managed this is generally on a multi-level basis. However in terms of the application of limits in many cases such limits apply in overall terms at the group level, with 'sub-limits' then being allocated to different business units, legal entities and/or business lines/portfolios. One respondent indicated that it has two structures to its approach. In some cases the overall limit will be set group centrally which will then allocate limits to subsidiary companies. In other situations these limits will be approved 'at an individual counterparty level' – 'depending on the customer's requirements e.g. whether they negotiate banking arrangements centrally or devolve it to operating units'.

Intra-group exposures

Intra-group exposures commonly lie outside the scope of the credit risk function. They are often the responsibility of corporate treasury, who liaises with financial accounting as to compliance with regulatory limits. It is considered by many respondents that there is minimal default risk associated with such exposures and therefore the need for active management is limited. 'The risk is not purely or even primarily a credit risk because we control both sides of the transaction. One respondent indicated that economic capital calculations are calculated at the group level and so ignore intra-group exposures.

One respondent noted that it does not impose limits for intra-group exposures as intra-group trading is an integral part of the risk management process. 'However, intra-group exposure concentrations are primarily managed by collateralising exposures.' Also it said 'intra-group exposures are part of the internal "Credit Capital Model"' (the meaning of this latter statement is not clear). One respondent noted that as the intra-group limits were driven by regulatory requirements 'more entities means an increased number of intra-group transactions, hence individual large exposure limits are more likely to bite'. They believed it would be appropriate to take the wider group structure into account when assessing limits at an individual entity level.

One large bank respondent replied in detail concerning the inappropriateness of distinctions between domestic and cross-border intra-group exposures And set out an example as follows: A financial exposure between any two connected counterparties of the group is either deemed to be of a capital nature and therefore subject to a capital deduction, or an intra-group exposure that will be covered by an intra-group limit. The amount of an intra-group is based upon the credit risk calculation of the exposure. For example, A loan will be assessed at 100% of the amount of funds lent whilst the exposure under a derivatives contract will be calculated using the mark-to-market value plus a factor for the potential for future exposure. Intra-group limits appear to be determined by Group Treasury and the Group Asset and Liability Committee. This respondent and another noted that intra-group exposures are included in the overall country limit for the country where the counterparty entity is situated.

(6) Credit Risk Mitigation

Credit risk mitigation is actively used by respondents to manage/reduce concentration risk. The level of credit risk arising from the counterparty or the structure of facilities is reviewed and credit risk mitigation is considered. Institutions will discuss the extent and nature of available mitigation with the customer, assessed as part of the credit approval process and agreed and documented post-approval. When taking mitigation, the main consideration for banks is that if and when required the mitigant will deliver the expected level of reduction to potential losses for eg. The sale proceeds of a property will be sufficient to cover outstandings on a mortgage even allowing for a downturn on property prices and the need for a forced sale. Significant importance is placed on legal certainty and enforceability so that the bank's ability to take possession of and sell a mitigant can withstand any legal challenge.

One respondent noted that exposure measures for internal purposes 'are very different from regulatory exposure measures, mainly because of differences in

the treatment of netting. One respondent noted that in certain circumstances the availability of credit risk mitigation may impact the appetite for exposures without being used to reduce the exposure amount.

Collateral Types of collateral used to reduce large exposure calculations include cash, government bonds, financial collateral, US mortgage agency paper, receivables, physical assets. Many respondents noted their tendency towards very liquid assets, with some indicating a developing use of other assets. Respondents appear willing to recognise collateral for internal purposes that may not be recognised for regulatory purposes. Collateral may be initial or variation. Where the collateral is acceptable, and the appropriate documentation is in place, banks usually deduct the value of the collateral from the exposure. A haircut is applied to the collateral to take into account price volatility, frequency of remargining, etc. Collateral asset values should be independent from the counterparty risk and liquid in order to be considered suitable for reducing single name concentration risk. One respondent noted that non-cash collateral or collateral that is not highly liquid (e.g. lien on real estate assets) can generally not be applied for reducing single name concentration risk but may still be providing additional comfort.

Haircuts UK banks document the types of acceptable mitigants, the extent to which haircuts are applied and the arrangements for perfecting legal certainty and enforceability in policies and procedures. Haircuts are applied based on the expected future volatility of the contract/collateral. The extent of haircuts applied is based on past experience, expectations of future movements and the level of credit risk appetite; a policy may indicate a maximum loan to property value of 80% but this may be moved to 85% when property prices are increasing and expected to continue to do so.

Top slicing: Some respondents noted that even though this practice – applying a limited amount of collateral to reduce the exposure below a certain limit – was not supported by UK regulation, nonetheless it is a legitimate and effective risk management thing to do. One respondent indicated that it did not carry out top-slicing: 'the risk will be measured, monitored and managed on a net basis. For some classes of Risk Party (e.g Hedge Funds) credit risk monitoring is done on a gross and net basis.

Netting: In relation to the calculation of exposure values in respect of portfolios of repo-style transactions and OTC derivatives the approach to 'collateral' and netting effects are as outlined in the 'calculating exposures' section above. Respondents emphasised the key component as being legal enforceability of the netting agreement. One respondent indicated that where there is a close-out netting agreement in place it nets mark-to-market values against a counterparty. Credit equivalent exposure is calculated for the netting set, and it takes into account market risk portfolio effects on the set of trades. This respondent says that the key principle is legal enforceability. 'The main difference at the moment is that, in the UK, credit derivatives are not allowed to be netted for regulatory purposes against exposures traded under the same ISDA Master, a rule that we regard as senseless. This can generate fairly large differences.' Similar comments were made by other respondents.

Unfunded credit protection This is used by all respondents to manage and mitigate credit risk. They use guarantees and credit derivatives. One respondent noted 'however the guarantee will be treated as exposure to the guarantor only if this was the only reason the exposure was sanctioned.
One respondent noted that where the guarantee was from an entity in the same group as the counterparty then while the exposure would be considered guaranteed it would still be recorded as against the primary counterparty.
One respondent indicated that in some cases the exposure amount would be multiplied by a risk factor less than 1 to reflect 'double default' effects. The risk factor varies by obligor rating and tenor. Respondents have policies as to the nature of the guarantee and the creditworthiness of the guarantor – e.g. expected to be better than the counterparty internally rated at A- or better if an insurer. One respondent noted that where the protection is in the form of insurance, only 90% of the amount insured is treated as transferred to the insurer to make allowance for legal risk.

Other One respondent noted that it also uses 'break clauses' to reduce the 'credit equivalent amount' of a trade by reducing its tenor (duration). One mentioned the use of securitisation. The use of off-setting trades was also mentioned as well as the selling of loans in the secondary market.

Indirect concentration riskOne respondent said that the indirect exposure is included in the calculation of the total exposure to the counterparty and therefore included directly within the internal limits approach. One respondent noted that with credit derivatives the risk is regarded as transferred to the protection provider – a monthly report is provided highlighting exposures to key credit derivative counterparties. One respondent noted that as most of their collateral was cash or high quality government securities this was not a large issue. However in other cases part of the quarterly analysis is largest collateral postings from BBB and below. In addition ad hoc analysis is performed on amounts of certain types of collateral. Similarly another respondent stated that as collateral is largely high quality – eg cash, AAA government bonds – the risk profile is very low. However collateral risk is monitored and reported in the credit system, but is not subject to formal limit setting or management.

Private client investment manager and stock-brokerTime horizons of settlement exposures are normally only a few days. Where they exceed 10 days, they mitigate the increased client-side risk by requiring cash or securities from the client.

Investment management firms In respect of fees owed the IMA indicates that these may be collected by direct debit and client agreements. Frequently client agreements will have clauses directing custodians to settle management fees before the client assets are returned. If disputes arise over fees, often there is a clause requiring the amounts to be put in an escrow account pending resolution.

(7) Governance and reporting
For large institution respondents the governance, reporting and approval structure is a core aspect in the management of concentration risks. This involves various inter-relationships of various levels of management in setting limits, approving excesses and various periodicities (weekly, monthly, etc) of

different types of report. Set out below are some examples – it is not a comprehensive description.

One large bank respondent sets and reviews limits annually as part of risk appetite. Recommendations are agreed at senior group risk committee level. For individual limits and country risk monitoring is ongoing. For other limits monthly monitoring is performed unless activities are close to the limit. For this respondent senior management review any sanctioned exemptions on a monthly basis. Another bank respondent indicated that counterpart and country risk limits are monitored and managed by the credit department and elevated to senior management on an exceptional basis. Breaches of limits are escalated at different levels in the organisation depending upon the threshold breached. Speed of trading in exposures and portfolio credit quality influence monitoring frequency. Single name reports to senior management are made weekly, monthly or quarterly – e.g weekly reports of top non-investment grade exposures; quarterly reports to risks steering committee including stress tests on large exposures. Sectoral / regional risk reports monthly and quarterly.

A further bank respondent indicated that the credit officer responsible for a name sets the credit limits based on a formal analysis (quantitative rating, external ratings, qualitative analysis). This is carried out under a delegated authority approach from the Chief Credit Officer – an electronic approval system calculates the required level of approval, so a credit officer with the appropriate approval level signs off the limits. Individual business area limits are established from this. A monthly report is produced containing several 'Top 20' schedules for senior management review. There is weekly monitoring of country limits. Scenario analyses (e.g. for regions) reports are prepared monthly.

A large bank respondent indicated that single name concentrations for substantial exposures are managed by a series of credit committees with increasing levels of authority culminating in a top level committee which usually comprises main board members. Policies and procedures are in place for the review, approval or decline of which will or may breach limits. For some exposures e.g. overdrafts this may be done daily or even more frequently. Key sectors are identified for management and monitoring. In respect of sectors portfolio triggers or caps are set. Triggers may be used to instigate a review of credit appetite. Caps indicate where in general terms further business should not be undertaken – these are set by a group executive management committee. Non-systemic sectoral stress tests are reported to group risk committee at least six monthly and monitored more frequently.

One respondent indicated that Individual Credit Authority is the primary method for the extension and approval of credit risk to Counterparties, Issuers and Countries. Credit Authority is derived from a credit risk framework limits and is granted only to experienced Credit Analysts, independent of the business units, who have demonstrated a strong knowledge of risk management. The global head of credit has primary responsibility for defining and approving changes to all of the credit authority levels and the respective limits with the exception of certain matters which must go to a global risk oversight committee. All managers with a certain level of authority may approve transactions up to 150% of settlement limits. Notwithstanding the

aforementioned, limit upgrades greater than 150% of framework will require approval by the global heads liquidity, risk management and markets. Details of top risk concentrations by ratings, country, type are reported to a risk oversight committee and board of directors. A daily report is circulated to credit management showing all counterparties with significant potential exposure.

(8) Regulatory Environment

The overarching response from the industry questioned the need for any large exposures rules in a post CRD environment. Respondents stated that, under Pillar 2, firms are required to identify their major risks, quantify these and determine how they would deal with these risks crystallising. Equally, the regulator is obliged to review and evaluate this and satisfy itself that firms have sufficient capital in respect of their risks. Therefore, the current large exposures regime will be redundant following the application of the Basel II capital regime. One respondent commented that, if competently managed, individual firms should have less of a risk appetite than regulators.

Specific themes

Effectiveness of the LE regime

- Banks and institutions commented that the LE regime is almost solely based on single name and sectoral risk, and fails to address other elements of concentration risk (e.g. geographic risk). Industry experience of the current regime suggests that the simple creation of a further layer of limit-style regulations to cover these other risks will further exacerbate the lack of risk-sensitivity of the current regime, and is likely to create unintended consequences. Institutions believe their approaches to single name concentration risk to be more risk sensitive than the regulatory regime (for example, the use of other mandate and scale limits to cap exposure to particular industries, products and geographies).
- A number of institutions stated that the inflexible nature of the LE limits work contrary to firm's own internal risk standards. Regulatory limits are constricting in areas considered relatively low risk by firms (e.g. intra-group exposures) yet do not act when risk is higher (e.g. emerging market risk). Furthermore, respondents commented that the constant monitoring and maintenance of the limits and the frequent need to use capital and/or collateral to keep within the regulatory constraints increases operational costs. As capital / collateral allocation is not risk-sensitive this is not efficient use of scarce resources. In many situations, the regime constrains commercially viable business or adds to the cost of undertaking that business.

Adequacy of the LE regime

- Large banks benefit from natural diversification. They are unlikely to acquire single-name exposures of a size that could threaten solvency; this is not the case for small firms. Therefore respondents consider that it would be unwise for the regulator to adopt a 'one size fits all' approach.
- As regards the use of LE reporting to spot potential problems in the market place, one firm commented specifically that the current rules are too rigid to allow the regulator to do this effectively. A number of larger firms also remarked that, in order to avoid breaches at a subsidiary level, the parent can reallocate capital around the group. Therefore any focus on LE limits at subsidiary level is meaningless.
- Correlations within and between countries and industry sectors are not fixed, and the boundaries of the categories are inevitably somewhat arbitrary. Therefore, any limits on such exposures would be arbitrary and would

be of limited benefit as previously discussed, because it is not in firm's interest to be over-exposed to something and such limits would add unwarranted layers of complexity.

Investment management responses

Responses from investment management firms strongly contested the application of the current LE regime to their businesses and said the following characteristics of investment management businesses should be recognised:

- Client assets are segregated from the firm's assets and are often held by an independent custodian. Investment management firms are permitted only to undertake a limited number of activities, and are not permitted to underwrite securities or deal on their own account.
- Unpaid fees may qualify as large exposures, however, this results in effectively punishing success (as the better the investment has performed, the larger the fee, and therefore the larger the exposure). (The Investment Management Association proposes that firms be allowed to exclude amounts receivable within 90 days of the due settlement date from the LE requirements of the CRD.) One investment management firm commented that it is very unlikely that a client would not pay the fees due where the investment manager has a discretionary investment mandate because the fees are paid out of the managed assets.
- Circumstances such as large sales of units in a unit trust managed by a firm outside the scope of the CRD are also likely to cause a breach of the current LE rules (the impact of such situations on small investment management firms is particularly difficult to manage).

One respondent listed a range of types of exposures that can arise in the context of fund management and argued that these should not be subject to a large exposures 'Pillar 1' regime as credit risk is not a major risk for fund management firms. It argued that UCITS investment firms' activities should be excluded from CRD requirements.

The British Venture Capital Association noted that 'in practice it is virtually inconceivable that a client would fail to pay the fund manager in any case, for a very simple reason: the manager is paid out of the assets which it controls through its discretionary investment mandate.'

Investment management firms commented particularly that LE reporting is an administrative burden on the industry with the potential of being a financial burden and a business deterrent.

Money market funds: Some investment manager respondents together with IMMFA (the Institutional Money Market Funds Association) argued that exposures to 'Triple A rated' money market funds should be exempt from large exposures limits due to the inherent diversification, ring fencing and high quality.

The extent to which the LE regime has constrained firm's actions

Larger banks are less constrained than smaller banks by the current LE regime due to their larger capital base. However, one large firm commented that the main impact to date stems from the fact that US Agencies do not benefit from an explicit state guarantee (FNMA, FHLMC, etc). EU firms cannot treat this as sovereign debt, while US firms can. As a result UK firms are disadvantaged in the US Agency trading market.

The consistency of current regulatory limits with internal management practices

Many institutions commented that internal credit systems are used as a basis of LE reporting (not the other way around). Information produced for regulatory purposes is of limited use for risk management. One firm expanded on this theme by outlining the main differences between risk management information and LE reporting as follows: (i) treatment of OTC counterparty risk, this is on an EPE basis for management purposes; and (ii) issuer risk is not considered by credit as it is captured by market risk management. As a result there are key inconsistencies in the LE values and credit values. The LE information is of little interest to credit officers apart from the overarching requirement to avoid regulatory limit breaches. One respondent noted that the different treatment of netting for regulatory and internal purposes was one of the biggest problems.

Application and consistency of the large exposures regime across different member states

- Some respondents said that the lack of harmonisation across the European countries in which a number of respondents operate means that firm's regulatory LE procedures are largely manual to cater for the differences in each country. This adds administrative costs and also means that cross border business is complicated by application of different rules. This is due to the fact that national supervisors have implemented different national discretions and furthermore, have different interpretations of the exemptions (e.g. weighting of the residual vs. original maturities). This issue has been highlighted in the recently published Supervisory Stock-take, particularly in respect of applying a "one-size sits all" approach to the management of concentration risk. The industry commented that legislators should avoid the relatively easy quick-fix solution of limiting the exemptions in the desire to achieve harmonisation, as this will just increase the lack of risk-sensitivity.

A number of institutions commented that a main difference is the availability of intra-group exemptions across Europe. The FSA does not exercise certain exemptions that are possible such as Article 49(7)(i) of the BCD (now CRD recast BCD Article 113(i)) which allows member states to "fully or partially exempt …. asset items. The BCD allows this exemption for exposures to connected and unconnected counterparts, the FSA allow it only to unconnected parties. The industry understands this is not the case in other EU countries.

Some respondents commented that the divergence in application of the LE regime has caused them problems in two specific areas: (i) There is a lack of clarity currently as to how firms should treat issuer risk arising from positions where the PRR charge is calculated using a CAD2 VaR model. And (ii) Respondents questioned how much use regulators make of LEM reporting. They commented that LEM reporting is time consuming and the process could be improved, particularly with regard to the differing exemptions between the LER and LEM reports.