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Credit Reviews by Supervisors

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Introduction[1]

This Guideline discusses the processes and techniques to review banks' credit risk activities during ordinary times. It suggests a business cycle approach to credit reviews with varying focus, depth and intensity as the credit cycle evolves.[2]

What is credit risk? The risk of default by borrowers and other clients whose transactions give rise to a claim by the bank on the counterparty, which has negative consequence for bank earnings and capital. Also gives rise to potential loss of value of assets due to a deterioration in credit quality. Exposures to credit risk originate from lending activities and also from financial transactions with securities issuers, debtors or guarantors.

What is a credit review? An evaluation of the adequacy of a bank's credit risk management and controls, and of the quality of the risks assumed in its lending activities (classification, recoverability, and sufficiency of loss provisions). The review also includes validating the revenues earned from these activities and determining the nature of portfolio risk concentrations, including with insiders.[3] In combination with stress testing, credit reviews probe the solvency and continued viability of a bank.

Why are credit reviews important? Credit risk is the single most important determinant of the solvency and viability of most banks. Prudent origination of credit and the safety and soundness of the banks' credit practices greatly influence the pace and sustainability of economic growth and the overall stability of a banking system.

Which approaches to credit reviews are followed? Credit reviews are a routine control process performed by a bank's internal audit or dedicated loan review function. In addition, most bank supervisors conduct their own credit reviews with varying depth and orientation depending on their supervisory approach and the resources available to them.

Why do bank supervisors need to undertake credit reviews? Robust credit reviews are essential to assess the quality of earnings and level of capital of a bank, as well as the quality of its internal policies, procedures and controls. They are also useful in monitoring the systemic consequences of the credit decisions made by banks.

How are credit reviews performed by supervisors? Depending on the supervisory approach followed, the emphasis of credit reviews should vary along the economic cycle. In the expansion phase, ahead of the peak, more emphasis should be put into evaluating origination and underwriting activity; around the trough, attention should shift to loan recovery and work outs. Ascertaining the effect on profitability and solvency by requiring appropriate provisioning is paramount in all stages.

Sound Credit Risk Management: Gatekeeper of Credit Quality

Credit risk is still the most important source of bank problems and losses. While a few banks fail from a stroke of market or operational risk, most fail from a protracted and painful bout of credit risk cancer.[4] This later is complicated often by an acute infection of concentration risk, and in some cases of

[1] This note was prepared by Joaquin Gutierrez on behalf of Toronto Centre.

[2] Systemic crises where there may be the need to conduct asset quality reviews (AQRs) simultaneously for most banks in the system are not dealt with here, though the principles and techniques are similar.

[3] "Insiders" are generally considered to be significant shareholders, members of the board of directors, and senior managers, along with their business interests and family members.

[4] Whatever the cause, the coup-de-grace is almost always a liquidity crisis (a run-on-the-bank).

insider lending. Credit risk-weighted assets are worldwide the largest contributor to total risk-weighted assets. Thus, credit is the most important risk at the center of all banking crises, systemic or otherwise, and credit reviews are the best credit cancer detection tool available.

Credit losses just don't happen by accident or due to macroeconomic events. While credit losses are an inevitable by-product of the lending process, it has been established that loan portfolio problems stem from: (a) greedy, unscrupulous, and poor senior managers; (b) inadequate board oversight and internal loan review systems; (c) failure to track and control use of loan proceeds and repayment sources; (d) weak or non-existent analysis of quantitative credit factors; (e) excessive reliance on name-based lending or collateral; and, (f) insider abuse and internal and external fraud. These and other examples of unsound banking practice are always at the root of loan problems and offer the best set of leading indicators of future credit problems, justifying the importance of requiring banks to follow sound credit risk management practices.[5]

Successful banks discipline their lending operations through an interrelated set of credit policies, procedures, systems and controls. Collectively these are often referred to as the *credit risk management program*. The manner in which the elements of the program operate and contribute to the success and sound performance of a bank's lending activities is of paramount importance to bank supervisors. These elements include the credit culture and the depth of bank management, the banks' credit strategy and implementing policies, as well as credit procedures and controls that operate across the full credit risk administration process. Bank directors are ultimately responsible for ensuring that these elements are adequate, operating effectively, in a manner commensurate with the scope and complexity of their banks' lending activities.[6]

The credit infrastructure of a country also influences bank lending activities. It shapes the overall credit culture in a country and the means utilized by bankers to evaluate creditworthiness, to grant credits and set credit terms and pricing, as well as to recover on bad loans. The credit infrastructure includes the set of laws and institutions that enable efficient and effective access to finance, financial stability, and socially responsible economic growth. These laws govern the disclosure of financial information, credit reporting systems, arrangements for secured transactions and collateral registries, as well as creditor rights, creditor insolvency and debt restructuring and resolution.

A key role for bank supervisors is to ensure that bankers operate effective and reliable credit risk management programs. As noted, these programs include the policies and procedures to be followed to identify, measure, monitor and control credit risk as part of the overall approach of a bank to risk management. Supervisors should conduct an independent evaluation of a bank's strategies, policies, procedures and practices related to the granting of credit and the ongoing management of the credit portfolio. This note proposes an approach targeted to the relevant phase of the business cycle.[7]

Three components of the credit risk management program are particularly relevant for supervisors. These are the bank's internal credit rating system employed by the line lending function, the quality assurance provided by the loan review and/or internal audit functions, and the credit risk information system. These components are essential to ensure the effective implementation of credit policies and procedures, to foster the integrity of credit risk information, and to promote the reliability of credit risk control systems.

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[5] See Bank Failure – An Evaluation of the Factors Contributing to the Failure of Banks, OCC, 1988.
[6] See Principles for Managing of Credit Risk, Basel Committee on Banking Supervision, September 2000.
[7] Supervisors will also seek to ensure compliance with applicable regulations, such as those that restrict the amount of credit exposure to a single borrowers or group of connected counterparties, or to insiders.

- The internal credit rating system should identify the degree of credit risk inherent in the different credit exposures of a bank, at inception and through their life, categorizing credit exposures into various classes designed to take into account gradations in risk and probable expected loss.
- The loan review and/or internal audit functions (in small banks usually only the latter) should assess the effectiveness of all credit systems and controls, including adherence to policies and procedures, as well as independently assess the quality of credit exposures.
- The credit risk information system should provide adequate data reports on the composition of the credit portfolio, including identification of risk concentrations categorized in different dimensions, including those of the internal credit ratings.

The Assessment of Credit Quality is a Key Supervisory Task

To reasonably understand the condition of banks and their foreseeable outlook, a review of credit quality is imperative for banking supervisors. Only credit reviews can confirm the adequacy of risk management and the quality of the loans. However, credit reviews are time consuming and resource intensive, and their outcome may be disputed by bank management. Thus, to overcome these tensions, some supervisory agencies prefer to rely on external auditors, paid by the banks themselves. Others, in spite of doing full scope reviews, tend to focus more than warranted on regulatory compliance. Both approaches are suboptimal as the 2008 financial crisis has demonstrated.

Credit reviews targeted along the business cycle are more effective both in managing tensions and to providing more accurate signals of credit quality trends and condition. This involves targeting the review of all the components of the credit risk management program, and sampling of loan portfolios along a time span of, say, three to five years. The focus of the reviews is then timed to the relevant phase of the business cycle. Loan sampling is explicitly related by policy to the supervisor's assessment of the reliability and effectiveness of specific credit risk management components selectively chosen for their business cycle relevance.

But loans are difficult to value and their problems easy to disguise (for a while). The valuation of loans is not an exact science and depends on a number of factors such as accounting conventions, valuation practices and assumptions, and the features of the local environment. Bankers may know that a borrower has little prospect of repaying in full, on time, but nonetheless have incentives to overstate loan values while remaining in conformity with accounting standards based on historical facts.

Bankers typically follow two strategies to cover up credit quality issues. One is to reschedule the debt using so-called evergreening or "extend and pretend" techniques such as not requiring repayment of principal as originally agreed and even lending additional funds to enable interest to be accounted for as having been paid (interest capitalization). The other is to rely on overstated collateral values to reduce the amount of the loan loss provision that would normally be required for the loan. Both strategies disguise the actual nature and size of the problems and result in the build-up of problem loans and under-provisioning and are best addressed with onsite reviews.

The evaluation of asset quality is mostly driven by accounting standards that typically reflect asset values based on verifiable facts and analysis. [8] However, the rigor with which an accounting standard is implemented influences the result of any credit review and its associated valuation of loans.[9] Accordingly, the criteria, the inputs and the assumptions used for credit reviews need to be conservative,

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[8] The scope of accounting issues as these relate to credit reviews is the subject of a separate guidance on Loan Classification & Provisioning commissioned by the Toronto Center.

[9] A non-performing loan (NPL) classification based on 90 days' arrears without rigorous consideration and treatment of all forms of refinancing practices will likely fail to properly quantify potential loan losses.

prudent and justifiable. The criteria refer to the factors used to classify a loan as a problem (e.g., days past-due or rating deterioration). The inputs refer to the observable loan attributes (e.g., forborne or not, number of days in arrears, number of un-paid installments, debt-service-ratio) and collateral features (e.g., loan-to-value or the current market price for a residential mortgage). Finally, the assumptions refer to the expectations used to estimate the recovery value (e.g., time to foreclosure or fire sale and legal costs associated). Using different factors, attributes and assumptions may significantly change the estimated loan recovery and necessary provisioning. The more principle based are the accounting standards, the more discretion in setting criteria, inputs and assumptions is possible, a dilemma that supervisors need to be aware of when undertaking credit reviews.

There are four sets of credit review activities feeding-back mutually onto each other along the business cycle. The first set is the continuous work of macroprudential surveillance and microprudential analysis that seeks to identify shifts in trends and key risk indicators, and point to fast growing sectors, products, and institutions. The second activity set is the assessment of the relative strengths and weaknesses of the banks' credit risk management programs focusing on those components relevant at each step of the business cycle, including on monitoring the evolving underwriting and risk pricing practices at origination.[10] These two steps inform the focus of the onsite target reviews of portfolios, the third and key activity set. Finally, the fourth activity involves the design of supervisory responses and remediation. The sections that follow describe these credit review activity sets.

Activity Set One - Macro and Microprudential Surveillance Activities

The focus and intensity of a credit review approach should be based on a robust analysis of economic sectors and of trends in lending products and practices. This analysis results from integrating the findings provided by macroprudential and microprudential surveillance in order to structure the reviews across the system considering the moment in the business cycle. Bank surveys and thematic loan reviews across all or groups of banks identify areas of concern at a systemic level (e.g., industry underwriting practices), whereas short onsite reviews probe deep into particular fast growing and/or poorly managed institutions (e.g., a review of refinancing practices). Carefully consideration of the above findings in the design of the credit reviews is essential to administering scarce onsite staff resources.

Macroprudential surveillance is a key tool in promoting financial stability. It can be used to guide credit reviews by tracking key risk indicators (KRIs) representative of the health of the corporate sectors and household segments–such as measures of their leverage, debt-service capacity, debt-to-income ratio, real estate values, arrears, frequency of refinancing and forbearance, profitability, *inter-alia*.[11] These KRIs are also probed under stress scenarios to determine the health of the household and key business sectors to identify where risks are building and to define priorities for onsite review.

Offsite analysis continues to be an essential tool of microprudential supervision. It guides the focus of credit reviews by tracking KRIs representative of the health of individual banks' asset quality–such as the attributes of their portfolio mix and concentrations, trends in new loans, arrears and refinancing, distribution of internal credit ratings, provisions and interest income, charge-offs and recoveries, including default and cure rate frequencies,[12] *inter-alia*. The trends and anticipated changes in KRIs under

[10] A loan pricing system determines the risk based price that recovers full cost allocation including cost of funding, liquidity premium, operational expenses, expected provisioning and allocated capital, to form the risk based price. Bankers add to the later a commercial margin to form the contractual interest rate.
[11] Forbearance, meaning loan modifications, such as refinancing and restructuring, in the sense of the loan forbearance reporting mandated by the European Banking Authority in EBA/ITS/2013/03/rev1.
[12] Cure rates are an estimation of the frequency with which loans in arrears become performing again.

base and stress scenarios allow supervisors to rank banks based on their relative credit risk scores and provide early warning signals to guide onsite credit review. Stratification of loans by the above attributes visualizes where to focus loan sampling.

Activity Set Two: Testing Credit Risk Management Programs

Supervisors should review periodically the adequacy of each component of the credit risk management program. This is done by combining an evaluation of the design and specifications of a particular component (say the internal credit rating controls) with attribute sampling of individual loans to test whether the component is operating as expected.[13] The interaction between both reviews (controls and loan samples) evolves through the business cycle, informing the mix of official policy response and remedial actions with feedback onto successive loan review efforts. Each component is evaluated top-down periodically to understand its contribution to overall credit risk quality. Each individually reviewed loan provides a bottom-up confirmation of the effectiveness and reliability of the management and controls operating in a specific loan segment or portfolio.

The soundness of the credit strategy and related policies are essential factors influencing credit quality. Bank boards and managers are responsible of keeping the credit strategy, policies and procedures aligned to the nature and complexities of their lending operations. The degree of codification will vary among types of banks, but written documentation and periodic updates must be emphasized as a means for promoting quality control and adherence to the board's objectives and policies. The establishment and documentation of a sound lending policy provides the basis for effective loan portfolio management. Supervisors should review the loan policy to ensure it considers which types of borrowers the bank is looking for and the credit underwriting standards (CUS) the bank will utilize to govern its loan production activities with respect to the various targeted markets. Subsequently, policies and CUS should be tested by supervisors through loan sampling.

The reliability of credit processes and procedures should also be tested periodically. The board should entrust to their loan review and internal audit functions the primary responsibility to ensure that credit policies and procedures are functioning effectively. Supervisors have a special interest that these control functions function well at each stage of the credit process. First, to ensure that the bank is operating in a safe and sound manner, and second, to be able to rely on their work. Besides the targeted sample reviews conducted along the credit cycle, examiners should follow-up periodically the work program, findings and recommendations of both functions. Each sample tested should be used to corroborate that the bank's loan review and internal audit functions have reviewed conformance of the loans' attributes with the policies, procedures and controls in place.

The bank's internal credit risk rating system (CRS) is at the center of the lending operations.[14] Whether simple or complex, supervisors need to understand how the CRS is designed and used in risk management to determine how the bankers lend and control their risk exposures. The CRS should be reviewed periodically to ensure its functions properly and reliably. The review should include assessing the associated loss concepts and their implementation.[15] The credit culture associated to the CRS is also paramount, including how the rating process influences credit approval and review, as well as who

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[13] Attribute sampling involves determining the presence or not of a characteristic, say being more than 90 days past due without being adversely classified, which allows statistical quantification of the reliability of a given control system or processes, including of information being reported to bank directors or to supervisors.
[14] For a detailed discussion of internal credit rating see Rating Credit Risk, OCC, April 2001.
[15] Such as probability of default and expected loss given default for bank advanced in implementing the Basel Committee framework, or, for simpler banks, applying the percentage of provision specified in policy, which could be based on management estimates or regulatory rules.

assigns and monitors the rating, the factors considered, and the scope for use of judgement.[16] Supervisors must test the rigor and integrity of the CRS given their central role in credit analysis, portfolio reporting, provisioning, and loan administration processes.

Credit underwriting and risk pricing deserve more attention during the expansion phase. Bankers tend to relax CUS and reduce spreads as credit growth accelerates and competition heats up.[17] This and any relaxation in credit policy and rating practices are early warning signals to the possible build-up of problem loans. The banks' credit reviews should ensure that their MIS capture essential borrower and transaction attributes, including a number of essential CUS consistent with the requirements of the lending policies.[18] The reviews should include an assessment of the loan pricing to ascertain that its systems allow comparing the commercial price charged on loans with the price that would recover all economic costs, including of capital and expected loss. The bank directors should be informed of, and expected to react to, any negative developments.

Credit renewal and work-out practices should come more into focus during the peak towards the trough of economic activity. In the normal course of their business, borrowers need to be able to generate cash flow to service their debts according to the terms of their loan agreements. Some borrowers operate with a certain level of leverage which their operations can support. Their loan facilities will be extended as part of their normal banking relations or substituted by other banks. Ahead of the deceleration, bankers start to consolidate their portfolios.[19] Renewals should not be automatic and rather should include a thorough reevaluation, credit analysis, and testing of repayment capacity. To allow for prompt detection of arrears and repayment problems, to control forbearance practices, and to report these to the appropriate level of management, banks need to deploy robust MIS reporting by exception about renewals.

Supervisors should ensure that banks apply a number of tests before modifying the original terms of loans.[20] The first test is that the client can pay full interest from its own cash flow sources. The second test is that the client is able to service the new terms of a restructured facility. The credit culture of the board and the managers is also at this point tested, as they may be tempted to "extend and pretend." Loans refinanced not previously identified as problematic should be monitored, restructured, or enforced. If full collection is unlikely, the bank could attempt to improve the quality of the risk by restructuring the borrower's debts and obtaining additional collateral to support the loan. If the deterioration proves irreversible, the bank should start rigorous actions to recover outstanding principal and interest. The loan would need to be transferred to a watch status, tested for impairment, and classified and provisioned to reflect recoverability.

The loan review and internal audit functions are the alter-ego of supervision. These functions are essential to the well-functioning of a bank's credit risk management activities. If these functions are reliable, supervisors can administer better their scarce resources and focus their credit reviews in a more effective way. To do that, supervisors need to satisfy themselves that the mandate, approach, methods, work plan, and resources of these functions are adequate to the nature, size and complexity of the bank's

[16] Aggressive credit cultures from the top that focus on volume and short term earnings tend to undermine the effectiveness and reliability of the CRS that then likely fails to discipline the overall lending process.

[17] Cooperation between microprudential and macroprudential supervisors is essential at all stages to identify vulnerabilities and exchange assessments of the evolution of credit standards and foreseen risks.

[18] For example, loan-to-value, debt-to-income, leverage, EBITA and other relevant underwriting standards.

[19] Loan consolidation occurs ahead of expected downturns in the economic cycle, or when a bank sees a clients' financial condition deteriorate, often by lengthening maturities to prevent or delay the occurrence of arrears.

[20] For a comprehensive account of loan modification practices see the Uniform Retail Credit Classification and Account Management Policy of the US Agencies FFIEC (FED SR 00-8)

lending activities. Equally important, supervisors must be assured of the independence of these functions from the business units, including the stature granted to the functions by, and access to, the board and its audit committee. When these functions do not work well, loan review needs to be expanded, including possibly by independent third party experts by means of bank-paid special loan targeted reviews.

Activity Set Three: Onsite Targeted Loan Reviews

The approach to reviewing credit quality varies among bank supervisory agencies. Based on the understanding of the combined risk profile of a bank (from the results of surveillance analysis and the assessment of the credit risk management programs), the onsite examiners plan the scope of the credit review to achieve their specific objectives.[21] The decision on how often and how deep to go onsite is a matter of official policy influenced by tradition, regulatory factors, and resources. However, onsite examination of loans is the most effective tool to conduct credit reviews. If resources are scarce, then the reviews should be outsourced using third parties under direct control and oversight of the supervisors, per official terms of reference.

Box 1 – Key credit analysis factors

• Why did the borrower need financing? Did the bank analyze the needs properly?
• Which was the original use of the loan proceeds? Did the bank control their actual use?
• Is this the original loan? Or it is an extension or refinancing of a previous loan?
• Does the borrower pay full interest from its own resources?
• Or, is the bank is capitalizing interest (adding it to the principal balance) or providing new advances to facilitate apparent payment of interest?
• How was the loan going to be repaid? With operational cash flow or with other means?
• How is being repaid? How much has been repaid? Per original terms or with extensions?
• Did the borrower generate sufficient cash flow from its operations to repay the loan?
• From which final accounts come (and where located) the funds?
• Are there other alternative sources for repayment being used or available?
• Has the bank modified the terms of the loan and for which reasons?
• How was originally rated at origination? Has it been re-rated?

Onsite credit reviews re-underwrite the evaluation made by the banker of key credit factors (Box 1). This includes qualitative and quantitative credit risk factors, as summarized in the traditional four "C's" of credit: Character, Capital, Collateral and Capacity followed by the bank in their credit underwriting. Qualitative factors have traditionally been the basic criteria for the assessment of self-liquidating seasonal and short term lending. They include the borrower's integrity and credit standing in the community (Character), his wealth (Capital),and the availability of pledged security (Collateral). Onsite credit reviews shadow (re-underwrite) the evaluation by the banker of these credit factors.

However, the importance of quantitative factors is paramount. Bank loans are paid with cash, not with a good name or with collateral. The likelihood of full repayment through the borrower's normal operations is fundamental. It is not the liquidation value of collateral which supports a credit. Liquidation may imply a "de facto" liquidation of the borrower's core business. Values fluctuate with the business cycle, and collateral liquidation only will assure full recovery of principal and interest if an adequate margin is being maintained between the loan amount and the liquidation value of the collateral.

Creditworthiness is predicated on the capacity to generate cash-flows. Examiners look at how the banker evaluates the borrowers' capacity to generate cash flow for debt repayment, after other out-flows.

[21] For example, the portfolio or segments under review, the size of any sample, the percentage of the portfolio to be reviewed, the features of the loans to be reviewed, whether attribute sampling will be done or not, etc.

Cash flow analysis must be based on prospective financial statements (with some margin for stress). This involves the estimation of sales trends, working capital efficiency, and operating margins, *inter-alia*. Seasonal traditional lending is assessed in terms of the cash conversion cycle. Medium and long term lending must be assessed in terms of the quality, quantity, and stability of future cash flow. On-site credit review involves re-underwriting these quantitative factors in case that the credit file does not contain a satisfactory analysis. The examination probes how well the banker did his job.

A bank's records of a borrower's past and present accounts contain much information regarding its business relations with the bank. Even if a credit file does not contain reference to previous facilities granted by the bank, the examination of the borrower's past and present accounts can permit a determination of how the present facilities arose, for example from the renewal, extension, and/or rescheduling of past operations. Old repaid facilities need to be tracked to investigate whether they were serviced punctually, or if they were refinanced by new lending.

Onsite reviews are key to discover declining trends in credit practices and loans granted to parties related to the owners, board and/or senior managers. When rampant lender forbearance extends to pretend good performance, onsite examination is the "only" way to find out how bad a loan portfolio might be. Furthermore, it is through onsite reviews that supervisors identify the lead warning signals provided by poor, decaying, unsound and unsafe credit risk management practices, including to unveiling inside lending, abuse and fraud. Rarely do external auditors engage in tracing transactions to reveal major breaches in internal controls.

Depending on the objectives of each review, loan sampling is necessary to assess loan quality and controls. Doing a good loan review that looks at all the credit factors enumerated is time consuming and normally limited to a meticulously selected sample of loans. Sampling may be done statistically or by selecting loans subjectively based on their size and risk features. Statistical sampling is better used to test the reliability and effective functioning of controls, including to determine whether retail portfolios are properly classified, including techniques to ensure appropriate stratification for provisioning purposes.[22] Large and medium-size commercial loans are better selected based on subjective criteria and assessed one by one to ascertain risk factors, especially if these loans are suspected to have been granted to related parties.

Loan sampling should be explicitly related by policy to the adequacy of management and controls. For banks with well rated credit risk management programs a low portfolio coverage of around 20 percent might be acceptable in normal times.[23] However, for banks with less effective and reliable management and controls, there should be more sampling required by policy (40 percent or higher). Loan sampling is better structured by blocks selected along the business cycle based on stratifying single exposures within portfolios considering their key attributes as per a bank's internal MIS (e.g., renewed, refinanced, forborne, restructured).

Sampling individual loans in retail portfolios has limited efficiency. In retail, assessing credit quality and provisioning is largely based on collective provisioning methodologies. The particular method followed by a bank needs careful assessment to confirm its adequacy or decide an alternative method to recalculate the sufficiency of collective provisions. Comparing deviations in collective provisions across banks and products helps to detect the degree of conservatism in provisioning models inputs used by bank management to estimate loses. This requires first investigating refinancing practices through attribute

[22] For detail guidance on sampling policies and techniques see US Federal Reserve SR 94-13 and CBEM Section 2082-1 and 2086-1, including the August 1998 OCC's Sampling Methodologies.
[23] Coverage measured in terms of unit amount as a percentage of a concrete total portfolio or segment.

sampling to include alternative calculations in the provisioning algorithms.[24] The use of a "central model" such as the one used by the European Central Bank can assists to benchmark top-down the sufficiency of collective provisions.[25]

The evaluation of the adequacy and integrity of the provisioning methodology is essential to determine the financial condition of a bank. Each individual loan reviewed requires confirmation of the appropriateness of its classification and provisioning, if applicable. Bankers use a variety of methods for provisioning depending on the type of loan and borrower. For example, for impaired large corporate loans the difference between the book value and the present value of future cash flows will be normally the basis for provisioning. Collateral dependence and the quality of its appraisal should be reviewed.[26] For retail segments, bankers use a variety of methods.[27] The specific provisioning method used, and its underlying assumptions and parameters, have to be evaluated with sufficient depth.

The loan provisioning methodologies employed require continued attention through the business cycle. This is even more relevant after the trough, when recessions may occur and bankers, strapped for revenues, are more tempted to engage into cosmetic accounting, by increasing refinancing and reducing loss provision coverage.

Activity Set Four: Follow Up and Supervisory Response

The results of the three sets of activities described so far should provide in combination a good view of the quality of a bank's lending activities. Rather than expensive stop and go full scope reviews, successive targeted reviews performed through the cycle can serve to confirm or refute identified potential risk issues. Each review provides the opportunity to discuss with line and senior managers and so to understand their thinking and objectives, to ascertain their incentives, and to determine whether they are lending under revenue pressure and thus may be forced to ease their policy standards. This contact, and the response provided by management to the observations from each review, should allow supervisors to gauge the credit culture emanating from the top and the direction provided by the board. Credit culture and its incentives are essentially qualitative and can only be assessed over time, by successive reviews, and based on ongoing observation.

If the risks to bank solvency are high, a full scope asset quality review is necessary. In this case, the portfolios under the scope of the review should be larger and may reach to 60 percent or more. The determination of the deficit of provisions should be combined with a rigorous assessment of the actual revenue performance of the loans to ascertain the viability of the bank. The level of its pre-provision profits (or losses) and projected trends, after reversing capitalized interest on problem loans, provides a key test of its ongoing viability and guide the decision to pursue recovery or to put the bank into resolution. Recapitalizing a bank without reengineering its capacity to generate revenues above its costs only delays the day of reckoning.

Findings from loan reviews need follow up and remedial response. Examiners should always leave an

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[24] For example, recalculating provisions using higher default rates for mortgages that have been forborne, or excluding forborne loans from the estimation of cure rates used in calculating loss-given default.

[25] Based on past due days (PDD) on arrears, loan-to-value, and other credit attributes. See sections 4 to 7 of the 2014 Asset Quality Review Manual of the European Central Bank.

[26] For example, appraisals may be out of date, the appraisers may be "captured" by the bank and provide inadequate valuations, or they may use inappropriate techniques or information. Combined these may result in over-valuation of the collateral and understatement of the necessary loan loss provisions.

[27] For example, average charge-offs (using historic loss rates), migration analysis (using roll rates), regression analysis, and vintage models. See the US Federal Deposit Insurance Corporation Credit Card Manual, Chapter XII – Allowances for Loan Losses – Methodologies.

official trail of their work and recommendations. An exit presentation to the board of directors and a written examination report provided to the bank are essential elements of good practice, even for thematic and short targeted reviews. Besides updating the supervisory risk profile of the bank (through re-scoring gross credit risk, the effectiveness of management, and the reliability of controls), the following issues should be dealt with forcefully as part of any recovery plans mandated by bank supervisors:

- Weaknesses detected in the credit risk management programs should be resolved by management and the board as a priority, including if necessary through contracting third parties to assist in implementing such actions promptly;
- Excess concentrations should be phased-out with a timetable for reduction, including excessive related party exposures;
- Major disagreements and how these would be clarified should be settled, for example by contracting a third party to reassess exposures and independently re-appraise collateral-dependent loans being criticized by the examiners;
- Reclassification and the estimation of any additional necessary provisions should be linked to effective progress reached in working-out and recovering problem exposures, including through foreclosure and collateral disposal;
- The effect on the bank's profitability (pre-provision profits) of the suspension of interest accruals should be made transparent and the MIS reinforced to allow visualizing the pace of its recovery;
- Quantified benchmark targets for each of the above key areas should be agreed to guide follow-up on implementation progress.

Lessons and Key Tenets on Supervisory Credit Reviews

Onsite credit reviews continue to be the key tool for supervisors to identify, as well as to confirm and quantify, asset quality and earnings problems; hence, credit reviews are an essential instrument to assess bank earnings and solvency and to probe the quality of management. A summary of key lessons learned regarding onsite credit reviews follows.

- Bad bankers are universally characterized for following poor lending practices. They never let their worst (and largest) loans fall into arrears and rather refinance (extend and pretend) them to hide them from supervisors and to avoid taking a loss or provisioning them adequately.
- Rather than reported ratios, the best indicator of future credit problems are the warnings provided by a decaying credit culture including material weaknesses in the credit risk framework incentives, procedures and control systems.
- Onsite credit reviews probe the reliability of reported information, the effectiveness of management and controls, and the quality and valuation of large loans and retail portfolios, including whether forbearance and evergreening practices are being employed and are significant.
- The risk focus of each credit review (and its sampling approach) should be tailored considering the moment of the business cycle, the intelligence provided by macroprudential and offsite microprudential surveillance, and the supervisor's assessment of the reliability and effectiveness of a bank's credit risk management program.
- Sampling individual large and medium-size loans is essential to assess the internal credit culture, to verify the effectiveness and reliability of the credit infrastructure, to flag forbearance and refinancing, to detect related party loans, and to assess the sufficiency of provisions.
- Three elements of the credit infrastructure are crucial allies of supervisors and must be well understood and periodically tested for reliance –the credit information system, the internal credit rating system, and the loan review and internal audit functions.

- Credit assessment is not an exact science and it is not possible to predict the certitude of repayment. However, disagreements with bank management must be promptly settled by expanding the depth of the reviews or using third parties to delve deeper into the problems.
- Written reports of examination should be prepared to leave a documented trail of the issues detected and to convey required remedial action to reinforce key controls and motivate the work-out by management of problem exposures.
- Adequate guidance and support to the onsite examiners is essential. In addition to continued good training, they need onsite IT support and sufficient time to do their work and to trace funds flows through the accounts of the clients.

References

The references listed below have been chosen to guide the readers to what are possibly some of the best supervisory policies and practices on credit reviews ever written, to which the space of this note cannot pay sufficient tribute in all their depth and extension.

For conducting loan reviews see the OCC's booklets on Loan Administration, Credit Rating, Commercial Real Estate, and Commercial Loans, *inter-alia*, as well as the section 2000 of the Federal Reserve Commercial Bank Examination Manual Section.

To read further on loan provisioning methodologies see the OCC's booklet on Allowance for Loan and Lease Losses, May 1998

To read further on practices that lead to the failure of banks, see the OCC's booklet on Bank Failure – An Evaluation of the Factors Contributing to the Failure of Banks, OCC, 1988.

Principles for Managing of Credit Risk, Basel Committee on Banking Supervision, September 2000.

Forbearance, meaning loan modifications, such as refinancing and restructuring, in the sense of the loan forbearance reporting mandated by the European Banking Authority in EBA/ITS/2013/03/rev1. For a detailed discussion of internal credit rating see Rating Credit Risk, OCC, April 2001.

For a comprehensive account of loan modification practices see the Uniform Retail Credit Classification and Account Management Policy of the US Agencies FFIEC (FED SR 00-8)

For detail guidance on sampling policies and techniques see US Federal Reserve SR 94-13 and CBEM Section 2082-1 and 2086-1, including the August 1998 OCC's Sampling Methodologies.

Based on past due days (PDD) on arrears, loan-to-value, and other credit attributes. See sections 4 to 7 of the 2014 Asset Quality Review Manual of the European Central Bank.

For more information on average charge-offs (using historic loss rates), migration analysis (using roll rates), regression analysis, and vintage models, see the US Federal Deposit Insurance Corporation Credit Card Manual, Chapter XII – Allowances for Loan Losses – Methodologies.