

# FINANCIAL CRISIS INSIGHTS ON BANK PERFORMANCE REPORTING (PART 2)

Relationship between Disclosed Loan Fair Values,  
Impairments, and the Risk Profile of Banks



CFA Institute





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**ISBN: 978-0-938367-95-6**

**July 2014**

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# Foreword

This report builds on the findings in Part 1 of this two-part publication regarding the effect of loan impairments, profitability, and risk on price-to-book ratios (P/Bs). We provide a granular analysis of the year-to-year trends in asset quality and carrying values of loans before and during the financial crisis. We also compare loan impairments trends versus credit default swap spreads for banks in different countries in order to get a broad indication of whether the credit risk signals from financial statement information are consistent with those from capital-market-based information. Our analysis includes data from many of the largest global banks in the European Union, the United States, Japan, Canada, and Australia. Our findings show the likelihood of significant cross-country variation in the quantification of disclosed loan fair values and impairments. These findings point to the need for robust disclosures to help investors better understand the sources of differences among banks. They also show the need for ongoing scrutiny by securities regulators to ensure that investors are getting high-quality and comparable information.





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# Executive Summary

**The** reporting of loans is a significant part of bank transparency<sup>1</sup> because it affects investors' assessment of banks' solvency, credit risk, and market value. This study focuses on analyzing the year-by-year profile of loan-carrying values, disclosed fair values, and measures of loan impairments for selected banks from different countries. We compare these yearly trends with those related to the credit default swap (CDS) spreads of the selected banks.<sup>2</sup> The comparison of loan impairments trends with those of CDS spreads for banks from different countries gives a broad indication of whether the credit risk signals from financial statement information are consistent with those from capital-market-based information.

We focus on loans because they are a key part of the assets on a bank's balance sheet and their reported values are a significant component of reported book value of net assets.<sup>3</sup> Concurrently, loan impairments affect both the market value of equity (stock price) and the

book value of banks.<sup>4</sup> Because they are part of the reported period-to-period changes in loan carrying values, loan impairments directly affect the carrying value of net assets (book value of equity). Loan impairments also have a bearing on the reported net earnings, forecast earnings, the credit risk premium, and, ultimately, the market value of banks. The importance of loan impairments for bank valuation and risk analysis by investors was emphasized by a European Central Bank survey of leading banking analysts conducted during the subprime financial crisis.<sup>5</sup> The importance of impairments has also been highlighted by several CFA Institute publications, most recently by the CFA Institute 2014 Global Market Sentiment Survey report (*73% of respondents called for improvements in the requirements to impair troubled credit holdings*).<sup>6</sup>

## Analytical Approach

There are two key areas for banks across different countries that this paper analyzes—namely, (1) trends of differences between disclosed fair values and carrying values and (2) trends of loan impairments measures versus market price of risk.

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<sup>1</sup>That said, there are many other elements (e.g., funding and liquidity risk, complex financial instrument exposures) that fall outside the scope of this study that can and need to be analyzed to build a full picture of the overall transparency of bank reporting.

<sup>2</sup>The CDS spread is the price of credit risk of a particular security (e.g., a five-year senior secured bond) issued by the reporting entity, and it indicates how market participants view the balance sheet quality and future prospects of the entity. The price of credit risk is influenced by asset quality and other fundamental factors (e.g., expected future profitability and liquidity risk).

<sup>3</sup>For the sample of banks, the mean carrying value of loans is 48% of total assets. The median value is 52% of total assets, and the maximum observation across the sample banks is 86% of total assets.

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<sup>4</sup>Loan impairments represent the write-down in the carrying value of loans due to the deterioration in the ability of banks' borrowers to fulfill their contractual payment obligations to the banks. Loan impairments should occur when there is a decline in the expected recoverable cash flows from bank borrowers. Under existing requirements, however, impairments are recognized when there is objective evidence (as defined in the accounting literature) of nonrecoverability of contractual cash flows owed by borrowers.

<sup>5</sup>European Central Bank (2010).

<sup>6</sup>CFA Institute (2014a). See also CFA Institute (2011).

## Disclosed Loan Fair Values vs. Carrying Values

We assessed the carrying values versus disclosed loan fair values for a sample of 20 EU banks that report under the International Financial Reporting Standards (IFRS) covering an eight-year period (2006–2013). We focused on EU banks because they are the key constituent of our study's sample and because they report under IFRS, which allowed for greater comparability across a number of countries. Another reason for focusing on EU banks is that there is already a wealth of academic and practitioner literature analyzing the disclosed loan fair values for US banks because such disclosures have been required since the 1990s.<sup>7</sup> That said, we also reviewed the findings from other studies related to US banks in order to assess whether the matters arising from our study were also at play for US banks.<sup>8</sup>

## Loan Impairments and Market Price of Risk

Our analysis of loan impairments (impairment charge, allowance for loan losses, and nonperforming loans) and the market price of risk (CDS spread) is based on data from 51 of the largest global financial institutions, including 31 EU banks, 10 US banks, and 10 banks from other advanced economies (Japan, Canada, and Australia). Our sample includes 72.5% (29 of 40) of the banks identified as large, complex banking groups by the 2013 European Financial Stability Review.<sup>9</sup> We used data from 2004 to 2013 so as to distinguish the economic information content conveyed through financial reports in different phases of the economic cycle. The reason that EU banks dominate the sample is that they have been subject to both the subprime lending and the European sovereign debt crises and allow for a longer time span for analyzing the relationships before, during, and after the financial crisis.

## Summary of Findings and Policy Recommendations

The following are our main findings.

- *Systematic differences in quantification of disclosed fair value amounts:* The analyzed banks had both positive (carrying value > fair value) and negative (carrying value < fair value) valuation gaps. The analysis of valuation gaps shows the likelihood of systematic differences in the quantification of disclosed fair value amounts across countries.<sup>10</sup> Positive valuation gaps are prevalent for UK banks, but Spanish and Dutch banks generally have negative valuation gaps. Several banks (e.g., BNP Paribas and UBS) acknowledge, in their disclosures, that

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<sup>7</sup>Statement of Financial Accounting Standards No. 107, part of US GAAP, requires the disclosure of the fair value of financial instruments, including loans, and has been in effect since 1997. IFRS 7 and preceding literature include similar requirements, but the history of reported fair values is much shorter because listed EU companies adopted IFRS with effect from 2005.

<sup>8</sup>R.G. Associates (2012a, 2012b) reviewed the fair value disclosures of a large sample of US financial institutions for the fourth quarter of 2011 and the first quarter of 2012.

<sup>9</sup>European Central Bank (2013).

<sup>10</sup>Apart from the noted inconsistencies in quantification of disclosed fair value amounts, valuation gaps could arise owing to inconsistencies in the initial and subsequent measurement of carrying values of loans (see Section 4). However, incomparability of loan book values is likely to be a relatively less significant contributing factor to valuation gaps because items recognized on the financial statements are generally prepared with more rigor and scrutinized more broadly than items that are only disclosed.

these amounts are not comparable across financial institutions and highlight that these disclosed fair value amounts are prepared with less rigor than amounts recognized on the face of financial statements.

Furthermore, a correlation analysis of the valuation gaps shows that a meaningful economic relationship (valuation gap versus P/B and CDS spread) exists for the subsample of UK banks but no such relationship exists for the subsample of banks from France, Spain, and Italy.

The observed systematic differences in the determination of fair value highlights the potential unreliability of disclosed fair values, which presents a challenge for the comparability of these reported fair value amounts.

- *Inadequate explanations to help investors interpret disclosed fair values:* There are inadequate disclosures on the factors that create valuation gaps (e.g., interest rate changes and recoverable cash flows) and measurement uncertainty for reported amounts. Adequate disclosures in the context of measurement are especially necessary for fair values of loans that are determined on the basis of internal models (i.e., Level 3 assets).
- *Likely cross-country differences in impairment recognition and measurement approach:* Our cross-country analysis of loan impairments measures (e.g., impairment charge, allowance for loan losses, nonperforming loans) confirms the likelihood of differences in the approach toward recognition and measurement of loan impairments for banks in different countries.

On the basis of these findings, we make the following policy recommendations.

- *Enhance loan fair value disclosures:* Enhancement of disclosures of loan fair values is required to make existing disclosures more useful for investors. A key improvement would be to explain the differences between the carrying values and fair values that have been determined on the basis of internal models (i.e., Level 3). Another improvement would be to include a sensitivity analysis for the disclosed fair values. These proposed disclosure improvements should represent the lower bound of improvements to existing reporting. The upper bound would be to require the recognition of fair values on the face of financial statements (as recommended in Part 1 of this study), supported by enhanced disclosures (e.g., sensitivity analysis).
- *Enhance loan impairments disclosures:* Disclosure improvements are required to allow greater understanding of the nature of impairments and thereby the sources of the differences in impairment charges and allowance for loan losses among banks. This recommendation is also supported by a 2013 CFA Institute member survey that showed that investors seek and require disclosure enhancements related to financial asset impairments.<sup>11</sup>
- *Strengthen regulatory monitoring and enforcement activities across countries:* We recommend that securities regulators continually monitor reporting practices by banks and encourage consistent and comparable reporting, which was also recommended in a 2013 European Securities and Markets Authority (ESMA) report that reviewed the 2012 reporting of EU banks.<sup>12</sup>

<sup>11</sup>CFA Institute (2013c).

<sup>12</sup>ESMA (2013).

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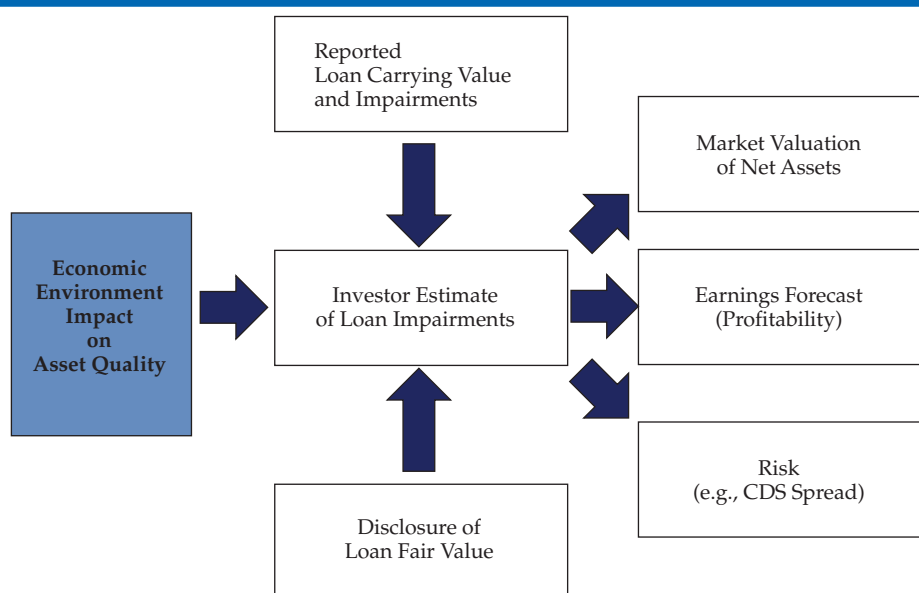
# 1. Introduction

## 1.1. Background

Part 1 of our study effectively showed that alongside other factors, such as profitability and investor risk aversion, loan impairments are an important factor influencing valuation metrics, including P/Bs.

Loan impairments affect market value because impairments have an impact on (1) capital market valuation of net assets and (2) the valuation of future profits, encapsulated by investors' earnings forecasts and their interpretation of the risk premium associated with the level of impairments. As **Figure 1.1** shows, the impact of reported impairments on valuation ultimately depends on the extent to which the amount and timing of reported impairments correspond to observable economic reality and translates to independent investors' estimates of impairments, which are applied in valuation models.

**Figure 1.1. Impact of Loan Impairments on Market Value of Banks**



In this report, we extend the analysis in Part 1 by conducting a granular examination of disclosed loan fair values, carrying values, impairments, and the market price of risk in order to build a better understanding of how current bank financial reporting facilitates investor decision making.

## 1.2. Loan Carrying Values vs. Disclosed Loan Fair Values

The following question was triggered by the observed low P/Bs of many banks in the United States and the EU since the beginning of the financial crisis:

- *If loans were recognized at fair value on financial statements, would it have led to higher P/Bs than those observed during the financial crisis?*<sup>13</sup>

This question arises simply because the book value of net assets would be expected to be more closely aligned with the capital market valuation of net assets if all assets and liabilities were reported at fair value. Assessing the sensitivity of observed P/Bs based on adjusting reported amounts to their fair value equivalent is an approach used by several analyst-oriented studies, including one by JP Morgan and two from R.G. Associates' *Analyst's Accounting Observer*.<sup>14</sup> The *Analyst's Accounting Observer* studies showed that adjusting all financial instruments on the balance sheet to their fair value equivalent should increase the P/B. The study showed that for 16 banks where  $P/B < 1$ , a full fair value adjustment resulted in 11 of those banks having  $P/B > 1$ . A recent *Financial Times* article reported the findings from a Citigroup study of the 2013 fair value reporting of 38 EU banks; 21 of the 38 banks would have had their P/Bs increase if their financial instruments were adjusted to the disclosed fair values.<sup>15</sup>

Furthermore, as Figure 1.1 shows, the difference between fair value and carrying value can inform investors' independent assessment of the economic value of loans. Accordingly, we assessed the differences between the carrying value of loans and the disclosed fair values to obtain a better sense of the extent to which such differences could help in understanding whether reported book values of net assets may have been overstated and contributed to low P/Bs. Comparing loan carrying values with the disclosed fair values can reveal the following:

- *positive valuation gaps (carrying value amounts > disclosed fair value amounts),*
- *negative valuation gaps (carrying value amounts < disclosed fair value amounts), or*
- *no valuation gaps (carrying value amounts = disclosed fair value amounts).*

On the one hand, positive valuation gaps can signal that balance sheets are overstated and can be a key potential explanation for the depressed P/Bs of many banks. On the other hand, negative valuation gaps can signal an improved management outlook on the recoverability of future contractual cash flows.

## 1.3. Cross-Country Comparability of Loan Impairments

As previously noted, loan impairments are an input for bank valuation. Therefore, it is important for investors to have an appreciation of the degree of comparability of reported impairments of banks within countries and across different countries. As described in Section 4.3, differences

<sup>13</sup>Loans are mostly recorded on an amortized cost basis under current accounting standards.

<sup>14</sup>J.P. Morgan (2012); R.G. Associates (2012a, 2012b).

<sup>15</sup>Cotterill (2014).

in applied accounting standards (e.g., IFRS and US GAAP) and regulatory requirements within countries can result in differences between countries in the quantification of loan impairments. These differences could, in turn, affect the comparability of reported carrying values of loans on bank balance sheets.

With respect to the financial crisis period, there are mainly anecdotal accounts and only limited empirical illustrations of differences in the quantification of financial asset impairments in different countries—even where the financial reporting is based on the same accounting standards (e.g., IFRS). A number of studies and regulatory publications have recently been started to provide empirical illustrations of these differences in the determination of asset impairment. For example, a Cass Business School study highlighted the inconsistency in the application of IFRS accounting for impairment of non-financial assets in EU jurisdictions.<sup>16</sup> In addition, the 2013 ESMA review of EU financial institutions highlighted differences with respect to the impairment of available-for-sale (AFS) securities—a subset of financial assets.<sup>17</sup> Hence, in our study, we considered the following question to help highlight the extent to which there is variation in loan impairments in different countries:

- *What are the period-to-period trends in loan impairments across banks in different countries?*

## 1.4. Loan Impairments and Market Price of Risk

As Figure 1.1 portrays, investors make an independent assessment of the economic worth of net assets on bank balance sheets based on

- evaluating the prevailing and prospective economic environment (e.g., GDP growth rates, employment levels, housing market bubbles, and the interest rate environment) and how this environment affects the asset quality of bank balance sheets and
- reported impairments and disclosed fair value amounts.

It is plausible that even after considering reported financial information, investors' assessments of asset quality and value of net assets may differ from the picture portrayed by financial statement information. Concurrently, the market price of risk (e.g., CDS spreads) will be influenced by investors' estimates of impairments.

Effectively, there are multiple observable signals of firm-specific credit risk, including CDS spreads and the reported impairments measures. Hence, if these signals fully and primarily reflect the asset credit risk, one would expect them to have a contemporaneous relationship in their period-to-period variation. In other words, if reported impairments are representative of economic reality, one would expect the signals from the levels of loan impairments and related period-to-period changes to match the signals from the levels of and changes in the market price of risk.

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<sup>16</sup>Amirasiani, Iatridis, and Pope (2013).

<sup>17</sup>ESMA (2013) highlighted the varied application of one of the impairment criteria—a significant or prolonged decline of fair value below cost—for AFS securities across European financial institutions. The recognition of impairments varied from 20% to 50% below cost. The period considered to be a “prolonged decline” varied from 6 months to 36 months before recognition of an impairment.

Because of this expected relationship, we asked the following additional questions in this study:

- *What are the period-to-period trends in the market price of risk for banks in different countries?*
- *Are the signals of deteriorated asset quality from reported loan impairments for banks in different countries consistent with the signals from the market price of risk?*



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## 2. Key Findings and Policy Recommendations

### 2.1. Key Findings

In this section, we outline the insights derived from the cross-country analysis of the following components:

- Loan carrying values versus disclosed loan fair values
- Loan impairments and market price of risk

#### 2.1.1. Disclosed Loan Fair Values vs. Loan Carrying Values

##### 2.1.1.1. Systematic Differences in Valuation Gaps among Countries

As reported in Section 3.2, we found both positive valuation gaps (carrying value > fair value) and negative valuation gaps (carrying value < fair value) for the 20 analyzed banks. Similar mixed valuation gap results were reported in several analyst-oriented studies.<sup>18</sup>

Our results show that UK banks had mostly positive valuation gaps from 2006 to 2012. This finding could mean that these banks have had overstated loan carrying values and net assets on the balance sheet, which, in turn, contribute to low P/Bs. This finding is consistent with the conclusions from the 2012 Bank of England (BOE) financial stability outlook reports regarding the likelihood of overstated balance sheets based on the disclosed fair value of loans.<sup>19</sup>

We also found that banks in France, Italy, the Netherlands, Spain, and Switzerland had mostly negative valuation gaps over the analyzed period. It is puzzling that there are systematic differences in the sign (+/-) of the valuation gap of banks in EU countries—even though these countries have faced similar challenging economic environments, as the comparison of CDS spreads in **Table 2.1** (an excerpt from results in Section 3) shows.

In addition, a correlation analysis of the valuation gaps shows that a meaningful economic relationship (valuation gaps versus P/Bs and CDS spreads) existed for the subsample of UK banks but no such relationship was present for the subsample of banks from France, Spain, and Italy.<sup>20</sup>

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<sup>18</sup>J.P. Morgan (2012); R.G. Associates (2012a, 2012b).

<sup>19</sup>Bank of England (2012a, 2012b).

<sup>20</sup>For UK banks, we found that valuation gaps were negatively associated with P/Bs and positively associated with CDS spreads. In other words, banks with lower P/Bs had larger valuation gaps, which shows that it is likely that overstated book value contributed to low P/Bs. Similarly, higher valuation gaps were observed for banks with higher risk premiums, as reflected by CDS spreads.



**Table 2.1. Valuation Gaps, P/Bs, and CDS Spreads of Sample Banks by Country**

Country	Banks	Six-Year Average, 2008–2013 (Crisis and Post-Crisis Periods)		
		Valuation Gap (%)	P/B	CDS Spread (bps)
France	3	–8.6	0.7	143.8
Germany	2	5.8	0.6	131.6
Italy	2	–7.9	0.5	213.1
Netherlands	2	–10.9	1.6	126.4
Spain	3	–33.1	1.0	256.2
United Kingdom	5	24.0	1.0	143.0

*Note:* Valuation gap = (Carrying value – Fair value)/Book value of equity.

### 2.1.1.2. Uncertainty on Reliability and Comparability of Disclosed Fair Value Amounts

Furthermore, for many banks, it is unclear how reliable the disclosed fair value amounts really are. This uncertainty arises because several banks (e.g., BNP Paribas and UBS) communicated in some of their financial statements that their loan fair value disclosures were not subject to the same level of rigor in their determination as the fair value amounts that are recognized on the balance sheet and income statement were subject to. In its 2010 financial statement, UBS stated the following:<sup>21</sup>

*The valuation techniques and assumptions described below provide a measurement of fair value of UBS's financial instruments accounted for at amortized cost. However, because other institutions may use different methods and assumptions for their fair value estimation, such fair value disclosures cannot necessarily be compared from one financial institution to another.*

*UBS applies significant judgments and assumptions to arrive at fair values calculated for disclosure purposes only, which are more holistic and less sophisticated than UBS's established fair value and model governance policies and procedures applied to financial instruments accounted for at fair value, whose fair values impact UBS's balance sheet and net profit.*

A 2010 BNP Paribas disclosure, “Fair Value for Financial Instruments Measured at Amortized Cost,” stated the following:<sup>22</sup>

*The information supplied in this note must be used and interpreted with the greatest caution for the following reasons:*

*These fair values are an estimate of the value of the relevant instruments as of 31 December 2010. They are liable to fluctuate from day to day as a result of changes in various parameters, such as interest rates and credit quality of the counterparty. In particular, they may differ significantly from the amounts actually received or paid on maturity of the instrument. In most cases, the fair value is not intended to be realised immediately, and in practice might not be realised immediately. Consequently, this fair value does not reflect the actual value of the instrument to BNP Paribas as a going concern;*

<sup>21</sup>UBS (2011, p. 339).

<sup>22</sup>BNP Paribas (2011, p. 251).

*Most of these fair values are not meaningful, and hence are not taken into account in the management of the commercial banking activities which use these instruments;*

*Estimating a fair value for financial instruments carried at historical cost often requires the use of modelling techniques, hypotheses and assumptions that may vary from bank to bank. This means that comparisons between the fair values of financial instruments carried at historical cost as disclosed by different banks may not be meaningful;*

*The fair values shown below do not include the fair values of nonfinancial instruments such as property, plant and equipment, goodwill and other intangible assets such as the value attributed to demand deposit portfolios or customer relationships. Consequently, these fair values should not be regarded as the actual contribution of the instruments concerned to the overall valuation of the BNP Paribas Group.*

As the BNP Paribas and UBS disclosure excerpts show, the banks themselves do not consider these disclosures to be comparable among financial institutions. Furthermore, in Section 3, we also highlight the case of Nordea Bank, which in its 2013 annual report stated that there are no differences between the loan carrying value and the disclosed fair value. However, the report conveyed that only updated interest rate adjustments were made and there were no updated views of factors that affect the recoverability of future cash flows (i.e., probability of default).

### 2.1.1.3. Disclosures of Loan Fair Values Require Enhancement

The loan fair value disclosures that we reviewed (EU banks reporting under IFRS) often failed to adequately explain the following:

- methods, inputs, assumptions, and sensitivities of the disclosed loan fair value amounts<sup>23</sup> and
- factors causing differences between disclosed fair value amounts and the carrying value of loans when these fair values were determined through internal management models (Level 3). Differences between these two measurement bases could arise owing to the following:
  - ▲ *Interest rate:* Fair value could differ from the carrying value owing to differences between the effective interest rate used to determine the amortized cost carrying amount and the market discount rate that is used to determine the fair value amount.
  - ▲ *Recoverable cash flows:* The fair value may incorporate an upward revision in the expected recoverable future cash flows, whereas the carrying amount may not reflect a reversal of a previously written-down amount (e.g., because of the amortized cost “ceiling”).
  - ▲ *Liquidity risk:* The fair value that is based on observable, external prices could reflect the current liquidity risk of the loan, although liquidity risk after initial recognition would be excluded from the amortized cost carrying value.

The absence of disclosures on whether and how any of these factors differentially affected the fair value versus the amortized cost of a financial instrument makes it difficult for investors to interpret why fair values are the same as, greater than, or less than the carrying value.

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<sup>23</sup>Some banks (e.g., UBS) described the methods applied for different financial instruments, but not all banks did.

In effect, existing disclosures of loan fair values fall short of the need to “tell the economic reality story” about the factors influencing loan values and the measurement uncertainty associated with these disclosed fair value amounts. Therefore, in our policy recommendations (Section 2.2), we propose the enhancement of loan fair value disclosures to help investors better understand the valuation gaps and enable them to make analytical adjustments should they deem such adjustments appropriate.

## 2.1.2. Loan Impairments and Market Price of Risk

As reported in Section 3, we conducted a cross-country multi-period analysis of various measures of loan impairments and market price of risk. The following subsections describe the key findings from this analysis.

### 2.1.2.1. Significant Cross-Country Differences in Loan Impairments

We observed that there are significant differences in the loan impairments measures (e.g., Allowance for loan losses/Gross loans and Nonperforming loans/Gross loans) across different countries. These observed cross-country impairment differences could be due to any of the following reasons, as explained in Section 4.3:

- *variation in the economic situation in different countries,*
- *heterogeneity of individual bank business models and the accompanying credit risk profiles,*
- *different definitions of nonperforming loans,*
- *different accounting standard requirements (e.g., IFRS versus local GAAP) in different countries, and*
- *inconsistent application of the same accounting standard requirements (e.g., IFRS).*

### 2.1.2.2. Loan Impairments and Market Price of Risk Show Differing Rankings of Credit Risk

The analysis in Section 4 compares the credit risk of the sample banks by country based on a ranking of the five-year average (2008–2012) of market price of risk (CDS spread) and loan impairments measures (impairment charge, allowance for loan losses, and nonperforming loans). These rankings show a number of inconsistencies between the ranking implied by the CDS spread and the ranking implied by both nonperforming loans and the allowance for loan losses. We infer that these findings indicate inconsistencies in impairment determination for banks in different countries.

Another indicator of significant variation in the cross-country impairment determination comes from a comparison of a variant of coverage ratios—allowance for loan losses as a proportion of nonperforming loans. This measure shows that US and Australian banks have much higher loan provisioning levels per unit of nonperforming loans than EU banks have.

### 2.1.2.3. Disclosures Not Sufficient to Inform on Reasons for Differences in Loan Impairments

Existing financial instrument disclosures do not sufficiently communicate information about methods and inputs used to determine the impairment amount and, as a result, do not allow investors to discern whether the observed variation is primarily driven by differences in asset quality or merely by differences in the application of impairment accounting standards. In this respect, the inadequacy of impairment disclosures limits the ability of investors to judge the extent to which impairment amounts for banks are fully comparable and whether analytical adjustments to the reported amounts are needed.

## 2.2. Policy Recommendations

Our policy recommendations are based on the key findings from this study as described in Section 2.1. We also considered the findings from a recent CFA Institute impairment survey<sup>24</sup> and the related views expressed in CFA Institute's comment letter to the International Accounting Standards Board and the Financial Accounting Standards Board (hereafter referred to as the "2013 impairment comment letter").<sup>25</sup> On the basis of this mosaic of information, we make the following policy recommendations.

### 2.2.1. Enhance Disclosures Related to Loan Fair Values

High-quality disclosures of loan fair values are necessary to enable investors to judge the reliability of these disclosures and thereafter whether such disclosures can facilitate appropriate analytical adjustments to the balance sheet when required (e.g., if investors need to determine net assets on a full fair value basis). The decision-usefulness of disclosed loan fair values for investors is backed by a substantial body of academic evidence based on fair value disclosures of US banks that shows that these disclosures are value relevant and incrementally informative to the reported amortized (historical) cost amounts.<sup>26</sup> One such study showed that, on the basis of data from before and during the crisis, fair value information for financial instruments would have facilitated more accurate credit risk forecasts and helped anticipate bank failures.<sup>27</sup>

As noted in Section 2.1, disclosures of loan fair values under IFRS generally do not inform on the methods, inputs, assumptions, and sensitivities used to determine the disclosed fair values, nor do they shed light on why fair value amounts are different from amortized cost carrying values. Disclosures that include such information are especially necessary when the fair value is determined on the basis of internal models and unobservable inputs.

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<sup>24</sup>CFA Institute (2013c).

<sup>25</sup>CFA Institute (2013a).

<sup>26</sup>See, for example, Barth, Beaver, and Landsman (1996); Beaver and Venkatachalam (2003).

<sup>27</sup>Blankespoor, Linsmeier, Petroni, and Shakespeare (2012).

## Recommendation: Enhancement of Disclosed Loan Fair Values

Financial statement preparers should be required to provide disclosures that help investors understand the drivers of differences between the fair value and the carrying value of financial instruments (e.g., liquidity risk, the discount rate, differences in expected recoverable contractual cash flows). We think this can be achieved by requiring preparers to

- always provide a classification of these disclosed fair values based on measurement hierarchy (Level 1, 2, or 3)<sup>28</sup>—especially because the hierarchy distinction has information content for investors,<sup>29</sup>
- detail the components of fair value (i.e., the methods, inputs, assumptions, and sensitivities of the fair value amounts), and
- reconcile the fair value to the carrying value if the fair value is determined by internal models (i.e., Level 3). Such reconciliation would help investors understand the sources of differences and make the appropriate analytical adjustments.

This recommendation aligns with the one made in the 2013 impairment comment letter for enhanced disclosures on the cash flow characteristics of financial instruments. Disclosure of cash flow characteristics can help investors better understand any disclosed fair value amounts. The 2013 impairment survey showed that *75% of respondents considered disclosures of the cash flow characteristics to be either “important” or “very important.”*<sup>30</sup>

### 2.2.1.1. Disclosure Not a Substitute for Recognition of Loan Fair Values on Face of Financial Statements

As noted previously, disclosed loan fair values have information content for investors, as has been amply proven by a considerable body of empirical evidence. That said, we argue that only disclosing but not recognizing and presenting the loan fair values on the face of the financial statements is a “second-best” solution. This assertion is backed by an academic study that applied the behavioral experiment methodology and involved experienced bank analysts taking part in an analytical exercise based on simulated full fair value financial statements.<sup>31</sup> The study showed that experienced analysts incorporated fair value information when such information was recognized in financial statements (income statement and balance sheet) but not when it was only disclosed. The authors described the constraints that analysts face in applying fair value information that is not recognized on the face of the financial statements:

*A growing body of evidence in the behavioral finance literature suggests that analysts face significant constraints on the time and effort they can devote to accounting-data acquisition and analysis. The typical equity analyst works in a cognitively demanding environment and must perform a variety of different tasks, including security analysis, portfolio management, marketing, and other tasks. In addition, buy-side analysts usually work for*

<sup>28</sup>Some banks (e.g., Nordea) provide this hierarchy, but not all banks do.

<sup>29</sup>Bosch (2011) and Goh, Ng, and Yong (2009) found that there is a higher uncertainty premium associated with Level 3 fair value amounts compared with Level 1 amounts.

<sup>30</sup>CFA Institute (2013c).

<sup>31</sup>Hirst, Hopkins, and Wahlen (2004).

*funds that own large numbers of companies, requiring analysts to follow many current and prospective investments. Thus, analysts receive a diffuse, steady flow of potentially relevant information about the economy, industries, and each company they follow.*

*Although the current piecemeal-fair-value-income measurement regime provides all of the data that analysts need to compute full-fair-value income, banks report these data in different locations in the financial statements and footnotes, increasing the time and effort to acquire fair-value data. Analysts cannot rely on most commercial electronic databases to reduce the costs of gathering these data, because many databases do not include fair value-footnote data. Buy-side analysts also cannot rely on fair value analysis generated by either sell-side analysts or the financial press because most sell-side and press reports use financial data and ratios based on recognized (i.e., piecemeal fair-value) accounting numbers, such as book-to-market and price-to-earnings.*

*Thus, although fair-value data are relevant elements of banks' publicly available financial information, time- and effort-constrained bank analysts must incur incremental costs to acquire and use these data. Under piecemeal-fair-value-income measurement, even specialist analysts may not acquire and use fair-value disclosures. Under full-fair-value income measurement, where banks measure income with all fair-value gains/losses and report it in a performance statement, analysts may be more likely to acquire and use risk relevant and value-relevant fair-value information than under piecemeal-fair-value-income measurement.<sup>32</sup>*

This excerpt highlights investor access constraints as one of the key impediments to the use of fair value information that is only disclosed and makes a good case for recognition of fair value on the face of financial statements. Hence, a more prominent presentation on the face of financial statements supported by the enhancement of information content within disclosures is necessary to enable greater levels of application of these fair value amounts by investors.

One recent study that did not find supporting evidence of the incremental value relevance of disclosed fair value amounts of loans postulated that disclosed fair values of loans may have lower predictive value than amortized cost for the following reasons:<sup>33</sup>

- Less rigor in their preparation compared with amounts presented on the face of financial statements
- Less scrutiny of these amounts from analysts and regulators, most likely owing to the presumed less rigor in their preparation

These explanations resonate with the reported finding (Sections 2.1 and 3) that points to instances of a lack of rigor in the quantification of disclosed fair value amounts. Thus, there is a need for reporting banks to go beyond simply disclosing the fair value of financial instruments, including loans, in order to encourage greater scrutiny of these fair value amounts by management, auditors, analysts, and regulators.

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<sup>32</sup>Hirst et al. (2004, pp. 458–459).

<sup>33</sup>Cantrell, McInnis, and Yust (2014) found that historical cost measures are better predictors of future-period loan charge-offs than are disclosed fair value amounts.



## Recommendation: Recognition and Measurement of Fair Value of Loans on Face of Financial Statements alongside Amortized Cost

As highlighted in Part 1 of this study, we recommend the recognition of the fair value of loans alongside the amortized cost amounts on the face of financial statements (e.g. via parenthetical presentation).<sup>34</sup>

A requirement for such recognition in tandem with enhancement of disclosures on the determination of fair value amounts would ensure greater rigor in the preparation of fair value amounts and increased scrutiny of this decision-useful information by regulators and investors.

### 2.2.2. Enhance Loan Impairments Disclosures

As noted in the key findings in Section 2.1 derived from the analysis in Section 4, investors face challenges when comparing financial asset impairments because of differences in the requirements and application of the relevant accounting standards for different countries and banks. The comparability challenges are compounded by inadequate disclosures with respect to the methods, inputs, and assumptions used to determine such impairments. Without sufficient disclosures to inform about whether and, if so, why there are differences in reported impairments, there is inherent information risk for investors who rely on reported impairment amounts as inputs to their analysis of a bank's asset quality, balance sheet value, and earnings forecast.

The inadequacy of financial asset disclosures was confirmed in a recent report by the ESMA.<sup>35</sup> The report reviewed the disclosures in the 2012 annual reports of 38 European financial institutions and highlighted the opportunity for these banks to provide more granular disclosures and details of inputs, methods, and assumptions of impairments. Therefore, we encourage standard setters and regulatory enforcement bodies to continue pursuing measures that will augment the disclosures of financial asset impairments.

## Recommendation: Enhancement of Disclosures of Financial Asset Impairments

We recommend that financial statement preparers be required to provide disclosures of methods and inputs used and assumptions made in determining impairment amounts. Improving impairment disclosures would help investors discern the comparability of reported loan impairments for different banks and better judge the credit quality of banks' assets.

This recommendation is consistent with CFA Institute's commentary over the years, in which the need to augment expected credit loss (impairment) disclosures was reiterated. Most recently, the 2013 impairment survey highlighted the importance of this type of disclosure.<sup>36</sup> The following is a breakdown of the proportion of respondents who consider various elements of impairment-related disclosures to be important:<sup>37</sup>

<sup>34</sup>CFA Institute (2014b).

<sup>35</sup>ESMA (2013).

<sup>36</sup>CFA Institute (2013c).

<sup>37</sup>The rating of disclosures was on a scale of 1 to 5, with 4 being "important" and 5 being "very important." What we classify as importance rating is the number of respondents who assigned either a 4 or 5 to particular disclosure components.

- 90%—Assumptions and techniques used in estimating the allowance for expected credit losses
- 86%—Write-off policy disclosure
- 85%—Credit quality
- 79%—Expected credit loss development
- 79%—Past-due status

### **2.2.3. Global Accounting Standards and Stronger Regulatory Enforcement**

To minimize cross-country differences, we emphasize the importance of the following:

- *A converged financial asset impairment standard:* Though it seems unlikely in the short term, this would be a desirable outcome for investors and is necessary to ensure global comparability of financial reporting. The 2013 impairment survey showed that *92% of respondents support a common financial asset impairments standard for the International Accounting Standards Board and the Financial Accounting Standards Board.*
- *Enhancement of the regulatory enforcement efforts across jurisdictions to ensure greater consistency in the application of the accounting standard requirements:* A review like the one conducted by the ESMA on 2012 financial statements<sup>38</sup> should be periodically conducted by securities regulators to encourage more consistent application of accounting requirements.

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<sup>38</sup>ESMA (2013).

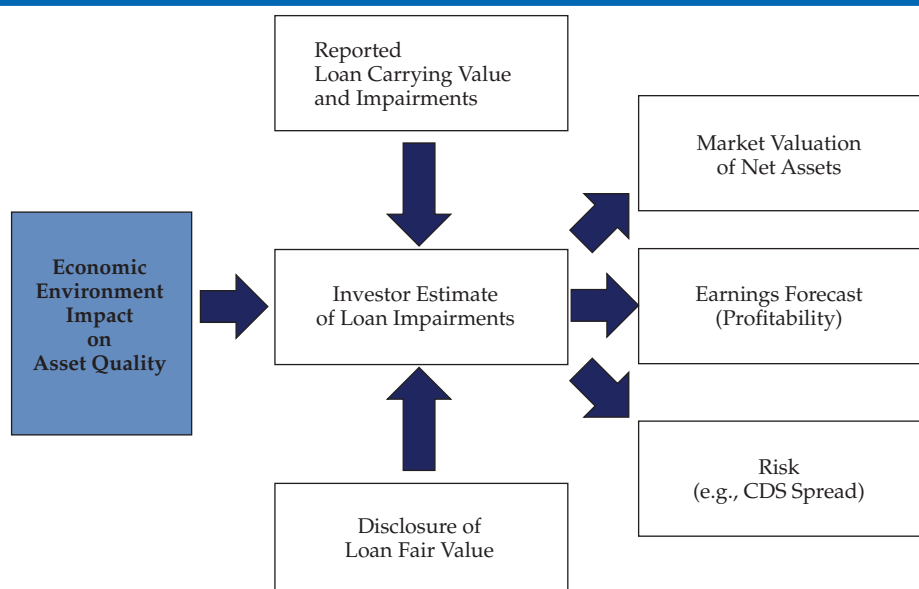


## 3. Analysis: Loan Carrying Values vs. Disclosed Loan Fair Values

### 3.1. Objective and Analytical Approach

As shown in **Figure 3.1**, the disclosed loan fair values and reported loan carrying amounts can inform investors' estimates of the economic value of reported net assets. Therefore, we assessed the disclosures of loan fair values for an eight-year period (2006–2013) for 20 EU banks that report under IFRS to help create a picture of whether bank balance sheets are overstated because of the application of the amortized cost impairment approach for loans.

**Figure 3.1. Inputs That Influence Investor Assessment of Net Assets**



### 3.2. Profile of Selected Banks

*Sample breakdown:* As shown in **Exhibit 3.1**, the sample of 20 banks is drawn from nine countries with financial statements based on IFRS. We focused on EU banks because they are the key constituent of this study's sample and because they report using IFRS, so we expected greater comparability among countries. We also considered the fact that there is already a wealth of academic and practitioner literature analyzing the disclosed loan fair values of US banks because these disclosures have been required since the 1990s. Although we analyzed only the disclosed fair values of EU banks, we also reviewed the findings related to US banks in order to assess whether the matters arising from our study were also at play for US banks.

*Data sources:* The financial reporting information for the banks was gathered directly from annual reports.

*Analytical horizon:* The analysis of the 20 selected banks is based on data from 2006 to 2013 so as to distinguish the information content of financial reporting information in the pre-crisis, crisis, and post-crisis periods.

Exhibit 3.1. Sample Bank Profile	
United Kingdom	■ HSBC
	■ Barclays
	■ Royal Bank of Scotland
	■ Lloyds Banking Group
	■ Standard Chartered
France	■ BNP Paribas
	■ Crédit Agricole
	■ Société Générale
Spain	■ Banco Santander
	■ BBVA
	■ Banco Sabadell
Italy	■ Intesa Sanpaolo
	■ UniCredit
Germany	■ Deutsche Bank
	■ Commerzbank
Switzerland	■ UBS
Sweden	■ Nordea Bank
Netherlands	■ ING
	■ Rabobank
Austria	■ Erste Bank

## 3.3. Results

### 3.3.1. Mix of Positive and Negative Valuation Gaps

**Table 3.1** shows that the 20 banks we analyzed had both positive valuation gaps (carrying value > fair value) and negative valuation gaps (carrying value < fair value) during the sample period. The descriptive statistics (mean, median, and frequency) in **Table 3.2** show that positive valuation gaps, as a percentage of reported net assets (book value of equity), were common at the beginning of the crisis (2007, 2008, and 2009) whereas negative valuation gaps have since become more common. The following findings further illustrate this conclusion.

- The individual count per year shows that the number of positive valuation gaps exceeded that of negative valuation gaps in 2006, 2007, 2008, and 2009. The positive valuation gaps for these years are as follows:

- ▲ 10 of 19 banks in 2006,
- ▲ 15 of 19 in 2007,
- ▲ 12 of 19 in 2008, and
- ▲ 11 of 20 in 2009.

For all the other years analyzed (2010, 2011, 2012, and 2013), the number of negative valuation gaps exceeded that of positive valuation gaps. The negative valuation gaps are as follows:

- ▲ 11 of 20 banks in 2010 and 2011,
- ▲ 12 of 20 in 2012, and
- ▲ 11 of 20 in 2013.

Throughout the sample period, the number of positive valuation gaps (82 of 156, or 52% of observations) exceeded that of negative valuation gaps (73 of 156, or 47% of observations), with the highest positive valuation gap for any of the selected banks being 57% in 2007 (Lloyds TSB and HSBC).

**Table 3.1. Valuation Gap as a Percentage of Reported Net Assets for Selected European Banks**

Bank	Country	2013	2012	2011	2010	2009	2008	2007	2006
Erste Bank	Austria	13%	17%	16%	15%	-3%	10%	2%	1%
BNP Paribas	France	-12	-5	-20	-22	-19	17	6	0.5
Crédit Agricole	France	26	-44	-21	-18	-22	-8	5	2
Société Générale	France	-12	-6	2	-12	2	20	7	0
Commerzbank	Germany	-4	-11	16	2	-2	3	14	3
Deutsche Bank	Germany	-3	-6	8	12	9	46	-1	-3
Intesa Sanpaolo	Italy	-14	3	14	3	1	10	1	-2
UniCredit	Italy	-20	-30	-16	-20	-18	-6	-8	-9
ING	Netherlands	-18	-31	-16	-2	2	-7	-24	-1
Rabobank	Netherlands	-16	-26	-9	-8	3	-2	9	-1
Banco Sabadell	Spain	83	-99	-90	-72	30	NA	NA	NA
Banco Santander	Spain	-1	-9	-13	-8	-16	-15	-3	-6
BBVA	Spain	29	-46	-20	-18	-29	-45	-28	-36
Nordea	Sweden	0	-1	-1	0	-1	-4	1	1
UBS	Switzerland	-5	-6	-3	-1	-2	1	7	2
Barclays	UK	20	27	22	18	20	30	5	1
HSBC	UK	5	13	15	15	30	57	22	3
Lloyds Banking Group	UK	23	24	37	24	39	57	6	3
RBS	UK	20	28	39	32	35	56	49	-2
Standard Chartered	UK	0.5	2	-2	3	7	20	2	-2

NA = not available.

**Notes:** The displayed percentages represent Valuation gap/Book value of equity. Positive valuation gap means carrying value > fair value; negative valuation gap means carrying value < fair value.

**Source:** Annual reports.

**Table 3.2. Valuation Gap Statistics for Full Sample**

Analytical Factor	2013	2012	2011	2010	2009	2008	2007	2006
Mean	-6%	-10%	-2%	-3%	3%	13%	6%	-2%
Median	-4%	-6%	-1%	-1%	2%	10%	5%	0%
Maximum	26%	29%	39%	32%	39%	57%	49%	3%
Minimum	-83%	-100%	-90%	-72%	-29%	-45%	-28%	-36%
No. of banks	20	20	20	20	20	19	19	19
Positive valuation gaps	8	8	9	9	11	12	15	10
Negative valuation gaps	11	12	11	11	9	7	4	9
No valuation gap	1	0	0	0	0	0	0	0

**Notes:** The displayed percentages represent Valuation gap/Book value of equity. Positive valuation gap means carrying value > fair value; negative valuation gap means carrying value < fair value.

**Source:** Annual reports.

It is not unusual for some banks to have positive valuation gaps and others to have negative valuation gaps in the same period. For example, such a pattern also exists in the United States, where the reporting of fair value disclosures has occurred since the late 1990s. An R.G. Associates analysis of the fourth quarter 2011 reporting of 27 US financial institutions found an even split of 12 positive and 12 negative valuation gaps for the loan carrying values.<sup>39</sup> A follow-up study on the reporting of 82 US financial institutions in the first quarter of 2012 found 54 positive valuations gaps and 28 negative valuation gaps.<sup>40</sup>

### 3.3.2. Valuation Gap Puzzle: Systematic Differences among Countries

#### 3.3.2.1. Difficult to Discern Economic Meaning of Bank Valuation Gaps in Certain EU Countries

Notwithstanding the mix of positive (52%) and negative (47%) valuation gaps that we found, the following trend remains puzzling:

- *UK banks have mostly positive valuation gaps.*
- *French, Italian, Dutch, and Spanish banks have mostly negative valuation gaps.*

Negative valuation gaps could signal an improved management outlook on the recoverability of future contractual cash flows of the respective banks. However, the market measures of value (P/B) and risk (CDS spread) give no indication that the banks with mostly negative valuation gaps are on a better economic footing and hence have a higher likelihood of recoverability of future contractual cash flows from loans than the UK banks, which have mostly positive valuation gaps (see **Table 3.3** and **Table 3.4**).

<sup>39</sup>R.G. Associates (2012a).

<sup>40</sup>R.G. Associates (2012b).

**Table 3.3. Valuation Gap, P/B, and CDS Spread of Sample Banks**

Bank	Country	Eight-Year Average: 2006–2013			Six-Year Average: 2008–2013 (Crisis and Post-Crisis Periods)		
		Valuation Gap (%)	P/B	CDS Spread (bps)	Valuation Gap (%)	P/B	CDS Spread (bps)
Erste Bank	Austria	8.9	1.2	144.5	11.3	0.8	186.7
BNP Paribas	France	–6.9	1.1	94.7	–10.2	0.9	122.2
Crédit Agricole	France	–10.0	0.7	117.0	–14.5	0.5	151.7
Société Générale	France	0.1	1.0	121.2	–1.0	0.7	157.3
Commerzbank	Germany	2.6	0.8	113.9	0.7	0.5	145.1
Deutsche Bank	Germany	7.8	0.9	93.5	11.0	0.7	118.1
Intesa Sanpaolo	Italy	2.0	0.9	153.3	2.8	0.6	199.6
UniCredit	Italy	–16.1	0.8	174.7	–18.7	0.5	226.6
ING	Netherlands	–6.1	1.9	97.8	–12.0	1.6	126.4
Rabobank <sup>a</sup>	Netherlands	–6.4	NA	NA	–9.8	NA	NA
Banco Santander	Spain	–8.9	1.2	154.4	–10.3	1.0	200.4
Banco Sabadell <sup>b</sup>	Spain	–62.8	1.2	270.6	–62.8	0.9	357.2
BBVA	Spain	–31.3	1.6	162.3	–31.0	1.1	211.0
Nordea	Sweden	–0.7	1.4	85.6	–1.4	1.2	94.2
UBS	Switzerland	–0.9	1.7	100.5	–2.7	1.3	129.5
Barclays	UK	18.4	1.1	109.6	23.5	0.7	140.8
HSBC	UK	20.0	1.4	73.4	22.5	1.2	93.3
Lloyds Banking Group	UK	26.6	1.4	132.4	34.0	0.9	173.0
RBS	UK	32.1	0.7	144.8	35.0	0.5	188.0
Standard Chartered	UK	3.8	1.9	94.0	5.0	1.6	119.8

NA = not available.

<sup>a</sup>Rabobank is not listed; hence, P/B and CDS spread data are not available.

<sup>b</sup>Missing variables for four years.

**Table 3.4. Valuation Gap, P/B, and CDS Spread of Sample Banks by Country**

Country	No. of Banks	Eight-Year Average: 2006–2013			Six-Year Average: 2008–2013 (Crisis and Post-Crisis Periods)		
		Valuation Gap (%)	P/B	CDS Spread (bps)	Valuation Gap (%)	P/B	CDS Spread (bps)
Austria	1	8.9	1.2	144.5	11.3	0.8	186.7
France	3	–5.6	0.9	111.0	–8.6	0.7	143.8
Germany	2	5.2	0.8	103.7	5.8	0.6	131.6
Italy	2	–7.1	0.8	164.0	–7.9	0.5	213.1
Netherlands	2	–6.3	1.9	97.8	–10.9	1.6	126.4
Spain	3	–30.2	1.4	195.8	–33.1	1.0	256.2
Sweden	1	–0.7	1.4	85.6	–1.4	1.2	94.2
Switzerland	1	–0.9	1.7	100.5	–2.7	1.3	129.5
United Kingdom	5	20.2	1.3	110.8	24.0	1.0	143.0

As shown in **Table 3.5**, when we split the sample into two subsamples—UK banks in one and French, Italian, and Spanish banks in the other—and tested the correlation of valuation gaps with P/Bs and CDS spreads for the subsamples, we found that UK banks' correlation was statistically significant and economically meaningful: Higher valuation gaps were associated with lower P/Bs and higher CDS spreads. In other words, higher valuation gaps for UK banks

likely led to reduced P/Bs and were indicative of banks with higher risk premiums. In contrast, there was no readily discernible economic meaning for the valuation gaps of French, Italian, and Spanish banks.

**Table 3.5. Correlation Analysis of Valuation Gap vs. P/B and CDS Spread**

	All Sample Banks		UK Banks		French, Spanish, and Italian Banks	
Valuation gap vs. P/B	0.0154	148	-0.54*	40	0.09	61
Valuation vs. CDS spread	-0.38*	147	0.40*	40	-0.54*	60

\*Statistically significant at 95% confidence level.

Overall, it is difficult to interpret the observed pattern of valuation gaps among different countries, which hints at the possibility of systematic differences between countries in how these disclosed loan fair values are determined. That being said, it is difficult for readers of financial statements to determine from the disclosures why such systematic differences between countries exist.

### 3.3.2.2. UK Banks' Positive Valuation Gaps Contain Information Content

An indicator of the information content of UK banks' fair value disclosures is the statistically significant negative (positive) correlation that their valuation gaps have with P/Bs (CDS spreads), as shown in Table 3.5.

As noted, UK banks had mostly positive valuation gaps from 2006 to 2013. This finding could mean that these banks had overstated loan carrying values and, consequently, net assets—which, in turn, contributed to the low P/Bs that have been observed for many banks since the beginning of the financial crisis.<sup>41</sup>

The observation of mainly positive valuation gaps for UK banks and the related inference of overstated balance sheets are consistent with the conclusions made by the 2012 BOE financial stability outlook.<sup>42</sup> The BOE report showed that for the year ended 2011, there were positive valuation gaps with respect to aggregate net assets and loans in particular and that these gaps were derived from using the fair value amounts disclosed in the notes to financial statements. The valuation gaps for the four largest UK banks were £90 billion for net assets and £76 billion for loans held on balance sheet.

### 3.3.3. Questionable Rigor in Quantification of Disclosed Fair Value Amounts

As noted in Section 2, some banks (e.g., BNP Paribas and UBS) have communicated in past annual reports that their disclosed loan fair values are not determined with the same level of rigor as is the case for fair value amounts that are recognized on the balance sheet and income statement. Lack of rigor in preparation could cast doubt on the reliability of some of the banks'

<sup>41</sup>By definition, overstating the book value of equity leads to a larger denominator amount and reduces P/B.

<sup>42</sup>Bank of England (2012).

disclosures and limits the information content of fair value disclosures. Doubts regarding the reliability of disclosed fair value amounts are often exacerbated by the failure of these disclosures to explain why fair value amounts are similar to or different from the carrying amount of loans.

An interesting example of the inscrutability of existing fair value disclosures is when there is no difference between the disclosed fair value and carrying amount and there is not an adequate explanation of why these amounts are the same. For example, in its 2013 annual report, Nordea showed the carrying value and fair value of loans measured at amortized cost to be €265.5 billion. The bank provided the following explanation for the amounts' equivalence:

*The fair value of “Loans to central banks”, “Loans to credit institutions” and “Loans to the public” has been calculated as the carrying amount adjusted for fair value changes in interest rate risk. The fair value changes related to interest rate risk [are] based on changes in relevant interest rates compared with corresponding nominal interest rates in the portfolios. No adjustment has been made for changes in fair value of credit risk. The average probability of default (PD) for loans to credit institutions and to corporates has been relatively unchanged. However the average PDs for retail customers has decreased which is an indication . . . that the fair value of loans to retail customers is higher than the calculated fair value. The fair value measurement is categorised into Level 3 in the fair value hierarchy.*<sup>43</sup>

This explanation seems to show that only a single factor (interest rate) was considered in the fair value determination—even with knowledge of changes in factors that affect the recoverable future cash flows (i.e., probability of customer defaults). The economic interpretation of Nordea's fair value amount is further constrained because it is determined on the basis of unobservable inputs (i.e., Level 3) and there is no sensitivity analysis to convey the measurement uncertainty associated with the disclosed amount. This example illustrates that disclosed fair value amounts can, in fact, be opaque numbers for investors if there is not sufficient communication regarding the context of their quantification.

### 3.4. Conclusion

The key conclusion from our analysis of disclosed loan fair values is that more robust disclosures of loan fair values are needed to help investors better understand valuation gaps and, where appropriate, make necessary analytical adjustments. Existing disclosures are failing to do what they are meant to do—*tell the economic reality story behind the differences between fair value and carrying value and the measurement uncertainty associated with the disclosed fair value amounts.*

Therefore, as proposed in the policy recommendations (Section 2.2), disclosures of the fair value of loans need to be enhanced to make them more decision useful for investors. As highlighted in Part 1 of this study, an even better improvement for investors would be to require the recognition and measurement of the fair value of loans alongside the amortized cost amounts on the face of financial statements, supported by disclosure enhancements.<sup>44</sup> Recognition and measurement on the face of financial statements would ensure greater rigor in the preparation of fair value amounts and increased scrutiny of this decision-useful information by regulators and investors.

<sup>43</sup>Nordea (2014, p. 158).

<sup>44</sup>CFA Institute (2014b).

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## 4. Analysis: Loan Impairments and Market Price of Risk

### 4.1. Objective and Analytical Approach

In this section, we analyze the trends in the measures of loan impairments and market price of risk for banks before, during, and since the height of the financial crisis. As described in Section 1, the analysis of the level of and changes in loan impairments measures helps create a picture of the degree of comparability of these reported amounts and the extent to which bank balance sheets may have been overstated in different jurisdictions.

We report and assess the trends in loan impairments and market price of risk for various countries in Section 4.3.1. In Section 4.3.2, we assess at an aggregate country level whether there is consistency in the information content regarding credit risk inferred from reported impairments and CDS spreads.

### 4.2. Profile of Selected Banks

*Sample breakdown:* As shown in **Exhibit 4.1**, the sample of 51 banks is drawn from 16 countries with financial statements based on different accounting standards (IFRS and Australian, Canadian, Japanese, and US GAAP). The sample banks include many systemically important financial institutions (SIFIs), as well as midsize banks within the selected countries. EU banks dominate the sample because these banks have been subject to both the subprime lending and the sovereign debt crises and they allow a longer time span for analyzing the relationships before, during, and after the financial crisis. Another reason for including mostly EU banks is that they have relatively homogeneous reporting requirements because they report mostly under IFRS. Despite drawing banks from just 16 countries, many of the selected banks also have significant cross-border and global operations in Asia, Africa, and South America, and in that respect, there is some degree of global coverage in analyzing these banks.



**Exhibit 4.1. Sample Bank Profile**

European Banks (IFRS)	US Banks (US GAAP)	Other Banks
<i>United Kingdom</i>	■ JPMorgan Chase	<i>Australia</i>
■ HSBC	■ Citigroup	<i>(Australian IFRS)</i>
■ Barclays	■ Bank of America	■ ANZ Banking Group
■ The Royal Bank of Scotland	■ Bank of New York Mellon	■ Commonwealth Bank
■ Lloyds Banking Group	■ Northern Trust	<i>Canada (Canadian GAAP)</i>
■ Standard Chartered	■ Zions Bancorporation	■ Toronto-Dominion Bank
<i>France</i>	■ Wells Fargo & Company	■ Scotiabank
■ BNP Paribas	■ Capital One Financial Corporation	■ Royal Bank of Canada
■ Cr�dit Agricole	■ State Street Corporation	■ Canadian Imperial Bank of Commerce
■ Soci�t� G�n�rale	■ Sun Trust Bank	<i>Japan (Japanese GAAP)</i>
■ Natixis		■ Mizuho Financial Group
<i>Spain</i>		■ Sumitomo Mitsui Financial Group
■ Banco Santander		■ Mitsubishi UFJ Financial Group
■ BBVA		■ Nomura Holdings
■ Banco Sabadell		
■ Bankinter		
<i>Italy</i>		
■ Banco Sanpaolo		
■ Banco Popolare di Milano		
■ UniCredit		
<i>Germany</i>		
■ Deutsche Bank		
■ Commerzbank		
<i>Switzerland</i>		
■ UBS		
■ Credit Suisse		
<i>Belgium</i>		
■ Dexia		
■ KBC Bank		
<i>Ireland</i>		
■ Bank of Ireland		
■ Allied Irish Banks		
<i>Sweden</i>		
■ Nordea Bank		
■ Svenska Handelsbanken		
<i>Netherlands</i>		
■ ING		
■ SNS REAAL <sup>a</sup>		
<i>Austria</i>		
■ Erste Bank		
■ Raiffeisen		
<i>Portugal</i>		
■ Millennium BCP		

<sup>a</sup>Delisted in 2014.

*Diverse data sources (Bankscope, Bloomberg, Capital IQ, and Markit):* The fundamental financial reporting information for the banks was sourced from the Bankscope, Capital IQ, and Bloomberg databases. The CDS spreads are from Markit and Bloomberg.

*Analytical horizon:* We based the analysis of the selected 51 banks on data from 2004 to 2013 so as to distinguish the information content of financial reporting information in the pre-crisis, crisis, and post-crisis periods.

## 4.3. Results

The results in Sections 4.3.1 and 4.3.2 outline the breakdown of loan impairments and market price of risk for 16 countries for the 2004–13 reporting periods. The analyzed results focus on the following:

- Loan impairments measures
  - ▲ Periodic impairment charges as a proportion of net interest income
  - ▲ Loan loss allowances as a proportion of gross loans
  - ▲ Nonperforming loans as a proportion of gross loans
  - ▲ Loan loss allowances as a proportion of nonperforming loans
- Market price of risk (CDS spread)

In Section 4.3.3, we assess the extent to which there is consistency in the information content of loan impairments and CDS spreads.

### 4.3.1. Loan Impairments Measures

In Section 4.3.1.1, we report the cross-country trends, and in Section 4.3.1.2, we explain the sources of differences in observed impairments.

#### 4.3.1.1. Cross-Country Analysis of Loan impairments

Tables 4.1–4.4 outline the cross-country trends in various loan impairments measures.

*Impairment charge as a proportion of net interest income (IMPCHG)—Sharp increases after 2007:* The results in **Table 4.1** show that IMPCHG rose sharply in 2008 and 2009 for the banks in all countries. IMPCHG continued to increase until 2011 for banks in Belgium and Ireland and until 2012 for banks in Portugal. In contrast, starting in 2010, IMPCHG decreased for banks in many of the other sample countries, albeit temporarily in some cases—for example, in Spain and Italy, where another increase occurred at the pinnacle of the European sovereign debt crisis in 2011 and 2012.

Another striking feature of the trends in Table 4.1 is that in the run-up to and the early stages of the financial crisis (2004–2009), IMPCHG was not that much different for the sample countries—despite the significant rise in 2008 and 2009. Starting in 2010, however, IMPCHG has been much higher for EU banks than it has been for banks in Australia, Canada, and the United States.

**Table 4.1. Impairment Charge/Net Interest Income (%) by Country**

Country	No. of Banks	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
<i>EU</i>											
Austria	2	33	33	35	35	49	23	13	16	15	16
Belgium	2	38	31	49	35	27	34	4	4	1	5
France	4	18	25	28	21	51	47	23	10	8	8
Germany	2	21	20	16	22	40	24	9	13	11	17
Ireland	2	165	157	352	227	137	74	5	4	4	2
Italy	3	62	54	42	32	36	18	11	14	12	17
Netherlands	2	13	27	23	47	43	13	–3	–6	–4	14
Portugal	1	96	164	84	46	42	32	17	8	8	10
Spain	4	56	62	32	33	39	30	17	15	11	13
Sweden	1	7	8	2	17	73	12	1	–4	–1	2
Switzerland	2	1	2	2	0	18	30	2	–7	–9	0
United Kingdom	5	34	33	41	49	89	42	27	23	19	15
<i>Non-EU</i>											
Australia	2	9	9	10	18	30	18	7	6	8	9
Canada	4	11	13	12	14	23	13	9	7	6	5
Japan	3	3	4	7	12	29	28	13	14	13	13
United States	10	4	11	16	33	58	45	12	6	9	6
<i>Population</i>											
Mean		29	32	38	37	51	33	12	9	8	9
Median		15	21	24	28	38	27	10	7	8	10
Maximum		202	220	581	326	185	97	45	30	25	28
Minimum		–5	–3	–10	–1	6	4	–10	–18	–16	–7
No. of banks		48	50	49	50	50	49	49	49	49	49

**Note:** The data represent the arithmetic mean of sample banks within each country.

*Loan loss allowances as a proportion of gross loans (ALLWLN)—Significant increase during financial crisis:* The results reported in **Table 4.2** show that ALLWLN rose sharply in 2008 and 2009 for the banks in all 16 analyzed countries. A sustained trend reversal (decrease in ALLWLN) occurred in 2010 for the banks in most countries, with the exception of banks in European periphery countries (Belgium, Italy, Ireland, Portugal, and Spain), which experienced spikes in ALLWLN at the height of the sovereign debt crisis in 2011 and 2012. The 2013 results show that European periphery banks still have higher levels of ALLWLN than they had before the crisis (2004–2007). In contrast, ALLWLN for the banks in the United States, Japan, Australia, and Canada decreased to pre-crisis levels.

**Table 4.2. Allowance for Loan Losses/Gross Loans (%) of Sample Banks by Country**

Country	No. of Banks	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
<i>EU</i>											
Austria	2	6.3	6.1	5.6	5.3	4.8	2.8	2.4	2.6	2.8	2.7
Belgium	2	4.5	2.0	2.2	2.2	1.9	1.4	1.0	1.3	1.3	2.0
France	4	4.0	3.1	3.3	3.5	3.2	2.4	2.1	2.5	2.9	3.6
Germany	2	2.2	1.8	1.7	1.6	1.8	1.2	1.3	1.7	2.0	2.2
Ireland	2	13.9	12.8	10.5	6.0	4.0	1.1	0.5	0.5	0.6	0.9
Italy	3	6.3	5.8	4.8	4.2	3.7	3.0	2.9	3.7	3.0	1.5
Netherlands	2	2.9	2.1	2.0	2.3	1.7	1.1	1.8	2.8	3.9	3.8
Portugal	1	5.8	6.1	4.7	3.2	2.8	1.9	1.7	2.0	2.2	2.2
Spain	4	5.1	5.3	2.5	2.6	2.5	2.1	1.7	1.8	1.9	1.6
Sweden	1	0.6	0.7	1.0	1.2	1.4	0.4	0.3	0.4	0.6	0.8
Switzerland	2	0.3	0.3	0.3	0.5	0.8	0.8	0.4	0.6	0.8	1.3
United Kingdom	5	2.5	2.4	2.5	2.4	2.2	1.5	1.2	1.2	1.2	1.5
<i>Non-EU</i>											
Australia	2	0.9	1.0	1.1	1.2	1.2	0.7	0.6	0.6	1.2	1.0
Canada	4	0.7	0.6	0.7	1.0	0.7	0.9	0.7	0.9	1.1	1.4
Japan	3	1.3	1.0	1.1	1.2	1.1	1.0	1.0	1.0	1.4	1.8
United States	10	1.5	2.0	2.5	3.3	3.3	2.2	1.3	1.1	1.3	1.6
<i>Population</i>											
Mean		3.2	2.9	2.7	2.6	2.4	1.7	1.3	1.5	1.7	1.8
Median		1.9	2.1	2.3	2.6	2.4	1.6	1.2	1.2	1.4	1.7
Maximum		19.3	18.1	15.1	7.8	6.1	4.5	3.9	5.8	7.5	7.2
Minimum		0.2	0.1	0.2	0.2	0.3	0.2	0.0	0.0	0.0	0.0
No. of banks		45	51	51	51	51	51	51	51	51	49

**Note:** The data represent the arithmetic mean of sample banks within each country.

*Nonperforming loans as a proportion of gross loans (NPL)—Significant increase during financial crisis:* The results reported in **Table 4.3** show that NPL rose sharply in 2008 and 2009. For EU banks, NPL continued to steadily increase thereafter, with sharper increases discernible in banks based in countries affected by the European sovereign debt crisis (Ireland, Italy, Portugal, and Spain). The general and continued rise in nonperforming loans for EU banks has also been highlighted by two recent reports.<sup>45</sup> For the Australian, Canadian, and US banks, a steady decrease in NPL has occurred since 2010.

<sup>45</sup>PricewaterhouseCoopers (2013) found a continued rise in nonperforming loans in 22 EU countries, from €514 billion in 2008 to €1,187 billion in 2012. Six key countries—Germany, the United Kingdom, Spain, Ireland, Italy, and France—saw a rise from €404 billion in 2008 to €895 billion in 2012. The trend of rising levels of nonperforming loans since 2008 is consistent with the data trends of the sample banks reviewed in our study. European Central Bank (2013) also documented upward-trending levels of nonperforming loans.

**Table 4.3. Nonperforming Loans/Gross Loans (%) of Sample Banks by Country**

Country	No. of Banks	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
<i>EU</i>											
Austria	2	11.3	10.7	10.6	10.8	9.6	5.9	4.5	2.9	2.8	4.3
Belgium	2	5.7	4.5	4.5	4.3	3.7	2.2	1.3	1.9	1.6	0.5
France	4	6.3	5.2	5.2	5.6	5.1	3.2	2.9	2.4	2.9	4.1
Germany	2	4.8	4.3	4.0	3.6	4.1	2.7	2.4	3.3	1.7	2.5
Ireland	2	25.9	24.3	18.9	11.4	13.4	1.5	0.7	0.8	0.9	0.7
Italy	3	15.0	12.6	9.7	8.6	8.2	4.6	4.7	5.9	4.8	4.0
Netherlands	2	4.3	4.7	4.7	4.8	4.4	2.4	2.7	1.1	8.2	NA
Portugal	1	7.3	6.0	4.2	2.9	2.3	0.9	0.7	0.7	0.7	0.7
Spain	4	7.9	8.4	4.6	4.1	3.8	2.2	0.8	0.6	0.7	0.9
Sweden	1	1.2	1.5	1.7	2.3	2.3	0.7	0.4	0.4	0.6	0.7
Switzerland	2	0.5	0.6	0.8	1.2	1.8	2.1	0.8	0.9	1.4	2.2
United Kingdom	5	4.8	5.6	6.1	6.5	4.5	2.4	1.9	1.7	1.7	1.6
<i>Non-EU</i>											
Australia	2	0.7	0.9	1.1	1.4	1.1	0.4	0.2	0.2	0.2	0.3
Canada	4	0.7	0.8	0.9	1.2	1.4	0.7	0.5	0.5	0.6	0.8
Japan	3	2.2	2.3	2.2	2.1	1.9	1.7	1.7	1.7	2.9	4.6
United States	10	1.2	1.8	2.2	2.9	3.0	1.7	0.8	0.4	0.3	0.6
<i>Population</i>											
Mean		5.4	5.1	4.5	4.3	3.9	2.1	1.6	1.5	1.6	1.8
Median		2.5	3.0	3.3	3.8	3.5	1.8	1.0	0.9	1.0	1.2
Maximum		34.1	32.4	25.1	13.2	13.4	8.7	6.9	8.6	8.2	6.0
Minimum		0.3	0.2	0.3	0.4	0.2	0.2	0.1	0.1	0.1	0.2
No. of banks		47	50	49	49	49	48	49	48	45	42

NA = not available.

**Note:** The data represent the arithmetic mean of sample banks within countries.

*Loss coverage signals likelihood of country and period differences in impairment determination:* Loan loss allowances as a proportion of impaired loans is a variant measure of loss coverage. The results in **Table 4.4** show that US and Australian banks generally have higher loan loss allowances per unit of nonperforming loans than EU banks have. The results also show that loan provisions per unit of impaired loans were higher in the pre-crisis period (2004–2007) than they were during crisis periods (starting in 2008), signaling a period-to-period smoothing of loan provisions. This smoothing trend is consistent with empirical evidence based on US bank data from before the financial crisis that showed that banks tend to smooth earnings by delaying loan impairments recognition during crisis periods and accelerating their recognition during boom periods.<sup>46</sup>

<sup>46</sup>Liu and Ryan (2006).

**Table 4.4. Allowance for Loan Losses/Nonperforming Loans (Measure of Loan Coverage) of Sample Banks by Country**

Country	No. of Banks	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
<i>EU</i>											
Austria	2	0.6	0.6	0.5	0.5	0.5	0.6	0.7	1.0	1.1	0.7
Belgium	2	0.4	0.5	0.6	0.6	0.7	0.8	0.8	0.8	0.9	NA
France	4	0.6	0.6	0.6	0.6	0.6	0.8	0.9	1.2	0.9	0.9
Germany	2	0.5	0.4	0.4	0.5	0.5	0.4	0.5	0.6	0.7	0.7
Ireland	2	0.5	0.5	0.5	0.5	0.4	0.7	0.7	0.6	0.6	1.7
Italy	3	0.4	0.5	0.4	0.4	0.4	0.6	0.6	0.6	0.7	0.5
Netherlands	2	0.7	0.5	0.5	0.5	0.4	0.6	0.6	0.3	0.9	NA
Portugal	1	0.8	1.0	1.1	1.1	1.2	2.1	2.5	2.9	3.1	3.1
Spain	4	0.5	0.6	0.6	0.7	0.7	1.0	2.6	3.5	2.8	2.1
Sweden	1	0.5	0.5	0.5	0.5	0.6	0.7	1.4	2.3	1.9	1.7
Switzerland	2	0.6	0.5	0.5	0.4	0.5	0.5	0.5	0.6	0.6	0.6
United Kingdom	5	0.5	0.4	0.4	0.4	0.6	0.6	0.7	0.7	0.7	1.0
<i>Non-EU</i>											
Australia	2	1.1	1.0	1.0	0.9	1.1	2.2	3.1	3.5	5.9	3.5
Canada	4	0.9	0.8	0.8	0.8	0.6	1.3	1.5	2.0	2.2	2.0
Japan	3	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.6	0.5
United States	10	1.4	1.4	1.5	1.6	1.6	2.1	2.6	6.9	7.4	3.3
<i>Population</i>											
Mean		0.8	0.7	0.8	0.8	0.8	1.1	1.4	2.5	2.7	1.8
Median		0.6	0.6	0.6	0.6	0.7	0.8	1.0	1.1	1.2	1.4
Maximum		2.1	2.6	3.0	3.7	3.9	5.6	7.6	26.3	19.2	6.6
Minimum		0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.3	0.4	0.0
No. of banks		44	50	49	49	49	48	49	48	45	40

NA = not available.

**Note:** The data represent the arithmetic mean of sample banks within each country.

#### 4.3.1.2. Sources of Differences in Loan Impairments among Countries

The differences in levels of loan impairments among countries can be explained by

- economic environment and business model differences and
- financial reporting and regulatory enforcement differences.

##### *Economic Environment and Business Model Differences*

*Economic environment and exposures:* Differences in countries' economic environment (e.g., GDP growth, unemployment, existence of housing market bubbles, troubled sovereign debt exposures) will influence the level of nonperforming loans and reported impairments (impairment charge and allowance for loan losses). For example, in recent times, the economic environment of European periphery countries (Greece, Portugal, Ireland, Spain, and Italy) has been worse than it has been in such countries as Sweden, Australia, and Canada.<sup>47</sup>

<sup>47</sup>Greece is not included in the sample.

The higher level of impairments and overall perceived risk for EU banks since 2010 is attributable to the challenging economic environment that has prevailed in the European periphery countries (Greece, Ireland, Italy, Portugal, and Spain), which led to the European sovereign debt crisis and left EU banks vulnerable because of their significant sovereign exposures.<sup>48</sup> According to a Credit Suisse report, EU banks held €1.7 trillion (19.3%) of a total of €8.6 trillion in sovereign debt securities in issuance as of June 2011.<sup>49</sup> In particular, the domestic banks of the troubled EU countries had significant European periphery sovereign exposures. The European sovereign crisis had spillover effects on banks in other EU countries (e.g., the United Kingdom, Germany, and France) because many of these banks had significant European periphery sovereign exposures as well, albeit not at the same level as the European periphery countries themselves. For example, key banks in France, Germany, the Netherlands, and the United Kingdom had sizable European periphery sovereign exposures. The significant exposures of banks in various EU countries are shown in **Table 4.5**.

Table 4.5. Illustrative European Periphery Sovereign Exposures		
Country	Bank	European Periphery Sovereign Exposure
<i>European periphery countries</i>		
Italy	■ Intesa Sanpaolo	€79.2 billion (108.4% of tangible equity)
	■ UniCredit	
Spain	■ Santander	€115.3 billion (139.6% of tangible equity)
	■ BBVA	
	■ Banco Popolare di Milano	
	■ Banco Sabadell	
<i>Other European countries</i>		
France	■ BNP Paribas	€46.3 billion (40.8% of tangible equity)
	■ Crédit Agricole	
	■ Société Générale	
Germany	■ Deutsche Bank	€18.8 billion (32.7% of tangible equity)
	■ Commerzbank	
Netherlands	■ ING	€10.2 billion (24.6% of tangible equity)
United Kingdom	■ Barclays	€16.3 billion (6.1% of tangible equity)
	■ HSBC	
	■ RBS	
	■ Lloyds Banking Group	

**Source:** Credit Suisse (2011).

*Business model differences:* Heterogeneity of bank business models could be another source of the differences in the credit risk profile embodied in the reported impairments. The business model of some banks (e.g., Capital One) is to lend and charge higher interest rates to risky borrowers, and such banks would be expected to have relatively high impairments.

<sup>48</sup>The economic challenges arose from heavy borrowing by governments, rising unemployment, and housing market crashes in such countries as Spain.

<sup>49</sup>Credit Suisse (2011) outlined four reasons that banks hold government debt: (1) for liquidity purposes, to constitute a “liquidity asset” buffer; (2) for hedging purposes, to manage interest rate positions; (3) for trading purposes when a bank is acting as a market maker; and (4) to support their domestic sovereign financing.

### **Financial Reporting and Regulatory Enforcement Differences**

The prevailing institutional environment, including the accounting standards, interpretations, and regulatory enforcement regime within each country, has an impact on financial reporting outcomes, including the level of reported impairments. The overall institutional environment tends to differ among countries, including those that apply the same accounting standards.

*Cross-country differences due to different accounting standards:* Inconsistent impairment determination among countries can be the result of differences in the requirements of the accounting standards (e.g., US GAAP, Japanese GAAP, and IFRS requirements) applied by the banks in each country.

*Cross-country differences in interpretation of the same accounting standards:* Inconsistent application of the impairment accounting standard requirements among countries can be due to varied interpretations of the same requirements. As noted earlier, recent literature has highlighted inconsistency in the application of IFRS accounting for the impairment of both financial and non-financial assets among various EU jurisdictions.<sup>50</sup>

*Varied interventions by prudential regulators among countries:* There are various degrees of prudential regulator influence on loan loss provisioning among countries. For example, Spain's dynamic provisioning requirements influenced loan loss allowances in the pre-crisis period. Similarly, the prudential regulators in the United States were able to influence the loan loss allowances of US banks to a much greater degree than in many other jurisdictions.

*Inconsistent definitions of nonperforming loans:* Observed loan impairments can be influenced by (1) how much is recognized as dictated by the impairment methodology (e.g., the current requirements of the incurred loss model) and (2) the volume of loan assets considered to be impaired as dictated by the entity-specific categorization of nonperforming loans. Inconsistent definitions of nonperforming loans and varied application of forbearance practices among banks in different countries is widespread.<sup>51</sup> The inconsistencies in the definitions of nonperforming loans translate to varied impairment levels among banks.

#### **4.3.2. Cross-Country Analysis: Market Price of Risk**

We analyzed the cross-country trends in the market price of risk as reflected by CDS spreads. The results in **Table 4.6** show that CDS spreads generally increased for the sample banks from 2007 to 2009. This trend reversed in 2010, with the exception of the CDS spreads of banks in Belgium, Spain, Portugal, Italy, and Ireland; the capital markets had begun to assign higher credit risk premiums to banks in those countries, which were at the heart of the European sovereign debt crisis. Spreads continued to rise until 2011 in Ireland and Portugal and until 2012 in Spain, Italy, and Belgium.

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<sup>50</sup>Amirasiani, Iatridis, and Pope (2013); ESMA (2013).

<sup>51</sup>ESMA (2013).



Table 4.6. CDS Spreads of Sample Banks by Country

Country	No. of Banks	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
<i>EU</i>											
Austria	2	128	196	177	127	227	136	23	13	14	17
Belgium	2	390	733	384	193	250	196	16	9	NA	NA
France	4	155	237	191	128	119	102	26	7	10	12
Germany	2	129	193	170	108	98	90	28	12	17	21
Ireland	2	361	771	1,227	451	330	147	23	8	10	14
Italy	3	331	459	312	130	97	78	23	13	17	19
Netherlands	2	221	281	213	157	205	144	20	8	12	17
Portugal	1	502	891	1,110	415	107	90	26	11	15	20
Spain	4	290	421	364	224	161	136	27	11	12	15
Sweden	2	88	140	130	87	96	81	34	9	NA	NA
Switzerland	2	94	152	127	106	132	123	25	9	14	15
United Kingdom	5	128	186	180	128	133	103	21	7	11	13
<i>Non-EU</i>											
Australia	2	NA	73	65	91	90	58	3	2	2	5
Canada	3	NA	79	59	69	129	73	19	12	14	15
Japan	4	79	179	162	102	122	101	17	12	18	24
United States	7	83	145	150	135	192	136	31	14	23	31
<i>Population</i>											
Mean		179	254	260	150	154	113	24	10	15	18
Median		129	197	176	124	128	96	22	11	14	16
Maximum		502	891	1,303	490	337	277	65	26	41	56
Minimum		52	60	33	47	71	29	3	2	2	5
No. of banks		37	42	46	47	45	45	44	43	37	35

NA = not available from Bloomberg.

**Notes:** The data represent the arithmetic mean of sample banks within each country. All spreads are expressed in basis points.

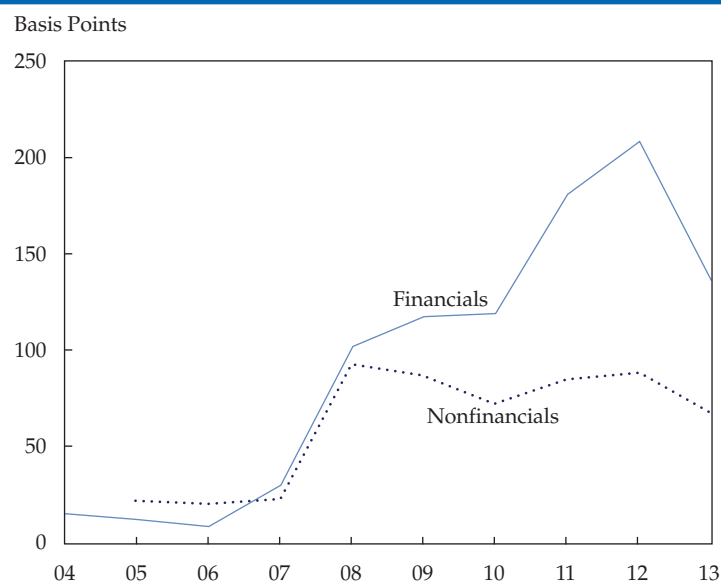
After the noted decline in many countries in 2010, 2011 saw the resumption of rising CDS spreads in most of these countries, except for Australia and Canada. The increase in CDS spreads in 2011 reflected the ramifications of the European sovereign debt crisis being felt more widely than before. In 2013, CDS spreads narrowed for the sample banks in all 16 analyzed countries.

Similar to impairments, the CDS spreads of the sample banks in all countries were comparable in the run-up to the financial crisis, but since 2009–2010, EU banks have had much higher spreads than the banks in Australia, Canada, Japan, and the United States.

In addition, in Part 1 of this study, we compared the CDS spreads of similarly rated (investment-grade) EU banks (27) and non-financial companies (33) and found that the banks had an incremental spread during the financial crisis.<sup>52</sup> As shown in Figure 4.1, in 2005 and 2006, the CDS spreads of financials were lower than those of non-financial companies. However, there was an incremental spread in the financial crisis periods: 2007 (6 bps), 2008 (10 bps), 2009 (30 bps), 2010 (47 bps), 2011 (96 bps), 2012 (120 bps), and 2013 (69 bps). These results show that the most pronounced incremental risk aversion toward the financial sector occurred during the height of the European sovereign debt crisis (2011 and 2012), which is consistent with the wider CDS spreads in 2011 and 2012 shown in Table 4.6.

<sup>52</sup>CFA Institute (2014).

**Figure 4.1. CDS Spreads of European Investment-Grade Financial (27) and Non-Financial (33) Companies**



Source: Bloomberg.

### 4.3.3. Comparing Information Content: Loan Impairments vs. Market Price of Risk

As noted earlier, both loan impairments and the market price of risk reflected in CDS spreads convey information regarding the deterioration in the asset quality of banks.<sup>53</sup> Consequently, we assessed the extent to which there was consistency in the signals on asset quality implied by CDS spreads and reported impairments.

- *Correlation analysis:* **Table 4.7** shows a statistically significant and positive correlation between the CDS spread and the various impairments measures. The correlation coefficients show that impairments measures are reasonably strongly correlated with the market price of risk encapsulated in CDS spreads.
- *Year-to-year variation:* **Figure 4.2**, **Figure 4.3**, and **Figure 4.4** outline the year-to-year average loan impairments measures and CDS spreads for the sample banks. We analyzed the EU and US subsamples to assess whether there was a pattern in the differences between these distinctive groups of banks.<sup>54</sup>

<sup>53</sup>Market measures of risk are limited in how effectively they convey the firm-specific deterioration of asset quality. The CDS spread encapsulates more factors than just the credit risk due to deterioration of asset quality, and it is hard to either directly observe or disentangle the diminished recoverability of assets held that is reflected in the CDS spread. For example, widening CDS spreads could reflect the onset of heightened funding and liquidity risks.

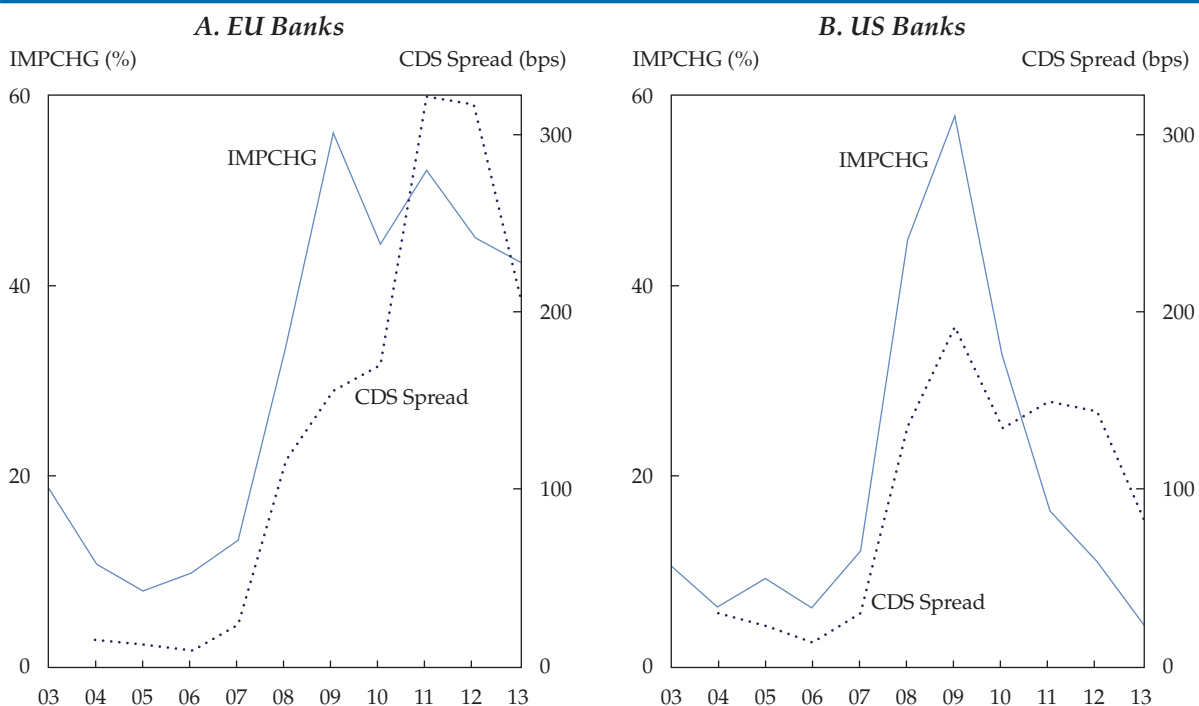
<sup>54</sup>These subsamples constitute about 80% of our sample. Distinctiveness is based on differing accounting standard requirements and regulatory enforcement regimes.

**Table 4.7. Correlation of CDS Spreads and Loan Impairments Measures**

Impairments Measure	Correlation Coefficient	Observations
Impairment charge/Net interest income	0.68*	406
Allowance for loan losses/Gross loans	0.54*	415
Nonperforming loans/Gross loans	0.60*	394

**Note:** This table covers data from 51 banks for the 2003–13 reporting periods. "Observations" represent the number of bank-years for which there are matching data for CDS spreads and the various impairments measures used.

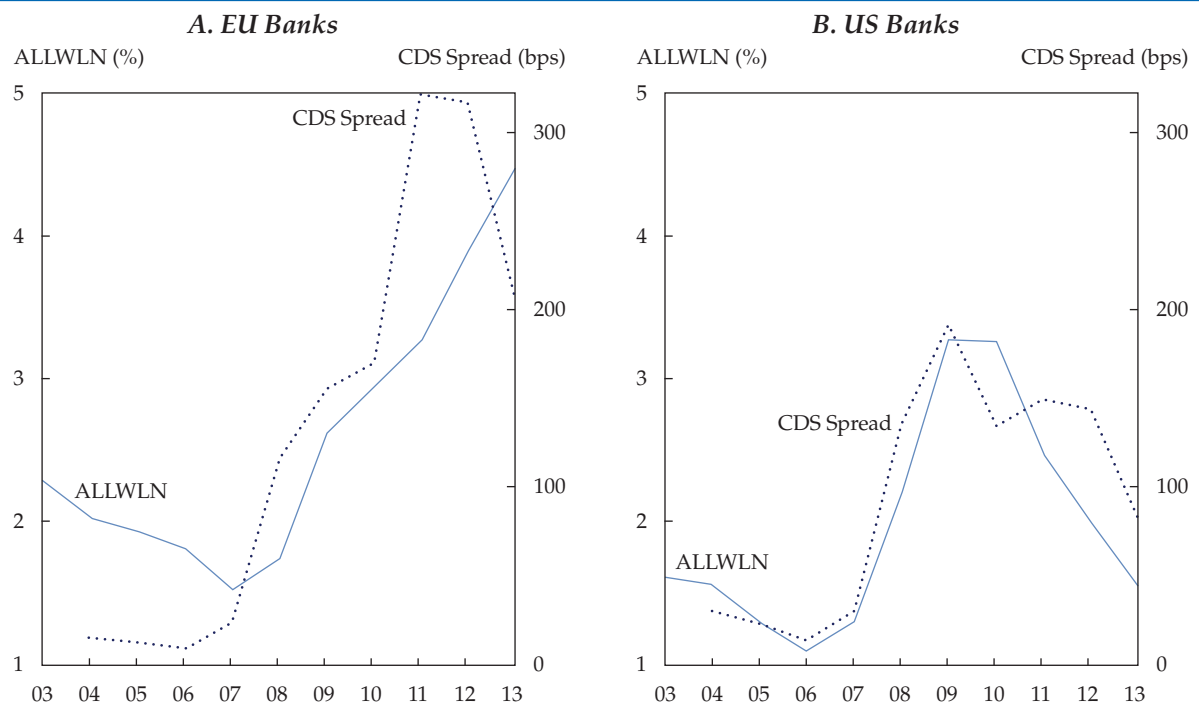
\*Statistically significant at the 95% confidence level.

**Figure 4.2. Impairment Charge/Net Interest Income vs. CDS Spread**

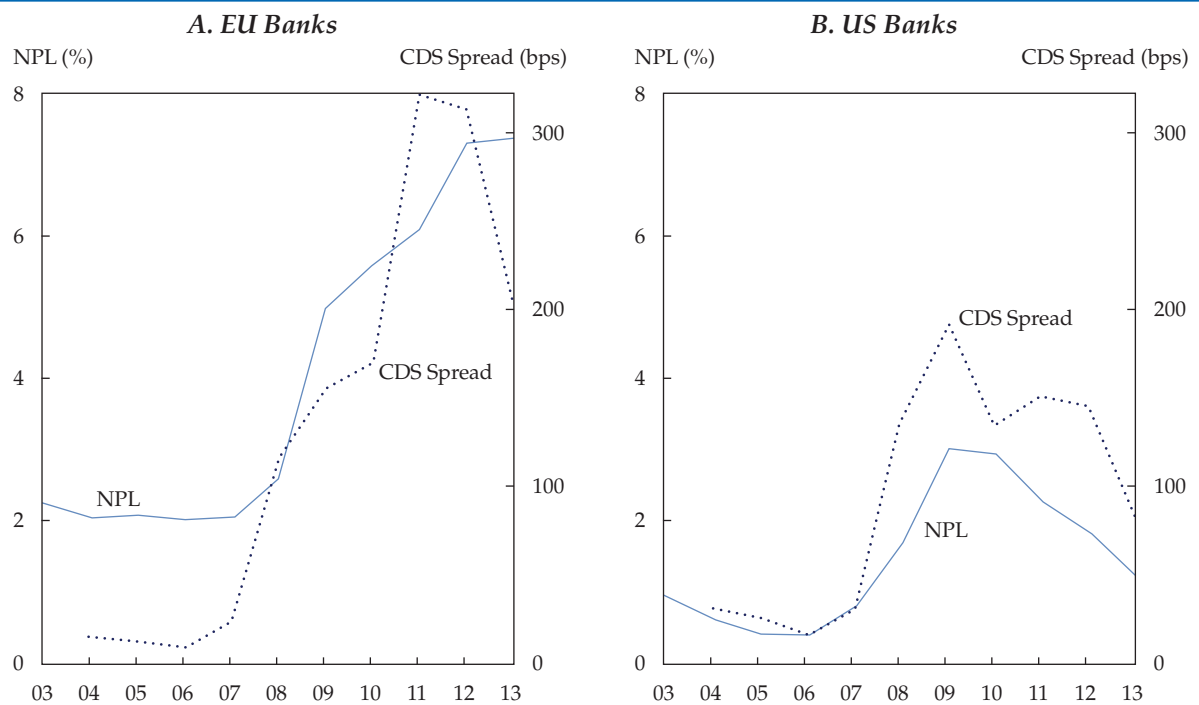
From these figures, the following observations can be made with respect to impairments measures and CDS spreads.

- *Impairment charge changes mostly contemporaneous with CDS spread changes:* For the EU and US banks, there is a mostly contemporaneous relationship in the direction of changes. The direction of changes in impairment charges is consistent with the direction of changes in CDS spreads. Exceptions occurred for the 2009–10 changes for EU banks and the 2010–11 changes for US banks, where the CDS spread widened but the impairment charge declined (see Figure 4.2).
- *Changes in allowance for loan losses and nonperforming loans lagged changes in CDS spreads during the sovereign debt crisis:* The average CDS spread for banks in different countries widened in 2011 and in many cases began to narrow in 2012. In contrast, during the 2008–13 periods, the allowance for loan losses and nonperforming loans for EU banks increased. These

**Figure 4.3. Allowance for Loan Losses/Gross Loans vs. CDS Spread**



**Figure 4.4. Nonperforming Loans/Gross Loans vs. CDS Spread**



findings indicate an inconsistency in the direction of change in balance sheet impairments measures and the market price of risk for the 2010–13 periods. Effectively, our results show the likelihood of delayed recognition of loan impairments on bank balance sheets.<sup>55</sup>

In contrast, Figures 4.3 and 4.4 show that the lagging trend of allowance for loan losses and nonperforming loans relative to CDS spreads was less pronounced for US banks.

#### 4.3.3.1. Ranking Credit Risk on the Basis of Impairments and CDS Spreads

As shown in **Table 4.8**, we ranked the credit risk of banks in various countries (using an aggregate measure of sample banks within countries) on the basis of the loan impairments measures and market price of risk (CDS spreads). Note that the rankings are only indicators of the relative credit risk of banks in different countries. We acknowledge that the ranking of different measures may be a crude signal for conveying the efficacy of different measures in communicating firm-specific deterioration in asset quality.<sup>56</sup> Therefore, the reported findings should be treated only as indicators, rather than conclusive proof, of how effectively either the reported impairments or the CDS spreads signal the relative credit risk of banks.

**Table 4.8. Cross-Country Comparison of Loan Impairments and the Market Price of Risk: Five-Year Average, 2008–2012**

Country	CDS Spread		IMPCHG		ALLWLN		NPL	
	Average (bps)	Rank	Average (%)	Rank	Average (%)	Rank	Average (%)	Rank
Australia	75.5	1	17.2	4	1.0	4	1.0	1
Austria	172.5	10	35.2	11	4.9	15	9.5	15
Belgium	351.1	14	<b>35.1</b>	<b>10</b>	<b>1.9</b>	<b>8</b>	<b>3.8</b>	<b>9</b>
Canada	82.0	2	15.3	2	0.8	2	1.0	2
France	155.3	9	34.6	9	3.1	12	4.9	12
Germany	132.0	5	24.2	6	1.6	6	3.7	8
Ireland	585.2	16	189.3	16	6.9	16	13.9	16
Italy	215.2	12	36.4	12	4.3	14	8.7	14
Japan	133.2	6	16.0	3	1.1	5	2.0	5
Netherlands	200.0	11	<b>30.5</b>	<b>7</b>	<b>1.8</b>	<b>7</b>	4.2	10
Portugal	522.4	15	73.5	15	<b>3.8</b>	<b>13</b>	<b>3.3</b>	<b>7</b>
Spain	261.2	13	39.3	13	<b>3.0</b>	<b>11</b>	<b>4.6</b>	<b>11</b>
Sweden	106.7	3	22.3	5	0.9	3	1.7	4
Switzerland	127.6	4	<b>10.4</b>	<b>1</b>	<b>0.5</b>	<b>1</b>	1.3	3
United Kingdom	145.9	7	50.9	14	2.2	9	5.0	13
United States	151.4	8	32.5	8	2.6	10	2.3	6

**Notes:** The rankings are based on the five-year average (from 2008 to 2012) of each credit risk measure, where 1 = the lowest credit risk and 16 = the highest credit risk. Boldface indicates cases in which IMPCHG, ALLWLN, and NPL result in a significantly better country ranking than does the CDS spread.

<sup>55</sup>The existence of a lagging representation of impairments on balance sheet compared with capital market indicators was also highlighted in Part 1 of this study, in which a lagging relationship of allowance for loan losses and nonperforming loans relative to P/B was observed for EU banks.

<sup>56</sup>As noted earlier, the CDS spread reflects more than just credit risk of bank assets. However, the delayed recognition of expected credit losses under current reporting hampers the effectiveness of impairments measures as a reflection of firm-specific credit risk.

These rankings show that one could reach different conclusions regarding the relative asset quality at a country level depending on which capital market or impairments metric is used. These rankings point to the following:

- *Banks in certain countries likely have relatively low loan loss allowances:* Table 4.8 shows that the five-year periodic impairment charge and allowance for loan losses for banks in Belgium, Japan, the Netherlands, and Spain seem to be lower than those of banks in countries with a better credit risk profile as measured by the CDS spread of sample banks in each country.
- *Likelihood of inconsistent definition of nonperforming loans for banks in different countries:* For banks in Portugal and Belgium, the rankings from CDS spreads were significantly worse than the rankings based on nonperforming loans, which suggests inconsistent definitions of nonperforming loans. This conclusion resonates with those of various reports that have highlighted the likelihood of varied forbearance practices among European jurisdictions.<sup>57</sup>

As noted, the rankings in Table 4.8 are only high-level indicators of inconsistencies between the signals based on CDS spreads and those based on loan impairments. Hence, the inferences made in this subsection should be seen as tentative, rather than conclusive, proof of differences in impairment recognition and measurement among different countries.

## 4.4. Conclusion

The analysis of the characteristics of loan impairments has provided indicators of inconsistencies in impairment determination by banks in different countries. As noted, apart from differing economic environments among countries, the observed differences in impairments could be due to (1) different accounting standards and (2) inconsistent application of the same accounting standards. Notwithstanding these factors that could result in differing impairments, in terms of both timing and amount, current disclosures do not sufficiently communicate information about the methods and inputs used to quantify impairments. As a result, it is difficult for investors to discern whether observed variations are driven primarily by differences in asset quality among banks or by differences in the application of impairment accounting standard requirements. Therefore, the inadequacy of today's impairment disclosures constrains the ability of investors to judge the extent to which impairment amounts for banks are truly comparable.

These indications of inconsistent quantification of impairments coupled with poor disclosures warrant the enhancement of existing disclosures to allow investors to judge the extent to which loan impairments are comparable among banks and countries and over time. For these reasons, in our policy recommendations in Section 2.3.2, we proposed the significant enhancement of disclosures related to loan impairments, including the disclosures highlighted as important for investors by the 2013 impairment survey.<sup>58</sup>

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<sup>57</sup>See, for example, ESMA (2013).

<sup>58</sup>CFA Institute (2013c).

# Glossary of Selected Terms

## Accounting Terms

**Amortized Cost of a Financial Asset or Liability:** The amount at which the financial asset or liability is measured at initial recognition minus the principal repayments plus or minus the cumulative amortization, using the effective interest method, of any difference between that initial amount and the maturity amount and—for financial assets—adjusted for any loss allowance.

**Effective Interest Method:** The method that is used in the calculation of the amortized cost of a financial asset or financial liability and in the allocation and recognition of the interest revenue or interest expense in profit or loss over the relevant period.

**Expected Loss Method of Impairment:** Under the expected loss method, an impairment loss reflects all possible default events over a particular period in the future, which may be the life of the financial instruments.

**Fair Value:** Both IFRS and US GAAP define fair value on the basis of the notion of an exit price. Exit price is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants.

**Gross Carrying Amount of Loans:** The amortized cost amount of loans, prior to any deductions for allowance for losses.

**Impairment Loss or Impairment Charge:** Loan impairments primarily represent the write-down in the carrying value of loans due to the deterioration in the ability of banks' borrowers to fulfill their contractual payment obligations to the bank. In other words, loan impairments should occur when there is a decline in the expected recoverable cash flows from bank borrowers.

**Incurred Loss Method of Impairment:** Under the incurred loss method, an impairment loss is recognized at the occurrence of a triggering event that is considered to be objective evidence of a deterioration in credit quality.

**Net Carrying Amount of Loans:** Gross carrying amount less any loss allowance and other adjustments.

**Nonperforming Loans:** Loans for which contractual payments are delinquent, usually defined as being overdue for more than a certain number of days (e.g., more than 30, 60, or 90 days). The NPL ratio is the amount of nonperforming loans as a percentage of gross loans.

**Loan Loss Provision or Allowance for Loan Losses:** A reserve created to provide for losses that a bank expects to take as a result of uncollectable or troubled loans. It results in a noncash charge to earnings and includes transfers to bad debt reserves due to write-offs (Japan), impairment charges, and impairment reversals.

## Financial Terms

**Credit Default Swap (CDS) Spread:** A CDS is a credit derivative designed to provide credit protection to the buyer or seller of the derivative. The payout is triggered by a credit event (e.g., default by the underlying credit or one of the counterparties). The CDS spread is the premium paid by the buyer to the seller of the CDS and reflects the price of the credit risk for the underlying/referenced counterparties. CDS spreads are available for reference entities or companies and are an indicator of credit market investors' views on credit risk.

**Price-to-Book Ratio (P/B):** P/B is one of the key valuation metrics (a measure of relative value) and is particularly relevant for the banking industry. P/B is determined by dividing the current closing price of a stock by the recent closing book value per share.

## Bank Business Model–Related Terms

**Large and Complex Financial Institution (LCFI):** A systemically important financial institution that is involved in a diverse range of financial activities and geographical areas. Typically, they are interconnected with other financial institutions.

**Systemically Important Financial Institution (SIFI):** A financial institution that is considered to bear systemic risk.



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# CFA Institute

## AUTHORS

**Vincent T. Papa, PhD, CFA**  
*Director*  
Financial Reporting Policy

**Sandra J. Peters, CPA, CFA**  
*Head*  
Financial Reporting Policy

## CONTRIBUTOR

**Kurt N. Schacht, JD, CFA**  
*Managing Director*  
Standards and Financial  
Market Integrity

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*We are thankful for the helpful review comments from various reviewers, including Hilary Eastman, CFA, of PricewaterhouseCoopers; Sue Lloyd and Fred Nieto, CFA, of the International Accounting Standards Board; Corporate Disclosure Policy Council members Erin Greenfield, CFA, Gerry White, CFA, Richard Schreuder, CFA, Robert Morgan, CFA, Elizabeth Mooney, CFA, and Tony Sondhi; the CFA Institute SFMI Communications and Publications teams; and fellow staff members Catherine Kleszczewski, Barbara Petitt, CFA, and Matthew Waldron.*

**THE AMERICAS**

(800) 247 8132 PHONE (USA and Canada)  
+1 (434) 951 5499 PHONE  
+1 (434) 951 5262 FAX

915 E. High Street  
Charlottesville, VA 22902-4868  
USA

477 Madison Avenue  
21st Floor  
New York, NY 10022-5802  
USA

**ASIA PACIFIC**

+852 2868 2700 PHONE  
+852 8228 8820 INFO HOTLINE  
+852 2868 9912 FAX

23/F, Man Yee Building  
68 Des Voeux Road  
Central, Hong Kong SAR

**EUROPE**

+44 (0) 20 7330 9500 PHONE  
+44 (0) 20 7330 9501 FAX

131 Finsbury Pavement  
7th Floor  
London EC2A 1NT  
United Kingdom

Square de Meeûs 38/40  
1000 Brussels, Belgium

