

Criteria | Financial Institutions | Banks:

# Banking Industry Country Risk Assessment Methodology And Assumptions

November 9, 2011

*(Editor's Note: This article has been superseded by "Banking Industry Country Risk Assessment Methodology And Assumptions," published Dec. 9, 2021, except in jurisdictions that require local registration.)*

1. This article describes S&P Global Ratings' methodology for determining a Banking Industry Country Risk Assessment (BICRA).
2. This paragraph has been deleted.
3. The criteria constitute specific methodologies and assumptions under "Principles of Credit Ratings," published Feb. 16, 2011.

## I. SCOPE OF THE CRITERIA

4. The criteria apply to all banking systems for which bank ratings have been, or will be, assigned.

## II. SUMMARY OF THE CRITERIA

5. The BICRA methodology ("criteria," "framework" and "methodology" are used interchangeably herein) is designed to evaluate and compare global banking systems. A BICRA is scored on a scale from 1 to 10, ranging from the lowest-risk banking systems (group 1) to the highest-risk (group 10).
6. A BICRA analysis for a country covers rated and unrated financial institutions that take deposits, extend credit, or engage in both activities in a particular country. The analysis incorporates the entire financial system of a country by considering the relationship of the banking industry to the financial system as a whole. More specifically, the BICRA includes the impact of nonbank participants.
7. A BICRA score is based on a time horizon of three to five years, similar to that used for investment-grade ratings (see "The Time Dimension Of Standard & Poor's Credit Ratings," published Sept. 22, 2010).
8. The BICRA analysis incorporates the influence of government supervision and regulation of the banking system, including existing emergency system-wide support programs. It excludes the potential for targeted government intervention and rescue of specific financial institutions. This extraordinary government support for systemically significant institutions is reflected through ratings uplift (see Banks: Rating Methodology And Assumptions, published Nov. 9, 2011, section

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VIII).

9. The BICRA methodology is divided into two components: "economic risk" and "industry risk." The analysis is then further divided into six "factors" that result in an economic and industry risk score for each country (see table 1). A factor that is assessed as high-risk is given a greater weight in the assignment of the final BICRA scores (see table 2).
10. The criteria use metrics to enhance transparency and provide a basis for comparability among banking systems. The criteria provide guidance in assessing and scoring each factor and sub-factor.
11. The rating methodology for banks uses the economic and industry scores produced by the BICRA analysis to determine an anchor which acts as a starting point for determining a bank's stand-alone credit profile (SACP) (see Banks: Rating Methodology And Assumptions).
12. The creditworthiness of a sovereign and its banking sector are closely related. Many of the factors underlying a sovereign rating are important in determining a BICRA score. More specifically, the sovereign rating methodology is applied in assessing some of the sub-factors under the "economic resilience" and "economic imbalances" factors (see tables 5 and 7). In addition, the methodology recognizes that the influence of a sovereign's creditworthiness on the related BICRA is more pronounced when the sovereign's creditworthiness deteriorates (see paragraphs 70 and 113).
13. The BICRA and sovereign criteria are also linked through the analysis of the contingent liabilities arising from the financial sector in a period of economic stress. This is described in the section on "Contingent liabilities" in "Sovereign Rating Methodology," published Dec. 18, 2017.
14. This paragraph has been deleted.
15. This paragraph has been deleted.
16. This paragraph has been deleted.

### III. METHODOLOGY: Economic and Industry Risk

17. The BICRA methodology has two main analytical components: economic risk and industry risk.
  - The economic risk of a banking sector is determined by the structure and stability of the country's economy, along with the central government's macroeconomic policy flexibility, actual or potential imbalances in the economy, as well as the credit risk of economic participants--mainly households and enterprises.
  - Industry risk is determined by the quality and effectiveness of bank regulation and the track record of authorities in reducing vulnerability to financial crises, the competitive environment of a country's banking industry--including the industry's risk appetite, structure and performance--and possible distortions in the market. Industry risk also addresses the range and stability of funding options available to banks, including the role of the central bank and government.
18. The economic and industry risk scores are based on the analysis of six factors which are further divided into 22 sub-factors. In addition, the criteria allow six specific adjustments to further refine the analysis (see table 1).

	Factor	Subfactor adjustments	Additional adjustments*
<b>Economic Risk</b>	<b>A. Economic resilience</b>	Economic structure and stability Macroeconomic policy flexibility Political risk	GDP per capita
	<b>B. Economic imbalances</b>	<i>Expansionary phase</i> Private-sector credit growth Residential real estate prices Equity prices Current-account balance and external debt position - or - <i>Correction phase</i> Expected impact on the banking sector	Atypical change in private-sector credit growth or asset prices Commercial real estate prices
	<b>C. Credit risk in the economy</b>	Private-sector debt capacity and leverage Lending and underwriting standards Payment culture and rule of law Sovereign government credit stress	Currency movements or price volatility Country-specific characteristics
<b>Industry Risk</b>	<b>A. Institutional framework</b>	Banking regulation and supervision Regulatory track record Governance and transparency	
	<b>B. Competitive dynamics</b>	Risk appetite Industry stability Market distortions	
	<b>C. System-wide funding</b>	Core customer deposits External funding Domestic debt capital markets Government role	Non-loan assets

\* Additional adjustments apply to 10% or less of the BICRA scores assigned.

19. A series of sub-factors, described in Subparts V A-C and VI A-C, form the basis for assigning an initial assessment for each factor listed in table 1 above. The criteria then refine these initial assessments based on a number of defined adjustment factors.

20. The sum of the points for the three factors "economic resilience," "economic imbalances," and "credit risk in the economy" determines the economic risk score for a banking industry. Likewise, the sum of the points for "institutional framework," "competitive dynamics," and "system-wide

funding" determines the industry risk score.

#### IV. METHODOLOGY: Assessment and Scoring

21. Each factor is scored on a numerical scale that ranges from "1" (very low risk) to "6" (extremely high risk) (see table 2). This scoring is based on the analysis of the characteristics associated with each factor and sub-factor. The criteria apply the "extremely high risk" or "6" score in rare circumstances since it signals serious deficiencies or stress.
22. The metrics used in the analysis are derived from a variety of data sources including international statistics, national statistics, and aggregate statistics that a banking industry and its regulators produce. The criteria also allow for the use of S&P Global Ratings' research and analysis about a banking industry. In addition, where data and estimates result in an assessment that is on the border between two categories, the scoring is based on the expected trend.
23. The overall assessment of economic risk and industry risk, which ultimately leads to the classification of banking systems into BICRA groups, is determined by the number of "points" assigned to each risk score on the six-grade scale. The points range from 1 to 10, with one point corresponding to "very low risk" and 10 points corresponding to "extremely high risk." The scale shown in table 2 below ensures that higher-risk factors have a greater influence on each of the economic and industry risk scores.

<b>Relative risk description</b>	<b>Risk score</b>	<b>Points</b>
<i>Very low risk</i>	1	1
<i>Low risk</i>	2	2
<i>Intermediate risk</i>	3	3
<i>High risk</i>	4	5
<i>Very high risk</i>	5	7
<i>Extremely high risk</i>	6	10

24. The point total for each of the economic and industry risk scores corresponds to a particular score on a 10-point scale, with 1 representing the lowest risk and 10 representing the highest risk (see table 3).

**Table 3**  
**Determining Economic Risk And Industry Risk Scores**

<i>Point total for the three economic or industry risk factors</i>	<i>Economic risk or industry risk score</i>
3-4	1
5-6	2
7-8	3
9-10	4
11-12	5
13-14	6
15-17	7
18-20	8
21-23	9
24-30	10

25. The economic risk and industry risk scores are combined using a matrix (see table 4) to arrive at a country's BICRA group.

**Table 4**  
**Determining A BICRA Group Using Economic Risk And Industry Risk Scores\***

	Industry risk									
Economic risk	1	2	3	4	5	6	7	8	9	10
1	1	1	2	3	3	4				
2	1	2	2	3	4	4	5			
3	2	2	3	3	4	5	5	6		
4	3	3	3	4	4	5	6	7	7	
5	3	4	4	4	5	5	6	7	8	9
6	4	4	5	5	5	6	7	7	8	9
7		5	5	6	6	7	7	8	8	9
8			6	7	7	7	8	8	9	10
9				7	8	8	8	9	9	10
10					9	9	9	10	10	10

\*On a scale from 1 to 10, from lowest to highest risk.

## V. METHODOLOGY: Evaluating Economic Risk

26. The BICRA methodology uses "economic resilience," "economic imbalances," and "credit risk in the economy" to capture the economic risk. The analysis of each of these factors leverages the conclusions made by sovereign analysts in determining the sovereign rating of a country. For a detailed explanation of the methodology used to derive the sovereign scores, see "Sovereign Rating Methodology," published Dec. 18, 2017 (herein referred to as sovereign criteria).

### A. Economic Resilience

27. The economic resilience factor assesses the underlying stability of an economy and its resilience to adverse economic developments, such as external shocks.
28. The initial assessment of economic resilience uses the same three factors that drive a sovereign's economic assessment, namely: income levels, growth prospects and economic diversity and volatility. As a result, a country's initial economic resilience score is determined by the sovereign's economic assessment and adjusted for macroeconomic flexibility and political risk (see table 5).
29. The assessment of the economic resilience score is described in table 5 below:

**Table 5**  
**Economic Resilience Score**

**The initial BICRA economic resilience score is set by the sovereign "economic assessment" excluding any possible adjustment for a potential credit-fueled asset bubble (see sovereign criteria table 4).**

**Adjustment factors impacting the initial economic resilience score by one category:**

- GDP per capita in U.S. dollars is not an adequate reflection of the country's economic structure or stability as described in ¶31.
- Macroeconomic policy flexibility is materially weaker than that indicated by the initial economic resilience score as described in ¶33.
- Political risk is significantly higher than the initial economic resilience score as described in ¶35.

**Maximum net adjustment is capped at two categories.**

#### 1. Economic structure and stability

30. The initial economic resilience risk score is based on the "economic assessment" from the sovereign criteria (see table 4 in the sovereign criteria), excluding any adjustment for a potential credit-fueled asset bubble in the sovereign criteria. The risk arising from credit-fueled asset bubbles is captured in the "economic imbalances" factor (see Section V. B) in the BICRA methodology.

#### 2. Adjustment related to GDP per capita

31. The score for economic resilience will be one category better or worse than the initial economic resilience score determined in paragraph 30 if the GDP per capita in U.S. dollars is not an adequate reflection of the country's economic structure or stability.

32. Examples of cases where data could understate the real risk to the banking sector are oil-producing or high-inflation economies, or economies with a high reliance on agriculture or other significant vulnerabilities to climate transition risks or wider societal pressures.
- Oil production may result in significantly higher GDP per capita, i.e. a lower initial economic resilience score than the risk related to the underlying economic structure and stability would represent for the banking sector, for example due to potential climate transition-related risks for bank investments and customers. Significant reliance on agriculture-related activity could also lead to vulnerability to water shortages, extreme weather, or climate change. Significant societal pressures such as high income and wealth inequality, high youth unemployment, divisions between ethnic factions or longer-term challenges such as aging could, in some cases, mean that GDP underestimates the risks for the banking sector. For such countries, if it is not already captured in the sovereign economic assessment, the initial economic resilience score will be worse by one category.
  - High inflation, a factor which is not captured in the sovereign economic assessment, hurts a banking sector. The initial economic resilience score will be one category worse for high-inflation countries (such as Russia or Brazil in the mid 1990s).

### 3. Adjustment for degree of macroeconomic policy flexibility

33. The macroeconomic policy flexibility of a government and a central bank is a negative adjustment and will result in an initial economic resilience assessment that is worse by one category. The BICRA criteria use the sovereign fiscal score (excluding any adjustment for contingent liabilities which relate mainly to the banking sector) and the sovereign monetary assessment to make an adjustment to the initial economic resilience score. The initial economic resilience score will be worse by one category if:
- The average of the fiscal and monetary assessments from the sovereign analysis is higher than 3.0; and
  - The difference between the average of the fiscal and monetary assessments and the initial economic assessment is equal to or greater than 1.5.
34. For example, if a country has an initial economic resilience score of 2 and the average of the fiscal (excluding the adjustment for contingent liabilities which relate mainly to the banking sector) and monetary assessments is 3.5, the criteria would assess the economic resilience score to be a 3, or worse by one category.

### 4. Adjustment for political risk

35. The adjustment for political risk is also derived from the assessment of the institutional assessment under the sovereign criteria (see sovereign criteria). If the sovereign institutional assessment is two or more categories weaker than the initial economic resilience assessment, the initial economic resilience score would be worse by one category.

## B. Economic Imbalances

36. The economic imbalances factor focuses on imbalances, such as credit-fueled asset-price bubbles and current account imbalances, which affect financial institutions. Due to the cyclical nature of imbalances, the BICRA methodology differentiates between an expansionary phase and

a correction phase when assigning a risk score. Given the challenges of determining inflection points, the criteria use the correction phase (see table 8) when there is evidence of growing or elevated credit losses in a banking sector.

### 1. Expansionary phase

37. For the expansionary phase, a country's economic imbalances risk score is determined by the following sub-factors:
- Private-sector credit growth;
  - Inflation-adjusted residential real estate prices;
  - Inflation-adjusted commercial real estate prices (if applicable);
  - Inflation-adjusted equity prices; and
  - Current account balance and external debt position.
38. The assessment of the economic imbalances score under the expansionary phase, is described in tables 6 and 7 below.

			Residential Housing Prices					
			Change in inflation-adjusted housing prices (%)* (see ¶41)					
			Below 2%	2-4%	4-6%	6-8%	8-11%	>11%
Change in Credit	Change in private-sector credit (percentage points of GDP)† (see ¶39)	Below 2 pps‡	1	1	2	2	3	4
		2-3 pps	1	2	2	3	3	4
		3-5 pps	2	2	3	3	4	5
		5-8 pps	2	3	3	4	4	5
		8-14 pps	3	3	4	4	5	6
		>14 pps	4	4	5	5	6	6

**Adjustment factors impacting the initial economic imbalances score by one or two categories:**

- Change in private-sector credit growth or in asset prices is not an adequate reflection of economic imbalances as described in ¶41;
- An assessment that the commercial real estate market represents a higher risk category than the residential housing market as described in ¶¶43-45;
- A significant increase in inflation-adjusted equity prices as described in ¶46;
- Current account balance and external debt position as described in ¶¶47-48 and table 7.

Maximum net adjustment from initial economic imbalances score is capped at three categories.

\* Average annual change over past four years or average annual change over past three years and current-year estimate (if current-year data exists for six months or more).  
 ‡ Percentage points.  
 † Average annual change in domestic credit to private sector and non-financial public enterprises (NFPEs) as percentage points of GDP over past three years and current year.  
 ‡ Initial economic imbalances scores.

#### a. Changes in private-sector credit growth and housing prices

39. The criteria use the change in domestic credit to private-sector enterprises and non-financial

public enterprises (NFPEs), expressed in percentage points of GDP, as one of the two indicators to derive the initial economic imbalances score. The analysis is based on a four-year moving average of the annual change.

40. The second indicator of the economic imbalances score is the average annual change over four years in inflation-adjusted residential housing prices. For countries where housing price data are not available, the criteria use an informed assessment based on insights and discussions with participants present in or monitoring these markets, such as economists, banks, and real estate operators.

## **b. Adjustment for atypical change in private-sector credit growth or asset prices**

41. The score for economic imbalances will be one category better or worse if either the change in private-sector credit growth or in asset prices is not an adequate reflection of economic imbalances.
42. Examples of situations where nominal private-sector credit growth misstates the real risk to banks in a country include:
  - A country with a very low initial ratio of private-sector credit to GDP that is experiencing significant credit growth that may pose additional risk that is not adequately captured in table 6 above. For such countries, the initial risk score is worse by one category.
  - On the other hand, a country which is an international financial center may show significantly higher credit growth than what actually is being channeled into the domestic economy (e.g. Hong Kong). In such a case, the analysis in table 6 is based on estimates of the percentage of credit growth attributable to domestic borrowers.

## **c. Adjustment for commercial real estate prices**

43. The methodology allows for adjustments for the commercial real estate (CRE) market informed by CRE prices and other indicators when available. The performance of the CRE segment is at least as important for the banking sector as the residential housing segment, but the data gaps relating to prices are much wider than those for residential housing.
44. For countries where CRE prices are available, the analysis is based on the average annual change in inflation-adjusted CRE prices over a four-year rolling average (calculated in the same way as for inflation-adjusted housing prices, see table 6). The analysis is further complemented by CRE vacancy rates as a percentage of total CRE units. Rising vacancies, for example, would signal potential pressures on CRE prices.
45. Based on an assessment of the CRE market, the initial economic imbalances score is worse by one category if the CRE segment represents a higher risk than the residential housing market. If the CRE market represents a lower risk or a risk that is similar to the residential housing market, there is no adjustment to the initial economic imbalances risk score. For example, an initial economic imbalances score of "1" will move to a "2" if the CRE market is assessed as higher risk as a result of the application of paragraphs 43 and 44.

## **d. Adjustment for equity prices**

46. The initial economic imbalances score is worse by one category if the average annual rise in

inflation-adjusted equity prices over the two most-recent years has been greater than 40%. For banking sectors which have limited exposure to the stock market, as measured, for example, by equity market capitalization to GDP (as a proxy) of less than 20%, there is no adjustment to the initial economic imbalances risk score, even in the face of large equity price rises.

**e. Adjustment for current account balance and external debt position**

- 47. The criteria use the assessment of a country's external risk as defined in the sovereign criteria (see sovereign criteria). The assessment of this sub-factor results in three categories:
  - Limited vulnerability for sovereign external assessments of 1, 2 or 3;
  - Moderate vulnerability for sovereign external assessments of 4 and 5; and
  - Significant vulnerability for sovereign external assessments of 6.
- 48. Adjustments to the initial economic imbalances score for current account balance and external debt position are shown in table 7 and are applicable to the extent the risks are not already captured elsewhere in the BICRA methodology (see sovereign criteria).

Table 7 Adjustments For Current Account Balance And External Position		
Category	Description	Impact on the initial economic imbalances score
<i>Limited vulnerability</i>	Sovereign external assessments of 1, 2, or 3	0
<i>Moderate vulnerability</i>	Sovereign external assessments of 4 and 5	+1
<i>Significant vulnerability</i>	Sovereign external assessments of 6	+2

**2. Correction phase**

- 49. When imbalances start to reverse--such as when a bubble has burst and prices are in the process of correcting--the risk score derived from table 6 is no longer appropriate (see paragraph 36 for how the correction phase analysis is applied). This reversal signals a shift from the expansionary to the correction phase. Evidence of the start of a correction phase is seen though growing or elevated credit losses on a banking sector's balance sheet. The correction phase analysis is based on the duration of the correction and the impact on the banking system, which can be prolonged.
- 50. While some imbalances may be resolved in an orderly manner, the nature, extent, and timing of a future correction is uncertain. As such, even if the imbalances start to correct--through, for example, falling asset prices--the economic imbalances score will remain elevated until the asset price correction has largely worked its way through the banking system.
- 51. The assessment of economic imbalances for the correction phase is determined by the expected impact on the banking sector over the coming two- to three-year period. The impact can be limited, high, very high or extremely high (see table 8). The assessments in table 8 are informed by a wide range of factors, including estimates of base case credit losses for a banking system.

**Table 8**  
**Economic Imbalances Score: (2) Correction Phase**

Expected impact on banking sector during a correction		
Category	Description	Initial risk score
<b>Limited impact</b>	A bubble (asset price or credit) burst in the last 3-5 years and the correction phase is coming close to an end. The projected remaining impact on the banking sector over the coming two- to three-year period is limited. For example, the Danish banking sector, whose loan loss ratio peaked at 1% in 2009 and is trending to below 50 bps, would qualify as "limited impact".	3
<b>High impact</b>	A bubble (asset price or credit) burst or a current account crisis started 3-5 years ago and the correction is ongoing. The projected impact on the banking sector over the coming two- to three-year period will be high. The housing market in Spain in 2011, for example, is expected to continue to have a "high impact" on the banking sector.	4
<b>Very high impact</b>	A bubble (asset price or credit) burst or the country is experiencing a current account crisis and the correction is ongoing. The projected impact on the banking sector over the coming two- to three-year period will be very high. The U.S. housing market in 2008, for example, had a "very high impact" on the banking sector.	5
<b>Extremely high impact</b>	A significant bubble (asset price or credit) burst or the country is experiencing a current account crisis and the correction phase is ongoing. The projected impact on the banking sector over the coming two- to three-year period will be extremely high. The Latvian housing market in 2008, for example, had an "extremely high impact" as housing prices started to correct from a 50% decline.	6

### C. Credit Risk in the Economy

52. The credit risk score assesses a banking sector's credit risk relative to its exposure to households, companies, and to the sovereign government. The following sub-factors drive the assessment of credit risk:

- Private-sector debt capacity and leverage;
- Lending and underwriting standards;
- Payment culture and rule of law; and
- Sovereign government credit stress.

53. The assessment of the credit risk score is described in table 9 below:

		Leverage			
		Private sector credit as % of GDP (see ¶54)			
		Below 75%	75-150%	>150%	
Debt capacity	GDP per capita (USD) (see ¶54)	>35000	1	2	3
		15000-35000	2	3	4
		Below 15000	3	4	5

**Adjustment factors impacting the initial credit risk score, typically by one or two categories each:**

- Data for GDP per capita are distorted by currency movements or price volatility (¶55).
- Country-specific characteristics related to private-sector debt capacity and leverage as described in ¶¶57-61.
- Lending and underwriting standards as described in ¶¶62-67.
- Payment culture and rule of law as described in ¶¶68-69.
- Sovereign government credit stress as described in ¶70.

Maximum net adjustment from initial credit risk score is capped at three categories.

### 1. Private sector debt capacity and leverage

54. The criteria use GDP per capita as a proxy for the private sector's debt capacity. The initial credit risk score is derived from the combination of GDP per capita and private sector credit as a percentage of GDP (see table 9). In practice, if a country's GDP per capita or private sector credit as a percentage of GDP is projected to change significantly over the near term and, for instance, move into another bracket in table 9, the initial credit risk score is based on these projections.

### 2. Adjustment for currency movements or price volatility

55. The score for credit risk in the economy is one category better or worse than the initial credit risk score if GDP per capita is distorted by currency movements or price volatility (e.g. commodity prices).

56. Examples of situations where price or currency volatility distort the credit risk assessment include:

- A significant change in GDP per capita compared with previous years if this stems mainly from a change in the country's currency exchange rate to the dollar. The focus of the analysis is the private sector's debt capacity in local-currency terms.
- A significant change in GDP per capita that is mainly due to highly volatile commodity prices, especially if the GDP per capita is projected to return to prior levels within two to three years. The current-year estimate is applied to the GDP per capita metric.

### 3. Adjustment for country-specific characteristics

57. The initial credit risk score derived in the matrix in table 9 is adjusted by one category if any of the country-specific adjustments in paragraphs 58-61 apply.
58. The household sector of a country is significantly financially stronger or weaker than that of countries with the same initial credit risk score. The criteria use indicators such as the household sector's debt to GDP, debt service to disposable income, and financial wealth when assessing the financial position of households. For example, the credit risk score of a country whose household sector has financial assets, mainly highly liquid deposits, which are two times its debt will be better by one category. This adjustment would not apply, however, in markets with a high concentration of wealth.
59. The corporate sector of a country is significantly financially stronger or weaker than that of countries with the same initial credit risk score. The criteria use indicators such as corporate credit trends derived from the credit analyses of the corporate sector, including corporate bankruptcies, to assess a corporate sector's financial position. The criteria also use assessments based on information from banks and external parties operating in or monitoring that country. The conclusions of the analysis are compared to other metrics such as the level and trend of delinquencies and nonperforming loans in the system. For example, the credit risk score of a banking sector that continues to struggle with its corporate non-performing loans will be worse by one category.
60. The composition of a banking sector's loan book is significantly different from that of banking sectors in countries with the same initial credit risk score. This is the case if, for example, there is a significantly larger or smaller share of prime quality mortgage loans (which are typically low risk), or a significantly larger or smaller share of real estate and construction loans (which are typically high risk). For example, the credit risk score of a banking sector that has a significantly larger relative share of lending to small- and medium-sized enterprises will be worse by one category.
61. The GDP per capita of a country materially overstates or understates the debt capacity of the part of the private sector that would typically borrow from the banks. For example, in oil-producing economies, while oil production can result in significantly higher GDP per capita, few of the companies generating this wealth will borrow from the banking sector. In this case, the credit risk score will be worse by one category if the GDP per capita overstates the debt capacity of the borrowers.

### 4. Adjustment for lending and underwriting standards

62. The quality and effectiveness of a banking sector's lending and underwriting practices influence the severity of banking losses resulting from an economic downturn. The criteria apply the descriptions for a banking sector's lending and underwriting practices in table 10 to adjust for the quality of lending and underwriting standards. The descriptive characteristics in table 10 are applied on a "best-fit" basis to determine whether a banking system is: (i) at least moderately conservative; (ii) relaxed; or (iii) aggressive.
63. Changes to the initial credit risk score based on this sub-factor will follow possible adjustments to the initial credit risk score under the sub-factor private-sector debt capacity and leverage. For an assessment of "at least moderately conservative," there is no adjustment to the initial credit risk score. The initial credit risk score will be worse by one category if the assessment shows lending and underwriting practices as "relaxed" and by two categories if "aggressive."

Table 10 Adjustment For Lending And Underwriting Standards		
Category	Description	Adjustment to the initial credit risk score
<i>At least moderately conservative</i>	<p><b>Moderately conservative lending and underwriting standards</b></p> <ul style="list-style-type: none"> <li>• Share of new residential mortgage lending above 80% LTV: 0%-30%</li> <li>• Average indexed LTV for the residential mortgage portfolio: below 60%.</li> <li>• Underwriting standards for mortgage lending are based on multiple factors, including at least moderately conservative cash-flow requirements and collateral values.</li> <li>• Minimal mortgage lending other than prime.</li> <li>• Limited concentration in cyclical or vulnerable sectors: guideline below 8%.</li> <li>• Limited concentration in real estate construction and development: guideline below 8%.</li> <li>• Limited single-name concentration.</li> <li>• Limited foreign-currency lending: below 20% or moderate vulnerability due to a stable and credible peg to the currency of foreign-currency lending.</li> <li>• No or very low use of securitization and derivatives to shift risks off balance sheet.</li> </ul>	0
<i>Relaxed</i>	<p><b>Relaxed lending and underwriting standards</b></p> <ul style="list-style-type: none"> <li>• Share of new residential mortgage lending above 80% LTV: 30%-60%.</li> <li>• Average indexed LTV for the residential mortgage portfolio: 60%-75%.</li> <li>• Underwriting standards for mortgage lending may be based on a multiple of factors, including cash flow requirements and collateral values.</li> <li>• Some mortgage lending other than prime (buy-to-let, subprime etc.).</li> <li>• Concentration in cyclical or vulnerable sectors: 8%-15%</li> <li>• Concentration in real estate construction and development: 6%-15%.</li> <li>• Some single-name concentration.</li> <li>• Foreign-currency lending: 20%-40% and high vulnerability due to a possible fall in local currency.</li> <li>• Some use of securitization and derivatives to shift risks off balance sheet (originate-to-distribute model).</li> </ul>	+1
<i>Aggressive</i>	<p><b>Aggressive lending and underwriting standards</b></p> <ul style="list-style-type: none"> <li>• Share of new residential mortgage lending above 80% LTV: above 60%.</li> <li>• Average indexed LTV for the residential mortgage portfolio: above 75%.</li> <li>• Underwriting standards for mortgage lending would typically be based on collateral values only.</li> <li>• Important mortgage lending other than prime (buy-to-let, subprime).</li> <li>• Concentration in cyclical or vulnerable sectors: above 15% of total loans.</li> <li>• Concentration in real estate construction and development: above 15% of total loans.</li> <li>• Significant single-name concentration.</li> <li>• Foreign-currency lending: above 40% and very high vulnerability due to a possible fall in local currency.</li> <li>• Broad use of securitization and derivatives to shift risks off balance sheet (originate-to-distribute model).</li> </ul>	+2

64. The criteria rely on a variety of metrics to assess a banking sector's lending and underwriting standards. The key metrics used to assess the risk related to household lending are: (i) the share of new mortgage lending at loan-to-value (LTV) ratios exceeding 80%; (ii) the average indexed LTV

for residential mortgages; (iii) whether underwriting standards for mortgage lending are based on multiple factors (such as cash flow adequacy and collateral values) or one of the factors only; and (iv) the respective share of prime mortgage lending compared with nonprime lending.

65. The key metrics used to assess the risk related to corporate lending are: (i) sector concentration in cyclical or vulnerable sectors, including single-name concentration, as a percentage of total lending; and (ii) the share of real estate construction and development as a percentage of total lending. The criteria view sectors--such as commodities or shipping--which are affected by an economic downturn as cyclical or vulnerable.
66. Foreign-currency lending as a percentage of total lending is another key metric applicable to a banking system where foreign-currency lending is a common practice. This adds a source of risk for un-hedged borrowers in the face of a potential weakening of the local currency.
67. The criteria also evaluate aggregate residential mortgage-backed securities and other asset-backed securities in a banking sector. While extensive use of securitization and derivatives is not in itself a risk factor, the criteria assess whether a banking industry's use of these techniques is a means of shifting risks off the balance sheet. Particularly, the criteria view the "originate to distribute" model as high-risk.

## 5. Adjustment for payment culture and rule of law

68. The payment culture and rule of law is another factor that influences the severity of banking losses resulting from an economic downturn. In assessing this sub-factor, the criteria assess creditors' rights and predictability of the legal framework, including bankruptcy law and credit rights, the creditor's ability to recover collateral, and the resolution time for bankruptcy or foreclosure. The analysis is informed by external indicators, such as the World Bank's governance indicators for the rule of law and control of corruption and Transparency International's corruption perceptions index. For example, the averages of the World Bank's "rule of law" and "control of corruption" governance indicators are typically between 0 and 2.5 for "at least moderately strong," between 0 and -0.5 for "weak" and between -0.5 and -2.5 for "very weak".
69. The assessment of payment culture and rule of law corresponds to one of three categories: (i) at least moderately strong; (ii) weak; and (iii) very weak (see table 11). The initial credit risk score (after possible adjustments under the sub-factors private-sector debt capacity and leverage, and lending and underwriting standards) is unchanged for a classification as "at least moderately strong." The initial credit risk score is worse by one category for an assessment of "weak" and by two categories for "very weak".

<b>Category</b>	<b>Description</b>	<b>Impact on the initial credit risk score</b>
<b><i>At least moderately strong</i></b>	<b>At least moderately strong payment culture and adherence to rule of law</b> At least moderately strong legal framework. Legal claims over loan defaults and recoveries of collateral proceed at least with satisfactory speed and effectiveness.	0
<b><i>Weak</i></b>	<b>Weak payment culture and adherence to rule of law</b> Ineffective legal framework and judicial system. Often arbitrary and discretionary legal and judicial decisions.	+1
<b><i>Very weak</i></b>	<b>Very weak payment culture and adherence to rule of law</b> Highly ineffective legal framework and judicial system. Arbitrary and discretionary legal and judicial decisions.	+2

## 6. Adjustment for sovereign government credit stress

70. The assessment of credit risk in a particular country will be worse by one or two categories depending on the severity of the sovereign credit stress and the size of the government securities held by the banking sector. The adjustment for sovereign credit stress is as follows:
- A one-category adjustment is applied when a sovereign government's foreign-currency long-term rating falls by three or more notches within 12 months to below BBB-.
  - A two-category adjustment is applied when there is a substantial increase in sovereign credit risk as indicated by a rating that has declined by three or more notches within 12 months to below 'BB-'.
71. This adjustment is removed after a period of stabilization when the sovereign's creditworthiness is no longer viewed as an additional credit risk for the banks.
72. In addition to its impact on the credit risk of a banking system, sovereign credit stress also impacts a banking system's funding profile (see table 20).

## VI. METHODOLOGY: Evaluating Industry Risk

73. The criteria organize the assessment of industry risk into three factors: "institutional framework"; "competitive dynamics"; and "system-wide funding". The criteria for assessing industry risk include the quality and effectiveness of bank regulation, the track record of authorities in managing financial sector turmoil, and the competitive environment of a country's banking industry, including the industry's risk appetite and its structure. Industry risk also addresses the range and stability of funding options available to banks, including the roles of the central bank and the government.

## A. Institutional Framework

74. The assessment of the institutional framework score is based on an analysis of the following three sub-factors:
- Banking regulation and supervision;
  - Regulatory track record; and
  - Governance and transparency.
75. The initial assessment of a banking sector's institutional framework is based on the evaluation of banking regulation and supervision and the regulatory track record (table 12). These two sub-factors together are used to derive the initial institutional framework risk score as described in table 13. The initial risk score is worse by one category if governance and transparency in the banking sector is "weak." There is no adjustment if governance and transparency is "at least adequate" or better. The maximum adjustment from the initial institutional framework score is one category.

**Table 12**  
**Institutional Framework Score (1)**

Category	Banking regulation and supervision	Regulatory track record
<b>Strong</b>	<p>Banking regulations are more conservative than international standards. Supervision is very effective and hands-on. Regulators monitor banks closely and frequently. Regulators have conservative standards, which impose strong market discipline.</p> <p>Regulatory coverage and reach is extensive so that virtually all types of financial risks are captured. There is one central regulator supervising all types of financial institutions or there is close cooperation between the different supervisory authorities.</p>	<p>Very strong track record as evidenced by the authorities having taken preventive measures and thereby reduced vulnerability to financial crisis over past economic downturns.</p>
<b>Intermediate</b>	<p>Banking regulations are typically in compliance with international standards. Supervision is effective to moderately effective and hands-on. Regulators usually monitor banks closely and frequently, but gaps could occur. Regulators have moderately conservative standards, which impose moderate market discipline.</p> <p>Regulatory coverage and reach is fairly broad so that many types of financial risks are captured, but some lapses exist.</p>	<p>Moderate track record, as evidenced for instance by authorities having had to support banks with capital injections to avoid bank failures in past economic downturns.</p> <p>Regulators may have identified problems at an early stage and acted quickly to remedy them. Regulators may have had significant power and ensured that banks took corrective actions.</p>
<b>Weak</b>	<p>Bank regulations are more lax or lenient than international standards. Supervision is less effective and less hands-on. Regulators monitor banks on an ad hoc basis. There could also be significant gaps or delays in monitoring financial institutions. Regulators have relatively weak standards which only impose limited market discipline.</p> <p>Regulatory coverage and reach include gaps so that several types of financial risks are not captured.</p> <p>Regulators may be subject to political influence that weakens regulation.</p>	<p>Weak to very weak track record, as evidenced for instance by authorities having had to support banks with significant capital injections to avoid bank failures in past economic downturns.</p> <p>Regulators may have been more reactive than proactive in past crises. Regulators may have had authority to remedy problems early, but may not always have exercised the authority.</p> <p style="text-align: center;"><u>or</u></p> <p>Supervisors lacked capacity and authority to address problems early in certain important areas. Regulators had limited or weak and insufficient corrective actions.</p>

**Table 13**  
**Institutional Framework Score (2)**

**Combining Banking Regulation And Regulatory Track Record**

*The two factors — banking regulation and supervision, and regulatory track record — are assessed on a “best-fit” basis guided by the descriptions in table 12. The assessments are combined as follows:*

	<b>Initial risk score</b>
Both sub-factors are assessed to be “strong.”	1
One of the sub-factors is assessed to be “strong” and the other is assessed to be “intermediate.”	2
Both sub-factors are assessed to be “intermediate,” or one of the sub-factors is assessed to be “strong” and the other is assessed to be “weak.”	3
One of the sub-factors is assessed to be “intermediate” and the other is assessed to be “weak.”	4
Both sub-factors are assessed to be “weak.”	5

NEGATIVE adjustment factor impacting the initial risk score by one category: governance and transparency as described in ¶¶83-85.

**1. Banking regulation and supervision**

- 76. The criteria require an assessment of the scope and intent of the regulatory framework. The goal is to evaluate the ability of regulators to preserve financial stability through the business cycle, particularly during periods of economic decline and turbulence. The analysis includes both the letter and the spirit of a country's banking laws and regulations, the extent of regulatory powers of control over the banking industry, the degree to which regulatory policies foster market discipline and their effectiveness, and the balance of power between regulators and industry participants. Lower risk assessments require effective enforcement of rules and policies combined with a low potential for financial institutions to “game the system” and circumvent regulatory restrictions.
- 77. Banking regulation and supervision that are in line with international standards will qualify for an “intermediate” risk score (see table 12). Banking regulation and supervision is “strong” if specific regulations in a banking industry meet the description outlined in table 12. The criteria assess the effectiveness of regulatory measures including countercyclical provisions designed to limit banking sector losses during a downturn. Examples of countercyclical measures include actions to prevent excessive lending to certain segments and the active use of capital buffers to protect bank depositors and creditors during periods of financial stress.
- 78. Banking regulation and supervision is “weak” if regulations and supervisory practices appear to be lax or lenient when compared to international standards (see table 12). Examples include banking systems that have significant gaps in regulatory coverage or where oversight of banking activities is not systematic and is performed on an ad hoc basis. Such banking systems may also be subject to significant political influence which further weakens the effectiveness of any regulation.
- 79. The main focus of the analysis is the effectiveness and scope of supervision compared with the written regulations. While many of the banking systems apply similar regulations based on

international agreements, there are important differences in regulatory supervision across countries' banking systems. The criteria assess the two sub-factors, banking regulation and supervision and regulatory track record, on a "best fit" basis guided by the descriptions in table 12 above. The criteria use peer comparisons of banking regulation and supervision to differentiate between banking systems.

## 2. Regulatory track record

80. The regulatory track record reflects the effectiveness of banking regulation and supervision, including recent examples of past successes in taking preventive measures and reducing a banking system's vulnerability to a financial crisis. A "strong" regulatory track record is reserved for countries that clearly exhibited regulatory intent and actions that resulted in successfully limiting risk to a country's banking system during a financial downturn. Conversely, a country will have a "weak" regulatory track record if it has a history of weak and reactive responses to banking crises. Under the criteria, Canada, for example, would have qualified as "strong" based on its track record leading up to, and after, the 2007- 2008 financial downturn. On the other hand, Ireland would have been assessed as "weak".
81. The criteria recognize that rules and regulations tighten and weaken during the economic cycle. The regulatory environment is typically the most stringent just after a crisis and more lenient just before a crisis. The goal of the criteria is not only to reflect recent regulatory experience but also to recognize any sustainable changes that will alter the response to future crises. The criteria use evidence of demonstrated, clear, and meaningful authority displayed by financial supervisors in response to rising risks.
82. The criteria require a strong assessment of both banking regulation and supervision and the regulatory track record for the initial risk score for institutional framework to be scored "1" or "very low risk." Table 13 shows how the assessments of each of these sub-factors are combined to produce an initial risk score.

## 3. Adjustment for governance and transparency

83. The criteria adjust the initial institutional framework score with an assessment of governance and transparency. The assessment of the "governance and transparency" sub-factor falls into one of two categories: "at least adequate" and "weak" (see table 14). The initial institutional framework risk score is unchanged for systems with "at least adequate" transparency. The initial risk score is worse by one category for systems with "weak" transparency.
84. The criteria evaluate governance standards by looking at the balance of stakeholder interests among shareholders, managers, depositors, and borrowers, which may, for example, include a consideration of negative intervention by the government that takes a form such as directed lending. Corporate governance that is transparent, prudent, and independent of undue outside influence lowers the risk of a banking system. Conversely, opaque, imprudent governance that sets no limits on owners' influence increases the risk of a banking system. Examples of governance deficiencies in the banking sector may include the prevalence in the system of related-party lending, opaque ownership structures, a nontransparent financial sector made up of myriad entities lightly controlled by local supervisors (encompassing shadow banking; booking centers, holdings, or special-purpose entities whose location is for tax reasons only; and other factors), or repeated and unaddressed scandals affecting the whole sector and the country (such as money laundering or tax evasion). The analysis also includes a review of system-wide compensation practices and incentives to determine whether they work to reward prudent management.

85. The criteria require an examination of the frequency and timeliness of reporting, and the quality and standardization of financial reports. The quality of accounting and disclosure standards helps determine the information risk in a particular banking sector. The criteria examine the quality of accounting and disclosure standards, including whether a banking industry has adopted International Financial Reporting Standards (IFRS) or the application of local GAAP (generally accepted accounting principles). The assessment is also informed by the extent and effectiveness of a country's auditing requirements. Systems that are well-managed result in a high governance and transparency score while those that are poorly managed result in a weak governance and transparency score. Under the criteria, systems that do not follow globally established financial standards will get this adjustment.

Category	How we measure	Adjustment to the initial institutional framework score
<b>At least adequate</b>	Adequate or better governance and transparency.	0
	At least moderate transparency and degree of disclosure of ownership and banks' accounts, as measured by frequency and timeliness of reporting, quality of financial reports, and degree of standardization.	
<b>Weak</b>	Weak governance and transparency.	+1
	Many aspects of ownership, management and governance lead to risks. Evidence of uneconomic directed lending and/or lending to parties related to owners.  Poor transparency and degree of disclosure of banks' accounts, as measured by frequency and timeliness of reporting, quality of financial reports, and degree of standardization.	

## B. Competitive Dynamics

86. The competitive dynamics factor represents structural implications of the competitive landscape faced by a bank operating within the broader banking industry.
87. A banking industry's competitive dynamics risk score is determined by the following sub-factors:
- Risk appetite;
  - Industry stability; and
  - Market distortions.
88. The initial competitive dynamics score is determined by the risk appetite of a banking sector, which is then adjusted for industry stability and market distortions to arrive at the final score. Risk appetite is determined by assessing a banking sector's profitability in comparison with other sectors in the economy along with a number of additional indicators (described in table 15). The criteria then assess industry stability and the impact from market distortions. The initial competitive dynamics score is worse by one category if the banking industry is "moderately

unstable" and by two categories if the banking industry is "unstable" (see table 16). The initial risk score will also be worse if there are "distortions present" in the market (see table 17). The maximum adjustment from the initial competitive dynamics score is two categories.

Table 15 Competitive Dynamics Score		
Risk appetite		
Category	Description	Initial competitive dynamics score
<b>Very low</b>	<p><b>Very low risk appetite</b> A banking system with prolonged profitability that is predictable and slightly lower than profitability of other sectors in the economy.</p> <p>Additional factors: (i) strategies of the largest banks are visibly focused on capital strength ahead of profitability; (ii) limited bonus culture in the sector; (iii) all the factors identified for 'Restrained risk appetite' below are present.</p>	1
<b>Restrained</b>	<p><b>Restrained risk appetite</b> A banking system with prolonged profitability that is comparable to profitability of other sectors in the economy.</p> <p>Additional factors: (i) absence of untested innovative, complex and risky products in the market, including the possible use of securitization techniques in order to shift risks off the balance sheet; (ii) very limited share of high risk lending; (iii) limited growth of total assets in the sector; and (iv) relatively conservative commercial practices in the sector, possibly linked to compensation practices that discourage risk-taking.</p>	2
<b>Moderate</b>	<p><b>Moderate risk appetite</b> A banking system with prolonged profitability that is marginally higher when compared to profitability of other sectors in the economy.</p> <p>Additional factors: (i) modest presence of innovative, complex and risky products in the markets, including the possible use of securitization techniques in order to shift risks off the balance sheet (if risks are shifted off the balance sheet, these risks should be understood and managed); (ii) limited share of high-risk lending; (iii) managed growth of total assets in the sector; and (iv) managed commercial practices in the sector, possibly linked to compensation practices which reward prudent risk-taking.</p>	3
<b>Aggressive</b>	<p><b>Aggressive risk appetite</b> A banking system with prolonged profitability that during expansive economic growth periods is significantly higher when compared to profitability of other sectors in the economy.</p> <p>Additional factors: (i) prevalence of innovative, complex and risky products in the markets, including the possible use of securitization techniques in order to shift risks off the balance sheet; (ii) important share of high-risk lending; (iii) possibly significant growth of total assets in the sector; and (iv) relatively aggressive commercial practices, possibly linked to compensation practices which reward risk-taking.</p>	4
<p>NEGATIVE adjustment factors impacting the initial competitive dynamics score by one or two categories: industry stability as described in ¶¶93-95 and table 16; market distortions as described in ¶¶96-97 and table 17.</p> <p>Maximum adjustment from initial competitive dynamics score is capped at two categories.</p>		

## 1. Risk appetite

89. The initial competitive dynamics score is determined by a banking sector's risk appetite (table 15). This sub-factor reflects the relative degree of risk and uncertainty that banks are willing to accept in the quest for higher earnings. The criteria evaluate both above-average profitability as well as factors as evidence of the relative risk appetite in a banking industry (paragraph 92).
90. The criteria assess risk appetite by looking at the profitability of a banking sector and comparing it with the profitability of other sectors in the economy. A prolonged period of earnings outperformance by the banking sector versus other sectors reflects amplified risk appetite and is a leading indicator of risk.
91. While the criteria do not require a single measure of profitability in conducting cross-sector comparisons, the analysis is usually based on reported return on equity. For banking sectors where this information is not systematically available, the criteria allow for other profitability metrics to be used for the purpose of cross-sector comparisons.
92. The assessment of a banking sector's risk appetite is complemented by the following factors:
- The growing relative presence or absence of innovative, complex, and risky products in the markets, including the possible use of securitization techniques to shift risks off the balance sheet.
  - The rising share of "high risk" products, for which credit losses appear to be substantially above the overall credit loss experience of the banking sector. Subprime mortgages are one example of a high-risk product.
  - The growth of total assets in a banking sector over the past four-year period. Significant asset growth would typically indicate a higher risk appetite and limited asset growth would typically indicate a lower risk appetite.
  - The relative aggressiveness or conservatism of the sector's commercial practices, possibly linked to compensation practices.

## 2. Adjustment for industry stability

93. The criteria use the assessments described in table 16 to determine if a banking system is (i) at least moderately stable, (ii) moderately unstable, or (iii) unstable. The initial competitive dynamics risk score is unchanged if the banking industry is "at least moderately stable." The initial risk score is worse by one category for "moderately unstable" systems and by two categories for "unstable" systems.
94. The criteria assess industry pricing through an analysis of competitive behavior and the ability of banks to generate a risk-adjusted return on core banking products that is adequate to meet their cost of capital. Factors that threaten rational pricing and competitive behavior are (i) low barriers to entry and new entrants, (ii) excess capacity of banking products and services, and (iii) market distortions. The criteria capture the first two elements under this sub-factor and the market distortions separately in the subsequent sub-factor.
95. The criteria associate lower profitability, such as that in the German and Japanese banking sectors, with less-stable operating conditions. Since banks in high-inflation countries tend to be able to maintain wider (nominal) margins, the criteria adjust for inflation when assessing profitability.

**Table 16**  
**Adjustment For Industry Stability**

Category	Description	Adjustment to the initial competitive dynamics risk score
<b><i>At least moderately stable</i></b>	At least moderately stable competitive environment.	
	Absence of overcapacity, and low probability of new entrants or a material change in competitive environment.	0
<b><i>Moderately unstable</i></b>	Moderately unstable competitive environment.	
	Moderate overcapacity as evidenced by low earnings capacity on core banking products or moderately high vulnerability to new entrants or to a material change in the competitive environment.	+1
<b><i>Unstable</i></b>	Unstable competitive environment.	
	Significant overcapacity as evidenced by very low earnings capacity on core banking products or very high vulnerability to new entrants or to a material change in the competitive environment.	+2

### 3. Adjustment for market distortions

96. Certain market characteristics will distort competition and earnings prospects and have an important impact effect on the underlying risk in a banking sector. The assessment of the market distortions sub-factor is derived from the descriptions provided in table 17 and falls into two categories: (i) absence of distortions and (ii) distortions present. The initial competitive dynamics risk score is unchanged if a banking system shows an "absence of distortions" whereas the initial risk score is worse by one category for systems with "distortions present."
97. To assess market distortions, the criteria evaluate (i) the market share of government-owned banks and not-for-profit banks that do not operate on full commercial terms, (ii) the degree of government involvement in setting interest rates and in directing lending, and (iii) the nature of competition from nonbank competitors such as investment funds, finance companies, and securities markets. For example, government sponsored entities supporting housing in the United States create distortions in the U.S. housing markets.

**Table 17**  
**Adjustment For Market Distortions**

Category	Description	Adjustment to the initial competitive dynamics risk score
<b><i>Absence of distortions</i></b>	Show none of the characteristics below	0
<b><i>Distortions present</i></b>	Show one or more of the characteristics below	+1

**Characteristics:**  
 (i) Significant presence of government-owned and/or not-for-profit banks in the banking sector;  
 (ii) Frequent use of administrative controls over deposit and lending rates and/or material government directed lending (>20% of total loans in the banking sector);  
 (iii) Important and unfavorable competitive distortions from nonbank competitors.

## C. System-wide Funding

98. The system-wide funding risk score assesses the relative stability of a banking sector's funding sources and its access to alternative funding sources.
99. The criteria rely on the following sub-factors to assess a banking sector's system-wide funding score:
- Core customer deposits (compared to loans);
  - External funding;
  - Non-loan assets (if applicable);
  - Domestic debt capital markets; and
  - Government role.
100. The assessment of the system-wide funding score is determined through the application of table 18.
101. As described in table 18, the criteria use caps to refine the assessment of system-wide funding. The assessment of the system-wide funding score includes the following caps:
- For countries with a history of unstable and volatile deposits, the initial funding risk score is capped at no better than 3 (paragraph 104);
  - For banking systems that do not have access to external capital markets, the final funding risk score is capped at no better than 3 (see paragraph 108); and
  - If a sovereign government is under credit stress as defined in paragraph 70, the final system-wide funding score is capped at no better than 5 (see paragraph 113).

**Table 18**  
**System-Wide Funding Score**

		Core customer deposits						
		Domestic core customer deposits as % of total domestic loans (see ¶¶102-104)						
		>100%	90-100%	75-90%	60-75%	40-60%	<40%	
External funding	Net external debt as % of total domestic loans (see ¶¶105-108.)	<0%	1	2	2	3	3	4
		0-10%	2	2	3	3	4	4
		10-20%	2	3	3	4	4	5
		20-30%	3	3	4	4	5	5
		30-40%	3	4	4	5	5	6
		>40%	4	4	5	5	6	6

**Adjustment factors leading to improving or worsening the initial risk score by one category each:**

Banking sectors whose total domestic assets significantly exceed total domestic loans as described in ¶109  
 Breadth and depth of domestic debt capital markets as described in ¶¶110-111 and table 19; and  
 Government role as described in ¶¶112-113 and table 20.

**Adjustment factors that will cap the final assessment of the system-wide funding factor:**

If retail deposits in a banking sector have a proven history of being unstable and volatile, the initial system-wide funding risk score would be capped at no better than “3” as described in ¶104  
 If a banking sector does not have access to external capital markets, the final system-wide funding score would be capped at no better than “3” as described in ¶108  
 If a sovereign is under financial distress, the final system-wide funding score would be capped at no better than “5” as described in ¶113.

Maximum net adjustment from initial risk score is capped at three categories.

**1. Core customer deposits**

- 102. Core customer deposits are a bank’s most stable funding source. As such, the criteria use a measure of core customer deposits as one of the two indicators for the initial system-wide funding score. Core customer deposits are stable deposits based on customer relationships. The definition of core customer deposits is not homogeneous across countries. The criteria include 100% of retail deposits and 50% of corporate deposits in the core customer deposits measure.
- 103. In countries where there is a large and very stable alternative market for retail funding, such as retail bonds or retail covered bonds issued by banks, the definition of core customer deposits is adjusted to include this alternative retail funding for the purposes of applying table 16. This adjustment is only applicable to countries with a very long and proven history of this alternative retail funding being equally stable as deposits. Registered money market funds in the U.S., or funds from high-net-worth individuals chasing yields, do not meet this definition and are excluded in this category. Retail bonds in Italy, for example, will qualify and are included.
- 104. While paragraph 103 broadens the definition of core customer deposits beyond deposits, there are a few banking sectors where retail deposits have proven to be volatile and very sensitive to

banking problems in the past. For example, the criteria would cap the initial system-wide funding score for a banking system that has suffered one or more instances of a lack of general depositor confidence (i.e. run on deposits) during the past two decades at no better than 3 (intermediate risk).

## 2. External funding

105. The criteria use the banking sector's two-year average annual net external debt, which includes nonresident deposits, as a percentage of total domestic loans as the second measure to derive the initial system-wide funding risk score. The criteria view cross-border funding as a vulnerable source of banks' funding during economic, financial, or liquidity distress. Whereas a banking sector may benefit from accessing international debt capital markets during benign periods when liquidity is ample and investor appetite high, this funding source is likely to be the first to evaporate in times of distress.
106. For banking systems with significant offshore operations, the criteria adjust the definition of external funding sources to exclude funding associated with offshore operations because, despite being domestically domiciled, these funds do not support the domestic banking system.
107. A banking sector that is largely foreign-owned may receive a large part of its funding from externally based parent banks, indicating a relatively high dependence on external funding. If this is true for the sector as a whole and funding from the foreign parent banks will remain stable in the future, the initial funding risk score will be better by one category.
108. Some banking sectors have a very high degree of customer deposit funding because there may be few alternative investments for depositors. If domestic banks have very limited access to external debt capital markets, the overall funding risk score is no better than "intermediate risk" at best.

## 3. Adjustment for non-loan assets

109. For banking systems whose system-wide domestic loans account for less than 40% of total system-wide domestic banking assets, the initial system-wide funding risk score will be worse by one category. This adjustment captures the funding risk, especially if it is confidence-sensitive wholesale funding, associated with a large securities portfolio, typically government, corporate, or structured securities.

## 4. Adjustment for domestic debt capital markets

110. The availability or absence of a well-functioning domestic debt capital market can make a significant difference for a banking sector's funding possibilities. In terms of relative stability, funding sourced in the domestic debt capital market is more stable than cross-border funding, but less stable than core customer deposits. The criteria assess the breadth and depth of the domestic debt capital markets by examining the issuance of short- and long-term securities by both financial institutions and corporations as percentage of GDP. The analysis includes issuance from the corporate sector. The criteria exclude issuance from the sovereign because the market for sovereign securities is largely separate from the market for securities issued by banks and corporations.
111. The criteria classify the assessment of domestic debt capital markets into three categories: (i) broad and deep debt capital market; (ii) moderately broad and deep debt capital market; and (iii) narrow and shallow debt capital market (see table 19). The initial system-wide funding risk is better by one category for systems with a broad and deep debt capital market, unchanged for a

moderately broad and deep debt capital market, and worse by one category for a narrow and shallow debt capital market.

Table 19 Domestic Debt Capital Markets		
Domestic capital markets for private-sector issuance		
Category	Measurement	Impact on the initial system-wide funding score
<b>Broad and deep debt capital market</b>	Show all three characteristics described below.	-1
<b>Moderately broad and deep debt capital market</b>	Show one or two of the three characteristics described below.	0
<b>Narrow and shallow debt capital market</b>	Show none of the characteristics described below.	+1
<b>Characteristics:</b>		
(i) Private-sector debt issued in the domestic capital market generally exceeds 25% of GDP.		
(ii) There is an active capital market for issuance of investment-grade (for banking sectors with investment-grade banks) and/or of non-investment grade (for banking sectors with non-investment grade banks) debt for the private sector.		
(iii) There is an active capital market for debt securities with longer-term maturities (>7 years) <u>or</u> with medium-term maturities (3-5 years).		

## 5. Adjustment for government role

112. To assess the extent of system-wide funding support from a government for a banking system, the criteria look at the central bank's lending facilities for the banking system, the type of collateral that the central bank would require, and government funding guarantees.
113. The classification of a government's role in system-wide funding falls into one of three categories: (i) strong; (ii) adequate; and (iii) weak (see table 20). The initial system-wide funding risk score is better by one category for systems benefitting from "strong" support, unchanged for systems with "adequate" support, and worse by one category for systems with "weak" support. The criteria only allow for a favorable adjustment to the funding risk score if there is "strong" government support for higher risk funding scores. As a result, this adjustment will only apply to a banking system if the final funding score otherwise would be of 3, 4, 5 or 6. The government will act as a backstop in case funding difficulties arise. The fourth category applies in a sovereign stress scenario. The criteria assign a final funding risk score of "very high risk" or "extremely high risk" depending on the severity of the impact on the banking sector.

**Table 20**  
**Adjustment For Government Role**

<b>Category</b>	<b>Description</b>	<b>Adjustment to the initial system-wide funding score</b>
<b>Strong</b>	Government has a highly effective track record of providing guarantees and liquidity during periods of market turmoil. Central bank lending facilities are very strong in terms of: its capacity to service the size of the industry's funding needs, and in responsiveness and flexibility to changing needs.	-1
<b>Adequate</b>	Government has a moderately effective track record of providing guarantees and liquidity during periods of market turmoil. Central bank lending facilities are adequate in terms of capacity to service the industry's funding needs, and government is moderately responsive and flexible to changing needs.	0
<b>Weak</b>	Government has an ineffective track record of providing guarantees and liquidity during periods of market turmoil (e.g. a deposit freeze). Central bank lending facilities are limited in terms of capacity to service the industry's funding needs, and government is often unresponsive and inflexible to changing needs.	+1
<b>Sovereign government credit stress</b>	<p>The sovereign government is under credit stress (¶170), and this has impacted and possibly closed market access for the banking system as well.</p> <p>If the sovereign is under credit stress, the criteria do not apply the other three categories ("strong," "adequate" and "weak").</p>	Final system-wide funding score is either a '5' or a '6' (see ¶113)

## REVISIONS AND UPDATES

This article was originally published on Nov. 9, 2011. These criteria became effective on Nov. 9, 2011.

Changes introduced after original publication:

- Following our periodic review completed on Feb. 9, 2016, we updated our contact information and criteria references and moved paragraphs 2, 14, 15, and 16, which were related to the initial publication of our criteria, to various appendices.
- We republished this article on Oct. 5, 2016, to renumber sections related to the aforementioned edits.
- Following our periodic review completed on Feb. 7, 2017, we updated related criteria references and consolidated Appendix A, Appendix B, and Appendix C into one appendix and a "Revision History" section. We also updated references to sovereign rating methodology in paragraphs 28, 30, 32, 33, 34, 35, and 47 and in tables 5 and 7 to align with the terminology in "Sovereign

Rating Methodology," published Dec. 23, 2014.

- Following our periodic review completed on Jan. 31, 2018, we updated our contact information and criteria references and deleted text that described changes from the initial Request For Comment, which was thus not relevant.
- On Aug. 12, 2019, we republished this criteria article to make nonmaterial changes. We amended the second bullet point of paragraph 56 to make the reference to changes in GDP per capita clearer. We added text to the first sentence of paragraph 88 to clarify the difference between the initial and final competitive dynamics score. We also updated the contact information and the "Related Criteria And Research" section.
- On July 24, 2020, we republished this criteria article to correct typographical errors in tables 9 and 18 by removing superfluous footnote indicators. We also updated a criteria article reference in the "Related Criteria And Research" section.
- On Oct. 27, 2020, we republished this criteria article to make nonmaterial changes. We deleted a sentence of noncriteria content relating to the expected frequency of adjustments from each of paragraphs 32, 42, and 56, and we updated the contact list.
- On Oct. 11, 2021, we republished this criteria article to make nonmaterial changes. We updated paragraphs 32 and 84 to include examples describing how we incorporate environmental, social, and governance credit factors in our criteria framework. We also updated the "Related Publications" section.

## **RELATED PUBLICATIONS**

### **Related Criteria**

- Environmental, Social, And Governance Principles In Credit Ratings, Oct. 10, 2021
- Group Rating Methodology, July 1, 2019
- Hybrid Capital: Methodology And Assumptions, July 1, 2019
- Sovereign Rating Methodology, Dec. 18, 2017
- Rating Government-Related Entities: Methodology And Assumptions, March 25, 2015
- Ratings Above The Sovereign--Corporate And Government Ratings: Methodology And Assumptions, Nov. 19, 2013
- Banks: Rating Methodology And Assumptions, Nov. 9, 2011
- Criteria For Determining Transfer And Convertibility Assessments, May 18, 2009

### **Related Research**

- The Evolving Landscape For Banks Requires A Robust Analytical Framework, Nov. 1, 2011

These criteria represent the specific application of fundamental principles that define credit risk and ratings opinions. Their use is determined by issuer- or issue-specific attributes as well as Standard & Poor's Ratings Services' assessment of the credit and, if applicable, structural risks for a given issuer or issue rating. Methodology and assumptions may change from time to time as

a result of market and economic conditions, issuer- or issue-specific factors, or new empirical evidence that would affect our credit judgment.

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