INTERNATIONAL MONETARY FUND

Results of the *Survey on the Use, Compilation, and Dissemination of Macroprudential Indicators*

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(In consultation with other Departments)

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I. INTRODUCTION

1. This paper reports on the results of the joint MAE/STA *Survey on the Use, Compilation, and Dissemination of Macroprudential Indicators.* The survey is one part of the IMF's program to develop a common set of generally useful macroprudential indicators (MPIs) of the health and stability of financial systems.[1] The survey results will be viewed along with other considerations to develop a core set of MPIs that can assist national authorities in analyzing threats to financial market stability, providing information for the IMF's monitoring of financial systems, informing the public, and making international comparisons of financial market conditions.

2. Participants at a consultative meeting on MPIs held in September 1999 concluded that there was not yet a consensus regarding the types of macroprudential information needed by official and private users and the availability of such data. They recommended taking a survey of national needs and practices related to MPIs, which Directors subsequently endorsed during the January 2000 Executive Board discussion on MPIs.[2] The Board also suggested that the IMF staff consult with other organizations to minimize duplication of effort.

3. The information to be gathered by the survey was intended to help in:

- Identifying a feasible set of MPIs that could meet the needs of national authorities, the IMF, and the public.
- Assessing the state of development and national practices in compiling and disseminating MPIs.
- Focusing the analysis of financial soundness on a small, common set of indicators and minimizing the burden on national authorities to compile MPIs.
- Identifying common or best practices that could help in defining MPIs that are comparable across countries. Such information might ultimately be incorporated into guidance to countries to help them compile and disseminate MPIs.
- Evaluating whether the Special Data Dissemination Standard (SDDS) or other vehicles would be appropriate to encourage the public dissemination of macroprudential information.

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[1] The expression "macroprudential indicators" will be used interchangeably with "financial soundness indicators."

[2] The papers submitted for Board discussion were published as Evans, Leone, Gill, and Hilbers, 2000, "Macroprudential Indicators of Financial System Soundness," IMF Occasional Paper No. 192.

4. The survey was undertaken in mid-2000. As reported below, the rate of response to the survey was very high, and a wide range of information was collected that revealed areas of strength and weakness in the compilation and dissemination of MPIs. The results help in identification of a group of MPIs that are rated as highly useful by a broad range of respondents and appear feasible to compile in a wide range of countries. Highly rated indicators that are not widely compiled are also identified, which can provide guidance for future statistical work.

II. SURVEY DESIGN AND RESPONSE

5. The survey solicited respondents' views on their needs and practices. It did not gather numerical data. It focused on identifying aggregations of microprudential information, that is, summations of information on the financial condition of individual financial institutions.

6. The design of the survey and the preliminary identification of a broad set of MPIs benefited from consultations with national authorities, international organizations, and the private sector.[3] These consultations contributed importantly to the IMF's understanding of national work programs on MPIs; needs of financial supervisors, national policy officials, and the private sector; and compilation and dissemination practices. They also provided an opportunity to fashion and improve a list of MPIs to be surveyed and learn more about their uses and potential reliability.[4] As a result of the consultations, the survey covered a set of 56 MPIs selected as representative of the work and focus of a broad range of users.

7. The survey (see Appendix III) was structured into two parts. The first part, the *User Questionnaire*, gathered information from financial supervisors, financial policy officials, and the private sector on the usefulness of the MPIs and methods of macroprudential analysis. The second part, the *Compilation and Dissemination Questionnaire*, inquired about national practices in compiling and disseminating MPIs.

8. The survey focused largely on information about depository corporations (banks), but also included some key information on their corporate and household counterparties. This focus was deemed appropriate for a first-time survey in this area given the importance of banking institutions and the generally greater amount of information available for banks compared to other types of institutions. However, staff recognize that further research is

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[3] During March and April 2000, consultations on the design of the survey were held with the Asian Development Bank, the Bank for International Settlements, the Basle Committee for Banking Supervision, the Committee on the Global Financial System, the European Central Bank, the Financial Stability Forum, the International Association of Insurance Supervisors, the Organization of Economic Cooperation and Development, and the World Bank. Consultations were also held with central banks and supervisory offices in nine countries and with representatives from the private sector—commercial and investment banks, rating agencies, investment research firms, and real estate market research firms.

[4] For example, MPIs relating to the quality of management of financial institutions were deleted from the survey because of frequently expressed concerns that quantitative measures of management effectiveness would not be reliable.

needed on analyzing and quantifying the influence of the condition of nondepository financial institutions and markets on financial stability.

9. The survey covered users' needs and compilation and dissemination practices for each of the 56 MPIs and their components. The individual MPIs were grouped into six major categories: *capital adequacy*; *asset quality (lending institutions)* (measures of the quality of the assets of depository corporations); *asset quality (borrowing institutions)* (measures of the financial condition of corporate and household borrowers); *profitability and competitiveness indicators*; *liquidity indicators*; and *indicators of sensitivity to market risks*. The categories were derived from the CAMELS framework used by supervisors to evaluate the condition of individual financial institutions.[5]

10. The survey was sent to the central bank within each country, with a request that the central banks coordinate its distribution and completion, and its return to the IMF. The central banks were asked to distribute the survey within their country to whichever parties they felt could best provide representative information on needs and practices relating to MPIs, such as the supervisory agency (where appropriate), central government policy or analysis office, and private sector participants.

11. The survey, which was made available in English, French, and Spanish, was dispatched in early June 2000 to the IMF membership and several offshore financial center nonmembers. Copies were also sent to relevant international organizations. Responses were requested by the end of July 2000. Most responses were received in July and August, but some came in as late as December 2000.

12. A total of 122 responses (74 percent of those receiving the survey) covering 142 countries and other jurisdictions were received and processed. Ninety-three respondents completed the *Compilation and Dissemination Questionnaire,* twenty-nine less than the number that completed the *User Questionnaire.* The lower response mostly reflected nonreporting by emerging and developing countries that might have had more limited programs to compile and disseminate MPIs. As shown in Table 1, the response was broadly based. All industrial countries responded; the response rate from emerging economies was very high; and over half of all developing countries responded. Responses were received from all but two members of the Basle Committee Liaison Group, and all but two SDDS subscribers.

13. Staff views the high response rate to the survey as an indication of the importance being attached worldwide to issues relating to the health and stability of the financial system and the possible role of MPIs in this area. This view was bolstered by the evident effort made by respondents to answer the survey thoroughly, and the detailed comments provided by many respondents.

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[5] Under CAMELS, institutions are evaluated in each of the six areas – ***C***apital, ***A***sset quality, ***M***anagement soundness, ***E***arnings, ***L***iquidity, and ***S***ensitivity to Market Risks. MPIs for Management soundness were excluded from the survey.

Table 1 – Summary of Responses to MPI Survey[6]

	All Countries		Industrial Countries		Emerging Countries[7]		Developing Countries	
	No. of responses	Percent of total sent survey	No. of responses	Percent of total sent survey	No. of responses	Percent of total sent survey	No. of responses	Percent of total sent survey
Total responses	122	74	24	100	53	88	45	56
of which: SDDS Subscribers[8]	46	96	20	100	26	93	--	--
Africa	24	60	--	--	4	100	20	56
Asia-Pacific	26	76	3	100	14	82	9	64
Europe	40	87	19	100	15	94	6	55
Middle East	6	43	--	--	5	71	1	14
Western Hemisphere	26	83	2	100	15	94	9	69

III. RESULTS OF THE SURVEY

14. This section reviews the quantitative and qualitative results of the survey. Table 2 summarizes respondents' overall evaluation of the usefulness of each MPI, as well as the number of respondents compiling or disseminating each MPI. The section discusses users' needs for MPIs and their ratings of each MPI's usefulness, and their compilation and dissemination practices. In addition to the analytical tables and charts included in the text, Appendix I provides detailed results.

A. Users' Needs for MPIs

15. The first part of the survey, the *User Questionnaire*, gathered information from three types of users of macroprudential information—financial supervisors, policy analysts within the central bank or government, and the private sector (mainly financial market participants, financial rating agencies, and academics)—regarding their needs for macroprudential information. Users of macroprudential information were asked to rate each MPI by its usefulness and to indicate their preferences for the periodicity and timeliness of each MPI.

6 The count includes single responses each from the BCEAO, the BEAC, and the ECCB that covered their respective memberships.

7 There is no standard list of Emerging Countries, which might be defined as countries undergoing the structural transformations and increases in income leading toward becoming industrial countries. For the purposes of this paper, the emerging countries group was based on tables in the May 2000 edition of the IMF's *World Economic Outlook* (WEO).

8 As of June 12, 2001.

The quantitative information on the usefulness of MPIs was supplemented by a series of open-ended questions about the analytic framework applied in each country, national research programs on MPIs, and special issues affecting the analysis of macroprudential conditions within the country.

16. Figure I shows all respondents' average usefulness scores for the six major categories of MPIs and their components, disaggregated by type of economy (industrial countries, emerging countries, and developing countries). The scale for scores is: 1—not useful, 2—sometimes useful, 3—useful, and 4—very useful.

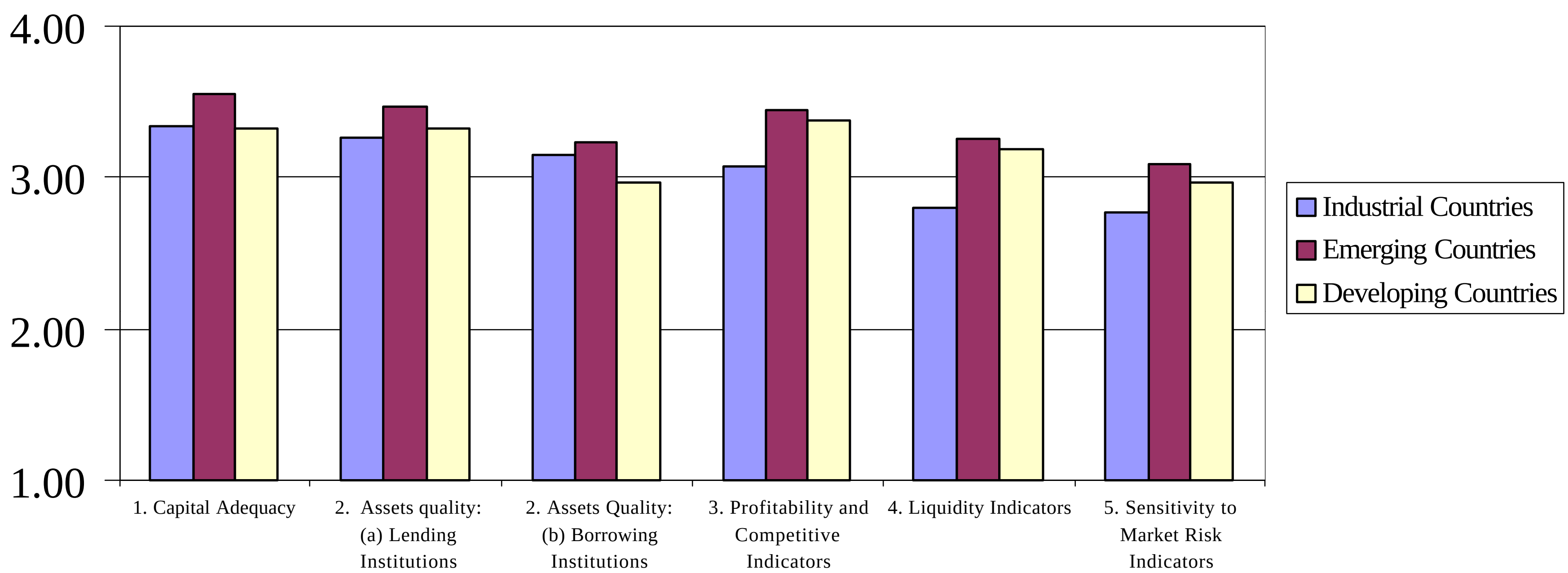
17. Respondents judged all major categories of MPIs to be broadly useful, with respondents in emerging countries rating them, on average, consistently slightly higher than users in the other major areas.[9] Indicators of *capital adequacy*, *asset quality (lending institutions)*, and *profitability* commanded greatest support on average; support for the usefulness of *liquidity* and *sensitivity to market risk* indicators was somewhat less strong, with industrial countries providing the least support. The result in industrial countries might partially reflect views expressed in several sets of written comments that the *liquidity* and *sensitivity to market risk* indicators are sophisticated and possibly difficult to construct.

18. The MPIs were divided into four groups based on their average usefulness scores for all respondents. Group I comprises the MPIs deemed very useful, as reflected in average usefulness scores of 3.5 and above. Group II comprises MPIs deemed useful with average scores of 3.0—3.4; Group III comprises modestly useful MPIs with scores of 2.5—2.9; and Group IV comprises less useful MPIs with scores of 2.4 and lower.

[9] In Appendix II, Table 1—Usefulness of MPIs, by Type of User, and Type of Economy provides a detailed matrix with usefulness scores for MPIs by type of user (supervisor, official policy analyst, and private sector) and type of economy (industrial, emerging, and developing countries).

Chart 1 – Summary of Usefulness of Macroprudential Indicators

(Average Usefulness Scores, by area)



Scale – 4: Very Useful, 3: Useful, 2: Sometimes Useful, 1: Not Useful

Table 2—All Countries: Summary of Responses on Uses, Compilation, and Dissemination of MPIs

MPI # MPI	Average usefulness score	Number compiling MPIs	Number disseminating MPIs
1. Capital Adequacy			
1.1 Basle Capital Adequacy Ratio	3.8	85	53
1.1a Ratio of Basle Tier I Capital to risk-weighted assets	3.6	81	44
1.1b Ratio of Basle Tier I + Tier II Capital to risk-weighted assets	3.4	79	43
1.1c Ratio of Basle Tier I + II + III Capital to risk-weighted assets	3.0	36	21
1.2 Distribution of Capital Adequacy Ratios (Number of institutions within specified capital adequacy ratio ranges)	3.3	21	11
1.3 Leverage Ratio (Ratio of total on-balance sheet assets to own funds)	3.2	34	17
2. Assets quality:			
(a) Lending Institutions			
2.1 Distribution of on-balance sheet assets, by Basle risk-weight category	3.4	77	33
2.2 Ratio of total gross asset position in financial derivatives to own funds	2.8	15	5
2.3 Ratio of total gross liability position in financial derivatives to own funds	2.8	13	5
2.4 Distribution of loans, by sector	3.6	76	60
2.4a *of which*: for investment in commercial real estate	3.2	41	30
2.4b *of which*: for investment in residential real estate	3.2	51	40
2.5 Distribution of credit extended, by sector	3.5	46	35
2.6 Distribution of credit extended, by country or region	3.1	42	28
2.7 Ratio of credit to related entities to total credit	3.4	26	7
2.8 Ratio of total large loans to own funds	3.5	29	8
2.9 Ratio of gross nonperforming loans to total assets	3.9	42	28
2.10 Ratio of nonperforming loans net of provisions to total assets	3.8	39	22
(b) Borrowing Institutions			
2.11 Ratio of corporate debt to own funds ("debt-equity ratio")	3.4	17	9
2.12 Ratio of corporate profits to equity	3.3	15	9
2.13 Ratio of corporate debt service costs to total corporate income	3.2	13	9
2.14 Corporate net foreign currency exposure	3.2	6	2
2.15 Ratio of household total debt to GDP	3.0	13	7
2.15a *of which:* mortgage debt to GDP	2.8	25	16
2.15b *of which:* debt owed to depository corporations to GDP	2.9	29	23
2.16 Number of applications for protection from creditors	2.7	13	10

MPI #	MPI	Average usefulness Score	Number Compiling MPIs	Number disseminating MPIs
3. Profitability and Competitive Indicators				
3.1	Rate of change in number of depository corporations	2.7	35	28
3.2	Ratios of profits to period-average assets (ROA)	3.6	42	29
3.3	Ratios of profits to period-average equity (ROE)	3.6	44	31
3.4	Ratio of net interest income to total income	3.5	39	23
3.5	Ratio of trading and foreign exchange gains/losses to total income	3.3	30	16
3.6	Ratio of operating costs to net interest income	3.4	38	21
3.7	Ratio of staff costs to operating costs	3.2	37	21
3.8	Spread between reference lending and deposit rates	3.5	25	16
3.9	Share of assets of the three largest depository corporations in total assets of depository corporations	2.9	35	16
4. Liquidity Indicators				
4.1	Distribution of 3-month local-currency interbank rates for different depository corporations	2.9	23	12
4.2	Average interbank bid-ask spread for 3-month local-currency deposits	2.9	18	11
4.3	Ratio of liquid assets to total assets	3.5	37	20
4.4	Ratio of liquid assets to liquid liabilities	3.6	37	22
4.5	Average maturity of assets	3.4	18	5
4.6	Average maturity of liabilities	3.4	18	5
4.7	Average daily turnover in the T-bill (or central bank bill) market	2.8	33	24
4.8	Average bid-ask spread in the T-bill (or central bank bill) market	2.8	25	14
4.9	Ratio of central bank credit to depository corporations to depository corporations' total liabilities	2.9	20	11
4.10	Ratio of customer deposits to total (noninterbank) loans	3.2	33	14
4.11	Ratio of customer foreign currency deposits to total (noninterbank) foreign currency loans	2.9	24	11
5. Sensitivity to Market Risk Indicators				
5.1	Ratio of gross foreign currency assets to own funds	3.1	24	9
5.2	Ratio of net foreign currency position to own funds	3.4	25	11
5.3	Average interest rate repricing period for assets	3.0	17	4
5.4	Average interest rate repricing period for liabilities	3.0	16	3
5.5	Duration of assets	3.2	22	9
5.6	Duration of liabilities	3.2	21	7
5.7	Ratio of gross equity position to own funds	2.9	21	8
5.8	Ratio of net equity position to own funds	3.0	15	8
5.9	Ratio of gross position in commodities to own funds	2.4	7	2
5.10	Ratio of net position in commodities to own funds	2.4	8	3

Very Useful MPIs (Group I)

19. Table 3 lists the 13 MPIs classified within Group I. By type of economy, highest usefulness ratings are often found in emerging and developing countries.

Table 3—Group I MPIs, by Type of Economy

(Very useful MPIs, with average usefulness ratings of 3.5 and higher)

MPI #	MPI	All counties	Industrial countries	Emerging countries	Developing countries
1.1	Basle capital adequacy ratio	3.8	3.7	3.9	3.6
1.1a	Ratio of Basle Tier I Capital to risk-weighted assets	3.6	3.6	3.6	3.5
2.4	Distribution of loans, by sector	3.6	3.5	3.6	3.5
2.5	Distribution of credit extended, by sector	3.5	3.3	3.6	3.6
2.8	Ratio of total large loans to own funds	3.5	3.2	3.6	3.6
2.9	Ratio of gross nonperforming loans to total assets	3.9	3.9	3.9	3.8
2.10	Ratio of gross nonperforming loans net of provisions to total assets	3.8	3.8	3.8	3.8
3.2	Ratio of profits to period-average assets (ROA)	3.6	3.5	3.8	3.6
3.3	Ratio of profits to period-average equity (ROE)	3.6	3.5	3.8	3.6
3.4	Ratio of net interest income to total income	3.5	3.3	3.6	3.6
3.8	Spread between reference lending and deposit rates	3.5	3.4	3.6	3.5
4.3	Ratio of liquid assets to total assets	3.5	3.2	3.6	3.5
4.4	Ratio of liquid assets to liquid liabilities	3.6	3.2	3.7	3.7

20. The Group I MPIs concern central elements of bank soundness: two of the MPIs relate to the capital base, which serves as a buffer to withstand shocks; four MPIs are measures of profitability, which serve to sustain the capital base. Both the capital base and profitability are affected by the quality of banks' assets, as covered by data on nonperforming loans, the distribution of assets, and asset liquidity that comprise the remainder of the MPIs in Group I.

Useful MPIs (Group II)

21. Group II MPIs (Table 4) were rated on average as useful, with at least some respondents rating them as highly useful. These MPIs cover some of the elements of capital adequacy, the distribution of bank credit by risk weighting category and by country, the financial conditions of the corporate and household sectors, some of the elements of operating income and expenses of banks, the maturity and duration of assets and liabilities, and other market risks. This is the largest group, comprising 27 MPIs, or 48 percent of all MPIs surveyed.

Table 4—Group II MPIs, by Type of Economy

(Useful MPIs, with average usefulness ratings of 3.0 to 3.4)

MPI # MPI	All countries	Industrial countries	Emerging countries	Developing countries
1.1b Ratio of Basle Tier I + II Capital to risk-weighted assets	3.4	3.2	3.6	3.4
1.1c Ratio of Basle Tier I + II + III Capital to risk-weighted assets	3.0	2.9	3.1	3.1
1.2 Distribution of Capital Adequacy Ratios (Number of institutions within specified capital adequacy ratio ranges)	3.3	3.3	3.4	3.1
1.3 Leverage Ratio (Ratio of total on-balance sheet assets to own funds)	3.2	2.9	3.3	3.3
2.1 Distribution of on-balance sheet assets, by Basle risk-weight category	3.4	3.2	3.5	3.4
2.4a Loans for investment in commercial real estate	3.2	3.3	3.3	3.1
2.4b Loans for investment in residential real estate	3.2	3.3	3.2	3.2
2.6 Distribution of credit extended, by country or region	3.1	3.2	3.2	2.8
2.7 Ratio of credit to related entities to total credit	3.4	3.0	3.6	3.5
2.11 Ratio of corporate debt to own funds ("debt-equity ratio")	3.4	3.4	3.5	3.3
2.12 Ratio of corporate profits to equity	3.3	3.1	3.4	3.2
2.13 Ratio of corporate debt service costs to total corporate income	3.2	3.2	3.4	3.0
2.14 Corporate net foreign currency exposure	3.2	3.2	3.4	2.9
2.15 Ratio of household total debt to GDP	3.0	3.2	3.0	2.8
3.5 Ratio of trading and foreign exchange gains/losses to total income	3.3	3.2	3.4	3.3
3.6 Ratio of operating costs to net interest income	3.4	3.0	3.6	3.6
3.7 Ratio of staff costs to operating costs	3.2	2.8	3.4	3.4
4.5 Average maturity of assets	3.4	3.0	3.4	3.6
4.6 Average maturity of liabilities	3.4	3.0	3.4	3.6
4.10 Ratio of customer deposits to total (noninterbank) loans	3.2	2.9	3.3	3.3
5.1 Ratio of gross foreign currency assets to own funds	3.1	2.7	3.2	3.2
5.2 Ratio of net foreign currency position to own funds	3.4	3.1	3.6	3.5
5.3 Average interest rate repricing period for assets	3.0	2.8	3.3	3.0
5.4 Average interest rate repricing period for liabilities	3.0	2.8	3.2	3.0
5.5 Duration of assets	3.2	3.0	3.4	3.0
5.6 Duration of liabilities	3.2	3.0	3.3	3.0
5.8 Ratio of net equity position to own funds	3.0	2.8	3.0	3.1

22. Taken together, Groups I and II comprise 40 MPIs, or 71 percent of all surveyed MPIs. They cover all the major categories of MPIs. Thus, users identified a large group of 40 MPIs they judged highly useful or useful to analyze financial stability, among which a consensus exists that 13 MPIs are especially useful. An interesting pattern within this overall result is that emerging and developing countries generally have usefulness ratings that were equal to or higher than those in industrial countries.[10]

23. As shown in Appendix II, Table 1, for Groups I and II as a whole, broadly similar patterns were found for supervisors, policy officials, and private sector respondents in their identification of MPIs, although supervisors tended to attach somewhat higher rating to more MPIs than did the other groups. Policy officials rated MPIs on the financial condition of the household sector as more useful than did other users.

Modestly Useful MPIs (Group III) and Less Useful MPIs (Group IV)

24. The Group III and Group IV MPIs are listed in Table 5. Group III comprises fourteen MPIs with average ratings of 2.5 to 2.9. To have average scores in this range, most users classified them as useful, but some users rated their usefulness as 2 “sometimes useful” or 1 “not useful.” There is no clear break between the Group II and Group III MPIs—eight of the fourteen Group III MPIs had borderline average scores of 2.9, and most had average scores of 3 or higher within at least one of the types of economy groupings.

25. Group IV MPIs had usefulness ratings of 2.4 and under, which implies that on average most respondents rated them below 3 “useful.” Only two MPIs (#5.9—Ratio of gross positions in commodities to own funds and #5.10—Ratio of net position in commodities to own funds) were so classified. Many respondents indicated that banks in their countries were forbidden to hold commodity positions.

B. Additional MPIs Identified by Respondents

26. The *User Questionnaire* also asked respondents to identify MPIs they considered useful that were not covered in the survey or that differ in some significant way from those in the survey. A relatively small number of additional MPIs were suggested. Appendix I provides a summary of respondents’ suggestions.

[10] For example, among the Group II MPIs, six had average usefulness scores in emerging and developing countries that were markedly higher than in industrial countries.

Table 5—Groups III and IV MPIs, by Type of Economy

(Modestly useful and less useful MPIs, with average usefulness ratings of 2.5 to 2.9, and under 2.5, respectively)

MPI # MPI	All countries	Industrial countries	Emerging countries	Developing countries
Group III MPIs (Average usefulness ratings of 2.5 to 2.9)				
2.2 Ratio of total gross asset position in financial derivatives to own funds	2.8	2.7	3.0	2.6
2.3 Ratio of total gross liability position in financial derivatives to own funds	2.8	2.7	2.9	2.6
2.15a Ratio of household mortgage debt to GDP	2.8	3.1	2.8	2.7
2.15b Ratio of household debt owed to depository corporations to GDP	2.9	3.0	2.8	2.8
2.16 Number of applications for protection from creditors	2.7	2.8	2.7	2.5
3.1 Rate of change in number of depository corporations	2.7	2.4	2.7	2.9
3.9 Share of assets of the three largest depository corporations in total assets of depository corporations	2.9	2.7	3.1	2.9
4.1 Distribution of 3-month local-currency interbank rates for different depository corporations	2.9	2.7	3.1	2.8
4.2 Average interbank bid-ask spread for 3-month local-currency deposits	2.9	2.9	3.0	2.7
4.7 Average daily turnover in the T-bill (or central bank bill) market	2.8	2.3	3.0	3.1
4.8 Average bid-ask spread in the T-bill (or central bank bill) market	2.8	2.3	3.0	3.0
4.9 Ratio of central bank credit to depository corporations to depository corporations' total liabilities	2.9	2.6	3.1	2.8
4.11 Ratio of customer foreign currency deposits to total (noninterbank) foreign currency loans	2.9	2.6	3.1	2.9
5.7 Ratio of gross equity position to own funds	2.9	2.8	3.0	3.0
Group IV MPIs (Average usefulness ratings of 2.4 and lower)				
5.9 Ratio of gross position in commodities to own funds	2.4	2.3	2.5	2.4
5.10 Ratio of net position in commodities to own funds	2.4	2.3	2.5	2.5

27. The most frequently identified additional MPIs related to asset prices. These included the prices of real estate, both commercial and residential, and equity prices, including the stock prices of the depository corporations subsector relative to the overall stock price index. Equity prices by industry sectors were also suggested as useful. Respondents also argued for more information on the distribution or dispersion of observations to prevent the masking of

relevant information through the aggregation process and to help in identification of outliers, clustering of problems, or tiering in markets.

C. Compilation and Dissemination of MPIs and Components of MPIs

28. The second part of the survey, the *Compilation and Dissemination Questionnaire*, requested information on the types of MPIs compiled, the availability of components that could be used to compile MPIs, and national practices in disseminating MPIs to the public.

29. The situation regarding compilation and dissemination of MPIs is quite mixed.[11] With only a few exceptions, compilation of MPIs themselves is quite limited, and dissemination of MPIs—especially outside the industrial countries—is scanty.

30. Regarding compilation of MPIs:

- Only five MPIs were compiled by more than half of the respondents.
- Twenty-four MPIs were compiled by one-quarter to one-half of the respondents.
- Twenty-seven MPIs were compiled by less than one-quarter of all respondents.

31. Regarding dissemination of MPIs:

- Worldwide, only two MPIs (Basle Capital Adequacy Ratio and Distribution of Loans, by sector) were disseminated by half or more of the 93 respondents. Amongst industrial countries, seven MPIs were disseminated by half or more of the 21 countries responding to the questionnaire.
- Twelve MPIs were disseminated by one-quarter to one-half of all respondents.
- Forty-two MPIs (75 percent of the total) were disseminated by less than one-quarter of all respondents.

[11] Appendix II, Table 2 and accompanying charts detail information on the compilation and dissemination of MPIs, by type of economy.

32. In contrast, compilation and dissemination of the ***components used to compile MPIs*** was much more extensive than of the MPIs themselves. For example, 81 percent of all respondents compile the components of the ratio of liquid assets to liquid liabilities, in contrast to compilation of the ratio itself by only 40 percent of respondents. The 30 MPIs for which components are compiled by half or more of the respondents are listed in Table 6.[12] Such relatively widespread compilation of components implies that many countries would be capable of compiling a significant number of MPIs without disproportionate effort. Moreover, although compilation was somewhat greater in industrial countries, compilation of components of MPIs was broadly based within each type of economy.

33. The broad availability of many components of MPIs derives from the accounting, statistical, tax, and registration systems that can be tapped for generating data on the components of MPIs, among which monetary statistics[13] and supervisory reports on banks' balance sheets and income are among the most important. On the other hand, less than half the respondents compile the components of 26 MPIs (46 percent of the total). This large number of MPIs for which compilation of components is limited suggests that many countries need to further develop the underlying systems to support compilation of the components of MPIs.[14]

D. Periodicity

34. The survey also inquired about the periodicity with which users would like MPIs compiled and disseminated, and country practices in these areas. Users of MPIs were asked to indicate whether the periodicity should be monthly, quarterly, semiannual, annual, or other specified periodicity (such as daily or weekly). Periodicity practices in compilation and dissemination were also surveyed.

[12] The table reports figures for the least available component of each MPI because all components must be available to be able to compile the MPI.

[13] Monetary statistics published in the IMF's *International Financial Statistics* are the most comprehensive source for internationally comparable aggregate data on countries' financial systems. Monetary statistics are compiled on a high frequency monthly basis within an existing institutional framework. Internationally agreed compilation standards exist, as embodied in the IMF's *Monetary and Financial Statistics Manual*. Similarly, euro area monetary statistics are used as a key element of the European Central Bank's MPI program.

[14] For example, results suggested that systems to compile statistics on financial derivatives and the financial condition of nonfinancial sectors are not widely available, as indicated by the limited degree to which components are compiled for MPIs #2.2—Ratio of total asset position in derivatives to total own funds, #2.3—Ratio of total liability position in derivatives to total own funds, #2.13—Ratio of corporate debt service to income, #2.14—Corporate net foreign currency exposure, and #2.15—Ratio of household debt to GDP.

Table 6—MPIs for Which Components are Extensively Compiled

Very useful MPIs (Group I) are in bold

16 MPIs for which all components are compiled by three-quarters or more of the 93 respondents	**1.1 Basle capital adequacy ratio** **1.1a Ratio of Basle Tier I Capital to risk-weighted assets** 1.1b Ratio of Basle Tier I + Tier II Capital to risk-weighted assets 1.3 Leverage ratio 2.1 Distribution of on-balance-sheet assets by Basle risk category **2.9 Ratio of gross nonperforming assets to total assets** **2.10 Ratio of nonperforming loans net of provisions to total assets** **3.2 Ratio of profits to period-average assets (ROA)** **3.3 Ratio of profits to period-average equity (ROE)** **3.4 Ratio of net interest income to profits** 3.6 Ratio of operating costs to net interest income 3.7 Ratio of staff costs to operating costs **4.3 Ratio of liquid assets to total assets** **4.4 Ratio of liquid assets to liquid liabilities** 4.10 Ratio of total customer deposits to total (noninterbank) loans 5.1 Ratio of gross foreign currency assets to own funds
14 MPIs for which all components are compiled by half to three-quarters of the 93 respondents	**2.4 Distribution of loans by sector** 2.4b Loans for investment in residential real estate **2.5 Distribution of credit extended by sector** 2.6 Distribution of credit, by country or region 2.7 Ratio of credit to related entities to total credit **2.8 Ratio of total large loans to own funds** 3.1 Change in the number of depository corporations 3.5 Ratio of trading and foreign-currency gains/losses to profits **3.8 Spread between reference lending and deposit rates** 3.9 Share of assets of the three largest depository corporations in total assets of depository corporations 4.9 Ratio of central bank credit to depository corporations to their total liabilities 4.11 Ratio of foreign currency customer deposits to total (noninterbank) foreign currency loans 5.2 Ratio of net foreign currency positions to own funds 5.7 Ratio of gross positions in equities to own funds

35. Table 7 lists, within each of the major categories of MPIs, the most common periodicity sought by users, as well as existing compilation and dissemination practices. Each cell lists the most commonly sought or practiced periodicity and any other periodicity sought or practiced at least 80 percent as often as the first.

Table 7 – Periodicity of MPIs, by MPI Major Categories

	Users' Preference	**Compilation Practice**	**Dissemination Practice**
Capital adequacy	Quarterly/Monthly	Quarterly/Monthly	Quarterly/Monthly
Asset quality (lending institution)	Quarterly/Monthly	Monthly/Quarterly	Monthly/Quarterly
Asset quality (borrowing institution)	Quarterly/Other/Annual	Annual/Quarterly	Annual
Profitability and competitiveness	Quarterly	Quarterly	Annual/Quarterly
Liquidity	Monthly	Monthly	Monthly
Sensitivities to market risks	Quarterly/Monthly/Other	Monthly	Indeterminate[15]

36. As shown in column 1 of Table 7, users clearly seek quarterly or monthly data for all the major categories of MPIs. Although quarterly data are sought most often in five of the six categories, monthly data are sought almost as often. For *liquidity* MPIs, a number of respondents sought higher frequency data, such as daily or weekly. A number of users indicated that annual data on *asset quality (borrowing institutions)* were adequate.

37. In terms of compilation, MPIs were compiled monthly in about 42 percent of all cases, and quarterly in about 34 percent of all cases.[16] The high number of MPIs that were compiled on a monthly basis partly reflected numerous cases of *asset quality (lending institution)* MPIs, derived from monthly monetary statistics or monetary statistics' source data, and some *liquidity* and *sensitivity to market risks* indicators, derived from high-frequency source data. Quarterly series predominated in the *profitability* category and were nearly as common as monthly series in the categories for *capital adequacy* and *asset quality (lending institutions)*. Data were compiled annually most often within the categories for *asset quality (borrowing institutions)* and *profitability*. "Other" periodicities most often referred to daily or weekly compilations of MPIs related to interest rates or securities turnover.

38. The periodicity of dissemination of MPIs varied considerably between the different categories of MPIs. No general pattern could be ascertained.

[15] Too few responses were received to produce valid results.

[16] These data were based on tabulations of compilation practices for all reporting countries for all MPIs.

E. Responses of SDDS Subscribers

39. All but two of the 48 SDDS subscribers[17] completed the survey questionnaires. Table 8 provides information regarding the compilation and dissemination of MPIs and the components of MPIs. For almost all MPIs, users in countries subscribing to the SDDS rated MPIs' usefulness nearly identically with users in industrial countries and in emerging countries, which indicated that their priorities are similar to those already discussed in this paper.[18]

40. The number of SDDS subscribers compiling MPIs varies considerably by MPI. The most commonly compiled MPIs are the capital adequacy ratio, distribution of loans, nonperforming loans, and several MPIs relating to operating income and profitability. Other MPIs commonly compiled by SDDS subscribers are scattered throughout the other major groupings of MPIs. Compilation of MPIs within the groups *asset quality (borrowing institutions), liquidity,* and *sensitivity to market risks* was rather limited.

41. The compilation of components of MPIs by SDDS subscribers greatly exceeded the compilation of the MPIs themselves. Components are extensively compiled (defined as compilation by half or more of the respondents) for slightly more than half of the MPIs, with the greatest compilation of components for the MPIs within the *capital adequacy*, *assets quality (lending institutions),* and *profitability* groups.

42. Regarding dissemination of MPIs by SDDS subscribers, Table 8 shows that dissemination is quite limited, as is generally the case for respondents as a whole. Dissemination of components is somewhat broader, particularly for MPIs within the *profitability* category.

F. Accounting, Regulatory, and Statistical Issues

43. This section covers issues relating to accounting, regulatory, and statistical standards for compiling MPIs, drawing on results from the *Compilation and Dissemination Questionnaire*, Part IIb. This information can give insights as to whether international best practices exist and the overall cross-country comparability of MPIs.

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[17] As of June 12, 2001.

[18] This result is unsurprising given that SDDS subscribers comprise only industrial and emerging economies, slightly weighted toward emerging economies.

Table 8—SDDS Subscribers: Compilation and Dissemination MPIs and Components[19]

MPI	Usefulness score	Percent compiling MPIs	Percent disseminating MPIs	Percent compiling components	Percent disseminating components
1. Capital Adequacy					
1.1 Basle Capital Adequacy Ratio	3.8	79%	65%	79%	65%
1.1a Ratio of Basle Tier I Capital to risk-weighted assets	3.6	73%	50%	73%	50%
1.1b Ratio of Basle Tier I + Tier II Capital to risk-weighted assets	3.4	75%	50%	75%	50%
1.1c Ratio of Basle Tier I + II + III Capital to risk-weighted assets	3.0	48%	29%	48%	29%
1.2 Distribution of Capital Adequacy Ratios (Number of institutions within specified capital adequacy ratio ranges)	3.4	23%	8%	23%	8%
1.3 Leverage Ratio (Ratio of total on-balance sheet assets to own funds)	3.1	42%	19%	81%	63%
2. Assets quality:					
(a) Lending Institutions					
2.1 Distribution of on-balance sheet assets, by Basle risk-weight category	3.4	75%	33%	75%	33%
2.2 Ratio of total gross asset position in financial derivatives to own funds	2.9	29%	10%	52%	17%
2.3 Ratio of total gross liability position in financial derivatives to own funds	2.9	25%	10%	48%	17%
2.4 Distribution of loans, by sector	3.6	77%	65%	73%	65%
2.4a of which: for investment in commercial real estate	3.3	42%	33%	42%	33%
2.4b of which: for investment in residential real estate	3.3	58%	50%	58%	50%
2.5 Distribution of credit extended, by sector	3.5	48%	35%	54%	42%
2.6 Distribution of credit extended, by country or region	3.3	60%	46%	67%	52%
2.7 Ratio of credit to related entities to total credit	3.3	23%	6%	60%	17%
2.8 Ratio of total large loans to own funds	3.4	27%	8%	52%	17%
2.9 Ratio of gross nonperforming loans to total assets	3.9	46%	33%	79%	58%
2.10 Ratio of nonperforming loans net of provisions to total assets	3.8	42%	25%	69%	46%
(b) Borrowing Institutions					
2.11 Ratio of corporate debt to own funds ("debt-equity ratio")	3.5	23%	17%	46%	35%
2.12 Ratio of corporate profits to equity	3.3	21%	15%	46%	35%
2.13 Ratio of corporate debt service costs to total corporate income	3.3	21%	15%	42%	29%
2.14 Corporate net foreign currency exposure	3.3	4%	0%	13%	6%
2.15 Ratio of household total debt to GDP	3.1	23%	13%	50%	35%
2.15a *of which:* mortgage debt to GDP	3.0	40%	29%	40%	29%
2.15b *of which:* debt owed to depository corporations to GDP	2.9	46%	38%	46%	38%
2.16 Number of applications for protection from creditors	2.7	23%	19%	23%	19%
3. Profitability and Competitive Indicators					
3.1 Rate of change in number of depository corporations	2.6	40%	29%	58%	50%

[19] The denominator used in columns 3 and 5 is 48, the total number of SDDS countries as of June 12, 2001.

MPI	Usefulness Score	Percent compiling MPIs	Percent disseminating MPIs	Percent compiling components	Percent disseminating components
3.2 Ratios of profits to period-average assets (ROA)	3.6	46%	40%	75%	52%
3.3 Ratios of profits to period-average equity (ROE)	3.6	50%	44%	75%	52%
3.4 Ratio of net interest income to total income .	3.5	44%	31%	81%	67%
3.5 Ratio of trading and foreign exchange gains/losses to total income	3.3	38%	25%	77%	56%
3.6 Ratio of operating costs to net interest income	3.3	42%	27%	83%	60%
3.7 Ratio of staff costs to operating costs	3.1	42%	29%	81%	58%
3.8 Spread between reference lending and deposit rates	3.5	21%	17%	52%	48%
3.9 Share of assets of the three largest depository corporations in total assets of depository corporations	2.8	38%	19%	71%	31%
4. Liquidity Indicators					
4.1 Distribution of 3-month local-currency interbank rates for different depository corporations	2.9	19%	8%	19%	8%
4.2 Average interbank bid-ask spread for 3-month local-currency deposits	3.0	23%	13%	23%	13%
4.3 Ratio of liquid assets to total assets	3.4	40%	21%	71%	35%
4.4 Ratio of liquid assets to liquid liabilities	3.4	40%	21%	69%	35%
4.5 Average maturity of assets	3.3	17%	6%	31%	15%
4.6 Average maturity of liabilities	3.2	15%	6%	31%	15%
4.7 Average daily turnover in the T-bill (or central bank bill) market	2.6	29%	21%	29%	21%
4.8 Average bid-ask spread in the T-bill (or central bank bill) market	2.7	15%	6%	15%	6%
4.9 Ratio of central bank credit to depository corporations to depository corporations' total liabilities	2.8	19%	15%	71%	58%
4.10 Ratio of customer deposits to total (noninterbank) loans	3.0	35%	15%	79%	65%
4.11 Ratio of customer foreign currency deposits to total (noninterbank) foreign currency loans	2.8	25%	15%	69%	50%
5. Sensitivity to Market Risk Indicators					
5.1 Ratio of gross foreign currency assets to own funds	3.0	27%	10%	71%	46%
5.2 Ratio of net foreign currency position to own funds	3.3	29%	10%	50%	19%
5.3 Average interest rate repricing period for assets	3.0	25%	2%	25%	2%
5.4 Average interest rate repricing period for liabilities	3.0	25%	2%	25%	2%
5.5 Duration of assets	3.2	19%	2%	19%	2%
5.6 Duration of liabilities	3.2	19%	2%	19%	2%
5.7 Ratio of gross equity position to own funds	2.9	21%	8%	63%	42%

Valuation

44. The survey requested information on national practices in valuing financial instruments, with separate information requested for foreign-currency denominated instruments. Respondents were asked to indicate, for each major type of instrument, the type of valuation method used—historical cost, market value, the lower of cost or market, or other. The survey requested separate information for each major source of data—supervisory, statistical, and other. Table 9 summarizes the results.

45. Broadly similar patterns exist for all three types of source data. For deposits and loans, historical valuations are most commonly used—in at least three quarters of all responses in supervisory data, and in about nine out of ten cases in statistical data.[20] In contrast, for securities (other than shares) and shares and other equity, no valuation method clearly predominates, although market values are used more often than the other options. For example, market values for shares and other equity are used in 37 percent of all cases, historical valuations in 28 percent of cases, and the lower of cost or market and other valuations in 15 and 12 percent of cases, respectively. For financial derivatives, market valuations are used most often, with supervisors also reporting fairly common use of "other" valuations, which they sometimes indicated were hedge valuations. Historical valuations predominate in miscellaneous receivables and payables and in nonfinancial assets, but use of the other three types of valuations was not uncommon.

46. Regarding the translation of the value of foreign-currency denominated instruments into domestic currency equivalents, market exchange rates at the end-of-period rate were used most often for all types of financial instruments. A large minority of emerging and developing countries reported that they used official exchange rates. Foreign-currency positions were revalued most often at the rate applying on the balance sheet closing date. However, revaluations of foreign-currency positions at other frequencies were not uncommon for securities (other than shares), shares and other equities, and financial derivatives.

Consolidation

47. The survey reviewed practices for consolidating information on foreign branches and subsidiaries of financial institutions into single accounting statements or statistical reports. A key issue was whether data are compiled using a national or global consolidation. A national consolidation focuses on bank operations within the national boundaries, which is the main policy focus of national authorities, whereas global consolidations capture information on the global risks and financial strengths and exposures of the enterprise. Different areas of analysis might require different types of consolidation, but data drawn from different consolidations may not be compatible.

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[20] Use of historical valuations is in accordance with international statistical standards.

Table 9—Valuation Practices Affecting MPIs, by Type of Source Data
(All Countries; Number of Responses)

	General Valuation Method Used						**Valuation Method for Foreign Currency Denominated Instruments**					
	Method				**Frequency of revaluations**		**Conversion exchange rate**				**Frequency of revaluations**	
	H = historic cost M = market price/fair value L = lower of cost or market O = Other				B= on balance sheet date O = other		E = market rate (end period) A = market rate (period average) G = Official rate O = other				B= on balance sheet date O = other	
	H	**M**	**L**	**O**	**B**	**O**	**E**	**A**	**G**	**O**	**B**	**O**
1. Supervisory Data Sources												
a. Deposits	62	6	1	5	47	9	39	5	24	2	61	5
b. Loans	56	5	4	8	45	9	40	5	22	2	59	6
c. Securities (other than shares)	20	23	11	17	51	14	39	5	20	3	50	12
d. Shares and other equity	19	24	12	15	54	12	37	4	22	4	51	12
e. Financial derivatives	9	30	1	13	37	14	33	4	14	3	36	13
f. Miscellaneous receivables/ payables	52	7	4	6	43	11	37	5	21	3	56	7
g. Nonfinancial assets (real estate; other assets)	41	9	8	13	42	15	32	4	21	6	49	8
2. Statistical Data Sources												
a. Deposits	42	4	0	1	29	6	27	2	17	2	36	9
b. Loans	40	3	0	4	27	7	27	2	15	2	33	10
c. Securities (other than shares)	14	19	7	7	31	10	29	2	13	2	34	10
d. Shares and other equity	14	20	6	5	30	9	27	2	13	2	32	10
e. Financial derivatives	8	18	2	5	20	11	22	2	9	3	23	11
f. Miscellaneous receivables/ payables	35	3	3	1	24	7	25	2	13	2	32	8
g. Nonfinancial assets (real estate; other assets)	22	8	3	10	28	8	24	2	12	2	32	7
3. Other Data Sources												
a. Deposits	9	2	0	1	8	0	7	0	4	1	10	1
b. Loans	10	1	0	2	8	1	7	0	3	1	9	1
c. Securities (other than shares)	3	6	1	1	8	2	7	0	4	1	9	2
d. Shares and other equity	4	6	0	1	8	2	7	0	4	1	9	2
e. Financial derivatives	1	5	0	1	5	2	6	0	2	1	6	2
f. Miscellaneous receivables/ payables	9	1	0	1	8	0	6	0	3	1	8	1
g. Nonfinancial assets (real estate; other assets)	5	3	1	2	7	1	6	0	3	0	7	1

48. Strong differences in practices by type of economy were found. Respondents in developing countries adhered overwhelmingly to a national residency consolidation basis for most MPIs. This possibly reflects that banks headquartered in many developing countries have few or no nonresident branches or subsidiaries. It might also reflect limited supervisory infrastructures that could not effectively monitor and supervise nonresident operations. To some extent, this adherence to use of a national consolidation was also reported by respondents in emerging countries. In industrial countries, supervisors used global consolidations most often, but also reported that both global and national consolidation data were available for numerous MPIs.[21]

49. A second key point is that consolidation practices differ by category of MPI, which often reflects whether the primary source data are supervisory or statistical in nature. A summary of practices by category of MPI follows.

- *Capital adequacy*. In industrial and emerging countries, data are primarily from supervisory sources and are generally on a global consolidation basis, although both global and national consolidations are often available. In a number of emerging economies and many developing economies, only national consolidations are used. In terms of worldwide totals, both consolidations are available about equally, and depending on the MPI up to one-quarter of respondents use both consolidations. A small number of countries report nonstandard consolidations in their data, such as including nonresident branches but not nonresident subsidiaries.

- *Asset quality (lending institutions)*. MPIs derived from monetary statistics are overwhelmingly on a national consolidation basis; MPIs derived from supervisory sources are most often on a global consolidation basis, but in a significant number of cases are on a national basis or are available on both bases.

- *Asset quality (borrowing institutions)*. MPIs are almost exclusively on a national consolidation basis because the underlying data are drawn from national macroeconomic statistical series.

- *Profitability and competitiveness.* Data are most often on a national consolidation basis or are available on both bases. However, a number of countries have data only on a global basis. Within the profitability category, nonstandard consolidations are used by a number of countries.

- *Liquidity.* National consolidations are most common, but the MPIs on liquid assets and average maturities of assets and liabilities are often on a global basis. Global

[21] The availability of MPI data on both consolidation bases could have some important advantages. For example, one respondent noted, “The survey does not address the main statistical aspect, which is reconciliation between the home and host country approach, which will be viable if both supervisory and macroeconomic statistical data sources are used.”

consolidation is not relevant for some of the liquidity MPIs that refer solely to national conditions.

- *Sensitivity to market risks*. National consolidations are most common. Global consolidations were used to some extent in supervisory data in industrial and emerging countries.

International Comparability of MPIs

50. The Executive Board discussion of January 2000 on MPIs considered the question of the international comparability of MPIs. At that time it was decided that a two-pronged strategy would be pursued in which initial work would use existing, unharmonized data, but over time efforts would be made to foster greater harmonization of MPIs. One important implication of the short-term unharmonized approach is that MPIs should be disseminated with descriptions (metadata) of the accounting and statistical standards and practices so that users can evaluate the information generated.

51. The *Compilation and Dissemination Questionnaire* asked a series of quantitative and open-ended questions about accounting and statistical issues related to MPIs in order to assess the state of existing practice, possibly identify best practices that could be used as a basis for development of international practice, and help identify strategies for improving the quality and comparability of MPIs.

52. The responses highlighted the diversity of national practices, and revealed many reasons why MPIs might not be comparable across countries:

- Different, and often complex, standards exist for recognition of substandard claims and provisioning.

- National definitions of regulatory capital differ, for instance as regards deductions and components of each tier of capital. Also, numerous countries indicated that they have not approved the use of Tier III capital within the base.

- Valuation practices for financial instruments differ, as noted above. The limited use of market valuations for debt securities and shares, and practices for on-balance-sheet recognition of derivatives, repurchase agreements, and securities lending, are key issues.

- Different rules exist for revaluing foreign currency positions. Although there appears to be convergence in industrial countries toward use of market exchange rates in revaluing foreign-currency denominated positions, continued use of official rates in a number of emerging and developing countries might hinder the comparability of MPIs.

- Consolidation practices for foreign branches and subsidiaries differ, also as noted above. Within each country, some MPIs use global consolidations drawn from supervisory data, while other MPIs use national consolidations drawn from statistical sources. Overall, however, some international conformity in consolidation exists because of the rather widespread use of national consolidations.

53. The listing above indicates that practices are diverse and that cross-country comparison of MPIs is challenging. International harmonization of MPIs would be a significant undertaking.

G. MPI Analytical Frameworks and Research[22]

54. The User Questionnaire included supplementary questions intended to gather information on methods of macroprudential analysis, the institutional coverage of such analyses, preferences on the statistical mode of presentation of MPIs, and the use of business surveys to complement macroprudential analysis.

Macroprudential Research

55. The majority (76 percent) of survey respondents reported doing research or analysis of financial system stability.[23] Most said they analyze conditions both in the banking sector as well as at the individual bank level. Some analysts (mostly supervisors) group banks into different categories and peer groups. Overall, the analysis typically focuses on the private banking sector, although several countries reported also separately monitoring and analyzing developments in specific depository institutions subsectors (e.g., state-owned banks, cooperatives) or in the nondepository institutions sector and its subsectors as well as in financial markets.

56. Most analysis is conducted on the basis of individual bank prudential data (consistent with the higher response rate among supervisors), derived from both on-site and off-site inspections. This is often supplemented with macroeconomic and market information (especially on the evolution of asset prices). A few respondents also reported using data on the debtors' conditions. As for the assessment of risks, credit, interest, foreign exchange, liquidity, and macroeconomic risks were mentioned in equal proportions.

57. Concerning the methods of analysis, most respondents mentioned using CAMELS-type frameworks to analyze institutions and in some cases using risk ratings for institutions. Many respondents also reported using statistical models, in particular early warning models, or descriptive statistics such as correlations and trends in key indicators (e.g., credit growth, asset quality). Another statistical method sometimes mentioned was time-series analysis. Several respondents also mentioned using qualitative analysis and stress tests. A few

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[22] This section was prepared by MAE.

[23] Of those who reported doing some sort of research, 61 percent were supervisors, 25 percent were policy or research analysts, and 14 percent were market or other participants; these percentages are similar to the relative weight of each group in the response sample.

respondents mentioned using analytical frameworks, such as the accelerator model,[24] in their assessments.

58. Where analysis on the whole system or sector is performed, this is sometimes published as part of the agency's annual report or as a stand-alone document. However, the information is usually solely for internal evaluations.

Coverage of Financial Institutions

Importance of non-depository financial institutions

59. About 80 percent of respondents said that information on nondepository financial institutions, markets, and activities is important to the overall analysis of financial sector soundness. Over two-thirds of respondents indicated they find information on nondepository financial institutions useful, and almost half of them thought that information on financial markets is also important (see Figure 1).

60. Using the nondepository financial institutions subsector categories (insurance corporations and pension funds; other financial intermediaries; and financial auxiliaries) from the IMF's *Monetary and Financial Statistics Manual* to group the institutions mentioned by respondents, Figure 1 shows that the majority of respondents were most interested in information on insurance corporations and pension funds, followed by other financial intermediaries. Many of these institutions were seen by respondents as having an important role in financial intermediation as well as in possible contagion. Several respondents also mentioned the importance of specialized financial intermediaries: for advanced economies, venture capital funds, and for developing countries, microcredit institutions and development banks or funds. Some respondents noted the importance of information on financial conglomerates, especially those that include insurance companies.

61. As far as information on financial markets is concerned, about 90 percent of those interested in this area indicated that data on the securities markets (public and private debt and equity markets) is important.[25] A few thought that information on foreign exchange markets (16 percent) or derivatives markets (6 percent) is also important.

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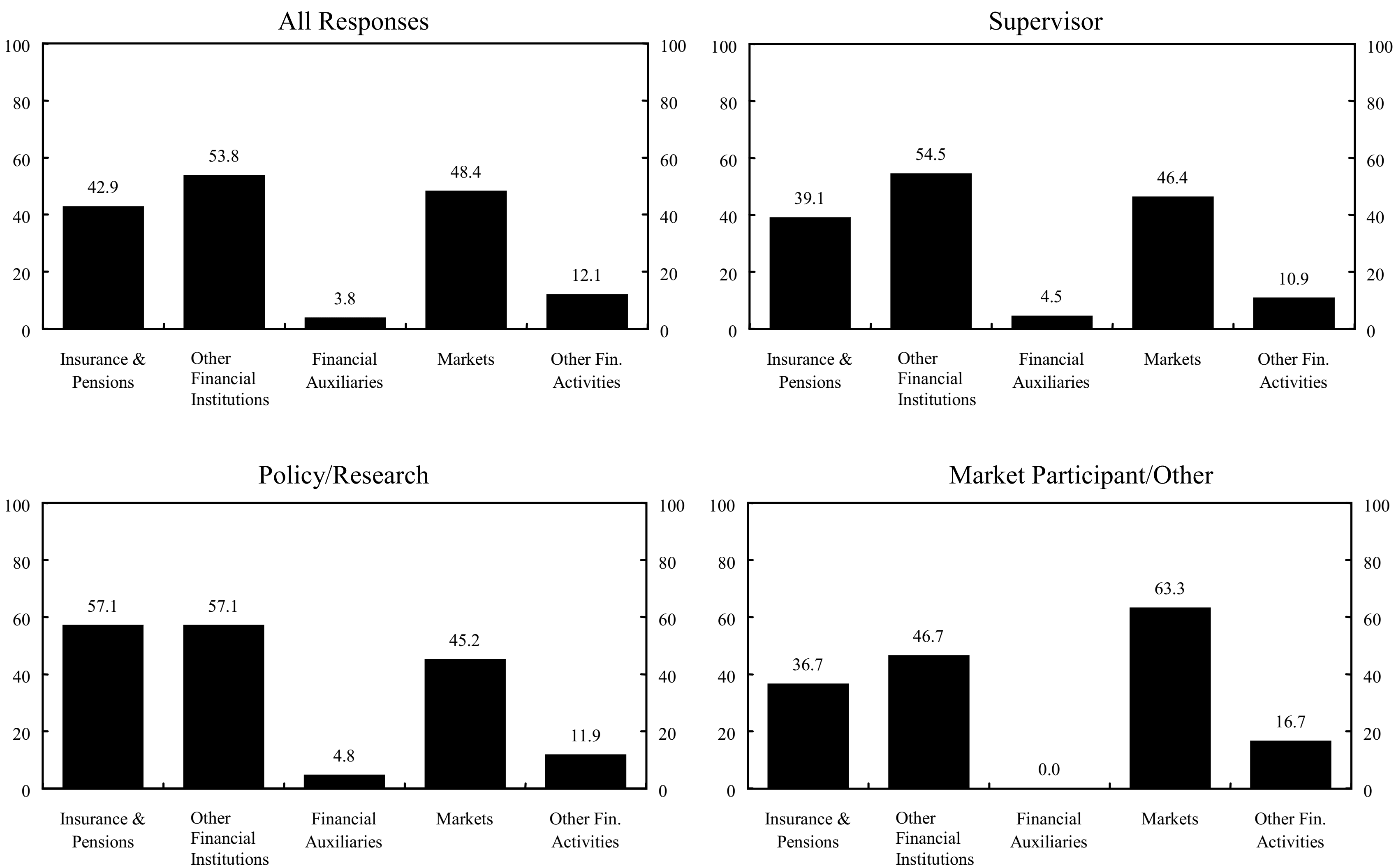
[24] Financial accelerator models are based on information asymmetries between borrowers and lenders. They postulate that when economic conditions are depressed and corporate net worth is low, access to credit is reduced even for worthwhile borrowers. When conditions improve and corporate net worth increases, renewed access to credit by borrowers adds to the economic stimulus. In both cases, the effects are procyclical.

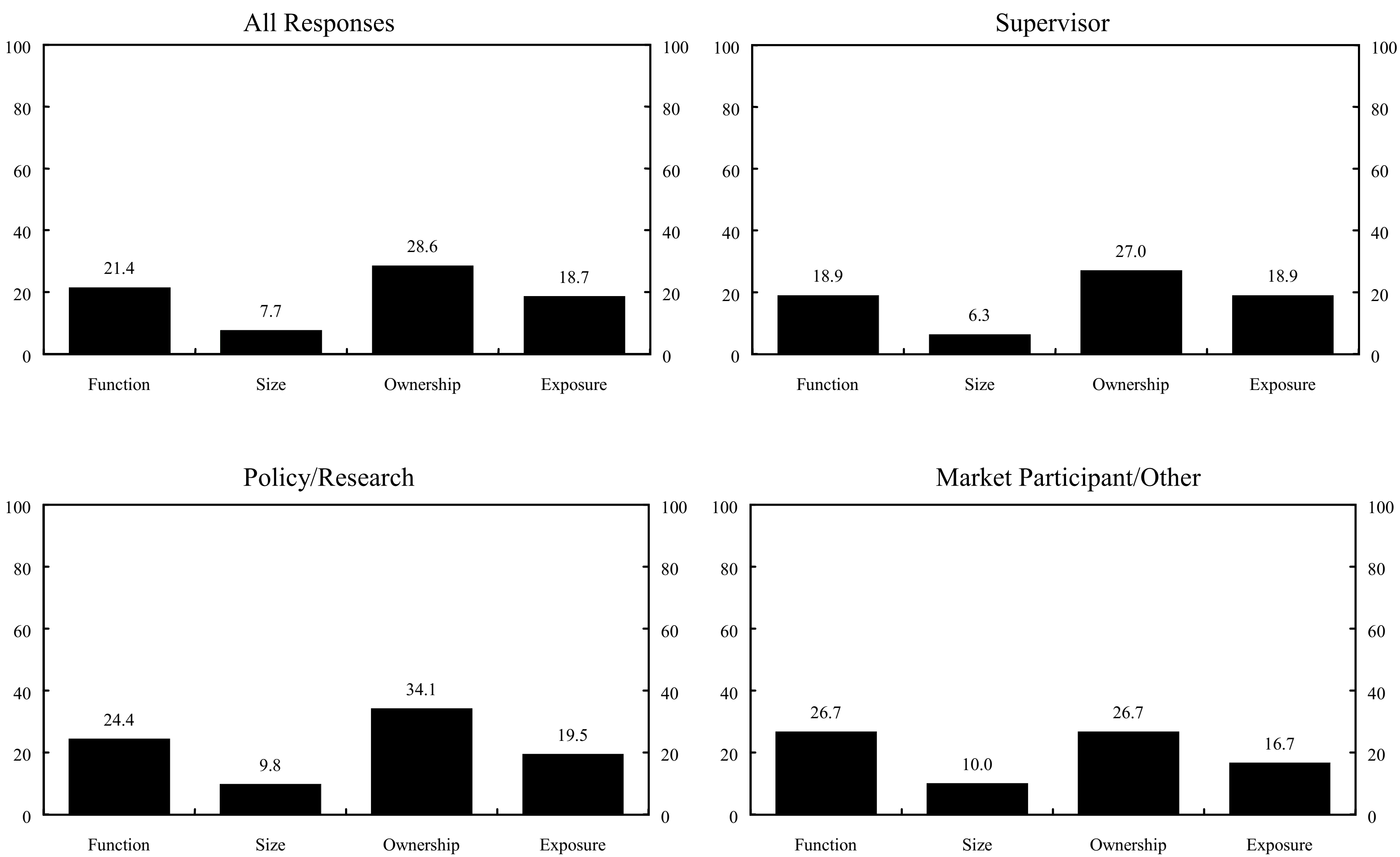
[25] The types of data mentioned included trading volumes, bid-ask spreads, and credit spreads.

Figure 1. Coverage of Non-Depository Financial Institutions, Markets, and Activities
(As a percentage of total responses per category)



Source: IMF Survey on Macroprudential Indicators.

Figure 2. Factors Used to Identify Key Analytic Subsectors of Depository Corporations
(As a percentage of total responses per category)



Source: IMF Survey on Macroprudential Indicators.

62. Several respondents noted that borrower information (indebtedness and asset-liability mismatches) is useful as it provides some indication on emerging credit quality trends and risks in the corporate, household, or foreign sectors. Some respondents said that they pay particular attention to large corporations. A few respondents also mentioned that they find it important to monitor other financial activity, such as the functioning of payment, settlement, and clearing systems. Additionally, some respondents emphasized that qualitative information—such as the thoroughness of supervision and the transparency of financial policies—is important to the overall assessment of financial sector stability.

Disaggregation of "depository corporations" into subsectors

63. Almost 60 percent of respondents thought that there is a need to provide more disaggregated information. In general, most respondents mentioned that some breakdown by function, size, ownership, and/or exposure to risk (e.g., geographical, asset type, borrower type, etc.) is useful (see Figure 2). A few respondents felt that disaggregated data that highlighted distributions among banks or allowed for peer group analysis is also useful; one respondent felt that the breakdown of banks should be as fine as possible to enable distinctive activity patterns to be isolated. Several also stressed that the type of disaggregation would depend on the issue being analyzed.

64. Almost 30 percent of all respondents (about half of those who felt that some disaggregation is useful) mentioned that they analyze or would like to analyze institutions by ownership characteristics (e.g., domestic versus foreign; private versus state-owned; publicly held stock versus privately held equity). Of these respondents, almost all said that a breakdown between domestic and foreign institutions (either banks or branches of foreign banks) would be useful, while a quarter of them felt a breakdown between private and state-owned institutions is important. Some respondents mentioned that the domestic/foreign distinction is important since foreign institutions may operate under different regulatory and supervisory regimes.

65. About 20 percent of the respondents said that disaggregation by function or exposure was also useful. The functions most often mentioned were commercial banking, universal banking, and specialized banking (especially mortgage lending and to a lesser extent development lending). About 80 percent of respondents interested in disaggregation by exposure said that they would like information on internationally active banks. Within this category, about 20 percent wanted information on offshore banks. About 20 percent of those interested in exposure would like to disaggregate banks by their geographical market.

66. Only about 7 percent of respondents mentioned that disaggregating the sector by size or separating out systemically important institutions is useful. However, respondents may have underemphasized this factor since it was the subject of a separate question.

Systemically important institutions

67. Almost 60 percent of the respondents reported doing some evaluation of systemically important institutions. Moreover, supervisors tended to be more concerned with systemically important institutions—two-thirds of them reported that they evaluate the condition of these institutions, as opposed to less than half of market participants and about half of the government policy or research analysts.

68. Most respondents reported using a measure of size (of assets and/or deposits) to ascertain the importance of an institution. Sometimes, size was coupled with other criteria, for instance exposure to certain risks (such as foreign exchange risk), complexity of transactions, complexity of ownership structure. However, some respondents only mentioned risk exposure, or used legal or prudential definitions, or evaluated all institutions in a particular category or sector, which indicates that sometimes all institutions within a particular classification (e.g., problem banks, deposit-taking institutions, institutions with insured deposits, commercial banks, international banks) are considered systemically important. Often this was the case in countries with a small, developing, or concentrated market.

69. Many respondents said that the techniques used to evaluate the condition of systemically important institutions are similar to those used to evaluate other institutions. Most mentioned using the CAMELS framework or ratio analysis, and some mentioned using early warning models, other statistical models (e.g., Value at Risk), and market assessments (e.g., ratings) to inform their evaluations. Only one respondent mentioned specifically using macroprudential indicators. Many respondents also mentioned using some form of increased supervision, including increased on-site examinations, reports from management, meetings with management, and external audits. Respondents also tended to stress the importance of carefully assessing balance sheets (in particular deposits, loan portfolios, and capital), interbank activity, liquidity, large exposures, foreign exchange exposure, consolidated positions for institutions that are part of a financial group, and risk management practices (including assessing internal models).

70. Of those respondents that did evaluate systemically important institutions, a slight majority respondents said that these institutions are not subject to enhanced statistical or disclosure requirements, although some stressed that they are nonetheless subject to more intense supervision. Of those respondents that mentioned enhanced statistical or disclosure requirements, most mentioned requiring more frequent, extensive, or detailed reporting, as well as more frequent on-site examinations. However, many respondents did not address this part of the question, making the results difficult to interpret.

MPI Norms, Benchmarks, and Thresholds

71. Many respondents reported that no specific norms, benchmarks, or thresholds have been used in the context of macroprudential analysis. Some of them reported that they are considering using norms and benchmarks in the future. Others, however, preferred using comparisons with peer group countries to establish relative rankings.

72. Among those who reported using norms and benchmarks for MPIs, some highlighted that a critical part of the process of implementing a system of macroprudential indicators is to develop norms or benchmarks to help guide interpretation of the indicators. For this purpose, benchmarks were constructed in a number of ways, including (1) historical averages, (2) bank supervisors' prudential thresholds applied at the aggregate level, (3) trigger points, (4) cross-country comparisons, and (5) criteria constructed from econometric studies.

73. As regards prudential standards, the majority of respondents have introduced regulations based on recommendations from the Basel Committee on Banking Supervision, and in an aggregate form these are commonly used as benchmarks for MPIs. International best practice was also mentioned as being used in some cases. Many respondents have adopted benchmarks or thresholds for capital adequacy ratios, liquidity, foreign exchange exposures, and reserve requirements. Warning level thresholds primarily exist for individual banking institutions rather than the system as a whole.

74. Some respondents said that they do not have norms, benchmarks, or thresholds for MPIs, but rather for indicators on individual banking institutions. These respondents have adopted thresholds or early warning systems for individual banks which are primarily focused on capital adequacy, asset quality, and asset growth. It was felt that it would be more prudent to set warning level thresholds internally.

Presentation of MPIs

75. Generally, the majority of respondents referred to ratios and growth rates as the preferred mode of presentation of MPIs. Single point estimates were mentioned by about 40 percent of the respondents.

76. A number of exceptions, however, are worth noting. Many respondents felt that the preferred mode of presentation depends on the particular MPI in question. Moreover, the mode of presentation might depend also on the context in which a specific MPI is used and the type of analysis. For example, for sectoral aggregates, it is convenient to have weighted averages as well as simple averages, accompanied by frequency distributions of institutions according to ranges of values of the indicators.

77. Some noted that measures of dispersion (standard deviations, histograms, Gini indices, etc.) can be particularly useful for macroprudential indicators because they allow the analyst to identify outliers, trends in concentration, or tiering in markets, etc., which may be relevant for the analysis of financial stability.

78. Figure 3 contains a breakdown of responses by mode of presentation and by type of user. The category ‘depends on MPI’ is not exclusive, i.e., some respondents identified several preferred modes of presentation, but nonetheless indicated that it depends on the MPI or the type of analysis. Moreover, some respondents consolidated the responses of different types of users (e.g., investment analysts and rating agencies in one Market Participant/Other response), who had differing opinions on preferred modes of presentation. The N/A column presents the percentage of responses that were either not applicable or were not completed.

Composite Measures

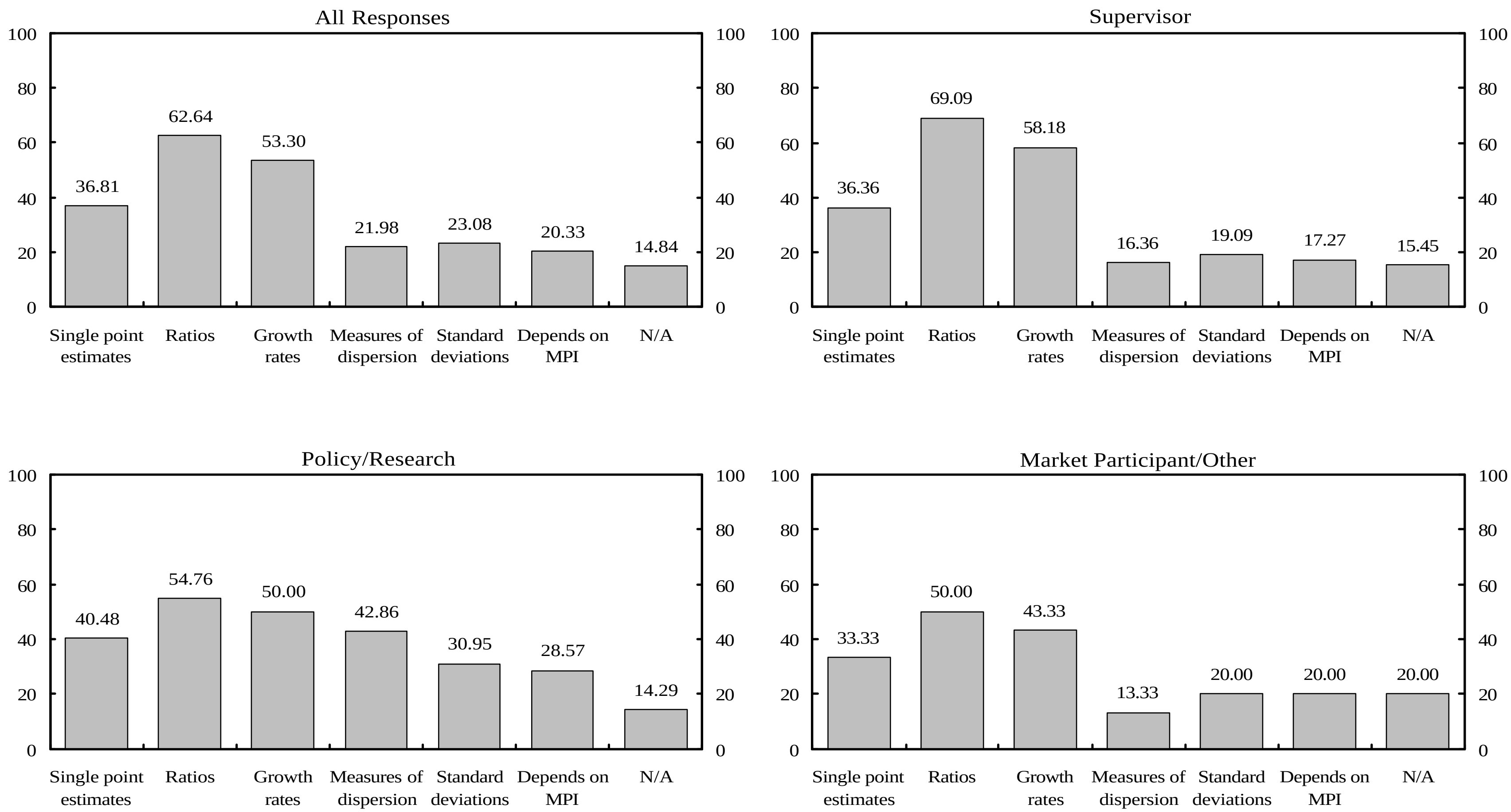
79. Overall, the proportion of respondents that reported using composite measures (36 percent) was only slightly less than the portion that did not use them (38 percent). However, this aggregate obscures the fact that there was substantial variation across user types. For example, while 41 percent of Supervisors reported using composite measures, only 29 percent of Policy/Research and 23 percent of Market Participant/Other said that they used such measures. Furthermore, 25 percent of all respondents either said that they were not familiar with the concept or the question was not applicable, or they simply did not respond. A few, however, did mention that they are considering the use of such measures in the future. One respondent, for instance, replied that there are plans to establish composite measures of the condition of the financial system, although none of the prototypes has yet been adopted due to their instability.

80. Among respondents using composite measures, most use single point estimates, ratios, and growth rates to construct them. Others stated that composite measures are based on the compiled data from balance sheets, income statements, and other statistical reports. Some countries also reported using early warning system-type models—which mostly use macro variables and not aggregated microprudential data—to produce a composite measure. These models would make these measures leading indicators of a potential financial crisis, instead of concurrent indicators of the condition of the financial system.

Business Surveys

81. Overall, about half of all respondents answered that they make use of business survey results—a qualitative measure of business expectations and potential leading indicator of instability—to supplement macroprudential analysis. The group making the highest use of business surveys—with 56 percent—was Policy/Research officials involved in the analysis of financial system soundness. About half of all Supervisors and Market Participants/Others mentioned that they use business surveys.

Figure 3. Presentation of MPIs
(In percent of total responses per category)



Source: IMF Survey on Macroprudential Indicators.

IV. COMPILATION OF HIGHLY RATED MPIS

82. The results from the survey on the usefulness of MPIs and the extent of compilation of MPIs or their components jointly can help prioritize future work on MPIs. As discussed in *Macroprudential Indicators: Policy Paper*, information on highly-rated MPIs and their compilation can be supplemented with other information, such as their usefulness within analytical frameworks, to help identify a core set of MPIs.[26]

83. Based on the survey results, it is possible to:

- Identify a broad set of MPIs prioritized by users' rankings of their usefulness. The survey identified 40 MPIs widely rated as very useful (Group I) or useful (Group II).

- Identify within the Group I and Group II MPIs those most widely compiled as an indicator of their feasibility for compilation more generally.

- Identify within the Group I and Group II MPIs those compiled least widely, which may indicate that special efforts are needed to make possible their compilation and dissemination.

- Identify MPIs rated less highly, which can be recommended for compilation, but which perhaps merit a lower priority in allocating resources for compilation.

84. Table 10 lists the 40 MPIs in Groups I and II and the extent to which the MPIs or their components are compiled for the 93 countries responding:

- Although only a modest number of countries now compile the Group I MPIs, more than half the respondents compile the components of all Group I MPIs, which suggests that most of these countries could commence compilation and dissemination of Group I MPIs relatively quickly.

- However, compilation of components of Group I MPIs is not universal, and many countries would have to initiate new programs to compile data to construct them.

[26] One aspect of the survey was to gather information on whether a core set of MPIs should be customized to reflect conditions or special needs within specific types of economies. Staff have concluded that the case for such customization has not been borne out in the results of the survey because users in all country categories are interested in a wide range of MPIs and in general attach similar usefulness ratings to each MPI.

Table 10—Highly Rated MPIs: Comparison of Usefulness and Compilation Practices

MPI	Usefulness score	Number compiling MPIs	Percentage compiling MPIs	Number compiling components	Percentage compiling components
Group I MPIs (Average usefulness ratings of 3.5 to 4.0)					
1.1 Basle Capital Adequacy Ratio	3.8	85	91%	79[27]	85%
1.1a Ratio of Basle Tier 1 Capital to risk-weighted assets	3.6	81	87%	81	87%
2.4 Distribution of loans, by sector	3.6	76	82%	76	82%
2.5 Distribution of credit extended, by sector	3.5	46	49%	53	57%
2.8 Ratio of total large loans to own funds	3.5	29	31%	52	56%
2.9 Ratio of gross nonperforming loans to total assets	3.9	42	45%	80	86%
2.10 Ratio of nonperforming loans net of provisions to total assets	3.8	39	42%	70	75%
3.2 Ratios of profits to period-average assets (ROA)	3.6	42	45%	75	81%
3.3 Ratios of profits to period-average equity (ROE)	3.6	44	47%	74	80%
3.4 Ratio of net interest income to total income	3.5	39	42%	82	88%
3.8 Spread between reference lending and deposit rates	3.5	25	27%	53	57%
4.3 Ratio of liquid assets to total assets	3.5	37	40%	75	81%
4.4 Ratio of liquid assets to liquid liabilities	3.5	37	40%	72	77%
Group II MPIs (Average usefulness ratings of 3.0 to 3.4)					
1.1b Ratio of Basle Tier 1 + Tier II Capital to risk-weighted assets	3.4	79	85%	79	85%
1.1c Ratio of Basle Tier 1 + II + III Capital to risk-weighted assets	3.0	36	39%	36	39%
1.2 Distribution of Capital Adequacy Ratios (Number of institutions within specified capital adequacy ratio ranges)	3.3	21	23%	21	23%
1.3 Leverage Ratio (Ratio of total on-balance sheet assets to own funds)	3.2	34	37%	77	83%
2.1 Distribution of on-balance sheet assets, by Basle risk-weight category	3.4	77	83%	77	83%
2.4a Loans for investment in commercial real estate	3.2	41	44%	41	44%
2.4b Loans for investment in residential real estate	3.2	51	55%	51	55%

[27] Refers to the number of respondents compiling separate data on Tier 1 and Tier 1 capital.

MPI	Usefulness Score	Number Compiling MPIs	Percentage Compiling MPIs	Number compiling components	Percentage compiling components
2.6 Distribution of credit extended, by country or region	3.1	42	45%	48	52%
2.7 Ratio of credit to related entities to total credit	3.4	26	28%	63	68%
2.11 Ratio of corporate debt to own funds ("debt-equity ratio")	3.4	17	18%	34	37%
2.12 Ratio of corporate profits to equity	3.3	15	16%	39	42%
2.13 Ratio of corporate debt service costs to total corporate income	3.2	13	14%	31	33%
2.14 Corporate net foreign currency exposure	3.2	6	6%	18	19%
2.15 Ratio of household total debt to GDP	3.0	13	14%	25	27%
3.5 Ratio of trading and foreign exchange gains/losses to total income	3.3	30	32%	64	69%
3.6 Ratio of operating costs to net interest income	3.4	38	41%	81	87%
3.7 Ratio of staff costs to operating costs	3.2	37	40%	78	84%
4.5 Average maturity of assets	3.4	18	19%	32	34%
4.6 Average maturity of liabilities	3.4	18	19%	34	37%
4.10 Ratio of customer deposits to total (noninterbank) loans	3.2	33	35%	79	85%
5.1 Ratio of gross foreign currency assets to own funds	3.1	24	26%	72	77%
5.2 Ratio of net foreign currency position to own funds	3.4	25	27%	71	76%
5.3 Average interest rate repricing period for assets	3.0	17	18%	17	18%
5.4 Average interest rate repricing period for liabilities	3.0	16	17%	16	17%
5.5 Duration of assets	3.2	22	24%	22	24%
5.6 Duration of liabilities	3.2	21	23%	21	23%
5.8 Ratio of net equity position to own funds	3.0	15	16%	25	27%

- In general, compilation of Group II MPIs is limited. Compilation of components is uneven, being quite limited for some MPIs, but widespread for others. Thus, relatively quick compilation and dissemination of some MPIs appears feasible in some countries, but many countries would need to initiate new compilation programs prior to compilation and dissemination of many of the Group II MPIs.

85. In summary, based on the survey results, a set of highly rated MPIs can be identified. Compilation of many of these MPIs or their components is already broad. Thus, even though the survey results indicate that compilation of most MPIs is far from universal, a large number of countries could compile and disseminate a range of MPIs relatively quickly. As described in section III.G, many respondents reported that they seek MPIs for the overall depository corporations subsector (excluding the central bank) and its systemically important subdivisions.

Additional MPIs Identified by Respondents

86. The *User Questionnaire* asked respondents to indicate MPIs not covered in the survey that they consider useful, or MPIs they use that differ from those in the survey. A relatively small number of additional MPIs were identified. Conversely, there were few comments that the list of MPIs was too long.

87. As already noted in the body of the paper, additional asset price information (real estate, equities, bank equities) was requested most often, and a number of respondents identified information on the distribution of observations as being of use.

88. Several respondents identified as useful an MPI measuring the ratio of gross nonperforming loans to total loans, in lieu of the MPI in the survey that used total assets as the denominator.

89. Some of the other additional MPIs identified are listed below.

- Aggregate growth indicators for various types of lending.
- Distribution of loans by size of borrower.
- Indicators of the composition of liabilities (subordinated debt, guarantees, government credits, etc.).
- Turnover and spreads in securities repo and swaps markets.
- Number of banks and total assets by CAMELS ranking.
- Ratings of banks and their distribution.
- More quickly available “flash indicators,” such as CD rates and bond yields, that provide current assessments of markets.
- Developments in payments systems, including collateral held and liquidity.

Other observations by respondents

90. Respondents made a number of other observations regarding MPIs and their compilation and dissemination.

- One concern expressed was that aggregation of information of individual financial institutions could result in the offsetting of positions of individual units that could obscure the meaning of some MPIs.

- Several respondents said that regular compilation of a large range of MPIs might not justify the resource costs. One respondent said that financial institutions are already subject to substantial data reporting requirements and would not welcome new statistical demands. It was suggested that ad hoc compilation of MPIs could be carried out when needed.

- Several respondents said that many organizations are working on financial stability issues or closely related initiatives. Close cooperation between parties working in the field is desirable. One respondent suggested that the BIS might serve as the lead agency for any collection of additional banking information, and at minimum the IMF should consult with it.

- One respondent suggested that the selection of MPIs might wait until the completion of the new capital adequacy framework.

- Several comments were made regarding the proper treatment of money market mutual funds and whether they should be included within the depository corporations sectoring used in the survey. It was noted that the risks faced by money market mutual funds could significantly differ from those faced by banking institutions and therefore mutual funds might be excluded from the analysis or might be separately analyzed. Alternatively, it was suggested that all mutual funds should have been covered in the survey because the greatest risks are likely to be faced by non-money market funds that tend to escape supervision by bank supervisors.

- Several countries commented that flexibility should be sought in presentation of macroprudential information. One G-7 country commented that “It is not possible to have uniform rules on the presentation of macroprudential indicators. At any rate, caution is advised in view of the heterogeneity that may exist in terms of national concepts and calculation methods.”

Appendix II. Table 1. Usefulness of MPIs, by Type of User, and Type of Economy

	Type of User															
	Supervisors				**Policy/Research**				**Private Sector**				**Average**			
	Industrial	Emerging	Developing	Average	Industrial	Emerging	Developing	Average	Industrial	Emerging	Developing	Average	Industrial	Emerging	Developing	World Total
1. Capital Adequacy																
1.1 Basle Capital Adequacy Ratio	3.9	3.9	3.8	3.9	3.9	3.9	3.2	3.7	3.4	3.8	3.5	3.6	3.7	3.9	3.6	3.8
1.1a Ratio of Basle Tier I Capital to risk-weighted assets	3.8	3.6	3.7	3.7	3.4	3.6	3.2	3.4	3.6	3.6	3.3	3.5	3.6	3.6	3.5	3.6
1.1b Ratio of Basle Tier I + Tier II Capital to risk-weighted	3.4	3.7	3.6	3.6	3.2	3.6	3.1	3.3	3.1	3.3	3.1	3.2	3.2	3.6	3.4	3.4
1.1c Ratio of Basle Tier I + II + III Capital to risk-weighted	3.1	3.3	3.2	3.2	2.9	3.0	2.8	2.9	2.7	2.9	3.1	2.9	2.9	3.1	3.1	3.0
1.2 Distribution of Capital Adequacy Ratios (Number of institutions within specified capital adequacy ratio	3.3	3.4	3.2	3.3	3.6	3.6	2.9	3.4	3.1	3.1	3.2	3.1	3.3	3.4	3.1	3.3
1.3 Leverage Ratio (Ratio of total on-balance sheet assets to own funds)	2.8	3.3	3.1	3.1	3.1	3.4	3.5	3.4	3.0	3.1	3.5	3.1	2.9	3.3	3.3	3.2
2. Assets quality: (a) Lending Institutions																
2.1 Distribution of on-balance sheet assets, by Basle risk-weight category	3.2	3.6	3.5	3.5	3.1	3.5	3.2	3.3	3.4	3.4	3.5	3.4	3.2	3.5	3.4	3.4
2.2 Ratio of total gross asset position in financial derivatives to own funds	2.5	3.0	2.4	2.7	2.8	3.2	3.0	3.0	2.9	2.7	2.5	2.7	2.7	3.0	2.6	2.8
2.3 Ratio of total gross liability position in financial derivatives to own funds	2.5	2.9	2.4	2.7	2.8	3.2	2.9	3.0	2.8	2.7	2.5	2.7	2.7	2.9	2.6	2.8
2.4 Distribution of loans, by sector	3.6	3.6	3.5	3.6	3.6	3.8	3.5	3.6	3.4	3.4	3.7	3.5	3.5	3.6	3.5	3.6
2.4a *of which*: for investment in commercial real estate	3.3	3.3	3.2	3.3	3.5	3.5	3.1	3.4	3.2	2.9	3.0	3.0	3.3	3.3	3.1	3.2
2.4b *of which*: for investment in residential real estate	3.3	3.3	3.2	3.3	3.4	3.4	3.1	3.3	3.2	2.9	3.0	3.0	3.3	3.2	3.2	3.2
2.5 Distribution of credit extended, by sector	3.4	3.6	3.7	3.6	3.4	3.6	3.6	3.6	3.2	3.7	3.0	3.4	3.3	3.6	3.6	3.5
2.6 Distribution of credit extended, by country or region	3.3	3.1	2.8	3.1	3.2	3.2	2.7	3.1	3.2	3.4	2.8	3.2	3.2	3.2	2.8	3.1
2.7 Ratio of credit to related entities to total credit	3.1	3.6	3.6	3.5	3.0	3.7	3.3	3.4	2.9	3.5	2.8	3.1	3.0	3.6	3.5	3.4
2.8 Ratio of total large loans to own funds	3.4	3.7	3.7	3.6	3.2	3.5	3.5	3.4	3.1	3.3	3.5	3.2	3.2	3.6	3.6	3.5
2.9 Ratio of gross nonperforming loans to total assets	3.9	3.8	3.9	3.9	3.9	4.0	3.8	3.9	3.7	3.9	3.7	3.8	3.9	3.9	3.8	3.9
2.10 Ratio of nonperforming loans net of provisions to total assets	3.9	3.7	3.8	3.8	3.8	3.9	3.6	3.8	3.7	3.7	3.7	3.7	3.8	3.8	3.8	3.8
2. Assets Quality: (b) Borrowing Institutions																
2.11 Ratio of corporate debt to own funds ("debt-equity ratio")	3.4	3.5	3.3	3.4	3.8	3.7	3.3	3.6	3.1	3.4	3.4	3.3	3.4	3.5	3.3	3.4
2.12 Ratio of corporate profits to equity	3.2	3.4	3.3	3.3	3.3	3.5	3.2	3.4	2.9	3.2	3.1	3.1	3.1	3.4	3.2	3.3
2.13 Ratio of corporate debt service costs to total corporate income	3.3	3.3	3.0	3.2	3.3	3.5	3.1	3.3	2.8	3.3	2.7	3.0	3.2	3.4	3.0	3.2
2.14 Corporate net foreign currency exposure	3.2	3.3	3.1	3.2	3.2	3.5	2.6	3.2	3.2	3.5	2.7	3.3	3.2	3.4	2.9	3.2

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	Type of User															
	Supervisors				**Policy/Research**				**Private Sector**				**Average**			
	Industrial	Emerging	Developing	Average	Industrial	Emerging	Developing	Average	Industrial	Emerging	Developing	Average	Industrial	Emerging	Developing	World Total
2.15 Ratio of household total debt to GDP	3.1	2.8	2.8	2.9	3.5	3.2	2.9	3.2	3.1	2.9	2.5	2.9	3.2	3.0	2.8	3.0
2.15a *of which:* mortgage debt to GDP	3.0	2.7	2.8	2.8	3.3	2.9	2.8	3.0	2.9	2.7	2.3	2.7	3.1	2.8	2.7	2.8
2.15b *of which:* debt owed to depository corporations to GDP	3.0	2.7	3.0	2.9	3.1	3.0	2.8	3.0	2.9	2.8	2.3	2.7	3.0	2.8	2.8	2.9
2.16 Number of applications for protection from creditors	2.6	2.8	2.6	2.7	3.1	2.6	2.6	2.8	2.8	2.7	2.0	2.6	2.8	2.7	2.5	2.7
3. Profitability and Competitive Indicators																
3.1 Rate of change in number of depository corporations	2.6	2.7	3.0	2.8	2.5	2.7	2.7	2.6	1.9	2.9	3.1	2.6	2.4	2.7	2.9	2.7
3.2 Ratio of profits to period-average assets (ROA)	3.6	3.8	3.6	3.7	3.5	3.8	3.5	3.6	3.1	3.7	3.6	3.5	3.5	3.8	3.6	3.6
3.3 Ratio of profits to period-average equity (ROE)	3.7	3.7	3.6	3.7	3.6	3.9	3.5	3.7	2.9	3.7	3.6	3.4	3.5	3.8	3.6	3.6
3.4 Ratio of net interest income to total income	3.6	3.6	3.8	3.7	3.2	3.7	3.1	3.4	3.0	3.6	3.4	3.3	3.3	3.6	3.6	3.5
3.5 Ratio of trading and foreign exchange gains/losses to total income	3.5	3.4	3.4	3.4	3.1	3.4	2.8	3.2	2.9	3.4	3.3	3.2	3.2	3.4	3.3	3.3
3.6 Ratio of operating costs to net interest income	3.3	3.6	3.6	3.6	3.0	3.6	3.5	3.4	2.6	3.5	3.3	3.1	3.0	3.6	3.6	3.4
3.7 Ratio of staff costs to operating costs	3.0	3.4	3.5	3.4	2.7	3.4	3.0	3.1	2.5	3.3	3.3	3.0	2.8	3.4	3.4	3.2
3.8 Spread between reference lending and deposit rates	3.5	3.5	3.7	3.6	3.4	3.7	3.5	3.5	3.2	3.6	2.9	3.3	3.4	3.6	3.5	3.5
3.9 Share of assets of the three largest depository corporations in total assets of depository corporations	2.9	3.2	2.9	3.0	2.6	3.2	2.9	2.9	2.5	2.9	2.8	2.7	2.7	3.1	2.9	2.9
4. Liquidity Indicators																
4.1 Distribution of 3-month local-currency interbank rates for different depository corporations	2.7	3.0	2.9	2.9	2.6	3.1	2.9	2.9	2.9	3.1	2.4	2.9	2.7	3.1	2.8	2.9
4.2 Average interbank bid-ask spread for 3-month local-currency deposits	3.0	2.9	2.9	2.9	2.6	3.1	2.7	2.8	3.0	3.2	2.3	2.9	2.9	3.0	2.7	2.9
4.3 Ratio of liquid assets to total assets	3.3	3.6	3.5	3.5	3.1	3.7	3.8	3.5	3.3	3.6	3.3	3.4	3.2	3.6	3.5	3.5
4.4 Ratio of liquid assets to liquid liabilities	3.3	3.7	3.7	3.6	2.9	3.7	3.9	3.5	3.4	3.7	3.3	3.5	3.2	3.7	3.7	3.6
4.5 Average maturity of assets	3.2	3.3	3.6	3.4	2.9	3.7	3.7	3.4	3.0	3.3	3.4	3.2	3.0	3.4	3.6	3.4
4.6 Average maturity of liabilities	3.2	3.3	3.6	3.4	2.9	3.7	3.7	3.4	3.0	3.3	3.4	3.2	3.0	3.4	3.6	3.4
4.7 Average daily turnover in the T-bill (or central bank bill) market	2.3	2.7	3.1	2.7	2.1	3.2	3.3	2.9	2.5	3.2	2.7	2.8	2.3	3.0	3.1	2.8
4.8 Average bid-ask spread in the T-bill (or central bank bill) market	2.3	2.8	2.9	2.7	2.2	3.3	3.2	2.9	2.5	3.2	2.7	2.8	2.3	3.0	3.0	2.8
4.9 Ratio of central bank credit to depository corporations to depository corporations' total liabilities	2.6	3.1	2.9	2.9	2.6	3.1	2.6	2.8	2.6	3.0	2.6	2.8	2.6	3.1	2.8	2.9

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	Type of User															
	Supervisors				Policy/Research				Private Sector				Average			
	Industrial	Emerging	Developing	Average	Industrial	Emerging	Developing	Average	Industrial	Emerging	Developing	Average	Industrial	Emerging	Developing	World Total
4.10 Ratio of customer deposits to total (noninterbank) loans	3.1	3.2	3.5	3.3	2.9	3.4	3.0	3.2	2.6	3.2	3.0	2.9	2.9	3.3	3.3	3.2
4.11 Ratio of customer foreign currency deposits to total (noninterbank) foreign currency loans	2.6	3.1	3.0	3.0	2.4	3.2	2.8	2.9	2.9	3.1	2.3	2.8	2.6	3.1	2.9	2.9
5. Sensitivity to Market Risk Indicators																
5.1 Ratio of gross foreign currency assets to own funds	2.7	3.2	3.2	3.1	2.6	3.3	3.2	3.1	2.9	3.1	3.3	3.0	2.7	3.2	3.2	3.1
5.2 Ratio of net foreign currency position to own funds	3.3	3.7	3.5	3.5	2.9	3.5	3.5	3.3	3.1	3.5	3.3	3.3	3.1	3.6	3.5	3.4
5.3 Average interest rate repricing period for assets	3.0	3.2	3.1	3.1	2.8	3.4	2.8	3.0	2.6	3.3	2.8	2.9	2.8	3.3	3.0	3.0
5.4 Average interest rate repricing period for liabilities	2.9	3.1	3.1	3.1	2.8	3.4	2.8	3.0	2.6	3.3	2.8	2.9	2.8	3.2	3.0	3.0
5.5 Duration of assets	3.0	3.2	3.0	3.1	2.9	3.6	3.0	3.3	3.0	3.4	3.0	3.2	3.0	3.4	3.0	3.2
5.6 Duration of liabilities	3.0	3.1	3.1	3.1	2.9	3.6	3.0	3.3	3.1	3.3	3.0	3.2	3.0	3.3	3.0	3.2
5.7 Ratio of gross equity position to own funds	2.9	2.9	2.8	2.9	2.7	3.1	3.3	3.0	2.7	2.9	2.8	2.8	2.8	3.0	3.0	2.9
5.8 Ratio of net equity position to own funds	2.9	2.9	2.9	2.9	2.8	3.1	3.4	3.1	2.7	2.8	3.0	2.8	2.8	3.0	3.1	3.0
5.9 Ratio of gross position in commodities to own funds	2.3	2.3	2.1	2.2	2.3	2.7	2.7	2.6	2.3	2.5	2.5	2.4	2.3	2.5	2.4	2.4
5.10 Ratio of net position in commodities to own funds	2.3	2.3	2.3	2.3	2.4	2.7	2.8	2.6	2.3	2.5	2.5	2.4	2.3	2.5	2.5	2.4

Appendix II. Table 2. Compilation and Dissemination of MPIs, by Type of Economy

	Industrial Countries					Emerging Countries					Developing Countries					World Total				
	Total in Group	Number Compiling MPIs	Percen-tage of Total	Number Disse-minating MPIs	Percen-tage of Total	Total in Group	Number Compiling MPIs	Percen-tage of Total	Number Disse-minating MPIs	Percen-tage of Total	Total in Group	Number Compiling MPIs	Percen-tage of Total	Number Disse-minating MPIs	Percen-tage of Total	Total in Group	Number Compiling MPIs	Percen-tage of Total	Number Disse-minating MPIs	Percen-tage of Total
1. Capital Adequacy																				
1.1 Basle Capital Adequacy Ratio	21	20	95%	15	71%	44	38	86%	27	61%	28	27	96%	11	39%	93	85	91%	53	57%
a. Basle Tier I Capital (net of deductions)	21	19	90%	13	62%	44	37	84%	21	48%	28	25	89%	10	36%	93	81	87%	44	47%
b. Basle Tier II Capital (net of deductions)	21	19	90%	12	57%	44	36	82%	21	48%	28	24	86%	10	36%	93	79	85%	43	46%
c. Basle Tier III Capital (net of deductions)	21	15	71%	8	38%	44	14	32%	9	20%	28	7	25%	4	14%	93	36	39%	21	23%
d. Risk-weighted assets	21	19	90%	12	57%	44	41	93%	24	55%	28	24	86%	11	39%	93	84	90%	47	51%
1.2 Distribution of Capital Adequacy Ratios	21	8	38%	3	14%	44	7	16%	3	7%	28	6	21%	5	18%	93	21	23%	11	12%
a. Number of institutions with Basle capital ratios falling into specified ranges:	21	8	38%	3	14%	44	7	16%	3	7%	28	6	21%	5	18%	93	21	23%	11	12%
b. Assets of institutions within each range	21	12	57%	6	29%	44	15	34%	8	18%	28	10	36%	4	14%	93	37	40%	18	19%
c. Assets by type of depository corporation:																				
c.1 Headquartered in the country	21	13	62%	5	24%	44	13	30%	6	14%	28	8	29%	3	11%	93	34	37%	14	15%
of which: Internationally active	21	7	33%	2	10%	44	11	25%	6	14%	28	4	14%	1	4%	93	22	24%	9	10%
of which: State-owned or -controlled	21	7	33%	3	14%	44	14	32%	7	16%	28	6	21%	2	7%	93	27	29%	12	13%
c.2 Headquartered in other countries	21	11	52%	2	10%	44	12	27%	7	16%	28	3	11%	0	0%	93	26	28%	9	10%
1.3 Leverage Ratio (Ratio of total on-balance sheet assets to own funds)	21	13	62%	6	29%	44	17	39%	9	20%	28	4	14%	2	7%	93	34	37%	17	18%
a. Total on-balance sheet assets	21	20	95%	13	62%	44	38	86%	31	70%	28	19	68%	11	39%	93	77	83%	55	59%
b. Own funds (equity capital and reserves)	21	20	95%	13	62%	44	38	86%	30	68%	28	19	68%	11	39%	93	77	83%	54	58%
2. Assets Quality: (a) Lending institution																				
2.1 Distribution of on-balance sheet assets, by Basle risk-weight category	21	17	81%	7	33%	44	39	89%	17	39%	28	21	75%	9	32%	93	77	83%	33	35%
a. Assets per Basle risk-weight category	21	17	81%	7	33%	44	39	89%	17	39%	28	21	75%	9	32%	93	77	83%	33	35%
2.2 Ratio of total gross asset position in financial derivatives to own funds	21	9	43%	4	19%	44	5	11%	1	2%	28	1	4%	0	0%	93	15	16%	5	5%
a. Total gross asset position in derivatives	21	15	71%	6	29%	44	14	32%	8	18%	28	3	11%	1	4%	93	32	34%	15	16%
b. *of which:* off-balance sheet position	21	14	67%	4	19%	44	14	32%	6	14%	28	3	11%	1	4%	93	31	33%	11	12%

Appendix II. Table 2. Compilation and Dissemination of MPIs, by Type of Economy

	Industrial Countries					Emerging Countries					Developing Countries					World Total				
	Total in Group	Number Compiling MPIs	Percen-tage of Total	Number Disse-minating MPIs	Percen-tage of Total	Total in Group	Number Compiling MPIs	Percen-tage of Total	Number Disse-minating MPIs	Percen-tage of Total	Total in Group	Number Compiling MPIs	Percen-tage of Total	Number Disse-minating MPIs	Percen-tage of Total	Total in Group	Number Compiling MPIs	Percen-tage of Total	Number Disse-minating MPIs	Percen-tage of Total
2.3 Ratio of total gross liability position in financial derivatives to own funds	21	7	33%	4	19%	44	5	11%	1	2%	28	1	4%	0	0%	93	13	14%	5	5%
a. Total gross liability position in derivatives	21	14	67%	6	29%	44	14	32%	8	18%	28	2	7%	0	0%	93	30	32%	14	15%
b. *of which:* off-balance sheet position	21	12	57%	4	19%	44	15	34%	7	16%	28	2	7%	0	0%	93	29	31%	11	12%
2.4 Distribution of loans, by sector	21	21	100%	17	81%	44	34	77%	27	61%	28	21	75%	16	57%	93	76	82%	60	65%
a. Loans, by national accounts sectors	21	20	95%	17	81%	44	29	66%	23	52%	28	19	68%	14	50%	93	68	73%	54	58%
Of which:																				
a.1. Loans for investment in commercial real estate	21	13	62%	9	43%	44	14	32%	10	23%	28	14	50%	11	39%	93	41	44%	30	32%
a.2. Loans for investment in residential real estate	21	17	81%	15	71%	44	19	43%	13	30%	28	15	54%	12	43%	93	51	55%	40	43%
a.3. Loans to other key sectors (Specify)	21	14	67%	10	48%	44	24	55%	20	45%	28	15	54%	10	36%	93	53	57%	40	43%
b. Total loans	21	19	90%	19	90%	44	36	82%	33	75%	28	22	79%	17	61%	93	77	83%	69	74%
2.5 Distribution of credit extended, by sector	21	11	52%	7	33%	44	22	50%	17	39%	28	13	46%	11	39%	93	46	49%	35	38%
a. Credit, by national accounts sectors	21	13	62%	9	43%	44	24	55%	18	41%	28	16	57%	14	50%	93	53	57%	41	44%
b. Total credit	21	18	86%	13	62%	44	33	75%	28	64%	28	22	79%	18	64%	93	73	78%	59	63%
2.6 Distribution of credit, by country or region	21	16	76%	12	57%	44	19	43%	12	27%	28	7	25%	4	14%	93	42	45%	28	30%
a. Loans, by country or region	21	18	86%	13	62%	44	22	50%	15	34%	28	8	29%	5	18%	93	48	52%	33	35%
2.7 Ratio of credit to related entities to total credit	21	6	29%	2	10%	44	12	27%	3	7%	28	8	29%	2	7%	93	26	28%	7	8%
a. Credit to related entities (enterprises, management, or individuals)	21	13	62%	3	14%	44	32	73%	10	23%	28	18	64%	8	29%	93	63	68%	21	23%
2.8 Ratio of total large loans to own funds	21	6	29%	0	0%	44	15	34%	7	16%	28	8	29%	1	4%	93	29	31%	8	9%
a. Total large loans (specify size range)	21	12	57%	1	5%	44	26	59%	11	25%	28	14	50%	8	29%	93	52	56%	20	22%
2.9 Ratio of gross non-performing loans to total assets	21	13	62%	9	43%	44	20	45%	14	32%	28	9	32%	5	18%	93	42	45%	28	30%
a. Gross nonperforming loans	21	19	90%	12	57%	44	39	89%	26	59%	28	22	79%	13	46%	93	80	86%	51	55%
2.10 Ratio of non-performing loans net of provisions to total assets	21	12	57%	8	38%	44	17	39%	8	18%	28	10	36%	6	21%	93	39	42%	22	24%
a. Nonperforming loans net of provisions	21	18	86%	11	52%	44	31	70%	18	41%	28	21	75%	13	46%	93	70	75%	42	45%

Appendix II. Table 2. Compilation and Dissemination of MPIs, by Type of Economy

	Industrial Countries					Emerging Countries					Developing Countries					World Total				
	Total in Group	Number Compiling MPIs	Percen-tage of Total	Number Disse-minating MPIs	Percen-tage of Total	Total in Group	Number Compiling MPIs	Percen-tage of Total	Number Disse-minating MPIs	Percen-tage of Total	Total in Group	Number Compiling MPIs	Percen-tage of Total	Number Disse-minating MPIs	Percen-tage of Total	Total in Group	Number Compiling MPIs	Percen-tage of Total	Number Disse-minating MPIs	Percen-tage of Total
2. Assets Quality: (b) Borrowing Institution																				
2.11 Ratio of corporate debt to own funds ("debt-equity ratio")	21	9	43%	7	33%	44	5	11%	2	5%	28	3	11%	0	0%	93	17	18%	9	10%
a. Total corporate debt	21	16	76%	12	57%	44	14	32%	11	25%	28	8	29%	4	14%	93	38	41%	27	29%
b. Corporations' own funds	21	15	71%	12	57%	44	13	30%	10	23%	28	6	21%	3	11%	93	34	37%	25	27%
2.12 Ratio of corporate profits to equity	21	8	38%	6	29%	44	4	9%	2	5%	28	3	11%	1	4%	93	15	16%	9	10%
a. Corporate pre-tax profits	21	15	71%	12	57%	44	17	39%	11	25%	28	10	36%	5	18%	93	42	45%	28	30%
b. Corporate post-tax profits	21	14	67%	11	52%	44	16	36%	10	23%	28	9	32%	4	14%	93	39	42%	25	27%
2.13 Ratio of corporate debt service costs to profits	21	9	43%	7	33%	44	3	7%	1	2%	28	1	4%	1	4%	93	13	14%	9	10%
a. Corporate debt service costs	21	15	71%	11	52%	44	11	25%	4	9%	28	5	18%	4	14%	93	31	33%	19	20%
2.14 Corporate net foreign currency exposure	21	1	5%	0	0%	44	3	7%	2	5%	28	2	7%	0	0%	93	6	6%	2	2%
a. Gross foreign currency assets	21	5	24%	3	14%	44	11	25%	7	16%	28	11	39%	6	21%	93	27	29%	16	17%
b. Gross foreign currency liabilities	21	5	24%	3	14%	44	11	25%	7	16%	28	10	36%	5	18%	93	26	28%	15	16%
c. Net off-balance sheet foreign currency positions (nominal value), not included above	21	2	10%	0	0%	44	9	20%	5	11%	28	7	25%	4	14%	93	18	19%	9	10%
2.15 Ratio of household debt to GDP	21	8	38%	5	24%	44	4	9%	2	5%	28	1	4%	0	0%	93	13	14%	7	8%
a. Household total debt	21	17	81%	13	62%	44	11	25%	8	18%	28	5	18%	0	0%	93	33	35%	21	23%
b. *of which:* mortgage debt	21	13	62%	10	48%	44	9	20%	6	14%	28	3	11%	0	0%	93	25	27%	16	17%
c. *of which:* debt to depository corporations	21	14	67%	13	62%	44	13	30%	10	23%	28	2	7%	0	0%	93	29	31%	23	25%
2.16 Number of applications for protection from creditors	21	9	43%	8	38%	44	3	7%	1	2%	28	1	4%	1	4%	93	13	14%	10	11%

Appendix II. Table 2. Compilation and Dissemination of MPIs, by Type of Economy

	Industrial Countries					Emerging Countries					Developing Countries					World Total				
	Total in Group	Number Compiling MPIs	Percen-tage of Total	Number Disse-minating MPIs	Percen-tage of Total	Total in Group	Number Compiling MPIs	Percen-tage of Total	Number Disse-minating MPIs	Percen-tage of Total	Total in Group	Number Compiling MPIs	Percen-tage of Total	Number Disse-minating MPIs	Percen-tage of Total	Total in Group	Number Compiling MPIs	Percen-tage of Total	Number Disse-minating MPIs	Percen-tage of Total
3. Profitability and Competitive Indicators																				
3.1 Rate of change in the number of depository corporations	21	14	67%	11	52%	44	13	30%	9	20%	28	8	29%	8	29%	93	35	38%	28	30%
a. Difference between no. of institutions at beginning and end of period	21	19	90%	15	71%	44	26	59%	22	50%	28	14	50%	12	43%	93	59	63%	49	53%
b. *of which:* due to mergers and acquisitions	21	17	81%	10	48%	44	26	59%	20	45%	28	15	54%	13	46%	93	58	62%	43	46%
c. *of which:* due to withdrawals of licenses or closing of units	21	17	81%	12	57%	44	26	59%	20	45%	28	15	54%	12	43%	93	58	62%	44	47%
3.2 Ratios of profits to period-average assets (ROA)	21	13	62%	10	48%	44	19	43%	15	34%	28	10	36%	4	14%	93	42	45%	29	31%
a. Pre-tax, after provisions profits	21	19	90%	16	76%	44	38	86%	27	61%	28	23	82%	14	50%	93	80	86%	57	61%
b. Post-tax profits	21	20	95%	16	76%	44	40	91%	29	66%	28	21	75%	13	46%	93	81	87%	58	62%
c. Total period-average on-balance sheet assets	21	18	86%	13	62%	44	39	89%	22	50%	28	18	64%	10	36%	93	75	81%	45	48%
3.3 Ratios of profits to period-average equity (ROE)	21	14	67%	11	52%	44	20	45%	16	36%	28	10	36%	4	14%	93	44	47%	31	33%
a. Pre-tax, after provisions profits	21	19	90%	15	71%	44	36	82%	25	57%	28	22	79%	12	43%	93	77	83%	52	56%
b. Post-tax profits	21	20	95%	16	76%	44	40	91%	29	66%	28	21	75%	11	39%	93	81	87%	56	60%
c. Period-average equity	21	18	86%	13	62%	44	38	86%	23	52%	28	18	64%	10	36%	93	74	80%	46	49%
3.4 Ratio of net interest income to profits	21	13	62%	8	38%	44	18	41%	12	27%	28	8	29%	3	11%	93	39	42%	23	25%
a. Net interest income	21	20	95%	16	76%	44	39	89%	27	61%	28	23	82%	11	39%	93	82	88%	54	58%
3.5 Ratio of trading and foreign -currency gains/losses to profits	21	11	52%	7	33%	44	14	32%	8	18%	28	5	18%	1	4%	93	30	32%	16	17%
a. Gains/losses in securities and foreign currencies	21	18	86%	13	62%	44	29	66%	20	45%	28	17	61%	8	29%	93	64	69%	41	44%
3.6 Ratio of operating costs to net interest income	21	13	62%	8	38%	44	17	39%	10	23%	28	8	29%	3	11%	93	38	41%	21	23%
a. Operating costs	21	20	95%	16	76%	44	39	89%	25	57%	28	22	79%	12	43%	93	81	87%	53	57%
3.7 Ratio of staff costs to operating costs	21	12	57%	8	38%	44	17	39%	10	23%	28	8	29%	3	11%	93	37	40%	21	23%
a. Staff costs	21	19	90%	14	67%	44	37	84%	24	55%	28	22	79%	12	43%	93	78	84%	50	54%
3.8 Spreads between reference lending and deposit rates	21	8	38%	5	24%	44	8	18%	7	16%	28	9	32%	4	14%	93	25	27%	16	17%
a. Reference lending rate (Specify rate)	21	13	62%	13	62%	44	29	66%	25	57%	28	13	46%	9	32%	93	55	59%	47	51%
b. Reference deposit rate (Specify rate)	21	13	62%	13	62%	44	27	61%	24	55%	28	13	46%	9	32%	93	53	57%	46	49%
3.9 Share of assets of the three largest depository corporations in total assets of depository corporations	21	12	57%	5	24%	44	17	39%	9	20%	28	6	21%	2	7%	93	35	38%	16	17%
a. Assets of the three largest depository corporations	21	19	90%	7	33%	44	37	84%	16	36%	28	11	39%	7	25%	93	67	72%	30	32%

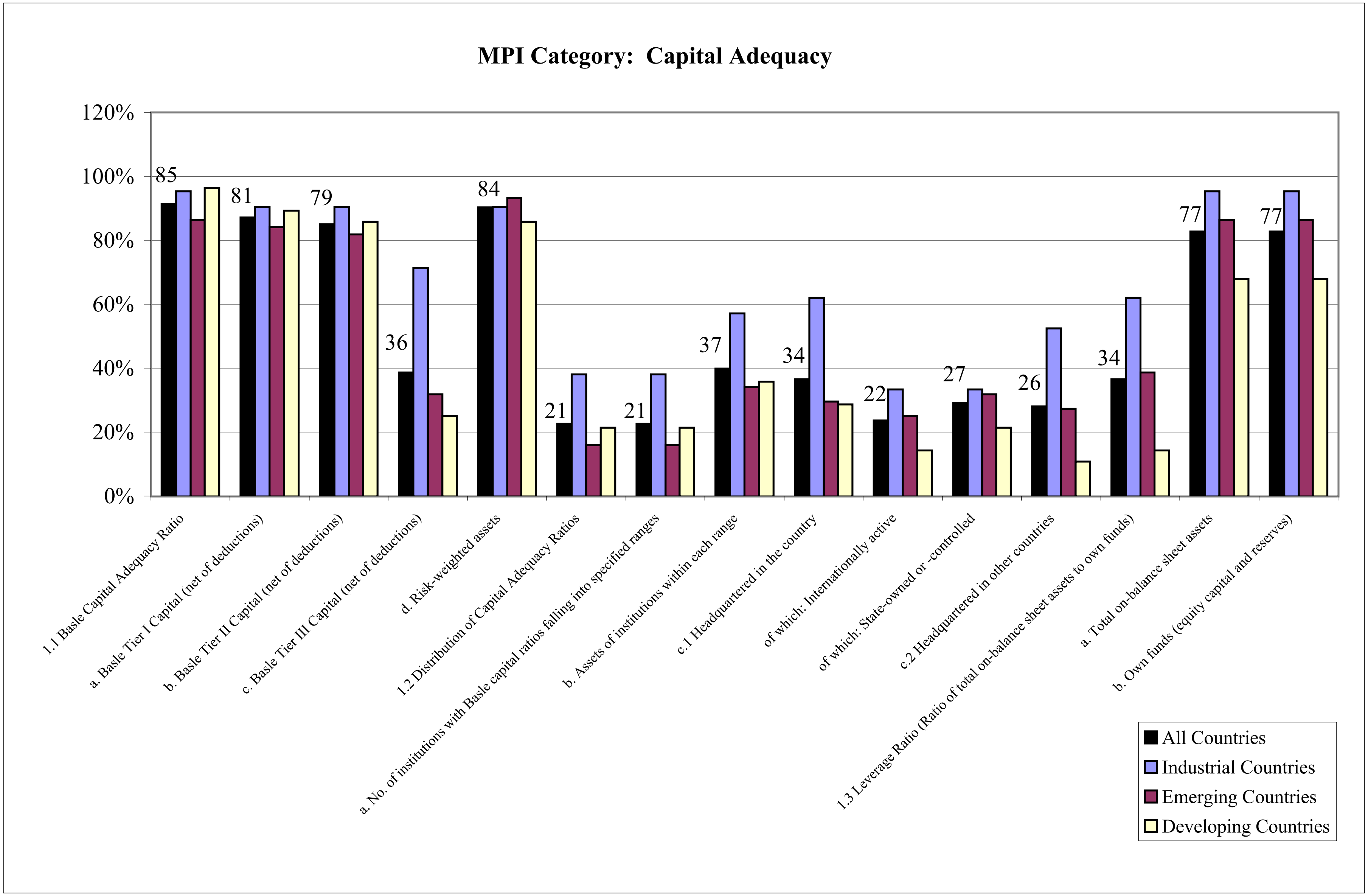
Appendix II. Table 2. Compilation and Dissemination of MPIs, by Type of Economy

	Industrial Countries					Emerging Countries					Developing Countries					World Total				
	Total in Group	Number Compiling MPIs	Percentage of Total	Number Disseminating MPIs	Percentage of Total	Total in Group	Number Compiling MPIs	Percentage of Total	Number Disseminating MPIs	Percentage of Total	Total in Group	Number Compiling MPIs	Percentage of Total	Number Disseminating MPIs	Percentage of Total	Total in Group	Number Compiling MPIs	Percentage of Total	Number Disseminating MPIs	Percentage of Total
4. Liquidity Indicators																				
4.1 Distribution of 3-month local-currency interbank rates for different banks	21	3	14%	1	5%	44	13	30%	7	16%	28	7	25%	4	14%	93	23	25%	12	13%
4.2 Average interbank bid-ask spread for 3-month local currency interbank deposits	21	6	29%	3	14%	44	9	20%	6	14%	28	3	11%	2	7%	93	18	19%	11	12%
4.3 Ratio of liquid assets to total assets	21	10	48%	5	24%	44	19	43%	9	20%	28	8	29%	6	21%	93	37	40%	20	22%
a. Liquid assets	21	18	86%	7	33%	44	34	77%	20	45%	28	23	82%	14	50%	93	75	81%	41	44%
4.4 Ratio of liquid assets to liquid liabilities	21	11	52%	5	24%	44	18	41%	12	27%	28	8	29%	5	18%	93	37	40%	22	24%
a. Liquid liabilities	21	18	86%	7	33%	44	33	75%	20	45%	28	21	75%	12	43%	93	72	77%	39	42%
4.5 Average maturity of assets	21	3	14%	0	0%	44	10	23%	4	9%	28	5	18%	1	4%	93	18	19%	5	5%
a. Average remaining maturity of assets (months)	21	8	38%	1	5%	44	25	57%	11	25%	28	13	46%	8	29%	93	46	49%	20	22%
b. *of which:* foreign currency assets	21	6	29%	1	5%	44	21	48%	8	18%	28	10	36%	7	25%	93	37	40%	16	17%
c. Average original maturity of assets (months)	21	4	19%	1	5%	44	19	43%	9	20%	28	9	32%	7	25%	93	32	34%	17	18%
d. *of which:* foreign currency assets	21	4	19%	0	0%	44	16	36%	7	16%	28	9	32%	7	25%	93	29	31%	14	15%
4.6 Average maturity of liabilities	21	3	14%	0	0%	44	10	23%	4	9%	28	5	18%	1	4%	93	18	19%	5	5%
a. Average remaining maturity of liabilities (months)	21	8	38%	1	5%	44	26	59%	11	25%	28	13	46%	8	29%	93	47	51%	20	22%
b. *of which:* foreign currency liabilities	21	6	29%	1	5%	44	21	48%	7	16%	28	10	36%	7	25%	93	37	40%	15	16%
c. Average original maturity of liabilities (months)	21	4	19%	1	5%	44	21	48%	9	20%	28	9	32%	7	25%	93	34	37%	17	18%
d. *of which:* foreign currency liabilities	21	4	19%	0	0%	44	16	36%	6	14%	28	9	32%	7	25%	93	29	31%	13	14%
4.7 Average daily turnover in the T-bill (or central bank bill) market	21	7	33%	4	19%	44	20	45%	15	34%	28	6	21%	5	18%	93	33	35%	24	26%
4.8 Average bid-ask spread in the T-bill (or central bank bill) market	21	3	14%	0	0%	44	15	34%	8	18%	28	7	25%	6	21%	93	25	27%	14	15%
4.9 Ratio of central bank credit to depository corporations to their total liabilities	21	6	29%	4	19%	44	8	18%	4	9%	28	6	21%	3	11%	93	20	22%	11	12%
a. Total credit from the central bank to depository corporations	21	18	86%	14	67%	44	34	77%	24	55%	28	15	54%	11	39%	93	67	72%	49	53%
b. Total liabilities	21	18	86%	14	67%	44	33	75%	25	57%	28	18	64%	14	50%	93	69	74%	53	57%
4.10 Ratio of total customer deposits to total (noninterbank) loans	21	11	52%	4	19%	44	15	34%	8	18%	28	7	25%	2	7%	93	33	35%	14	15%
a. Customer (noninterbank) deposits	21	19	90%	15	71%	44	37	84%	32	73%	28	23	82%	13	46%	93	79	85%	60	65%
b. Total (noninterbank) loans	21	19	90%	15	71%	44	39	89%	32	73%	28	25	89%	14	50%	93	83	89%	61	66%

Appendix II. Table 2. Compilation and Dissemination of MPIs, by Type of Economy

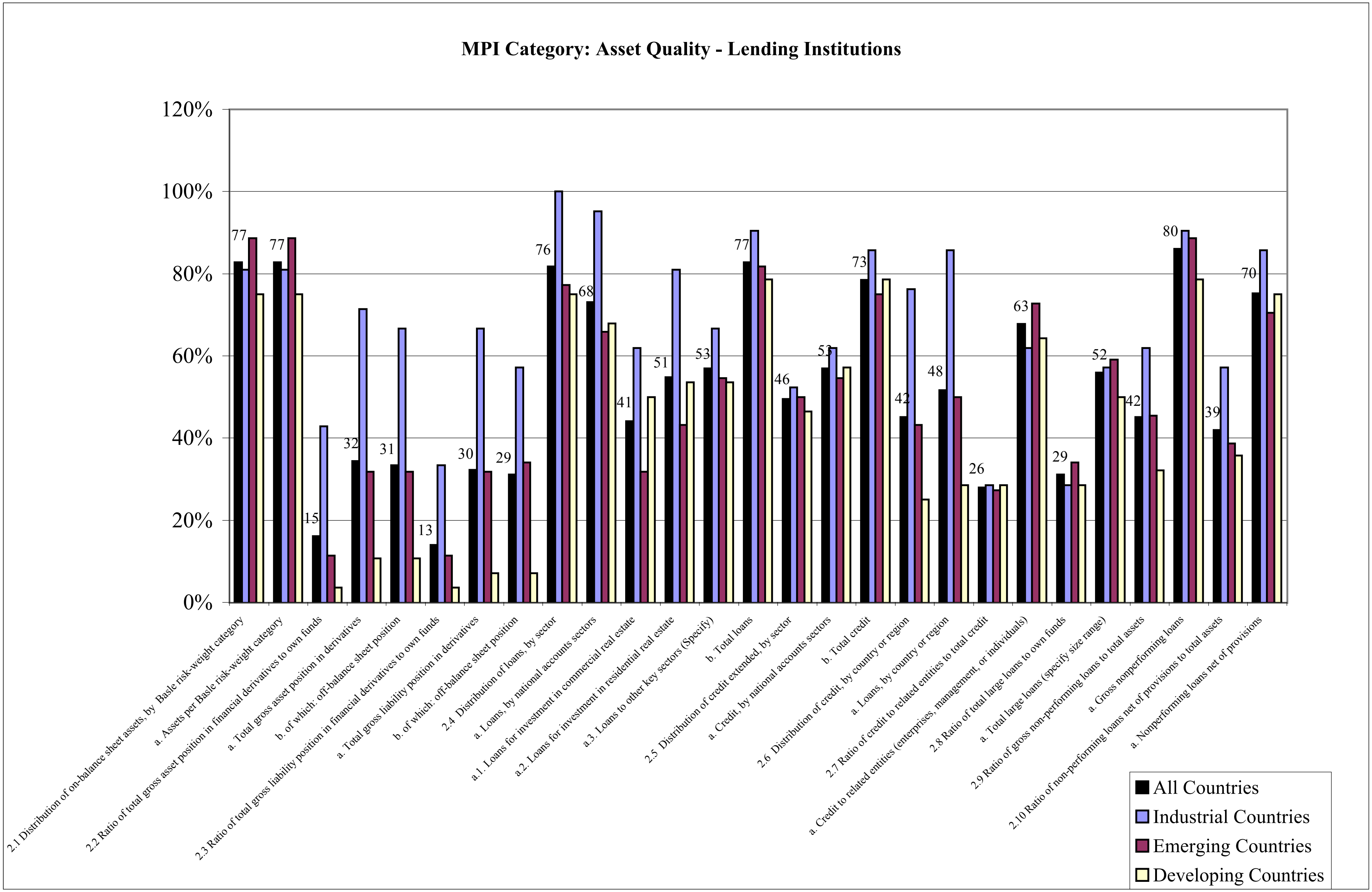
	Industrial Countries					Emerging Countries					Developing Countries					World Total				
	Total in Group	Number Compiling MPIs	Percentage of Total	Number Disseminating MPIs	Percentage of Total	Total in Group	Number Compiling MPIs	Percentage of Total	Number Disseminating MPIs	Percentage of Total	Total in Group	Number Compiling MPIs	Percentage of Total	Number Disseminating MPIs	Percentage of Total	Total in Group	Number Compiling MPIs	Percentage of Total	Number Disseminating MPIs	Percentage of Total
4.11 Ratio of foreign currency customer deposits to total (noninterbank) foreign currency loans	21	7	33%	4	19%	44	13	30%	6	14%	28	4	14%	1	4%	93	24	26%	11	12%
a. Customer (noninterbank) foreign currency deposits	21	16	76%	12	57%	44	35	80%	23	52%	28	18	64%	10	36%	93	69	74%	45	48%
b. Customer (noninterbank) foreign currency loans	21	16	76%	12	57%	44	35	80%	22	50%	28	19	68%	10	36%	93	70	75%	44	47%
5. Sensitivity to Market Risk Indicators																				
5.1 Ratio of gross foreign currency assets to own funds	21	6	29%	2	10%	44	14	32%	6	14%	28	4	14%	1	4%	93	24	26%	9	10%
a. Gross foreign currency assets	21	16	76%	10	48%	44	37	84%	20	45%	28	19	68%	11	39%	93	72	77%	41	44%
5.2 Ratio of net foreign currency position to own funds	21	7	33%	3	14%	44	14	32%	7	16%	28	4	14%	1	4%	93	25	27%	11	12%
a. Gross foreign currency assets	21	16	76%	10	48%	44	36	82%	21	48%	28	19	68%	10	36%	93	71	76%	41	44%
b. Gross foreign currency liabilities	21	16	76%	9	43%	44	36	82%	21	48%	28	20	71%	10	36%	93	72	77%	40	43%
c. Net off-balance sheet foreign currency positions (nominal value), not included above	21	10	48%	2	10%	44	25	57%	12	27%	28	15	54%	8	29%	93	50	54%	22	24%
5.3 Average interest rate repricing period for assets	21	6	29%	1	5%	44	9	20%	2	5%	28	2	7%	1	4%	93	17	18%	4	4%
5.4 Average interest rate repricing period for liabilities	21	6	29%	1	5%	44	9	20%	2	5%	28	1	4%	0	0%	93	16	17%	3	3%
5.5 Duration of assets	21	5	24%	1	5%	44	11	25%	6	14%	28	6	21%	2	7%	93	22	24%	9	10%
5.6 Duration of liabilities	21	5	24%	0	0%	44	10	23%	5	11%	28	6	21%	2	7%	93	21	23%	7	8%
5.7 Ratio of gross positions in equities to own funds	21	8	38%	2	10%	44	8	18%	5	11%	28	5	18%	1	4%	93	21	23%	8	9%
a. Gross holdings of equities	21	17	81%	11	52%	44	25	57%	14	32%	28	13	46%	7	25%	93	55	59%	32	34%
5.8 Ratio of net positions in equities to own funds	21	6	29%	3	14%	44	7	16%	4	9%	28	2	7%	1	4%	93	15	16%	8	9%
a. Gross holdings of equities	21	17	81%	11	52%	44	22	50%	13	30%	28	12	43%	6	21%	93	51	55%	30	32%
b. Net off-balance sheet nominal-value position in equities, not included above	21	8	38%	2	10%	44	11	25%	7	16%	28	6	21%	4	14%	93	25	27%	13	14%
5.9 Ratio of gross position in commodities to own funds	21	3	14%	1	5%	44	3	7%	1	2%	28	1	4%	0	0%	93	7	8%	2	2%
a. Gross asset position in commodities	21	6	29%	1	5%	44	7	16%	5	11%	28	2	7%	0	0%	93	15	16%	6	6%
5.10 Ratio of net position in commodities to own funds	21	5	24%	2	10%	44	2	5%	1	2%	28	1	4%	0	0%	93	8	9%	3	3%
a. Gross asset position in commodities	21	6	29%	1	5%	44	6	14%	4	9%	28	2	7%	0	0%	93	14	15%	5	5%
b. Net off-balance sheet nominal-value position in commodities, not included above	21	7	33%	2	10%	44	6	14%	4	9%	28	2	7%	0	0%	93	15	16%	6	6%

Chart 2. Compilation of MPIs and Components of MPIs, by Type of Economy



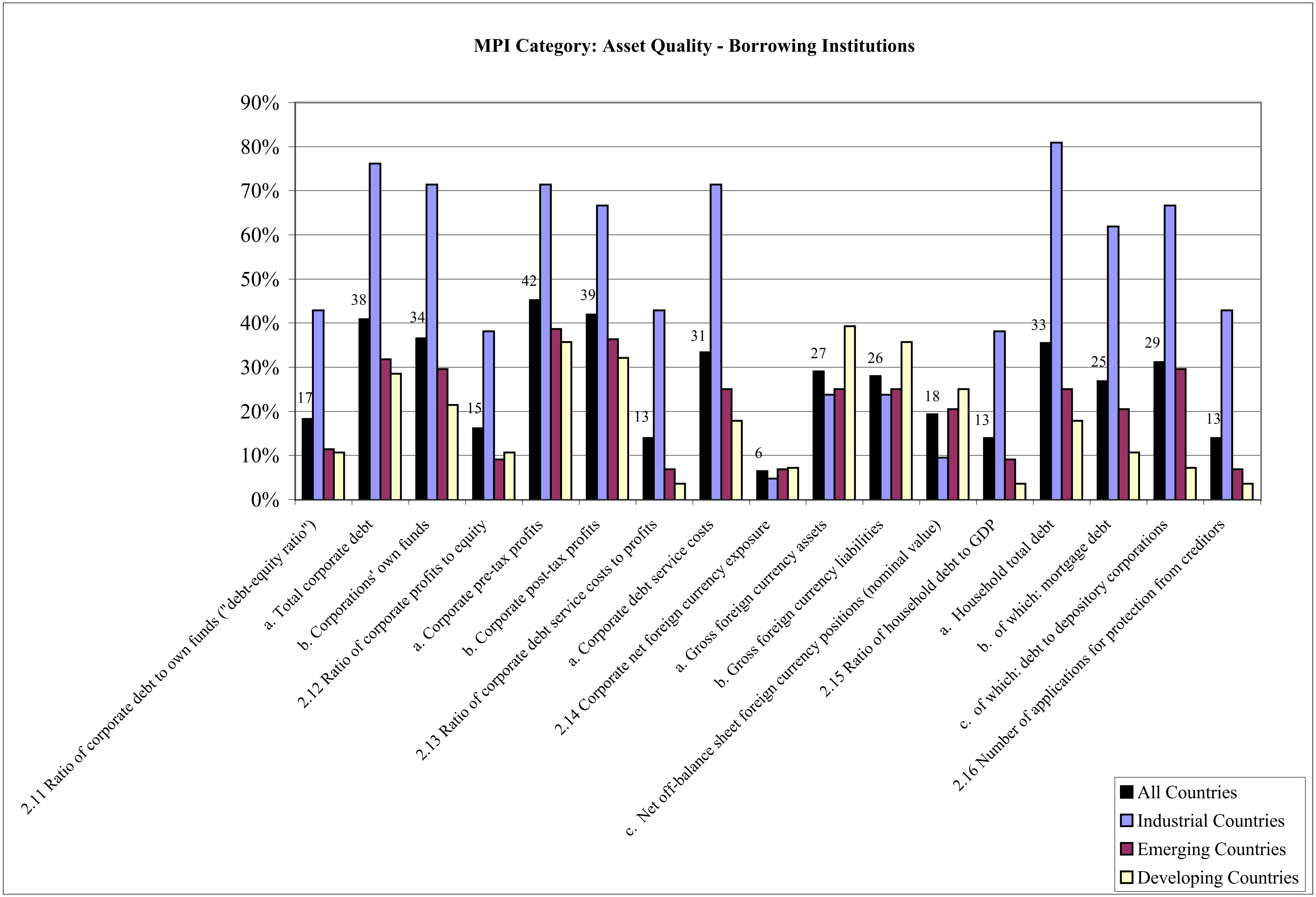
Bars indicate the percentage of respondents that compiled a MPI or its components. Numbers above a bar indicate the number of respondents compiling that item.

Chart 2. Compilation of MPIs and Components of MPIs, by Type of Economy (continued)



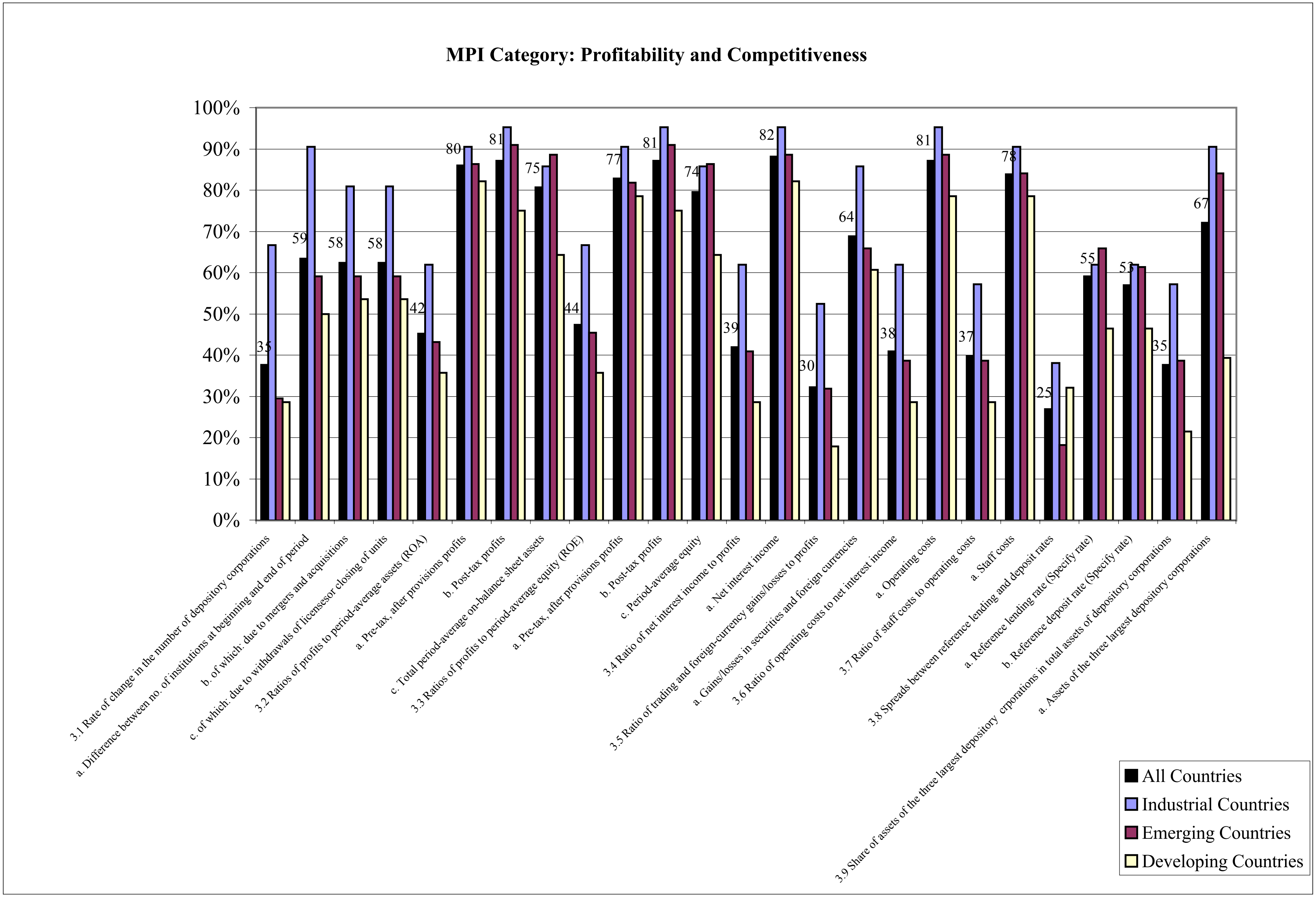
Bars indicate the percentage of respondents that compiled a MPI or its components. Numbers above a bar indicate the number of respondents compiling that item.

Chart 2. Compilation of MPIs and Components of MPIs, by Type of Economy (continued)



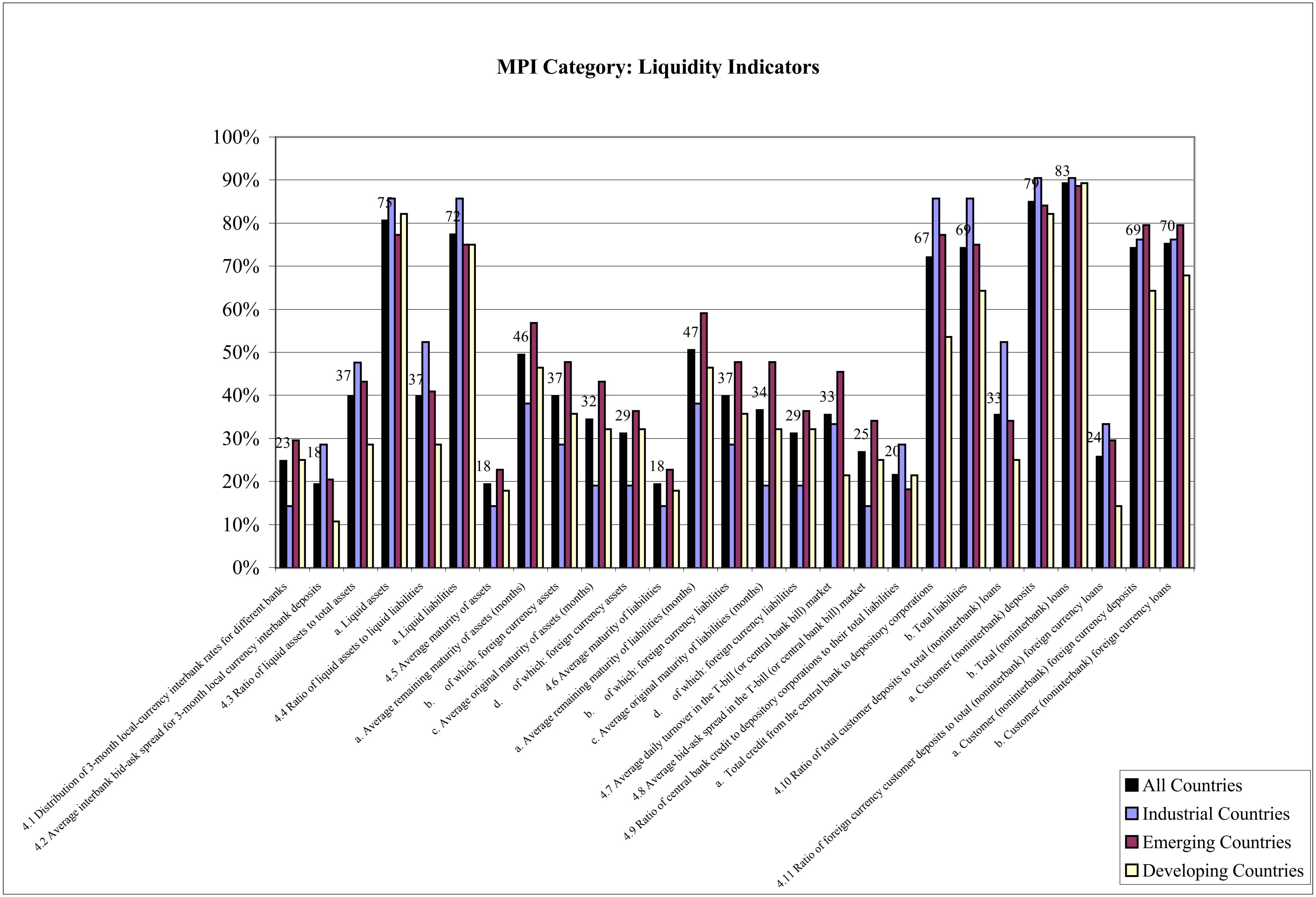
Bars indicate the percentage of respondents that compiled a MPI or its components. Numbers above a bar indicate the number of respondents compiling that item.

Chart 2. Compilation of MPIs and Components of MPIs, by Type of Economy (continued)



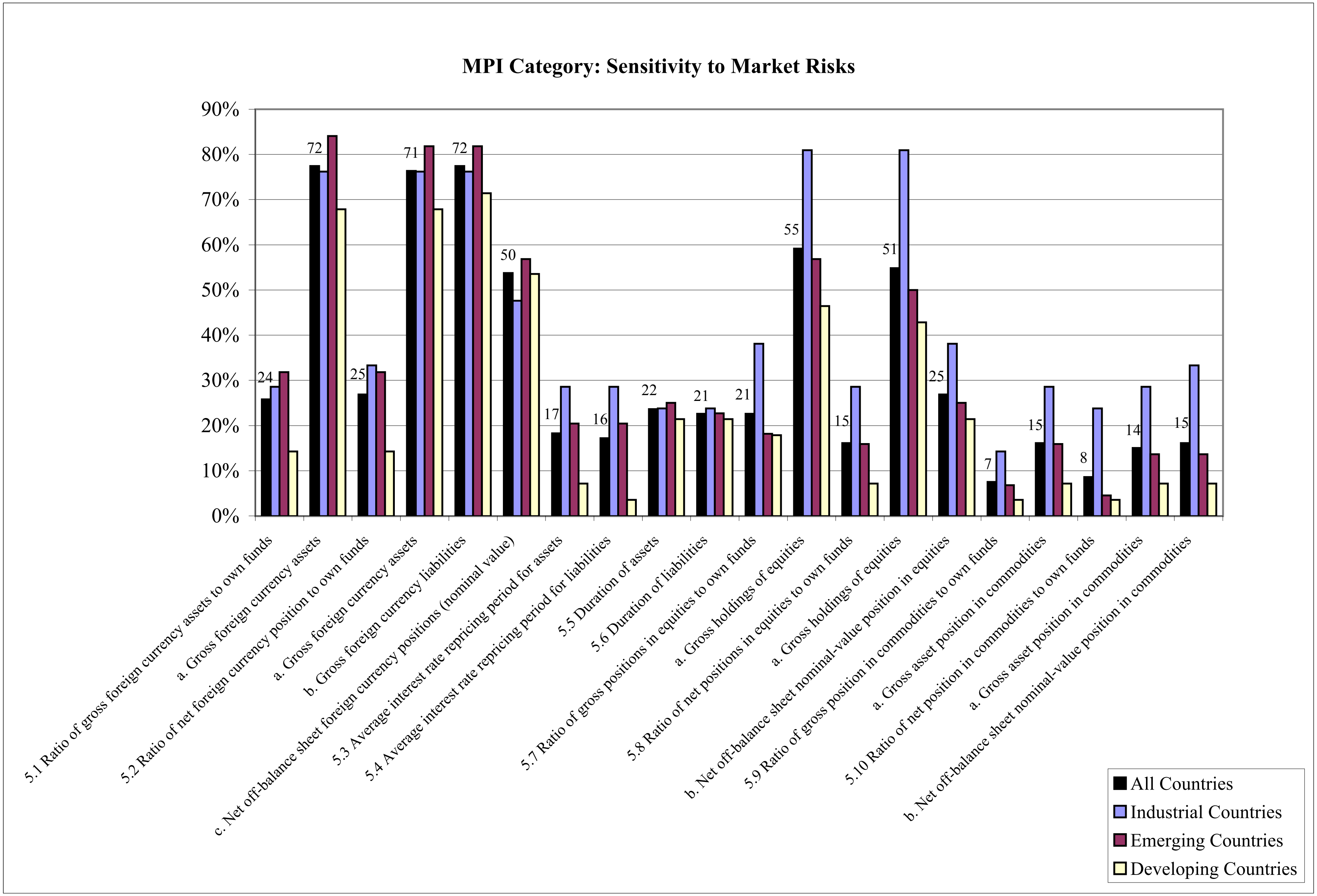
Bars indicate the percentage of respondents that compiled a MPI or its components. Numbers above a bar indicate the number of respondents compiling that item.

Chart 2. Compilation of MPIs and Components of MPIs, by Type of Economy (continued)



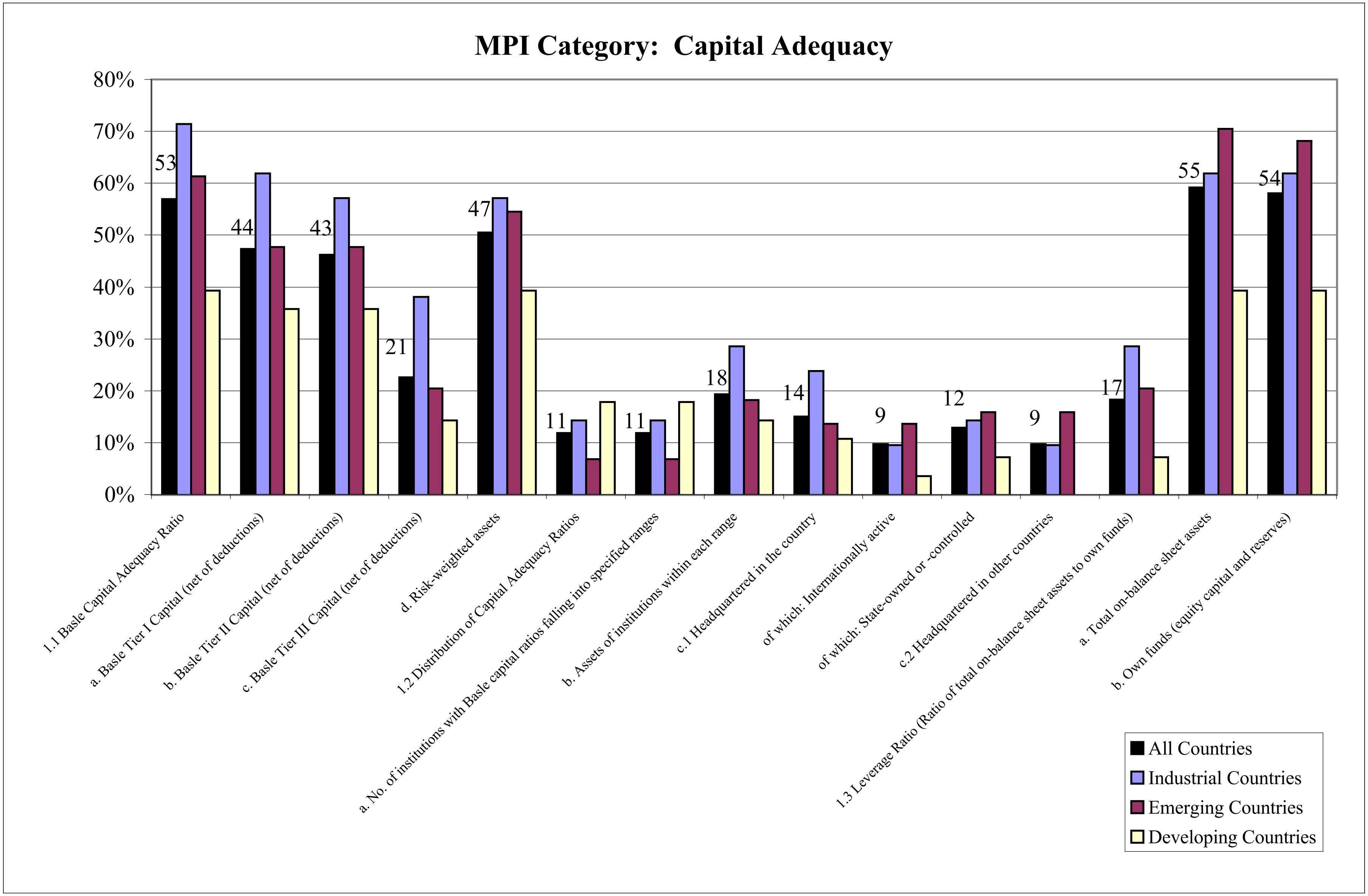
Bars indicate the percentage of respondents that compiled a MPI or its components. Numbers above a bar indicate the number of respondents compiling that item.

Chart 2. Compilation of MPIs and Components of MPIs, by Type of Economy (concluded)



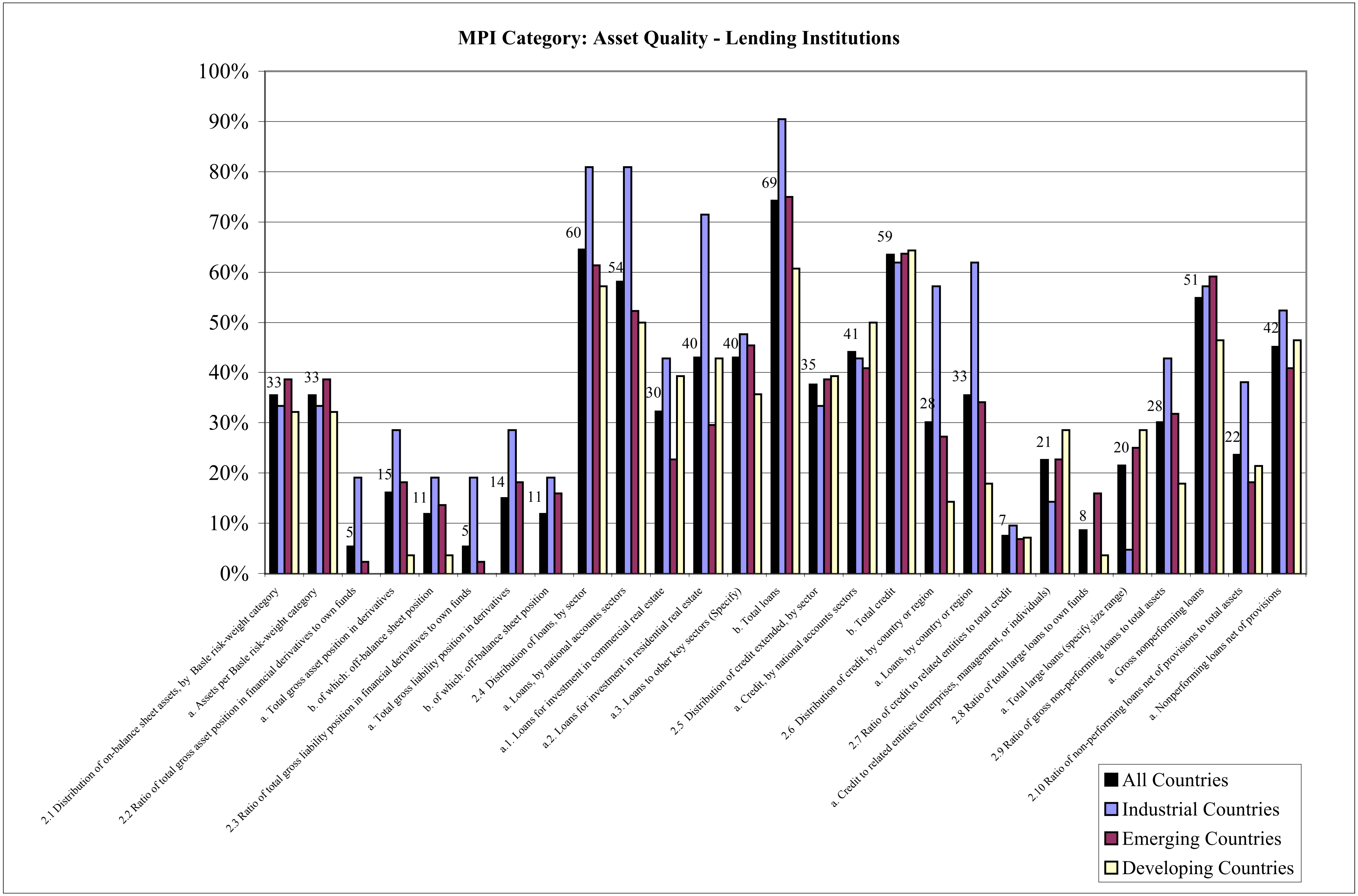
Bars indicate the percentage of respondents that compiled a MPI or its components. Numbers above a bar indicate the number of respondents compiling that item..

Chart 3. Dissemination of MPIs and Components of MPIs, by Type of Economy



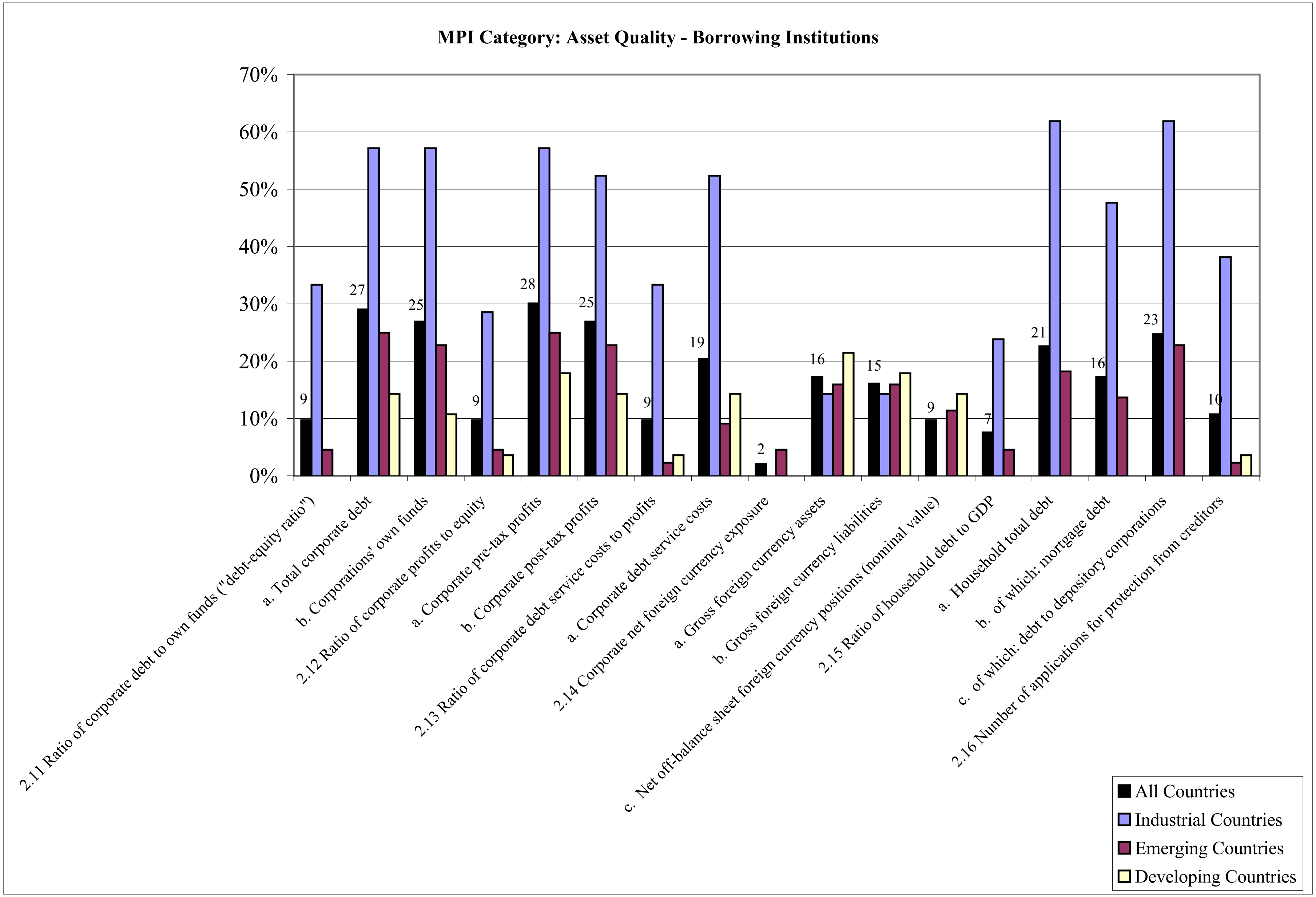
Bars indicate the percentage of respondents that compiled a MPI or its components. Numbers above a bar indicate the number of respondents compiling that item.

Chart 3. Dissemination of MPIs and Components of MPIs, by Type of Economy (continued)



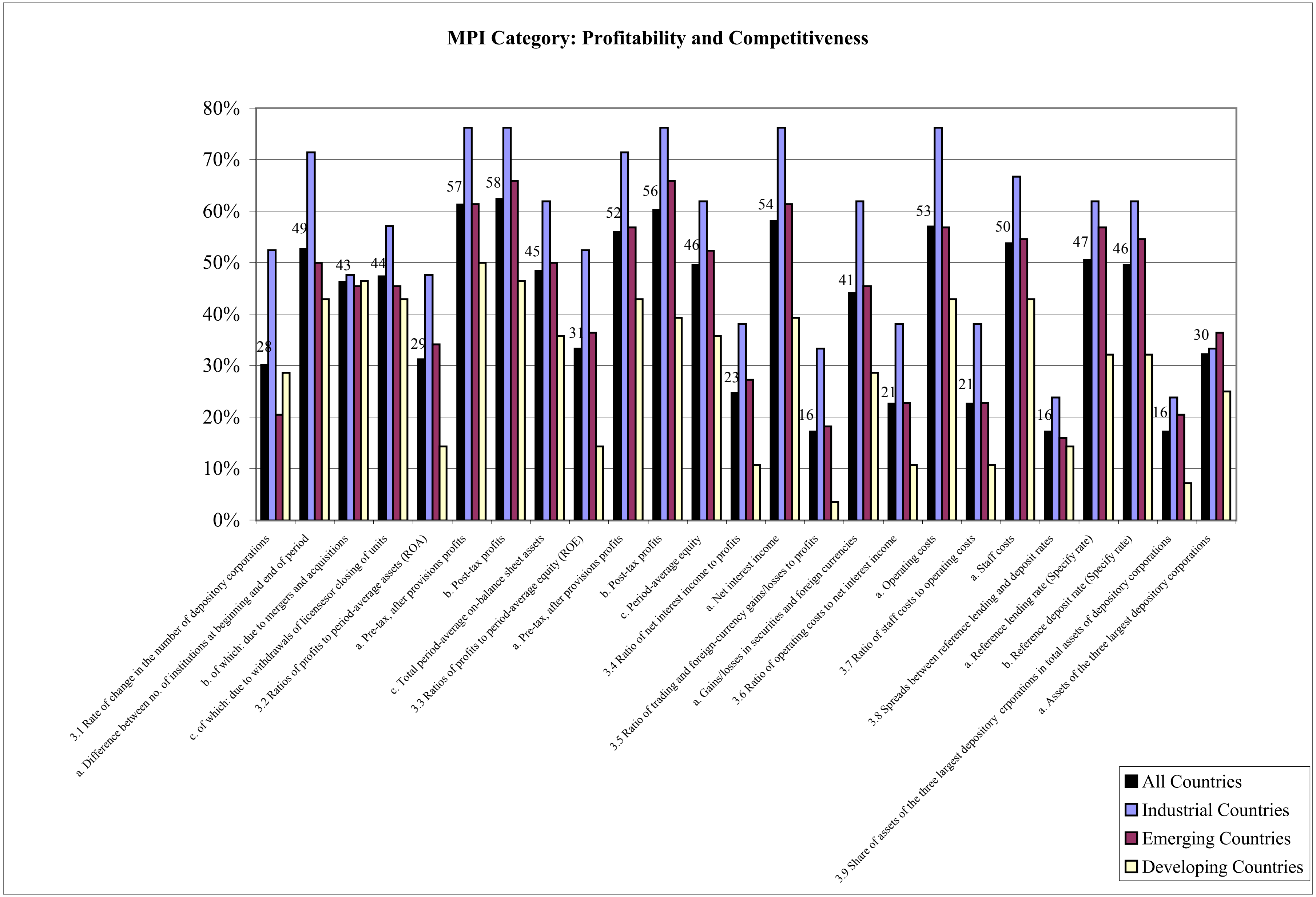
Bars indicate the percentage of respondents that compiled a MPI or its components. Numbers above a bar indicate the number of respondents compiling that item.

Chart 3. Dissemination of MPIs and Components of MPIs, by Type of Economy (continued)



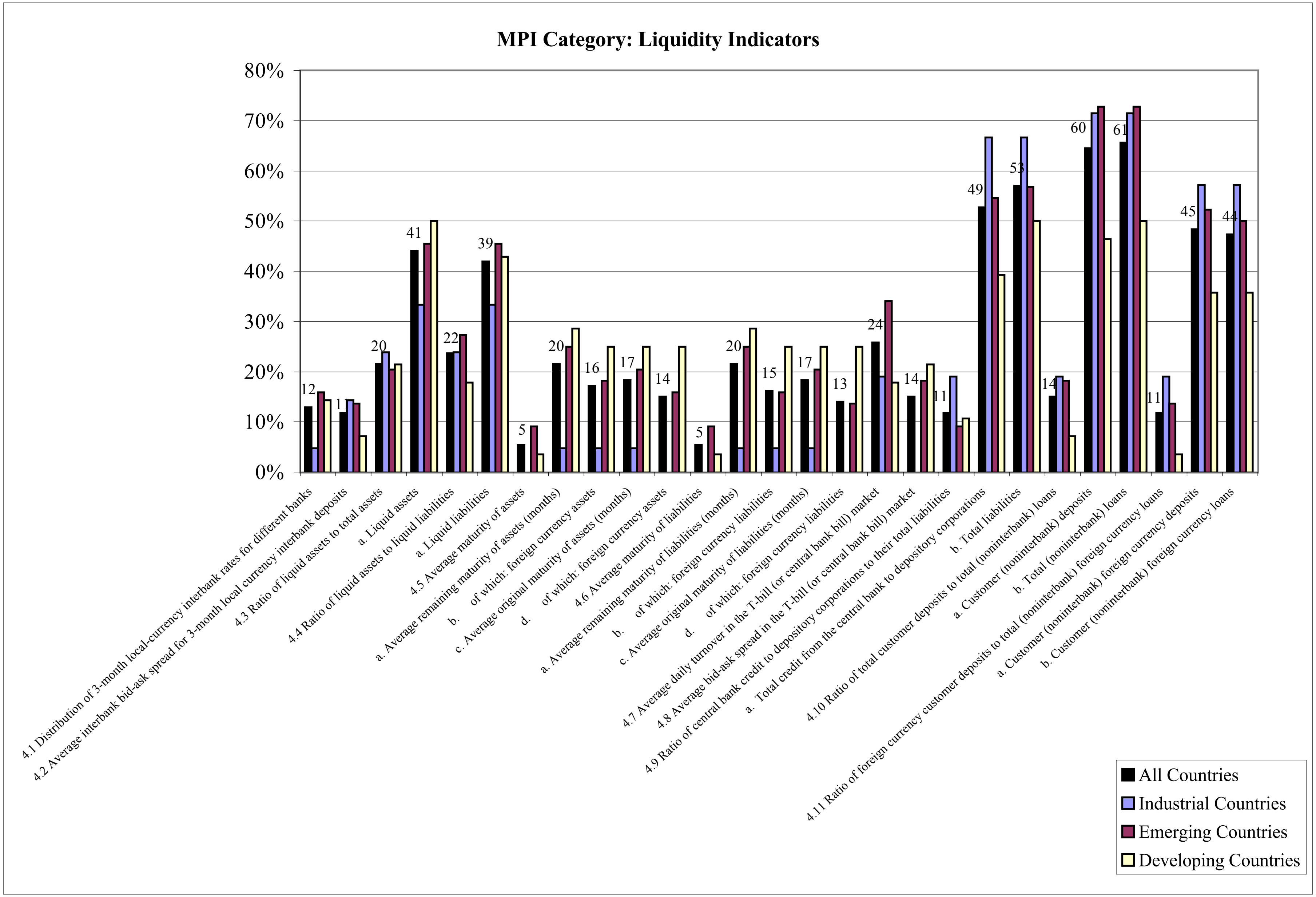
Bars indicate the percentage of respondents that compiled a MPI or its components. Numbers above a bar indicate the number of respondents compiling that item.

Chart 3. Dissemination of MPIs and Components of MPIs, by Type of Economy (continued)



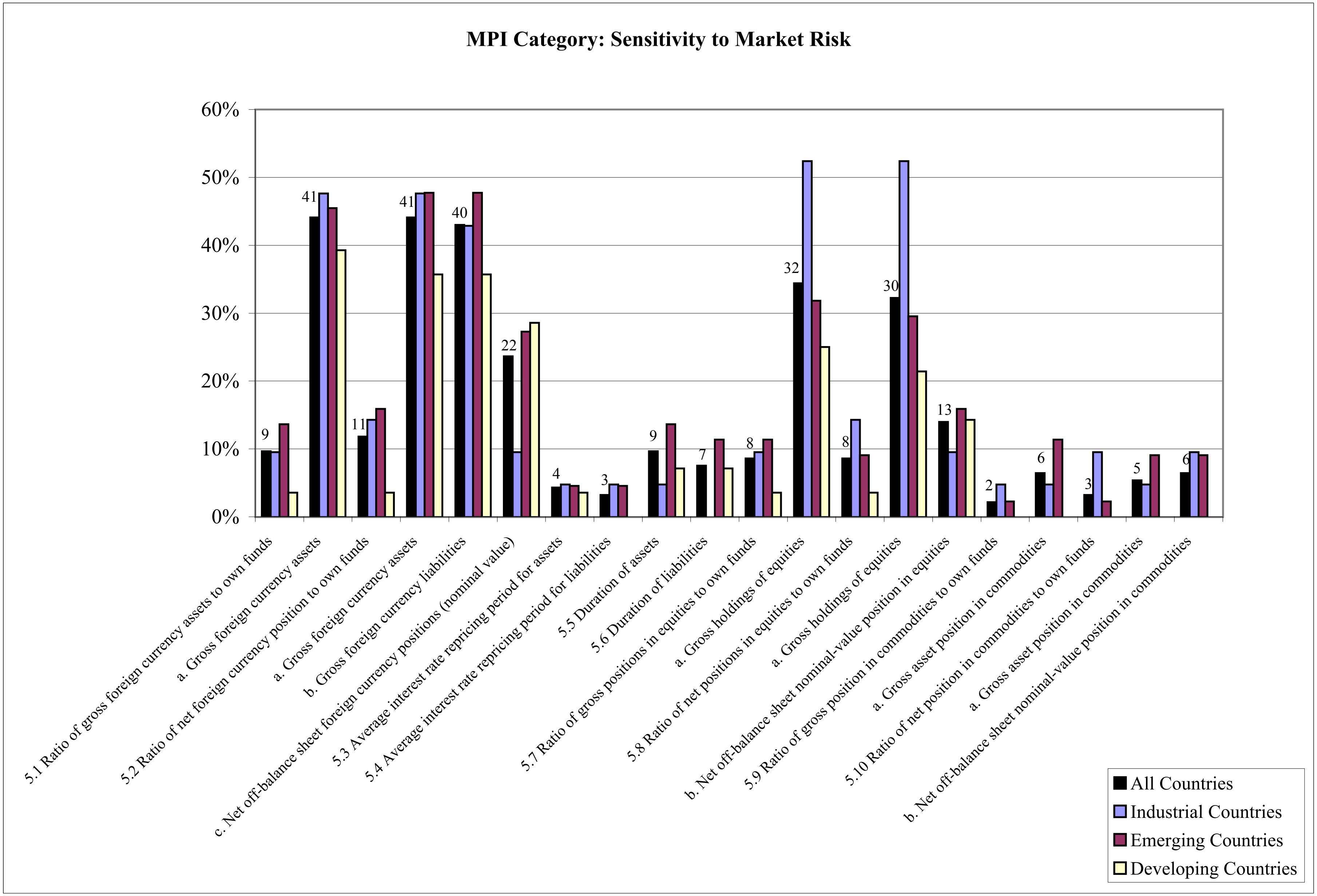
Bars indicate the percentage of respondents that compiled a MPI or its components. Numbers above a bar indicate the number of respondents compiling that item.

Chart 3. Dissemination of MPIs and Components of MPIs, by Type of Economy (continued)



Bars indicate the percentage of respondents that compiled a MPI or its components. Numbers above a bar indicate the number of respondents compiling that item.

Chart 3. Dissemination of MPIs and Components of MPIs, by Type of Economy (concluded)



Bars indicate the percentage of respondents that compiled a MPI or its components. Numbers above a bar indicate the number of respondents compiling that item..

INTERNATIONAL MONETARY FUND
WASHINGTON, D.C. 20431

Survey on the Use, Compilation, and Dissemination of Macroprudential Indicators

At the request of its Executive Board, the International Monetary Fund (IMF) is conducting a survey of needs and practices related to macroprudential indicators (MPIs)--defined broadly as indicators of the health and stability of financial institutions and of their corporate and household counterparties. The purpose of the survey is to gather information on the use of macroprudential data and on country practices in compiling and disseminating the data. Survey results will be used to identify a set of statistical measures that can be regularly monitored by national authorities in their financial sector assessment work, by the IMF in its surveillance activities, and ultimately by the private sector.

The survey covers the use, compilation, and dissemination of aggregate data on the financial system, and does not cover information on individual institutions. The survey is intended to solicit the views of respondents and is NOT intended to gather the actual numerical data on MPIs. All responses are confidential. No information will be released in a form that allows public identification of individual country responses.

Work by the IMF on MPIs is part of ongoing efforts in the international community to strengthen the architecture of the global financial system. Among the institutions to initiate action in this area, the IMF has been called upon to assess financial system soundness as part of its surveillance work--a process now under way as part of the joint World Bank-IMF Financial Sector Assessment Program (FSAP), introduced in May 1999. The ability to monitor financial soundness presupposes the availability of valid indicators of the health and stability of financial systems--or MPIs. MPIs allow for assessments based on objective measures of financial soundness. If comparable across countries--through adherence to internationally agreed prudential, accounting, and statistical standards--they facilitate monitoring at the global level and permit comparisons of national conditions with global benchmarks. If made publicly available, they enhance access to key financial information and can contribute to strengthening of market discipline.

The focus of this survey is on indicators of the current health of the financial system, which are primarily derived by aggregating data on the soundness of individual financial institutions. For practical purposes, the survey limits itself to the depository corporations (banking) sector and to their corporate and household counterparties. This focus is appropriate for a first-time survey in this area, but it is recognized that further research is needed on the effects of nondepository financial institutions and securities markets on financial stability.

MPIs are only one of the tools of macroprudential analysis. The assessment of financial system soundness involves coupling the analysis of MPIs with macroeconomic data on overall economic conditions, information on other financial institutions and markets, and qualitative information about the institutional, policy, and regulatory environment. A variety of techniques can be used in macroprudential analysis, including stress tests, sensitivity analysis, and other methodologies.

Instructions for Completing the Survey

The survey is being sent to the central banks of all IMF member countries. The survey has two major parts, which are addressed to different organizations in your country. We would like to request the assistance of your institution in identifying the appropriate respondents for each part of the survey, forwarding the questionnaires, and collecting the responses (see below). We would appreciate the return of the completed survey to us by July 28, 2000.

Part I: User Questionnaire: This questionnaire is addressed to (1) financial sector supervisors, (2) analysts and policy officials within the central bank or other government authorities involved in the analysis of financial system soundness, and (3) financial markets participants and analysts in academia or the private sector. Six copies of the User Questionnaire are provided, for distribution by the central bank. The central bank may find it useful to select respondents based on their ability to contribute to a balanced depiction of the needs for MPIs in the country. In order to protect the confidentiality of private sector and academic respondents, we would like to request that the central bank prepare an overview of their responses, which should be returned to the IMF.

> **Part I (a): User Questionnaire:** Covers usefulness of specific MPIs and requirements for frequency of compilation.

> **Part I (b): Supplementary Issues:** Covers additional questions related to the needs for, and analysis of, MPIs.

Part II: Compilation and Dissemination Questionnaire: This questionnaire is intended for staff within the monetary or supervisory authorities, or other government institutions, responsible for the compilation of MPIs and components of MPIs, and for their dissemination to the public, where appropriate. The selection of the respondents will depend upon the institutional setup in each country.

> **Part II (a): Compilation and Dissemination Questionnaire:** Covers practices related to the compilation and dissemination of MPIs or components of MPIs.

> **Part II (b): Supplementary Issues:** Covers technical questions on factors affecting the compilation and dissemination of MPIs or components of MPIs.

> **Part II (c): Valuation Issues:** Covers valuation practices affecting MPIs or components of MPIs.

Coverage: The survey covers the depository corporations subsector, which corresponds roughly to the banking sector. It includes all major divisions of depository corporations, including commercial banks, branches and subsidiaries of foreign banks operating in your country, money market funds that issue deposit-like shares, foreign-currency and foreign trade banks, international banking facilities, investment banks, mortgage banking institutions, credit unions, specialized banks, and others as appropriate. Government-owned or -controlled depository corporations are included. For the purpose of this survey, the central bank is excluded. Mutual funds whose liabilities to investors are close substitutes for bank deposits should be included in the survey, but other mutual funds should be excluded.

MPIs and MPI components: The questionnaires list a number of aggregate indicators that, based on surveillance and empirical work at the IMF and elsewhere, are considered useful for assessing the health and stability of financial systems. The survey also gathers information on components of MPIs to ascertain whether the underlying information exists to compile MPIs that are not now being compiled. The exact definitions of each indicator or its components may vary from country to country. Respondents are kindly asked to indicate cases where the MPIs used or available are similar to, but not identical to, those presented in the survey.

Special Issues Pages: The User Questionnaire and the Compilation and Dissemination Questionnaire each include a page devoted to a series of questions on special issues related to MPIs.

Additional comments: Respondents may wish to provide supplemental information important for the analysis of financial stability conditions in their country, important indicators not listed in the survey, special conditions that affect compilation and dissemination of MPIs, and alternatives to the definitions and descriptions of MPIs provided in the survey. "Comments" cells for this purpose corresponding to each MPI have been created on the User Questionnaire, Part I (a), and spaces for general comments are provided at the ends of the User Questionnaire Part I (a) and the Compilation and Dissemination Questionnaire Part II (a). Other comments may be entered elsewhere in the spreadsheets by right-clicking your mouse button to select "Insert Comment".

Optional reports on other financial institutions and markets: Central banks may also choose to provide separate reports for other financial institutions or markets that are important for the analysis of overall financial stability conditions in their country. When doing so, please describe the types of institutions or markets covered and why they are important for macroprudential analysis.

Returning the questionnaire: Responses should be sent to the Fund by **July 28, 2000:**
-- by internet to:
f2survey@imf.org
-- or by mail (diskette or paper copy) to:
MPI Survey
Financial Institutions Division II
Statistics Department
International Monetary Fund
700 19th Street, N.W.
Washington, D.C. 20431, U. S. A.

Contacts regarding the survey: IMF staff may contact you regarding the survey to better understand your needs and compilation practices related to MPIs, or to clarify your responses.

MPI Survey
- Explanation of Terms -

DISCLAIMER: This glossary is provided for the convenience of the recipients of this survey. The explanations of the terms may not correspond to official definitions or standards.

BID-ASK SPREAD: Difference between the prices at which a market participant is willing to buy and sell a security, such as a Treasury security.

BASLE CAPITAL: Capital as defined in the 1988 Capital Accord of the Basle Committee on Banking Supervision, and subsequent revisions. The Accord defines three capital elements. Tier 1 capital consists of permanent shareholders' equity and disclosed reserves; Tier 2 capital consists of undisclosed reserves, revaluation reserves, general provisions and loan-loss reserves, hybrid debt-equity capital instruments, and subordinated long-term debt (over five years); Tier 3 capital consists of subordinated short-term debt (over two years).

BASLE CAPITAL ADEQUACY RATIO: The ratio of capital, as defined above, divided by risk-weighted assets. Risk-weighted assets equals the sum of each category of asset (and on-balance-sheet equivalents for off-balance sheet positions) multiplied by a weight representing the credit risk associated with each category.

BASLE CAPITAL DEDUCTIONS: Under the Basel Capital Accord, supervisors may require depository corporations to deduct certain items -- such as investments in non-consolidated financial subsidiaries -- from capital in order to calculate capital adequacy ratios.

CAPITAL: Sum of equity capital and reserves. It is the amount by which assets exceed liabilities.

CONSOLIDATION: Consolidation refers to the elimination of stocks and flows between institutional units when they are grouped. In particular, a headquarters office and its branch offices and subsidiaries would report stock and flow data consolidated in a single statement. Global consolidation refers to the elimination of stocks and flows occurring across all offices regardless of their country of location. National consolidation refers to the elimination of stocks and flows occurring across all offices that are residents of a specific country.

CREDIT: Comprises assets for which the counterparty incurs debt liabilities. Includes loans, securities other than shares, and miscellaneous receivables. Equity instruments, financial derivatives, and lines of credit are excluded.

DEBT SERVICE: Repayments of principal and interest on mortgages or other outstanding debt.

DEPOSITORY CORPORATION: Financial institutions that engage in banking-type activities, whether or not they are called banks or are subject to supervision by a regulatory/supervisory office. The standard statistical definition includes the central bank and other depository corporations, described below, but for the purposes of this survey, the central bank is excluded.

DURATION: Weighted average term-to-maturity of an asset's cash flow, the weights being the present value of each future cash flow as a percentage of the asset's full price.

EQUITY CAPITAL: Issued and fully paid ordinary shares/common stock and noncumulative perpetual preferred stock (but excluding cumulative preferred stock).

FINANCIAL DERIVATIVE (or derivative instrument): Contract whose value is based on the performance of an underlying financial asset, index, or other investment.

GLOBAL CONSOLIDATION: An accounting statement including all parts of an enterprise regardless of their locations worldwide. (See Consolidation)

GROSS ASSET (OR LIABILITY) POSITION IN DERIVATIVES: The on-balance sheet value of derivatives in an asset (or liability) position, plus the fair value of off-balance sheet derivatives in an asset (or liability) position.

INTEREST INCOME, NET: Difference between the interest income produced by a financial institution's earning assets (loans and investments) and its interest expenses.

LOANS: Financial assets that (1) are created when a creditor lends funds directly to a debtor; (2) are evidenced by non-negotiable documents; or (3) for which no security is issued as evidence of the transaction.

MORTGAGE: Loans under which the borrower gives the lender a lien on the property (usually real estate) as collateral for repayment of the loan.

NATIONAL CONSOLIDATION: An accounting statement encompassing all parts of an enterprise within a country, but excluding branches and subsidiaries outside the country. (See Consolidation)

NET POSITION: Refers to gross holdings, less gross liabilities, plus net positions under derivatives or other financial commitments in currencies, other financial instruments, or commodities. For example, a net foreign currency position equals gross foreign-currency denominated assets, less gross foreign-currency denominated liabilities, plus the net position under foreign-currency financial derivatives and other financial commitments.

NOMINAL VALUE OF FINANCIAL DERIVATIVES: The stated contract value of the underlying item delivered under a financial derivative. For example, an option that has a nominal value of 100,000 francs will deliver 100,000 francs when exercised.

NONPERFORMING LOAN (NPL): A loan is said to be nonperforming when the principal and/or interest payments on it according to the original terms of the borrower's loan agreement are past due (e.g., by 90 days or more).

OPERATING COSTS: The sum of interest and noninterest (fees and commissions, trading losses, and salary and other current costs) expenses.

OTHER DEPOSITORY CORPORATIONS: Banks (other than the central bank) and similar institutions that carry out banking functions with the public. A full definition is provided in the *System of National Accounts 1993*. The definition corresponds with monetary financial institutions as defined in the *European System of Accounts, 1995.* It includes a variety of institutions regardless of whether they are called banks or are subject to banking supervision, including commercial banks, branches and subsidiaries of foreign banks operating in the country, money market funds that issue deposit-like shares, foreign-currency and foreign trade banks, international banking facilities, investment banks, Islamic banks, mortgage banking institutions, credit unions, specialized banks, and others as appropriate. Government-owned or -controlled depository corporations are included. Mutual funds whose liabilities to investors are close substitutes for bank deposits are included, but other mutual funds are excluded.

OWN FUNDS: Equity capital and reserves.

PROFITS: Sum remaining after all expenses have been met or deducted from income. Both pre-tax and post-tax concepts are used.

REFERENCE RATE: A specific lending or borrowing rate considered representative of overall rates that is used as a benchmark for evaluating conditions in interest rate markets.

RELATED ENTITIES: Affiliated enterprises, owners and management of an enterprise, and individuals related to owners and managers.

REPRICING PERIOD FOR INTEREST RATES: The average period (usually expressed in months) until existing financial instruments are redeemed or until the interest rates on financial instruments are reset or reindexed.

TURNOVER: Volume of securities traded during a period (e.g., daily) as a percentage of total securities listed on an exchange.

INTERNATIONAL MONETARY FUND
Washington, DC 20431

Survey on the Use, Compilation, and Dissemination of Macroprudential Indicators (MPIs)

Entering information on the form: Survey information can be entered directly in the Excel spreadsheets in the enclosed computer diskette. Responses also can be entered on paper copies of the survey. Use of the Excel spreadsheets is preferred.

Types of entries: Different types of responses are classified by various color blocks.

Data entries--MPIs
Data entries--MPI components
Descriptions of categories and ranges used

Identification Section

Country:	

Institution:	

Address:	

Contact Person:	
Title:	

Telephone:	
Fax:	
E-mail:	

MPI Survey -- Part I (a)
User Questionnaire

Check type of user: Supervisor ____
Policy/Research ____
Market Participant/Other ____

MPI	Is aggregate information on this MPI useful? 4 - very useful 3 - useful 2 - sometimes useful 1- not useful X - no opinion	How frequently should this MPI be compiled to meet users' needs? M - monthly Q - quarterly S - semi-annually A - annually O - other (specify)	Comments
1. Capital Adequacy			
1.1 Basle Capital Adequacy Ratio			
1.1a Ratio of Basle Tier I Capital to risk-weighted assets			
1.1b Ratio of Basle Tier I + Tier II Capital to risk-weighted assets			
1.1c Ratio of Basle Tier I + II + III Capital to risk-weighted assets			
1.2 Distribution of Capital Adequacy Ratios (Number of institutions within specified capital adequacy ratio ranges)			
1.3 Leverage Ratio (Ratio of total on-balance sheet assets to own funds)			
2. Assets quality: (a) Lending Institutions			
2.1 Distribution of on-balance sheet assets, by Basle risk-weight category			
2.2 Ratio of total gross asset position in financial derivatives to own funds			
2.3 Ratio of total gross liability position in financial derivatives to own funds			
2.4 Distribution of loans, by sector			
2.4a *of which*: for investment in commercial real estate			
2.4b *of which*: for investment in residential real estate			
2.5 Distribution of credit extended, by sector			
2.6 Distribution of credit extended, by country or region			
2.7 Ratio of credit to related entities to total credit			
2.8 Ratio of total large loans to own funds			
2.9 Ratio of gross nonperforming loans to total assets			
2.10 Ratio of nonperforming loans net of provisions to total assets			
2. Assets Quality: (b) Borrowing Institutions			
2.11 Ratio of corporate debt to own funds ("debt-equity ratio")			
2.12 Ratio of corporate profits to equity			
2.13 Ratio of corporate debt service costs to total corporate income			
2.14 Corporate net foreign currency exposure			
2.15 Ratio of household total debt to GDP			
2.15a *of which:* mortgage debt to GDP			
2.15b *of which:* debt owed to depository corporations to GDP			
2.16 Number of applications for protection from creditors			
3. Profitability and Competitive Indicators			
3.1 Rate of change in number of depository corporations			
3.2 Ratio of profits to period-average assets (ROA)			
3.3 Ratio of profits to period-average equity (ROE)			

Check type of user: Supervisor ____ Policy/Research ____ Market Participant/Other ____	**Is aggregate information on this MPI useful?**	**How frequently should this MPI be compiled to meet users' needs?**	**Comments**
MPI	4 - very useful 3 - useful 2 - sometimes useful 1- not useful X - no opinion	M - monthly Q - quarterly S - semi-annually A - annually O - other (specify)	
3.4 Ratio of net interest income to total income			
3.5 Ratio of trading and foreign exchange gains/losses to total income			
3.6 Ratio of operating costs to net interest income			
3.7 Ratio of staff costs to operating costs			
3.8 Spread between reference lending and deposit rates			
3.9 Share of assets of the three largest depository corporations in total assets of depository corporations			
4. Liquidity Indicators			
4.1 Distribution of 3-month local-currency interbank rates for different depository corporations			
4.2 Average interbank bid-ask spread for 3-month local-currency deposits			
4.3 Ratio of liquid assets to total assets			
4.4 Ratio of liquid assets to liquid liabilities			
4.5 Average maturity of assets			
4.6 Average maturity of liabilities			
4.7 Average daily turnover in the T-bill (or central bank bill) market			
4.8 Average bid-ask spread in the T-bill (or central bank bill) market			
4.9 Ratio of central bank credit to depository corporations to depository corporations' total liabilities			
4.10 Ratio of customer deposits to total (noninterbank) loans			
4.11 Ratio of customer foreign currency deposits to total (noninterbank) foreign currency loans			
5. Sensitivity to Market Risk Indicators			
5.1 Ratio of gross foreign currency assets to own funds			
5.2 Ratio of net foreign currency position to own funds			
5.3 Average interest rate repricing period for assets			
5.4 Average interest rate repricing period for liabilities			
5.5 Duration of assets			
5.6 Duration of liabilities			
5.7 Ratio of gross equity position to own funds			
5.8 Ratio of net equity position to own funds			
5.9 Ratio of gross position in commodities to own funds			
5.10 Ratio of net position in commodities to own funds			

Additional Comments: This space is for any additional comments you may wish to provide, such as MPIs or topics you address that are not covered in the survey, MPIs defined differently than in the survey, or concerns over data quality or availability. We are also interested in views regarding MPIs or topics that are not relevant for your needs or that are seen as impractical.

MPI Survey -- Part I (b)
- Supplementary Issues -

1. Macroprudential research

Are you carrying out, or planning, research on the health and stability of the financial system? Is this research focused on the condition of individual institutions, the banking sector as a whole, or other sectors? What analytical or statistical frameworks are employed in this research?

2. Coverage of financial institutions

a. Other important institutions, markets, and financial activities

In addition to depository corporations, what other markets, institutions, and financial activities are important in the overall analysis of the soundness and condition of the financial sector?

b. Aggregation of depository institutions

Within the definition of "depository corporations" used in this survey, is there a need for further disaggregation or special analysis of specific subsectors, for example, for foreign banks, international banking facilities, internationally active banks as covered under the Basle standards, mutual funds, or others?

c. Systemically important institutions

What techniques are used to evaluate the condition of systemically important institutions in your country? How are systemically important institutions identified? Are they subject to enhanced statistical requirements or disclosure requirements?

3. MPI norms, benchmarks, and thresholds

What norms or benchmark levels or ranges are used for MPIs? Have values been identified for warning level thresholds?

4. Presentation of MPIs

Please indicate your preferences regarding the mode for presentation of MPIs (e.g., as single point estimates, ratios, growth rates, measures of dispersion, standard deviations, etc.).

5. Composite measures

Please indicate whether you use, or plan to use, composite measures of the condition of the financial system? What types of information are used to construct such measures?

6 Business surveys

Do you make use of business survey results (general surveys of business sentiment, specialized surveys on financial institutions) to supplement your analysis of MPIs?

MPI Survey -- Part II (a)
Compilation and Dissemination Questionnaire

MPIs and COMPONENTS	COMPILATION		DISSEMINATION		DATA SOURCES		
	Periodicity	**Timeliness**	**Periodicity**	**Timeliness**	**Supervisory**	**Statistical**	**Other (specify)**
	M - monthly Q - quarterly S - semi-annually A - annually O - other (specify) X - not compiled	Average number of working days after reference period X = not compiled	M = monthly Q = quarterly S = semi-annually A = annually O = other (specify) X = not disseminated	Average number of working days after reference period X = not disseminated	(Indicate type of consolidation used) G = global consolidation N = national consolidation B = both national and global consolidation		
1. Capital Adequacy							
1.1 Basle Capital Adequacy Ratio							
a. Basle Tier I Capital (net of deductions)							
b. Basle Tier II Capital (net of deductions)							
c. Basle Tier III Capital (net of deductions)							
d. Risk-weighted assets							
1.2 Distribution of Capital Adequacy Ratios							
a. Number of institutions with Basle capital ratios falling into specified ranges:							
Specify range used: __% to __%, etc. — *specify*							
b. Assets of institutions within each range							
c. Assets by type of depository corporation:							
c.1 Headquartered in the country							
of which: Internationally active							
of which: State-owned or -controlled							
c.2 Headquartered in other countries							
1.3 Leverage Ratio (Ratio of total on -balance sheet assets to own funds)							
a. Total on-balance sheet assets							
b. Own funds (equity capital and reserves)							
2. Assets Quality: (a) Lending institution							
2.1 Distribution of on-balance sheet assets, by Basle risk-weight category							
a. Assets per Basle risk-weight category							
2.2 Ratio of total gross asset position in financial derivatives to own funds							
a. Total gross asset position in derivatives							
b. *of which:* off-balance sheet position							
2.3 Ratio of total gross liability position in financial derivatives to own funds							
a. Total gross liability position in derivatives							
b. *of which:* off-balance sheet position							
2.4 Distribution of loans, by sector							
a. Loans, by national accounts sectors							
Of which:							
a.1. Loans for investment in commercial real estate							
a.2. Loans for investment in residential real estate							
a.3. Loans to other key sectors — *specify*							
b. Total loans							
2.5 Distribution of credit extended, by sector							
a. Credit, by national accounts sectors							
b. Total credit							
2.6 Distribution of credit, by country or region							
a. Loans, by country or region							
2.7 Ratio of credit to related entities to total credit							
a. Credit to related entities (enterprises, management, or individuals)							

MPI Survey -- Part II (a)
Compilation and Dissemination Questionnaire

MPIs and COMPONENTS	COMPILATION		DISSEMINATION		DATA SOURCES		
	Periodicity	Timeliness	Periodicity	Timeliness	Supervisory	Statistical	Other (specify)
	M - monthly Q - quarterly S - semi-annually A - annually O - other (specify) X - not compiled	Average number of working days after reference period X = not compiled	M = monthly Q = quarterly S = semi-annually A = annually O = other (specify) X = not disseminated	Average number of working days after reference period X = not disseminated	(Indicate type of consolidation used) G = global consolidation N = national consolidation B = both national and global consolidation		
2.8 Ratio of total large loans to own funds							
a. Total large loans (specify size range) *specify*							
2.9 Ratio of gross non-performing loans to total assets							
a. Gross nonperforming loans							
2.10 Ratio of non-performing loans net of provisions to total assets							
a. Nonperforming loans net of provisions							
2. Assets Quality: (b) Borrowing Institution							
2.11 Ratio of corporate debt to own funds ("debt-equity ratio")							
a. Total corporate debt							
b. Corporations' own funds							
2.12 Ratio of corporate profits to equity							
a. Corporate pre-tax profits							
b. Corporate post-tax profits							
2.13 Ratio of corporate debt service costs to profits							
a. Corporate debt service costs							
2.14 Corporate net foreign currency exposure							
a. Gross foreign currency assets							
b. Gross foreign currency liabilities							
c. Net off-balance sheet foreign currency positions (nominal value), not included above							
2.15 Ratio of household debt to GDP							
a. Household total debt							
b. *of which:* mortgage debt							
c. *of which:* debt to depository corporations							
2.16 Number of applications for protection from creditors							
3. Profitability and Competitive Indicators							
3.1 Rate of change in the number of depository corporations							
a. Difference between no. of institutions at beginning and end of period							
b. *of which:* due to mergers and acquisitions							
c. *of which:* due to withdrawals of licenses or closing of units							
3.2 Ratios of profits to period-average assets (ROA)							
a. Pre-tax, after provisions profits							
b. Post-tax profits							
c. Total period-average on-balance sheet assets							
3.3 Ratios of profits to period-average equity (ROE)							
a. Pre-tax, after provisions profits							
b. Post-tax profits							
c. Period-average equity							

MPI Survey -- Part II (a)
Compilation and Dissemination Questionnaire

MPIs and COMPONENTS	COMPILATION Periodicity M - monthly Q - quarterly S - semi-annually A - annually O - other (specify) X - not compiled	COMPILATION Timeliness Average number of working days after reference period X = not compiled	DISSEMINATION Periodicity M = monthly Q = quarterly S = semi-annually A = annually O = other (specify) X = not disseminated	DISSEMINATION Timeliness Average number of working days after reference period X = not disseminated	DATA SOURCES Supervisory	DATA SOURCES Statistical	DATA SOURCES Other (specify)
					(Indicate type of consolidation used) G = global consolidation N = national consolidation B = both national and global consolidation		
3.4 Ratio of net interest income to profits							
a. Net interest income							
3.5 Ratio of trading and foreign-currency gains/losses to profits							
a. Gains/losses in securities and foreign currencies							
3.6 Ratio of operating costs to net interest income							
a. Operating costs							
3.7 Ratio of staff costs to operating costs							
a. Staff costs							
3.8 Spreads between reference lending and deposit rates							
a. Reference lending rate (Specify rate) *specify*							
b. Reference deposit rate (Specify rate) *specify*							
3.9 Share of assets of the three largest depository corporations in total assets of depository corporations							
a. Assets of the three largest depository corporations							
4. Liquidity Indicators							
4.1 Distribution of 3-month local-currency interbank rates for different banks							
4.2 Average interbank bid-ask spread for 3-month local currency interbank deposits							
4.3 Ratio of liquid assets to total assets							
a. Liquid assets							
4.4 Ratio of liquid assets to liquid liabilities							
a. Liquid liabilities							
4.5 Average maturity of assets							
a. Average remaining maturity of assets (months)							
b. *of which:* foreign currency assets							
c. Average original maturity of assets (months)							
d. *of which:* foreign currency assets							
4.6 Average maturity of liabilities							
a. Average remaining maturity of liabilities (months)							
b. *of which:* foreign currency liabilities							
c. Average original maturity of liabilities (months)							
d. *of which:* foreign currency liabilities							
4.7 Average daily turnover in the T-bill (or central bank bill) market							
4.8 Average bid-ask spread in the T-bill (or central bank bill) market							

MPI Survey -- Part II (a)
Compilation and Dissemination Questionnaire

MPIs and COMPONENTS	COMPILATION Periodicity	COMPILATION Timeliness	DISSEMINATION Periodicity	DISSEMINATION Timeliness	DATA SOURCES Supervisory	DATA SOURCES Statistical	DATA SOURCES Other (specify)
	M - monthly Q - quarterly S - semi-annually A - annually O - other (specify) X - not compiled	Average number of working days after reference period X = not compiled	M = monthly Q = quarterly S = semi-annually A = annually O = other (specify) X = not disseminated	Average number of working days after reference period X = not disseminated	(Indicate type of consolidation used) G = global consolidation N = national consolidation B = both national and global consolidation		
4.9 Ratio of central bank credit to depository corporations to their total liabilities							
a. Total credit from the central bank to depository corporations							
b. Total liabilities							
4.10 Ratio of total customer deposits to total (noninterbank) loans							
a. Customer (noninterbank) deposits							
b. Total (noninterbank) loans							
4.11 Ratio of foreign currency customer deposits to total (noninterbank) foreign currency loans							
a. Customer (noninterbank) foreign currency deposits							
b. Customer (noninterbank) foreign currency loans							
5. Sensitivity to Market Risk Indicators							
5.1 Ratio of gross foreign currency assets to own funds							
a. Gross foreign currency assets							
5.2 Ratio of net foreign currency position to own funds							
a. Gross foreign currency assets							
b. Gross foreign currency liabilities							
c. Net off-balance sheet foreign currency positions (nominal value), not included above							
5.3 Average interest rate repricing period for assets							
5.4 Average interest rate repricing period for liabilities							
5.5 Duration of assets							
5.6 Duration of liabilities							
5.7 Ratio of gross positions in equities to own funds							
a. Gross holdings of equities							
5.8 Ratio of net positions in equities to own funds							
a. Gross holdings of equities							
b. Net off-balance sheet nominal-value position in equities, not included above							
5.9 Ratio of gross position in commodities to own funds							
a. Gross asset position in commodities							
5.10 Ratio of net position in commodities to own funds							
a. Gross asset position in commodities							
b. Net off-balance sheet nominal-value position in commodities, not included above							

Additional Comments: This space is for any additional comments you may wish to provide, such as MPIs or topics you address that are not covered in the survey, MPIs defined differently than in the survey, or concerns over data quality or availability. We are also interested in views regarding MPIs or topics that are not relevant for your needs or that are seen as impractical.

MPI Survey -- Part II (b)
- Supplementary Issues -

1. Institutional coverage

a. Supervisory responsibility over financial institutions

Please list the institutions that have supervisory responsibility for various segments of the financial system and financial activities.

b. Institutional coverage

Please specify the institutional coverage *for each data source* (e.g. supervisory, statistical, other). Coverage of branches and subsidiaries of foreign financial institutions operating in the country should be described. Also describe coverage of offshore banking operations.

2. Loan classification and provisioning rules

a. Classification rules

Please describe the system for grading substandard loans.

b. Income recognition/interest accrual rules

Please describe practices and standards for recognition of income, accrual of interest, or other changes in value.

c. Loan-loss provisioning rules

Please describe the rules governing the recognition and valuation of provisions.

d. Collateral

Please describe requirements and valuation rules for collateral (including real estate).

3. Capital classification rules

Please describe the components of Tier I, Tier II, and (if applicable) Tier III capital, and the deductions for each category.

4. Other issues

Please describe practices for recognition and instrument classification for repurchase agreements, securities lending, bankers' acceptances, and financial derivatives.

5. Real estate lending

Please describe the categories of lending that are recorded as real estate lending, such as loans for the purpose of real estate construction, loans to construction companies, loans collateralized by real estate, mortgage loans, etc. What real estate price information is available?

6. Data Dissemination

a. Restrictions on dissemination of aggregated data

Please describe legal and other restrictions on the dissemination of the MPIs and their components to the public.

b. Restrictions on dissemination of individual institutions' data

Please describe legal and other restrictions on the disclosure of information on individual financial institutions (including any restrictions on provision of information to the IMF).

MPI Survey -- Part II (c)
- Valuation Issues -

	PRICE		FOREIGN CURRENCY DENOMINATED INSTRUMENTS	
	Reference price H = historic cost M = market price/fair value L = lower of cost or market O = other (specify)	**Frequency of revaluations** B = on balance sheet date O = other (specify)	**Conversion exchange rate** E = market rate (end period) A = market rate (per. average) G = official rate O = other (specify)	**Frequency of revaluations** B = on balance sheet date O = other (specify)
1. Supervisory Data Sources				
a. Deposits				
b. Loans				
c. Securities (other than shares)				
d. Shares and other equity				
e. Financial derivatives				
f. Miscellaneous receivables/ payables				
g. Nonfinancial assets (real estate; other assets)				
2. Statistical Data Sources				
a. Deposits				
b. Loans				
c. Securities (other than shares)				
d. Shares and other equity				
e. Financial derivatives				
f. Miscellaneous receivables/ payables				
g. Nonfinancial assets (real estate; other assets)				
3. Other Data Sources				
a. Deposits				
b. Loans				
c. Securities (other than shares)				
d. Shares and other equity				
e. Financial derivatives				
f. Miscellaneous receivables/ payables				
g. Nonfinancial assets (real estate; other assets)				