Supervisory Guidance on the Independent Assessment of Financial Institution Year 2000 Preparations

J O I N T Y E A R 2 0 0 0 C O U N C I L

Basle Committee on Banking Supervision
Committee on Payment and Settlement Systems
International Association of Insurance Supervisors
International Organization of Securities Commissions

Bank for International Settlements

July 1998

Supervisory Guidance on the Independent Assessment of Financial Institution Year 2000 Preparations

Introduction

Following work carried out by its individual parent committees, the Joint Year 2000 Council has decided to take additional steps to promote Year 2000 preparedness globally. It is therefore issuing this "Supervisory Guidance on the Independent Assessment of Financial Institution Year 2000 Preparations", which is adapted from guidance developed by one of its parent committees, the Basle Committee on Banking Supervision. It is hoped that this guidance will move supervisors from a level of general awareness of the problem to a specific, concrete programme of action for overseeing Year 2000 readiness, both on an individual financial institution basis and on a system-wide basis. In addition, the parent committees of the Council encourage supervisors to determine that financial institutions have established realistic target dates for completing specific steps of the conversion process.

This document provides a structure for conducting an independent assessment of financial institution readiness related to the Year 2000[1]. Supervisory agencies in different countries typically utilise different methods for overseeing the activities of the institutions for which they have responsibility (for example, bank supervisors utilise examiners, external auditors, or a combination of the two, to provide independent verification of information provided by banks). The Council believes that the guidance contained in this document can be beneficial to examiners, auditors and others. The Council also believes that supervisors should consider conducting prudential interviews with senior management of financial institutions on this critical topic and that this guidance could form the foundation of such discussions. Finally, supervisors should consider sharing this guidance with their financial institutions in order to help them in their own internal evaluations of action plans.

With regard to the specific issue of Year 2000, no supervisor has the ability to make certain that problems will not occur due to the millennium change. Each financial institution bears responsibility for its own systems. However, supervisors should be able to assess whether the steps being taken by a financial institution to achieve Year 2000 readiness appear to be reasonable and prudent. Supervisors need to follow up quickly with those institutions that are viewed to be inadequately addressing the Year 2000 problem.

As outlined in such documents as the September 1997 paper issued by the Basle Committee: "The Year 2000: A Challenge for Financial Institutions and Bank Supervisors", the wide range of Year 2000-related risks necessitates that management implement a targeted, multifaceted action plan to protect both the organisation and its shareholders. Addressing the Year 2000 issue consists of several important elements. These elements fall into seven broad categories: (1) developing a strategic approach (2) creating organisational awareness; (3) assessing actions and developing detailed plans; (4) renovating systems, applications and equipment; (5) validating the renovation through testing; (6) implementing tested, compliant systems; and (7) contingency planning. The following guidance is organised under these seven headings. The paper also contains a final section on miscellaneous issues as well as a

[1] The guidance focuses on problems that similarly apply to all financial institutions. It does not deal with the specific problems of the different financial sectors. For instance, the insurance companies have to be aware of and to obviate the high risk of large insurance and reinsurance claims arising as a result of Year 2000.

list of resource documents issued by different supervisory authorities in various countries. These documents are referenced, as appropriate, in footnotes

Supervisors should be particularly concerned about those financial institutions that have not completed the first three phases listed above by mid-1998 and are not well into the renovation phase. Supervisors should consider taking specific action against such institutions in order to underscore the serious impact such lack of preparations would have.

It is imperative that those financial institutions, which may have given limited attention to this matter to date, begin immediately to take the necessary steps to achieve Year 2000 readiness. It is essential that senior management recognise that the Year 2000 is more than a technical issue and that they become involved in ensuring timely resolution of the situation. For many financial institutions that have not yet begun the Year 2000 renovation process, it may be impossible for the necessary changes to internal systems and external interfaces to be fully completed. Institutions that have not progressed sufficiently should focus on identifying and renovating those systems that are deemed to be "mission critical"[2]. All financial institutions, regardless of their level of preparedness, need to prioritise work yet to be done and initiate a contingency planning process.

Methodology

The following procedures are designed to assist supervisors, auditors and others in determining whether an institution has an effective plan for identifying, renovating, testing and implementing solutions for Year 2000 processing. Several of the recommended questions will also allow the examiner or auditor to assess whether the institution has effectively coordinated Year 2000 processing capabilities with its customers, service providers, markets, vendors and payment systems counterparties. It should be noted that the list of questions provided in each chapter is not meant to be exhaustive. In many instances, more detailed guidance can be found in the referenced documents.

Questions posed by supervisors or auditors will not necessarily result in a clear affirmative or negative answer. Rather, the questions are designed to provide an analytical framework for arriving at a current assessment of the adequacy of a financial institution's Year 2000 preparations. It is critical that verification of sufficient information to validate answers for each question be undertaken to the extent necessary. For example, supervisors should have access to copies of the action plan, other relevant internal documents and various elements of proof, where available[3] (such as the dates of meetings, the names of officers responsible for various elements of the programme, etc.). Negative answers should be followed up thoroughly with senior management.

An overall assessment will provide supervisors with a means of prioritising follow up activities, including supervisory actions, and allocating resources appropriately. In determining the appropriate follow up activities, supervisors should consider the extent to which the institution's management is aggressively pursuing effective corrective actions and the likelihood that mission-critical systems will be ready on time. In recognition of the time-sensitive nature of correcting deficiencies, supervisory actions should be largely determined

---

[2] "Mission critical" systems are those that a financial institution needs to have operational in order to conduct its most basic functions (for example, determining customer balances). Each institution needs to determine which systems are mission critical and establish priorities for deployment of scarce resources.

[3] For the local operations of foreign organisations, it may be appropriate to substitute oral explanations of plans rather than requiring translations of such plans.

by the cooperation, responsiveness and capability of the institution's management and the amount of time remaining prior to the millennium change.

I. Developing a Strategic Approach

The importance of timely preparations for the millennium change requires establishing the Year 2000 project as a strategic objective of the financial institution with a high degree of involvement by senior management. There should be an assignment of clear lines of responsibility and accountability. A Year 2000 team should be established to oversee the programme on an institution-wide basis. The strategic objective should be clearly communicated to all staff. In addition, the institution's board of directors and senior management should be involved in assessing the resource implications of the Year 2000 and kept informed through regular reports on the status of Year 2000 preparations.

Examiners/auditors should ask:

1. Has the financial institution clearly established the Year 2000 as a strategic objective?

2. Has the financial institution developed and documented a Year 2000 strategy? If so, has it been clearly communicated to all staff?

3. Has a senior-level executive been assigned explicit oversight responsibility for the financial institution's Year 2000 preparation efforts?

4. Has the financial institution established a Year 2000 group (including the appropriate officers from various departments) to coordinate the preparations for the organisation as a whole, including at foreign operations? How is this group organised and who are its members?

5. Has the financial institution clearly assigned the responsibilities for dealing with various aspects (technical, operational, business line) of the Year 2000 conversion? How has this been accomplished?

6. Are individuals with Year 2000 responsibilities able to devote sufficient time to the project to assure success?

7. Are status reports provided on a regular basis to the board of directors, senior management and all relevant personnel?

II. Creating Organisational Awareness

An adequate response to the millennium problem requires the entire financial institution to be aware of the strategic importance of the problem. There must be an awareness of how the millennium change affects the various activities of the institution, both domestically and overseas. The financial institution must also realise that its activities depend on numerous other parties (for example, customers, correspondents, service providers) that must also be ready for the millennium change. The financial institution must be aware of the various supervisory requirements for Year 2000 preparedness established in each of the jurisdictions in which it operates. In order to make all personnel aware of the Year 2000 problem, management should ensure that this issue is visible within the organisation and share its plans with all staff.

Examiners/auditors should ask:

1. Does the financial institution's board of directors and senior management have a clear understanding of the Year 2000 problem?

2. Has the board and senior management taken steps to assure the risks associated with the Year 2000, including risks in operation centres, domestic and foreign branches, subsidiaries and counterparties, are being fully addressed?

3. Does the financial institution take into consideration Year 2000 issues when addressing possible changes to organisational structure or key business decisions such as mergers and acquisitions? Is the financial institution aware of how competing priorities, including changes mandated by external regulatory or business environments, may affect its ability to achieve Year 2000 readiness?

4. Has the financial institution acknowledged that, where it holds customer assets, it has an obligation to ensure that those assets are properly protected from Year 2000 risk?

5. Has the financial institution acknowledged the various major interdependencies with external parties, including customers, other financial institutions, central banks, utilities, exchanges, clearing-houses, service providers and vendors?

6. Is the financial institution aware of all supervisory benchmarks, target dates, and other sound practices identified for Year 2000 compliance in each jurisdiction in which it operates?

7. Does the financial institution regularly communicate with staff regarding the Year 2000 problem in order to make all personnel aware of the issue? Have personnel been given the opportunity to identify specific Year 2000 problems?

8. Are the financial institution's internal and external auditors involved in the Year 2000 process?

III. Assessing Actions and Developing Detailed Plans

A critical step for all financial institutions in addressing the Year 2000 problem is the assessment of all areas and activities of the institution affected by the millennium change and the development of corresponding detailed plans to address conversion of the affected systems.

During the assessment phase, the financial institution must determine the size and complexity of the problem and detail the magnitude of the effort necessary to address the Year 2000 issue. An adequate assessment will include consideration of relationships with third parties, including vendors whose products and services the institution uses, other financial institutions, clearing-houses and customers with whom it exchanges data electronically, and customers whose standing may be diminished by significant disruptions associated with the millennium change. The assessment must also go beyond information systems and include environmental systems that are dependent on embedded microchips (for example, security systems, vaults, telephones, faxes, heating/cooling systems and elevators). The financial institution must make an inventory of all hardware and software in order to identify exposures and prioritise systems. This prioritisation will occur after a risk analysis of the various systems has been conducted.

The action plan will differ according to the size and complexity of the financial institution. The institution must identify the required resources (personnel, budget and external resources) needed to implement the action plan. The action plan should outline which systems will be replaced, upgraded or otherwise modified and what the conversion process will entail. The action plan should also include a concrete timetable for meeting each element of conversion[4]. This timetable will establish target dates against which to measure slippage in the implementation of the action plan. This timetable should include ample time for testing.

Examiners/auditors should ask:

1. Has the financial institution identified all systems, applications and equipment that could be affected by the millennium change? Has the institution identified critical business functions, taking into account the impact of failure due to Year 2000 problems?

2. Has this assessment included in-house systems, systems linked externally and all other systems with embedded computer chips?

3. Have target dates been established for each element of the conversion process? What are the target dates established? Do they allow sufficient time for adequate testing and timely implementation?

---

[4] Examples of completion targets are provided in several of the documents issued by national authorities contained in the bibliography at the end of this document. Targets will often vary by the size and complexity of the Year 2000 issue as well as from country to country.

4. Has the financial institution established strong monitoring of risk controls throughout the process to address the Year 2000 problem? Has the institution developed an appropriately detailed action plan to address the necessary conversions and potential resulting risks? Has the institution maintained sound internal controls over the software change process?

5. Has the financial institution addressed Year 2000 business risks with key markets, service providers, vendors and suppliers? For major dependencies, have trigger dates been established for obtaining alternative suppliers?

6. Has the financial institution discussed the Year 2000 problem with their major customers and counterparties and assessed whether customers will be able to meet their financial and informational obligations to the institution? Has Year 2000 readiness been incorporated into the list of criteria for assessing the suitability of customers and counterparties?

7. Does the action plan establish realistic time lines with key benchmarks (for example testing, contacting customers regarding their readiness), including specific target dates, to be achieved in 1998, 1999 and thereafter[5]?

8. Has the financial institution established a sufficient budget for Year 2000 conversion, taking into account the institution's unique characteristics? In addition, has the institution established a system for tracking utilised resources (expenses, internal and external personnel, technological equipment)? Has the institution included an assessment of its ability to secure the necessary resources to implement the action plan? Is the institution continuously evaluating its budget as events develop and hidden costs are discovered?

[5] In order to achieve Year 2000 readiness within existing time constraints, financial institutions may find it necessary to use approaches that are less than optimal from a longer-run business operation perspective. In such instances, post-century date change plans will address replacing temporary fixes with more permanent ones.

IV. Renovating Systems, Applications and Equipment

In this phase, which is primarily of a technical nature, the necessary adjustments to the affected systems are made. Execution should be done systematically with priorities set in accordance with risk. There should be a system of "change management"[6] in place. For financial institutions relying on outside servicers or third-party software providers, ongoing discussions to monitor vendor progress and adjust to internal schedules are critical.

It is important that, as problems arise in executing the action plan, they are promptly addressed and reported to the appropriate levels of management. The financial institution should continue to give highest priority to those activities that are considered mission-critical.

Examiners/auditors should ask:

1. Is the action plan (with clear target dates) well under way and is progress being adequately monitored?
2. Have there been any significant changes to established target dates? Do such changes materially affect the ability of the financial institution to be ready in a timely manner?
3. Has management established a channel to maintain timely communications with the institution's vendors and service providers to determine their progress toward implementing Year 2000 solutions?
4. Does the financial institution have adequate assurances from and monitoring of the quality of process and timeliness of delivery from outside vendors and service providers (for example, in back-up servicing and the quality assurance of products)? Is the institution aware of the usefulness of user groups for sharing best practices, obtaining information and applying pressure on major vendors and service providers? Is the institution utilising such groups?
5. What are the frequency and forms of internal reporting on implementation? Are issues or problems arising from implementation being properly documented?
6. What are the nature of problems or issues that have arisen during the course of implementation (for example, resource shortages, backlogs, bottlenecks, failures) and how have these issues been addressed?
7. Does the financial institution have an adequate "change management" process in place?

---

[6] "Change management" is the process whereby a new version of an application is put into production under appropriate controls.

V. Validating the Renovation through Testing

The most extensive phase in the Year 2000 action plan will be testing or validation. The objective of testing is to ensure that all hardware and software changes, including interfaces with other systems, are Year 2000 compliant. Financial institutions should test mission-critical systems first because failure of mission-critical services and products will have a significant adverse impact on an institution's operations and financial condition. The plans should include, at a minimum, the following elements: testing environment, testing methodology, testing schedules, human and financial resources, critical test dates, documentation and contingency planning.

The testing phase should focus not only on the financial institution's own systems but also on links with the systems of third parties. This means that the institution's own test plans will have to be carefully coordinated with those of service providers, counterparties and customers. As with the implementation phase, financial institutions should be in ongoing discussions with their vendors about the success of their testing efforts. It is critical that the institution not rely on statements made by suppliers that systems are Year 2000 compliant. The institution must independently verify this compliance through testing.[7]

Examiners/auditors should ask:

1. Has the financial institution developed a testing strategy for Year 2000 modifications? Are controls in place to verify the testing process? Have business managers been actively involved in developing the test plans, and do they accept responsibility for their thoroughness?

2. Has a target date been set for completing testing for significant applications with material third parties (for example, customers, other financial institutions, payment system providers)?

3. Has the financial institution devoted sufficient time and resources to testing and error checking of all software and hardware changes?

4. Do the tests cover (a) incremental changes to hardware and software components; (b) connections with other systems; and (c) acceptance testing by internal and external users?

5. How is the financial institution monitoring testing by suppliers to determine that their systems are Year 2000 compliant?

6. Does the testing take into consideration important critical dates[8]?

---

[7] See FFIEC: "Guidance Concerning Testing for Year 2000 Readiness" (April 10, 1998)

[8] Examples of critical test dates include: September 9, 1999, December 31, 1999, etc. See FFIEC Interagency Statement "Guidance Concerning Testing for Year 2000 Readiness" for a full list of critical test dates.

VI. Implementing Tested, Compliant Systems

Putting tested, compliant systems into production well before the end of 1999 should be an objective for every financial institution because it allows counterparties and customers to interact with the system during normal day-to-day activities. Additionally, once back in production, normal maintenance of the application using standard change-control procedures becomes possible.

In some instances, organisations may choose to implement renovated systems after rigorous testing of functionality but before completing Year 2000 testing, especially external testing. While this approach has the advantage of minimising the length of time a particular application is "frozen" from normal maintenance and change-control procedures, it does not lessen the need for thorough Year 2000 testing.

Appropriate re-testing of systems in production should be addressed when other Year 2000 applications are introduced. Frequently, compliant systems become non-compliant because file formats or other components change in another application with which there is interaction.[9]

Examiners/auditors should ask:

1. Does the financial institution have sound procedures in place to control version changes in applications? Are these procedures followed rigorously with respect to Year 2000 renovations?

2. Are renovated applications put into production as soon as practical to allow counterparties and customers to identify and resolve any difficulties they may have in interacting with the application? Is early implementation a priority for systems for which all counterparties and customers are not included as part of the Year 2000 test plan?

3. After a renovated application has been put into production, are there adequate plans in place to re-test the application when other applications with which it interacts are changed?

[9] See FFIEC: "Guidance Concerning Testing for Year 2000 Readiness" (April 10, 1998)

VII. Contingency Planning

Despite all efforts to ensure that the financial institution is ready for the millennium change, it should be recognised that unforeseen problems may arise. Consequently, financial institutions must have contingency plans in place to address these problems as quickly and effectively as possible. The need to develop contingency plans to assure business continuity is an integral part of the Year 2000 programme. Some elements of contingency plans, such as the identification of alternatives for external dependencies and specific dates for making decisions on whether to change vendors, should be done as part of the assessment phase as inventories are developed.

Other elements such as specific plans for business resumption can be done more effectively when the likelihood of particular events occurring is better understood. Because this understanding is developed most effectively as testing begins, especially external testing, efficient use of resources suggests that contingency planning in this area will be a priority during the testing process. In particular, it might be necessary to develop contingency plans to ensure that customers' assets are protected and that their instructions can be effected after the 1st January 2000.

Some contingency plans can be developed only in cooperation with counterparties, customers, and the public sector. In particular, areas of systemic concern need to have coordinated planning efforts because developing sound approaches will require knowing what approaches others are using.

Finally, financial institutions should also develop contingency plans related to the general functioning of the institution. This would include, *inter alia*, anticipating expected losses caused by the Year 2000, planning for counterparties being unable to perform, anticipating above average use of credit lines, and planning limitations on business activities that are highly dependent on technology (for example, trading activities).[10]

Examiners/auditors should ask:

1. Does the financial institution have contingency plans to deal with slippage in the Year 2000 renovation, validation or implementation phases?

2. Does the financial institution have a contingency planning process in place to ensure that operations can continue if some systems do not function properly as of 1st January 2000? Does this process take into account both the risks associated with a particular activity and the likelihood of particular events occurring?

3. Has the financial institution reviewed contingency plans and market-wide risk controls with counterparties, correspondents, clearing-houses, markets, payment systems, central banks, and supervisors? Do the contingency plans of the institution deal with potential liquidity, market, credit, and legal risk issues?

---

[10] See FFIEC: "Guidance Concerning Contingency Planning in Connection with Year 2000 Readiness" (May 13, 1998)

4. Does the financial institution clearly understand how settlement failures will be addressed (interest, penalties, etc.) for all of its significant business lines? Is the institution working with counterparties to make certain that market conventions are understood?

5. Has the financial institution considered the impact on customers of various contingencies and how negative consequences can be mitigated? Are contingency measures being examined to ensure that customers' assets can be identified and preserved and that instructions can be accepted and executed? Are mechanisms in place for a fair and expeditious resolution of disputes with customers that may arise?

6. Are operations in remote locations or foreign countries adequately covered in contingency plans?

7. Does the financial institution’s contingency plan deal with infrastructure issues such as telecommunications, electrical power and water?

8. Does the financial institution’s contingency plan identify adequate levels of responsibility and readily available resources (internal and external) to deal with any problems encountered with the millennium date change?

9. Does the financial institution have an estimate of how long it can operate under various contingency plans?

10. Are there any significant mission critical applications that will not meet the deadline for Year 2000 compliance? Is management addressing these problems?

11. Has the financial institution developed contingency plans related to its general functioning ?

VIII. Miscellaneous Issues

1. Legal issues

Legal issues may arise from the lack of specificity in contract terms dealing with Year 2000 issues. Consequently, financial institutions should involve their in-house and/or outside counsel in the preparation, review and implementation of the institution's Year 2000 action plan. Contracts, indemnification provisions, and officer and director insurance policies should be reviewed and amended, as appropriate. Current and future purchases of hardware/software technology should require certification that it is Year 2000 compliant. If contract changes or modifications are refused, then the institution should consider replacing the service or product.

The following list provides general information regarding legal issues and is not intended to provide legal advice regarding specific transactions or matters.

Examiners/auditors should ask:

1. Is senior management diligently overseeing the Year 2000 conversion process in order to avoid potential liability for failure to comply with legal responsibilities to the financial institution? What Directors' and Officers' insurance coverage exists?

2. Has the financial institution consulted legal consel as to the appropriate and proper documentation regarding its Year 2000 efforts? How will internal documentation being generated now affect the institution's potential future litigation position? What steps is the institution taking to avoid, as well as prepare for, litigation that arises from the Year 2000?

3. Has the financial institution reviewed insurance policies to ascertain if they cover business losses and liability as a result of the Year 2000?

4. Has the financial institution reviewed the licence agreements and long-term maintenance agreements relating to all third-party licensed software? Has this review been done in conjunction with a legal audit in order to preserve the institution's legal rights against software vendors?

5. What are the financial institution's rights and duties as a systems user relative to maintenance contractors and software suppliers?

6. What are the financial institution's rights and duties as a systems provider? Has the institution provided appropriate documentation to other entities for which they provide services? Is the financial institution taking the necessary steps to avoid litigation arising from computer services they provide?

7. Has the financial institution revised its contracts or included in new contracts provisions ensuring Year 2000 compliance with external service providers, software developers and suppliers?

8. Does the financial institutions understand the regulatory consequences of remediation failures in key areas of business operations?

2. Merger/acquisition issues

The extent of Year 2000 conversion efforts will bear directly on corporate merger and acquisition strategies since they will compete for project managers and technical resources. Merger and acquisition strategies should therefore include an assessment of the Year 2000 issue, to the extent possible. This should not only include an analysis of the state of readiness of the organisation to be acquired but also what counterparty problems will, in effect, be "inherited" from that organisation.

Examiners/auditors should ask:

1. Has the financial institution taken Year 2000 into account when considering mergers, acquisitions, or business expansions?

2. Has the financial institution included in such considerations dealings with new customers and counterparties?

3. What due diligence and other measures is the financial institution taking in merger and acquisition transactions to protect against inheriting Year 2000 problems and compounding those of the financial institution?

3. Issues related to remote locations

Remote or overseas operations need to devote attention to Year 2000 issues. In particular, management information systems for businesses that run interactively with or independently from the head office must be included in the financial institution's system inventory and plans.

Examiners/auditors should ask:

1. How is the financial institution ensuring the Year 2000 readiness of operations conducted at remote locations, both domestically and overseas?

2. What kind of reporting is required from these locations by the head office?

3. How is the head office supporting these remote locations and providing information that is needed by host country supervisors?

4. Disclosure and customer awareness

As the millennium draws closer, it is important for a financial institution to communicate with its customers and counterparties regarding the institution's state of preparedness. This could include a statement in the annual shareholders' report as well as additional printed material that can be made readily available to customers upon request. In addition, all line personnel with regular direct contact with customers should be provided with current information so that they may accurately answer questions posed by customers.[11]

Examiners/auditors should ask:

1. Has an information officer and other personnel been assigned the specific duty of preparing information for customers on the financial institution's Year 2000 efforts? Are these personnel available to answer the questions of individual customers related to Year 2000 issues?

2. What efforts is the financial institution making to communicate periodically to its customers on its Year 2000 conversion programme?

3. Are line personnel adequately informed about the status of the financial institution's Year 2000 efforts in order to answer questions posed by customers? Do they know to whom more detailed or complicated questions should be referred?

---

[11] See FFIEC: "Guidance on Year 2000 Customer Awareness Programs" (May 13, 1998)

IX. Supervisory Assessment and Follow Up

A critical step that should be taken by supervisors following an independent review of a financial institution's Year 2000 action plan is an overall assessment of the institution's level of preparedness. This includes a determination of whether the institution is doing all it can to ensure that it is ready and whether any serious disruptions to the institution's ongoing activities are likely to take place. This step involves summarising the strengths and weaknesses of the institution's Year 2000 plan and determining how well the plan is being implemented.

The supervisors should discuss their conclusions with the senior management and board of directors of the financial institution. They should make recommendations on any additional actions necessary to ensure the institution's Year 2000 readiness.

Supervisors should be prepared to apply proactive supervisory pressure on those institutions that appear to be falling behind in their conversion efforts. Once supervisors identify an institution that is going to have significant problems, the supervisors need to work closely with the institution to remedy the situation, to the extent possible, and to develop contingency plans to deal with the consequences of not being Year 2000 compliant. The appropriate supervisory response will vary depending on the level of severity of the deficiency. For those financial institutions that supervisors determine are in unsatisfactory condition because of their lack of Year 2000 preparations, formal enforcement actions should be considered.

Bibliography

The following documents have been developed by supervisory agencies in various countries. They are considered good resource materials for supervisors and others making an independent assessment of the state of readiness of individual financial institutions.

Canada:

Office of the Superintendent of Financial Institutions

Year 2000 Project (September 25, 1997)

Italy:

Banca d'Italia

Website address: www.bancaditalia.it

Survey of the compliance of Italian banks' information systems with euro and Year 2000 requirements (February 1998)

Germany:

Deutsche Bundesbank

Website address: www.bundesbank.de

Japan:

Bank of Japan

Website address: www.boj.or.jp

Bank of Japan Checklist for the Year 2000 Problem (August 19, 1997)

Announcement letter of the interlocking tests of major payment systems in Japan for BOJ-NET participants (April 27, 1998)

Ministry of Finance

Checklist for the Year 2000 Problem used by the Ministry of Finance's Inspection (December 22, 1997)

Netherlands:

Circular: Year 2000 problem (September 26, 1997)

Questionnaire Year 2000 (October 24, 1997)

Sweden:

Finans-Inspektionen

The Financial Sector, Information Systems and Year 2000 (March 31, 1998)

United Kingdom:

Bank of England

Financial Sector Preparations for the Year 2000 (February 1998)

United States:

Board of Governors of the Federal Reserve System

The Federal Reserve's Year 2000 Supervision Program (SR 97-79) (November 12, 1997)

Federal Deposit Insurance Corporation (FDIC)

Website address: www.fdic.gov

Federal Financial Institutions Examination Council (FFIEC)

Website address: www.ffiec.gov

Guidance on Year 2000 Customer Awareness Programs (May 13, 1998)

Guidance Concerning Contingency Planning in Connection with Year 2000 Readiness (May 13, 1998)

Guidance Concerning Testing for Year 2000 Readiness (April 10, 1998)

Guidance Concerning the Year 2000 Impact on Customers (March 17, 1998)

Guidance Concerning Institution Due Diligence in Connection with Service Provider and Software Vendor Year 2000 Readiness (March 17, 1998)

Safety and Soundness Guidelines Concerning the Year 2000 Business Risk (December 17, 1997)

Year 2000 Project Management Awareness (May 5, 1997)

Year 2000 Examiner Questionnaire (May 16, 1997)

Year 2000 Exam Procedures (May 16, 1997)

The Effect of Year 2000 on Computer Systems (June 1996)

Federal Reserve Bank of New York

Website address: www.ny.frb.org/bankinfo/y2k

Y2K, Second District Highlights (May 20, 1998)

Addressing Year 2000 Issues in Foreign Banking Organisations (December 10, 1997)

Year 2000 Alert (April 4, 1997)

Office of the Comptroller of the Currency

Website address: www.occ.treas.gov

Year 2000 and System Integration Considerations in Corporate Application Decisions (AL 98-1/January 20, 1998)

Year 2000 Letter to Bankers (May 28, 1998)

Disclosures Involving Year 2000 Issues in Securities Filings with OCC (AL 98-02, SEC Staff Legal Bulletin)

Securities and Exchanges Commission

Web site address: www.sec.gov/news/home2000.htm

Year 2000 Readiness Reports To Be Made by Transfer Agents. (Comments due 30 days after publication in the *Federal Register*.) March 5, 1998. [Rel. No. 34-39726; File No. S7-8-98]

Reports To Be Made by Certain Brokers and Dealers. (Comments due 30 days after publication in the *Federal Register*.) March 5, 1998. [Rel. No. 34-39724; File No. S7-7-98]

Division of Market Regulation Year 2000 ("Y2K") Work Program