Report of the Working Group for Working Out Modalities on Dissemination of Information in Electronic Form

(Set up by the Regulation Review Authority)

RESERVE BANK OF INDIA
September 1999

Introduction

In response to a suggestion received by the Regulation Review Authority set up by the Reserve Bank of India, a working group comprising Reserve Bank officials examined the possibility of making information available in electronic form to general public.

   The Working Group submitted its report to the Regulations Review Authority in September 1999.

   The Reserve Bank has in-principle accepted the recommendations of the Working Group and has set up a standing committee to monitor their implementation as also, to receive suggestions for further improvements in dissemination of information from the Reserve Bank.

   The report of the Working Group is being published on the website so as to receive suggestions from members of public regarding improvements in dissemination of information from the Reserve Bank. For sending suggestion, please click here:

E-Mail : rbiprd@giasbm01.vsnl.net.in

1. Background

        At the meeting of the Advisory Group to the Regulation Review Authority (RRA) held on May 15, 1999, a suggestion received on e-mail was discussed. The suggestion related to creating a facility through which the Reserve Bank could send the information desired by the information seeker via e-mail once he registers his e-mail address with the Reserve Bank. As per the suggestion, the Reserve Bank notifications, clarifications, press releases, speeches, changes in Government security prices, weekly statistical supplement and such other documents could be e-mailed to the registered addressees as and when they are issued. The suggestion was to make the service available on a subscription basis but initially provide it free of cost.

The RRA enquired the feasibility of the suggestion with the Chief General Manager, Department of Information Technology. It was noted that technologically this was possible and probably also not very costly. CGM, DIT pointed out that it might be possible to e-mail the information available on the website as it already existed in electronic format. Once the option was, however, given to information seekers, there

may be requests in the future when information seekers may desire to have some information which was either not on the website or was not available in electronic form. This might pose difficulties.

Against this background, it was felt that the issue of dissemination of information in electronic form needed thorough examination. The RRA suggested the formation of a working group for the purpose. The proposed working group might also look into all other relevant issues relating to dissemination of information in electronic form.

2. Constitution of Working Group

The RRA indicated that a Working Group might be set up under the Chairmanship of Principal, Bankers Training College with the following as members:

- Alpana Killawala, General Manager, Press Relations Division
- Shri S. S. Mishra, Director, DESACS
- Shri S. Ganesh, Member of Faculty, BTC
- Shri Sharad Kumar, Member of Faculty, BTC
- Shri Mohan Bhatia, Member of Faculty, BTC

The Working Group was chaired by Shri Y S P Thorat, Principal, BTC up to July 1999 and then by Shri C.R.Gopalasundaram. The Group also immensely benefitted from the participation of :

- Shri V.A. Karnik, Vice Principal, BTC
- Shri B Mahapatra, the then Member of Faculty, BTC
- Shri Jasbir Singh, Member of Faculty, BTC

3. Terms of Reference

The terms of references of the Working Group were :

3.1 Identification:

To identify information already available in electronic form and that which could and should be made available in electronic form.

3.2 Consolidation:

To consolidate the information available in electronic form and to make a comprehensive database ready.

3.3 Classification and Rationalisation:

To classify the available information in a manner that makes it available on the basis of some keywords; and to rationalise the available information base so as to avoid duplication and gaps as also to aggregate all the relevant information available on the basis of user requirements.

3.4 Accessibility and Dissemination:
To make available information easily accessible through the website and such other means; as also to work out modalities for dissemination of information available in electronic form to identified target groups at a cost or without cost.

4. Timeframe

The Working Group was requested to submit its report by the end of August 1999.

5. Approach

The Group held several meetings and had detailed discussion of its terms of reference. It was decided that the Group need not look into the aspects of consolidation, classification and rationalisation of information as these were being considered by some other fora also set up by the RRA.

5.1 E-mailing information

For further improving the accessibility of the information available in electronic form on the RBI website, the Group considered the suggestion forwarded by the RRA about e-mailing the information. The Group questioned the necessity to e-mail information to the information seeker when it was already available on the website and the information seeker could access it without much difficulty. The Group was informed that technologically, it was possible to e-mail information available in electronic form on the RBI website. This was possible without putting any additional pressure on the manpower resources of the Bank or the website manager. At the most, the Bank might have to incur small expenditure initially for developing a small program for the purpose. E-mailing by itself involves a nominal cost and it was possible, again technologically, to recover the charges for the service from the information seeker. In other words, without much additional burden, it would be possible for the Bank to e-mail information to those who wish to have it at their doorstep. The Group recommended that for better customer service, information already available on the website can be emailed to the information-seeker. This service might initially be provided without recovering the cost.

It was, however, suggested that the Press Relations Division which was managing the website for the Bank, might, as an experiment, make this service available to a few select information seekers for some frequently accessed documents.

PRD made the service available to a couple of banks and journalists for two documents available on the website, namely, the weekly statistical supplement and the press releases. The feedback received from the recipients indicated that though there was scope to further facilitate the receipt of information at the client's end, the service rendered was satisfactory in terms of its regularity.

5.2 Disposal of Individual Emails

The Group was informed about the email responses provided by PRD to individual querists. Under the current scenario, the querists send emails to the Reserve Bank. These are downloaded by PRD and replied by it either directly or in consultation with the department that deals with the subject. This method of providing information/clarifications to individuals was working satisfactorily. There was, however, scope for further improving upon the response time.

One suggestion was that the website itself could provide email addresses of departments so as to enable the querists to directly send their queries to the concerned departments. It was, however, felt that since the general public might not know to which department the query relates, it might be a better idea to have a centralised point for receiving the emails and then forward them to the concerned department's email box for direct disposal.

Since PRD is currently the point of receipt, the Group suggested that it might, for the time being, continue to act as the centralised point for receiving and forwarding the e-mails. The website itself could provide email addresses and broad functions of departments so as to enable the querists to directly send their queries to the concerned departments. Once emails are forwarded to the departments concerned, the department might directly respond to the queries within a reasonable time, say not exceeding 15 days. The departments might designate one officer to download and respond to the queries promptly. The ultimate objective of the Bank might be to provide email boxes to all the officers who might receive and dispose of the queries directly. This might entail constantly evolving and communicating the Bank's approach on emerging issues to officers to enable them to reply to queries uniformly. The Group also suggested that all the operational departments might attempt Frequently Asked Questions (FAQs) on subjects of common interest to reduce the number of queries raised.

5.3 Further Enhancing the accessibility of Information on the Website

To further improve the accessibility of the information available on the website, it was suggested that the possibility of placing all the information available in published form on the website could be explored. Since this would be a formidable job, to begin with, important press releases issued since August 1996, when the RBI website was launched, might be placed on the website. These might be indexed subjectwise and properly hyperlinked. Email address of the concerned department should be mentioned in the body of the press communique, circulars, etc. that are to be placed on the website.

The Group also suggested that a global search engine might be provided on the site. There was considerable discussion on the nature of search engine to be provided on the RBI site. It was argued that the entire database on the site be made queriable so that information seeker might be able to access the information without much difficulty. While making the database queriable was technically possible and also desirable, it was explained that each information seeker came with his unique query and syntax to the site. This was evident from the e-mail queries already being received and replied by PRD. In other words, given the different types of information available on the site and the types of information seekers, making the entire site queriable might be a complex and a time-consuming task. It was suggested that a technical note on search engines might be prepared. The note is enclosed at Appendix I.

It was also suggested that as an experiment PRD might, in coordination with Exchange Control Department work on making the booklet on `Facilities for Non-Resident Indians' queriable for publishing on the website. The booklet was made queriable and published on the website as 'Frequently Asked Questions'. There is, however, scope for intelligent querying.

It was concluded that working out a global search engine for the website was technically feasible and suitable efforts may be initiated to provide the same. The long-term objective of the search engine would be to facilitate intelligent querying.

5.4 Accessibility of Printed Publications

The Group also felt that it might be useful to look at further improving the reach of the Bank's printed publications. It was pointed out that the Department of Economic Analysis and Policy was looking at this issue. The Department of Banking Operations and Development had also recently signed a contract with a publisher to print and publish the circulars of all the operational departments of the Bank.

5.5 Extending the Scope of Information Availability

The Group deliberated in considerable detail whether it would be within the purview of its terms of reference to look into extending the scope of information available to the public. Initially it was felt that the Group should restrict itself to looking at the modalities of disseminating only that information which is already in public domain and make suggestions towards improving its accessibility. It was, however, pointed out that this was already being done through the Reserve Bank's website.

It was argued that the Bank was increasingly moving towards transparency. Writing of master circulars and rewriting of manuals had already been undertaken by the Bank under separate fora. Moreover, it was pointed out that the Bank has already assigned the compilation and publication of circulars of various departments, namely, the ECD, DBOD, RPCD, IECD and DNBS, to a private party. The publications were already available in the market. In view of the Bank's intention to increase the scope of

information availability, the Group feels that information should be made available to the public, unless release of such information is detrimental to the interests of the Bank.

5.6 Survey of Information Available

It was suggested that with a view to further enhancing the contents of the RBI website, a survey of information available on select central bank websites might be carried out. The survey results are placed at Appendix II. The Group has immensely drawn from the survey results while making its recommendations.

Before making any recommendations towards expanding the scope of information availability from the Bank, it was felt necessary to ascertain the level of computerisation in all departments. This would ensure that the information within the departments is either already available in electronic form or could be made available in electronic form in a reasonable timeframe. The Group issued a small questionnaire to all the central office departments seeking information relating to the level of Computerisation in their respective departments. The summary of the replies received from the departments is enclosed at Appendix III.

It was observed from the response received from the departments that most of the operational departments, barring the Rural Planning and Credit Department, make reasonable use of computers for generating information. The departments also have a plan to computerise the information available with them in the short or medium term.

Among the support departments, the Department of Expenditure and Budgetary Control has the lowest level of Computerisation. The department has noted that it does not have information that could or needed to be made available to public. It may, however, be pointed out that `public' for support departments of the Bank, such as, Department of Government and Bank Accounts or Department of Expenditure and Budgetary Control, comprises internal public, that is, the employees of the Bank. Providing information to internal public was as important as providing information to external public. Barring these, the Group did not find availability of information in electronic form to be a major issue.

The questionnaire issued by the Group also queried the departments about their view on greater access to information emanating from their respective departments. The operational departments were by and large agreeable to release more information in public domain. There were, however, reservations in some areas. In this context, the Group decided to evolve some objective criteria on the basis of which the departments should be able to decide on bringing certain information in public domain.

5.7 Criteria for Releasing Information

The Group agreed that it had no jurisdiction when a department had consciously decided not to make certain information available to public.

The Group unanimously agreed that information should be made available only in raw form and not in the analysed form even on a demand from the information seeker unless such an analysis was already made by the department concerned and was available in public domain.

It was further suggested that no information that was relevant from the viewpoint of customer service be classified as confidential. If necessary, information might be edited and released in the form of a press release to bring it into public domain without compromising the Bank's position.

The Group also suggested that while making available information to the public for the first time, the communication might be self-contained. Proper links might be provided to other relevant documents wherever required. The information after this might be updated as and when there were amendments in the Bank's policies or instructions.

The Group also recommends that since the website already contains a mass of information in an organised manner, its usability might be further enhanced by providing more and useful information, such as, information relating to :

- Payment System,
- Readiness of Banking and Financial System for Y2K
- History and Basic Functions of Reserve Bank of India
- Details of the Reserve Bank of India Act
- Note Refund Rules
- Compendiums of instructions
- Manuals
- Master circulars
- Reports
- Acts pertaining to banking and finance related areas.

Proper hyperlinks and search facility would enhance the usefulness of the website and the image of the Bank. The website could ultimately be integrated / linked with the data warehouse being developed by DESACS for the bank. Proper access controls at this time might be put in place between the website and the data warehouse.

5.8 Support of Departments

For successful implementation of the recommendations, the co-operation and active participation of all the departments and offices of the Bank is essential.

6. SUMMARY OF RECOMMENDATIONS

- For better customer service, information already available on the website can be emailed to the information-seeker. This service might initially be provided without recovering the cost (*para* 5.1).

- The website itself could provide email addresses and broad functions of departments so as to enable the querists to directly send their queries to the concerned departments *(para* 5.2).

- Once emails are forwarded to the departments concerned, the department might directly respond to the queries within a reasonable time, say not exceeding 15 days. The departments might designate one officer to download and respond to the queries promptly *(para* 5.2).

- The Bank might provide email boxes to all the officers who might receive and dispose of the queries directly (*para 5.2).

- The operational departments might attempt Frequently Asked Questions (FAQs) on subjects of common interest to reduce the number of queries raised *(para* 5.2).

- Important press releases issued since August 1996, when the RBI website was launched, might be placed on the website. These might be indexed subjectwise and properly hyperlinked *(para* 5.3).

- Email address of the concerned department should be mentioned in the body of the press communique, circulars, etc. that are to be placed on the website(*para 5.3)*

- A global search engine might be provided on the RBI site *(para* 5.3).

- While making available information to the public for the first time, the communication might be self-contained *(para* 5.7).

- The website already contains a mass of information in an organised manner. However its usability might be further enhanced by providing more and useful information *(para* 5.7).

- The website could ultimately be integrated / linked with the data warehouse being developed by the DESACS. Proper access controls at this time might be put in place between the website and the data warehouse. *(para* 5.7)

- For successful implementation of the recommendations, the co-operation and active participation of all the departments and offices of the Bank is essential. *(para 5.8)*

<center>

(C.R.Gopalasundaram)
Chairman

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(Alpana Killawala)   **(S. S. Mishra)**   **(S. Ganesh)**
     (Sharad Kumar)   **(Mohan Bhatia)**

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<u>Appendix:</u>

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1. Note on Technology for Web
2. Comparative study of Websites of five central banks
3. Survey of Departments of Reserve Bank of India regarding the availability of information on computer media

Technology for Web

1. Working of "Search Engines"

Search engines allow the user to enter keywords that are run against a database. Based on a combination of criteria (established by the user and/or the search engine), the search engine retrieves documents that match the keywords entered by the searcher. A simplified, generic search strategy might consist of the following steps:

      1. Formulate the research question and its scope
      2. Identify the important concepts within the question
      3. Identify search terms to describe those concepts
      4. Consider synonyms and variations of those terms
      5. Prepare search logic

This strategy can be applied to a search of any electronic information tool, including library catalogues and CD-ROM databases. Boolean logic is the term used to describe certain logical operations that are used to combine search terms in many databases. The basic Boolean operators are represented by the words AND, OR and NOT. Variations on these operators, sometimes called proximity operators, that are supported by some search engines, include ADJACENT, NEAR and FOLLOWED BY. Whether or not a search engine supports Boolean logic and the way in which it is implemented, is an important consideration when selecting a search tool.

 In most cases, an effective search strategy, the correct use of Boolean logic, and familiarity with the features of each of the search engines will lead to satisfactory results. However, there are additional techniques that may further improve results in particular circumstances.

2. Text Searching

❑ **Keyword Searching**

This is the most common form of text search on the Web. Most search engines do their text query and retrieval using keywords. Unless the author of the Web document specifies the keywords for the document, it's up to the search engine to determine them. Essentially, this means that search engines pull out and index words that are believed to be significant. Words that are mentioned towards the top of a document and words that are repeated several times throughout the document are more likely to be deemed important.

Some sites index every word on every page. Others index only part of the document. Some sites use a full-text indexing system, picking up every word in the text except commonly occurring stop words such as "a," "an," "the," "is," "and," "or". Some of the search engines discriminate upper case from lower case; others store all words without reference to capitalization.

The Problem with Keyword Searching

Keyword searches have a tough time distinguishing between words that are spelled the same way, but mean something different. This often results in hits that are completely irrelevant to the query. Some search engines also have trouble with so-called stemming- -i.e. if the word "big" is entered should they return a hit on   the word, "bigger?" What about singular and plural words? What about verb tenses that differ from the words entered by only an "s," or an "ed"?

Search engines also cannot return hits on keywords that mean the same, but are not actually entered in the query. A query on heart disease would not return a document that used the word "cardiac" instead of "heart."

❑   **Concept-based searching**

Unlike keyword search systems, concept-based search systems try to determine what is meant, not just what keyed in. In the best circumstances, a concept-based search returns hits on documents that are "about" the subject/theme being explored, even if the words in the document don't precisely match the words entered into the query.   Excite is currently the best-known general-purpose search engine site on the Web that relies on concept-based searching.   This is also known as clustering -- which essentially means that words are examined in relation to other words found nearby.

How concept based searching works

There are various methods of building clustering systems, some of which are highly complex, relying on sophisticated linguistic and artificial intelligence theory. Some of the engines stick to a numerical approach. Engine determines meaning by calculating the frequency with which certain important words appear. When several words or phrases that are tagged to signal a particular concept, appear close to each other in a text, the search engine concludes, by statistical analysis, that the piece is "about" a certain subject.

For example, the word "heart", when used in the medical/health context, would be likely to appear with such words as coronary, artery, lung, stroke, cholesterol, pump, blood, attack, and arteriosclerosis. If the word heart appears in a document with others words such as flowers, candy, love, a very different context is established, and the search engine returns hits on the subject of romance.

The problem with concept searching

Concept searching often works better in theory than in practice. Concept-based indexing is a good idea, but it's far from perfect. The results are best when a number of words are entered, all of which roughly refer to the concept information on which is being sought.

❑ **Refining Search**

Most sites offer two different types of searches--"basic" and "refined." In a "basic" search, a keyword is entered without sifting through any pull down menus of additional options. Depending on the engine, though, "basic" searches can be quite complex.

Search refining options differ from one search engine to another, but some of the possibilities include the ability to search on more than one word, to give more weight to one search term than to another, and to exclude words that might be likely to muddy the results. It is possible to search on proper names, on phrases, and on words that are found within a certain proximity to other search terms.

Some search engines also allow to specify in what form results are desired to appear in, and whether restriction of searching to certain fields or to specific parts of Web documents is sought.

Many, but not all search engines allow the use of so-called Boolean operators to refine search.   These are the logical terms AND, OR, NOT, and the so-called proximal locators, NEAR and FOLLOWED BY. Boolean AND means that all the terms specified must appear in the documents, i.e., "heart" AND "attack."

Boolean OR means that at least one of the terms specified must appear in the documents, i.e. bronchitis, acute OR chronic. This is used in order not to rule out too much.

Boolean NOT means that at least one of the terms specified must not appear in the documents. This might be used if anticipated results would be totally off base, i.e., nirvana AND Buddhism.

NEAR means that the terms entered should be within a certain number of words of each other. FOLLOWED BY means that one term must directly follow the other. ADJ, for adjacent, serves the same function. A search engine that allows search on phrases uses essentially the same method (i.e., determining adjacency of keywords).

 Phrases: The ability to query on phrases is very important in a search engine. Those engines that allow it usually require enclosing the phrase in quotation marks, i.e., and "space the final frontier."

Capitalization: This is essential for searching on proper names of people, companies or products. All the search engines have different methods of refining queries.

❑ **Relevancy Rankings**

Most of the search engines return results with confidence or relevancy rankings. In other words, they list the hits according to how closely they think the results match the query. However, these lists often leave users shaking their heads on confusion, since, to the user, the results often seem completely irrelevant.

Why does this happen? Basically it's because search engine technology has not yet reached the point where humans and computers understand each other well enough to communicate clearly. Most search engines use search term frequency as a primary way of determining whether a document is relevant. For researching diabetes if the word "diabetes" appears multiple times in a Web document, it's reasonable to assume that the document will contain useful information. Therefore, a document that repeats the word "diabetes" over and over is likely to turn up near the top of the list.

If keyword is a common one, or if it has multiple other meanings, it ends with a lot of irrelevant hits.

Some search engines consider both the frequency and the positioning of keywords to determine relevancy, reasoning that if the keywords appear early in the document, or in the headers, this increases the likelihood that the document is on target.

❑ **Information On Meta Tags**

 Some search engines are now indexing Web documents by the Meta tags in the documents' HTML (at the beginning of the document in the so-called "head" tag). What this means is that the Web page author can have some influence over which keywords are used to index the document, and even in the description of the document that appears when it comes up as a search engine hit.

There is a lot of conflicting information out there on Meta tagging. There may be some confusion on this because different search engines look at Meta tags in different ways. Some rely heavily on Meta tags; others don't use them at all.

It seems to be generally agreed that the "title" and the "description" Meta tags are important to write effectively, since several major search engines use them in their indices. Relevant keywords can be used in the title, and the titles on the different pages that make up the website, in order to target as many keywords as possible. As for the "description" meta tag, some search engines will use it as their short summary of the Uniform Resource Locator, so it should be ensured that description is one that will entice surfers to the site.

Many search engine algorithms score the words that appear towards the top of the document more highly than the words that appear towards the bottom. Words that appear in HTML header tags (H1, H2, H3, etc) are also given more weight by some

search engines. It sometimes helps to give the page a file name that makes use of one of the prime keywords, and to include keywords in the "alt" image tags.

One thing to be taken care is that some other company's trademarks should not be used as Meta tags. Some website owners have been sued for trademark violations because they've used other company names in the Meta tags.

Remember that all the major search engines have slightly different policies.

Very good features include the ability to see the terms from the referenced page that caused the hit (the 'see match on page' option at the bottom of each hit summary), and the search refining option to 'find similar pages', also at the bottom of each summary item.

Query-by-Example: Query-by-Example uses a document as the basis for a query. As a result, it is a useful way to "find more documents just like this."

Group-by-Subject: When users look for information on a broad topic, it's difficult to completely satisfy a user's information need. For example, without further information about a query on "bonds," it cannot be determined whether the user is interested in chemical bonds or municipal bonds. However, group-by-subject feature clusters the results of a search into related categories, helping the users to refine their information need. In the previous example, this tool would break up the articles on chemical bonds and articles on municipal bonds into separate clusters. The user can then focus on whichever cluster they find most interesting.

Automatic summaries: These provide facilities to quickly go through a large collection of documents in no time. This contains display sentences, which describe the core concepts of a document. This means that no guess is required for what a document title means.

There are no industry standards for web page databases. Each software vendor defines his own database design and implementation requirements. The webmaster must refer to the software vendor's documentation for specific installation and usage instructions. All Java web page databases are embedded in an HTML document using the applet tag. This tag allows the webmaster to specify a location on the screen for the applet window using height, width and alignment. Some web page databases are implemented as floating windows, so the only requirement is to define the applet window on the HTML page big enough to accommodate an activation button. The web page visitor would press this button to display the floating window.   Not all browsers are capable of supporting Java applets. A webmaster should consider the following techniques to accommodate visitors using these older browsers. A text message can be displayed to inform the visitor that they need a Java enabled browser to utilize the search facility. Links to the browser vendors download sites can be provided to the visitor. The webmaster can include an image of the database screen to show the user the

advantages of the system. And the webmaster can display hyperlinks to alternate HTML pages that contain alternate data in an HTML table or list.

3. Steps

❑ **Content Creation**

The fact is that on the web the content is of paramount importance. Regardless of how fantastic a web site looks, no web surfer is going to spend more than 5 seconds at the site unless he is offered something of substance. The information present must be such that random web surfers will actually choose to return to the <u>site because the information provided is helpful.</u>

❑ **Architectural Design**

Once the content is in place, it is essential that time and energy is spent in thinking about how to present that content on the web. Like any medium, the web has its own quirks and intricacies that make content distribution different from other media such as print, radio, or television.

A Web Architect is responsible for designing the workflow of the site. Web architects will typically be good at meta-vision, flow charts, and navigation templates and will be regular web surfers who seek out and analyze new navigation metaphors and strategies constantly.

❑ **Implementation**

Once the content and architecture are defined, it is time to make it all web accessible. To do so two things are needed: a set of HTML pages and a web server to distribute those pages.

Typically this involves two functionaries: the Web Technician and the Web Site Administrator.

A Web Technician is the person responsible for changing content into HTML documents. GUI tools such as Microsoft's FrontPage are simple and complete enough. A good code is the foundation of the web site and assures that long-term maintenance and modifications are smooth and cost efficient. A good Web Technician will be able to develop, and clearly document, site-wide coding standards. He must also understand HTML and all related content distribution technologies like Java and Shockwave well enough to choose correctly between the many options for many different types of situations. Further, a good technician will write code that is standardized and easy to read.

A good web site also requires a Web Site Administrator who is responsible for installing, maintaining, trouble shooting, and providing security for web server

hardware and software. Typically this person will be trained in UNIX or NT server administration and have some experience with traditional services like Telnet, Email and FTP. A Web Site Administrator should also be intimate with web security issues and low level technologies. However, it is often more important for Web Site Administrator to have solid people skills then to have technical prowess. The Web Site Administrator must be able to understand the needs of non-technical people and be able to explain technical issues in plain English.

❑ **Visual Design**

So any site needs a Visual Designer who is responsible for logos, icons, navigation buttons, site-wide color standards, site-wide type face standards, side bars, menus, etc.... A good Visual Designer will be fluent in such applications as Adobe or Corel Draw as well as all the filters and tools for each. They will also be trained in the quirks and specifics of web graphics design as opposed to print graphics design and, like the Web Architect, will be an avid web surfer.

❑ **Management**

A Web Site Manager will make sure that communication lines are quick, efficient, and open. He will also facilitate lines of communications outside the department. Typically, for example, he will work closely with the ad/marketing department of the company. However, it is crucial that the Web Site Manager knows the place within the group. Web Site Managers are facilitators; they do not rule the web with an iron fist. For the most part, each member of the team will be far more trained in his or her area of expertise than the manager. What is crucial is that the Web Site Manager knows how to bring out the best of each member of the team and create the glue to bind each part to the whole.

A webmaster is also an important player in website management.

4. Web Page Database

Web page databases accessing small files on the client computer are usually faster than searches against a server side database or searches for text in an HTML document. Many client server systems are not designed for repeated searches because they forget the previous search criteria. This forces the user to type in all the criteria for each search request. Browsers do not provide search functions necessary for effective data query and reporting. The browsers "find" command does not allow complicated queries that require searching more than one column within the same record. For example the request "Find homes with at least 2000 square feet, 3 bedrooms and 2 bathrooms" would require the user to use the "find" command for one field and then visually search the located records for the other fields.

❑ **Easy implementation**

No special training is required for a web page designer to install a web page database. No complicated programs need to be designed, written and tested. No database interfaces need to be established and no server database software needs to be purchased or deployed. The installation and configuration of the database is fast. Most web page databases come with a set of sample HTML documents that may be used as templates to build a new web page database.

❑ **Reduction of processing load**

Web page databases are stored on the web server as a Java class file and an optional sequential text file. These files are delivered over the Internet when a web page visitor requests the HTML that includes them. After the download, the web page database performs the query and report processing on the client computer.   The Internet server only delivers documents and files to the client computer. This reduces the load on the server resources such as CPU and data transmission.

❑ **Ease for Users**

The Java language allows web page databases to utilize sophisticated features like sorting, column scrolling, and image manipulation. Innovative graphical techniques can be incorporated to assist the user in quickly locating data of interest. These databases may be designed as part of the HTML document or they may be floating windows on top of the HTML page.

Appendix II

Comparative study of websites of five Central Banks

The websites of the following leading Central Banks were accessed by us so as to ascertain the pattern of information available therein:

- Federal Reserve Bank of New York (FRBNY)
- Bank of England (BoE)
- Bank of Canada (BoC)
- Reserve Bank of Australia (RBA)
- Reserve Bank of New Zealand (RBNZ)

It was observed that the information available at the websites was grouped under the following broad heads:

1. Welcome
2. Bank Information
3. Education
4. Job Opportunities
5. News Items
6. Publications

The contents of these headings are elaborated in some detail below:

1. Welcome:

This page provides an introduction to the central bank, its mission and organisational structure. In certain cases links to other websites of the bank are also provided. Information about the act(s) governing the bank has also been provided. Some of the sites have links to information about the city in which the office(s) of the banks are situated. Some banks allow the general public a facility of touring offices / vaults of the bank. Information about such tour programmes and bookings is also furnished.

At some sites the welcome section is classified as "About us". This section provides information about the bank in a nutshell. For example information made available by Reserve Bank of Australia and Bank of Canada is given in Annexure 1.

Central Banks have also put out their mission statement on the web. For example, the mission statement of Reserve Bank of New Zealand is given in Annexure 2.

Banks also issue value statements on the web regarding values cherished by the organisation . As an example, the Reserve Bank of New Zealand's statement of values is given in Annexure 3.

Languages: Websites are generally in English. However, some websites are also available in other languages. For example, Bank of Canada's website allows an option to access the website in English or French.

2. Bank Information :

This provides information about the contact address, email addresses, etc of the bank. It also provides information about the various acts administered by the bank and various subsidiaries and sister concerns. A few email addresses were available for contacting certain departments of the bank. The profile of the persons heading departments / offices of banks was available on the net. Fax and telephone numbers were available on their departmental page.

Bank Information also includes details regarding

- Departments of the bank

- Offices/ Regional offices of the bank
- Subsidiaries and sister concerns, for which web-links are given. For instance, the following links are provided on the Federal Bank of New York page:
  - ❑ Federal Deposit Insurance Corporation
  - ❑ Federal Financial Institutions Examination Council
  - ❑ National Information Center for Banking
  - ❑ Office of Comptroller of currency
  - ❑ Circulars
  - ❑ Regulatory and legal matters concerning banking
  - ❑ Payment Systems Council
  - ❑ Readiness of the Bank for Y2K

Every Central Bank has a Department of Banking Supervision. A handbook on Banking Supervision is also available on the web sites. Circulars and norms prescribed for bank licensing are also available on the web sites. In this regard, the Manual published by the Reserve Bank of New Zealand is given in Annexure 4.

World over, there appears to be a trend favouring independence to the central banks in their functioning. This is generally done by having an agreement between the Treasury (Ministry of Finance) and the Central Banks of the concerned countries. Such agreements are available on the websites for perusal by the general public. One such agreement of Reserve Bank of New Zealand is given in Annexure 5.

It was also observed that circulars available on the websites are not consolidated. Links to the previous and subsequent circulars are however provided.

3. Education:

A trend observed on all websites is availability of information pertaining to education of children. Other information covered under "Education" includes:

- ❑ History of currency
- ❑ Concepts of banking and banks
- ❑ Concepts on plastic money etc.
- ❑ Concept and functions of Central banking

There are publications of the bank in the above areas.

4. Job Opportunities:

Job vacancies within the bank are available on this web page. General information about joining the bank, job openings and career opportunities together with job requirements are spelt out so that prospective candidates can plan their career. Information about Summer Trainings, salary and benefits and campus recruitment is also available on this page. For example the Job Opportunity Page of FRBNY is given in Annexure 6.

5. News Items:

Some of the bank sites classify the news items as press releases. This page has statements and speeches of top executives of the bank. Global foreign exchange news is also provided on the page. This page also covers announcements made by the bank including announcements regarding issual of new notes. Relevant publications and research material published during the last 1 month is also available. Illustratively, the News Release of Reserve Bank of New Zealand is given in Annexure 7.

6. Publications:

All central banks publish books, reports, guidelines, statistics, circulars, etc. frequently. Information about these publications, access to publications and on-line availability of publications is given under this head.

The information available on the website includes a comprehensive guide and online ordering facility for all publications and materials available from the central bank. As an example the publications information on the Federal Reserve Bank of New York is given in Annexure 8.

7. Research:

A variety of research papers are available on the web sites. The areas of research include Regional Economy, National Economy, International Economy, Monetary Economics, Fiscal Management, Bank Management, etc. Staff Papers are available on the web sites. The Research page of Federal Reserve Bank of New York is given in Annexure 9.

8. Statistics:

A variety of financial statistics is available on the web sites. The Financial Statistics page provides regularly updated information on the bank rate, exchange rates, bond yields, index, and monetary conditions. This page also provides Weekly Financial Statistics and financial information from the recent past to the present. Some historical International Interest Rates Including Bond Yields and Interest Arbitrage is also available. A series of recorded messages provides information on other current and recent financial statistics, including daily, monthly and annual exchange rates, the Bank rate, other money market statistics and tax-adjusted consumer prices indices.

Incase some specific or historical financial statistics is available on the Web site or from the recorded messages, there is the facility of contacting the Public Information Office. Some web sites have a practical limit to data items that can be sent by e-mail.

9. Treasury / Government Bonds:

As the banker to the government of the country, one of the primary duties of the central bank of each country is to provide service in issuing government bonds into the market. As a customer service to the public at large, the websites of the banks provide comprehensive information on government securities. This includes:

- Basic Information & FAQs
- Forms and Instructions
- Government Securities Market Regulation
- Historical Auction Results
- Treasury Bill Auction Results
- Treasury Note and Bond Auction Results
- Upcoming Auction Dates
- What's New

Information on Inflation indexed bonds and security is also given on this page.

10. What is new:

- This page highlights what is new on the web site. This includes new pages, articles, circulars, etc. that have been added recently. Links are provided to such items from this page. Generally a period of 3 months is covered.
- Some web sites incorporate a service for sending an electronic alert mail. The subscriber gets the electronic alert mail free as and when a new item is added. An example of the electronic alert mail facility is given in Annexure 9A.
- Federal Reserve Bank of New York provides a list server for alerting subscribers whenever new circulars are added. This page is furnished in Annexure 10
- What is new also provides information regarding new pages that have been added to the websites. For example, the FRBN " New Pages" column is given in Annexure 11.
- Information about new notes issued by the bank is also available. Some banks have made available collectable notes and coins. Banks have provided an ordering facility for such coins and notes on the website. Public can subscribe to the Electronic Mail alert as and when an announcement for such coins and notes is made on the web. The Reserve Bank of New Zealand has such a mail alert facility.

11. Disclaimer:

This clause warns users that all visitors are subject to monitoring by the system personnel and that users have given express consent for that monitoring. It is also made clear that any evidence of criminal activity will be made available to the law enforcement officials .The banks have guaranteed that any personal details provided will not be passed on to any third party but will be used for customer service only.

The banks do not use "cookies"* to gather information about visitors to their site.

This clause also warns users that while banks provide linkages to various websites and documents, they do not provide any warranty, express or implied, as to the accuracy,

timeliness, completeness, merchantability or fitness for any particular purpose of any information contained in documents produced and provided.

Banks permit reproduction of any information contained at the website without limitation provided that it is not for the purpose of private gain. They also warn that this does not apply to other websites that may be linked to/from the bank's website which are governed by the individual policies of the relevant providers.

In case the user does not agree with any portion of the policy, he is urged to exit from the website and not continue the session. However, if the user continues to remain on the site, he is deemed to have IMPLICITLY CONSENTED to the disclaimer clause of the website.

Disclaimer also mentions that various names and logos used at the website are the trademarks of the respective companies.

The Disclaimer Statement on the Bank of Canada website reads as under:

"These documents are electronic versions of Bank of Canada print publications. The Bank assumes no responsibility for any discrepancies that may have arisen in these electronic versions. The printed versions stand as the official record."

12. Keyword Search:

Websites now generally provide for a key word search facility. For example search facility available on the Bank of Canada page is given in Annexure 12.

Bank of Canada also provides an inflation calculator. The calculator function reads as under:

" Use our new online calculator to show the effects of inflation on the value of money over the past 85 years".

13. Y2K Information:

Web sites provide information about the Y2K readiness and the supervisory efforts including direction, circulars and studies for Y2K compliance. Websites provide information about the Y2K readiness of the Banking and Financial Industry in the country and the compliance of the Central Bank itself. Websites also provide linkages to the Y2K related websites. Some of them have disclaimer clause as follows:

All information contained on the Y2K page referring to or discussing the Year 2000 or Century Date Change has not been verified. The bank takes no responsibility for the accuracy or completeness of information contained therein."

* Cookies help Web sites maintain user states. This means that Web sites can "remember" information about users to facilitate their preferences for a particular site, transparent user passwords, and so forth. More specifically, cookies allow Web sites (servers) to deliver simple data to a client (user); request that the client store the information; and return the information to the Web site. Cookies are passive files that are delivered to the client, stored on the client's hard drive, and returned in certain situations to the same server that provided the information in the first place.

Appendix III

Survey of Departments of Reserve Bank of India regarding the availability of information on computer media

	All	None	Some
1. Past year information Available on computer Media			
Circulars	4	8	9
Manuals	6	13	2
Reports	4	10	3
Publications	3	13	2
Data	5	4	11

 As regards the information available on computer media for the past year, most of departments have placed some circulars/data on computer. Many of the departments have not placed any Manual/reports/publications in the computer at all.

2. Information available in Computer media for last five years			
Circulars	1	9	8
Manuals	1	12	3
Reports	-	16	3
Publications	-	14	3
Data	2	9	5

 Regarding the information available in computer for last five years, most of the departments have not placed information in soft form. However, some departments have placed some circulars/data in soft form.

3. Information that should be available to public

Circulars	3	13	5
Manuals	2	17	2

Reports	3	11	8
Publications	10	6	2
Data	2	8	6

 Most of departments have suggested that all publications should be available to the public. But as regard to circulars/manuals/reports/data, most of the departments are of the view that the information should not be made available to the public. However, few departments have agreed to make available some selective information to the public.

4. Information that could be made available to public

Circulars	3	14	5
Manuals	1	17	3
Reports	5	10	6
Publications	8	11	1
Data	2	7	11

 Most of the departments have not shown their willingness for making the information available to the public. However, in case of dissemination of data, most of the departments feel that some data could be available to the public. Some of the departments also feel that all publications could be made public.

5. Information that need not be made available to public

Circulars	8	6	5
Manuals	9	9	2
Reports	6	6	7
Publications	6	5	3
Data	5	5	11

Some of the departments have expressed their desire to be transparent as regard to the need for making the information public whereas some are quite conservative in dissemination of information in the form of circulars/manuals/reports/publications/data.

6. Plan for converting the information into electronic form

Circulars	11	8
Manuals	12	7
Reports	10	6
Publications	10	6
Data	17	3

 It is an encouraging trend to see an overwhelming majority of departments planning to convert the information into electronic form.

7. Timeframe for completing the conversion

Circulars	3	9
Manuals	6	6
Reports	5	6
Publications	4	8
Data	8	9

Inspite of the tremendous interest shown by most of the Departments for converting the information into electronic form, they are yet to fix any timeframe for completing the conversion.

Overview of the trend

- **Circulars**

13 out of 21 departments feel that circulars should not be made available to the public and 14 departments feel that circulars could not be made available to the public. 8 departments feel that the circulars need not be made available to the public.

- **Manuals**

17 out of 21 departments feel that the manuals should/could not be made available to public but on the contrary only 9 departments feel that manuals need not be made public.

Annexure 1.

<div align="right"><u>**About the RBA: Overview**</u></div>

<div align="center">

About the RBA:
History and Structure of the Bank
This page last updated 26 March 1999

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1 History
2 Governance
3 Head Office and branches
4 Overseas Representative Offices
5 Note Printing Australia Limited
6 Staff

1 History

In 1911, legislation established the Commonwealth Bank of Australia. Originally, the main functions of this bank were to carry on the general business of banking and the business of a savings bank. Central banking functions developed gradually until the

Second World War when wide powers were conferred in areas such as exchange control and the administration of monetary and banking policy. These functions and powers were formalised in 1945 in the *Commonwealth Bank Act* and the *Banking Act*. Legislation in 1959 preserved the original corporate body under the new name of the Reserve Bank of Australia to carry on the central banking functions of the Commonwealth Bank, but separated commercial banking and savings banking activities into the new Commonwealth Bank of Australia. The Reserve Bank Act 1959 took effect from 14 January 1960; since that date, the Reserve Bank has been Australia's central bank with its own Board, Governor and staff.

Detailed accounts of the Reserve Bank's development are contained in the following books:

LF Giblin, *The Growth of a Central Bank - The Development of the Commonwealth Bank of Australia, 1924-1945,* Melbourne University Press, Melbourne 1951

CB Schedvin, *In Reserve - Central Banking in Australia, 1945-75*, Macmillan, Sydney 1992

2 Governance

The Reserve Bank has two Boards, the Reserve Bank Board and the Payments System Board. For the purposes of the *Commonwealth Authorities and Companies Act 1997* the members of the *Reserve Bank Board* are the directors of the Bank. The *Reserve Bank Act* provides a clear delineation of responsibilities between the two Boards; instances of conflict over policies should therefore be rare. However, if a conflict were to arise, the view of the Reserve Bank Board would prevail to the extent that there is any inconsistency in policy. If there are disagreements between the Boards on questions of jurisdiction or inconsistency of policy, they are to be resolved by the Governor, who is Chairman of both Boards.

The Reserve Bank Board

The Reserve Bank Board is responsible for the Bank's monetary and banking policy and for the Bank's policy on all other matters, except for payments system policy. The Board has a maximum of nine members; three are ex-officio - the Governor of the Bank (who is also Chairman of the Board), the Deputy Governor (Deputy Chairman) and the Secretary to the Treasury. Of the remaining six members, at least five must be persons who are not officers of the Bank or of the Australian Public Service. A director, officer or employee of a corporation (other than the Reserve Bank itself) whose business is wholly or partly that of a bank is not eligible to be a member of the Reserve Bank Board. Over recent years, members of the Board have come from the manufacturing, mining and retailing industries, the rural sector, the trade union movement and the universities.

The Governor and Deputy Governor are appointed by the Governor-General, on the recommendation of the Government of the day. Terms are for periods not exceeding seven years, and they are eligible for reappointment. Subject to the policy of the Reserve Bank Board, the Governor is responsible for the management of the Bank. In the event of a vacancy in the office of the Governor, the Deputy Governor performs the duties and has the powers and functions of the Governor.

The Board members who are not ex-officio are also appointed by the Governor-General, on the Government's recommendation. They are appointed for a term of five years and are eligible for reappointment.

There are no statutory provisions governing the frequency of meetings of the Reserve Bank Board. It usually meets once a month, mostly at the Bank's Head Office in Sydney, but also at other times in State branches.

Current members of the Reserve Bank Board are listed under "About the RBA: The Board".

The Payments System Board

The Payments System Board is responsible for the Bank's payments system policy. The Board must ensure that that policy is consistent with the objectives of promoting competition and efficiency in the payments system while controlling risk and ensuring the stability of the financial system.

The Payments System Board has a maximum of eight members; three are ex-officio - the Governor of the Bank (who is also Chairman of the Board), one other Bank representative appointed by the Governor (Deputy Chairman) and a representative of the Australian Prudential Regulation Authority (APRA) appointed by the Chief Executive Officer. The other members of the Payments System Board are appointed in the same manner and for the same maximum term as members of the Reserve Bank Board. Current numbers of the Payments System Board are listed under Payments System Board.

3 Head Office and branches

The structure of the Bank is summarised in the organisation chart and is based on groupings of related functions, as follows:

Economic Group is responsible for analysis of economic trends, both domestic and overseas, forecasting and research relevant to the framing of monetary policy. It consists of two departments:

Economic Analysis Department monitors and forecasts trends in the international and domestic economies, provides regular advice on these developments and monetary policy to the Governors and the Board, contributes to various outside bodies (including

the Joint Economic Forecasting Group), maintains contacts with relevant analysts and institutions, undertakes applied research and prepares reports for publication in the Reserve Bank of Australia *Bulletin***.**

Economic Research Department undertakes longer-term research into issues relevant to monetary policy formulation and the operation of financial markets. Results are published in the Research Discussion Paper series**.** In addition, it organises a program of internal seminars and a major annual conference, publishes Research Discussion Papers and, under the direction of an Editorial Committee, the monthly *Bulletin.* It administers a comprehensive library service for the Bank.

Financial Markets Group is responsible for implementing the Bank's operations in domestic and foreign exchange markets. These operations are conducted in pursuit of the Bank's monetary policy objectives and for the purpose of investing Australia's international reserves.

The Group is divided into two departments:

Domestic Markets Department is responsible for operations in the money and bond markets; and monitoring of developments in domestic financial markets including the cost and availability of finance through financial intermediaries and capital markets. The Department also provides advice to the Treasury on the amount and maturity of securities to be issued to meet the Government's domestic funding requirements. It also conducts the regular tenders through which these securities are issued.

International Department is responsible for the Bank's foreign exchange operations and investment of international reserves. The Department also maintains an oversight of the foreign exchange market and handles the Bank's relations with international organisations, as well as authorising financial institutions in Australia to deal in foreign exchange.

The Bank's overseas representatives offices (see below) come under the umbrella of the Financial Markets Group.

Financial System Group supports the Bank's role in payments system regulation and its broad responsibilities for financial system stability. It consists of:

Payments Policy Department, which is responsible for developing and implementing the Bank's payments system policy. It provides analysis and advice to the Payments System Board on improving the safety and efficiency of the payments system. The Department also represents the Bank on a number of industry committees responsible for the day-to-day management of payments clearing systems.

System Stability Department, which analyses the implications for financial system stability of changes in patterns of financial intermediation and developments in financial products, technology and risk management techniques. It also conducts

research on issues related to financial regulation and provides policy advice to the Reserve Bank Board and to the Bank's representatives on the board of the Australian Prudential Regulation Authority (APRA).

Business Services Group comprises three departments:

Banking Department, which provides a specialised range of banking and registry services to customers, mainly Commonwealth and State Government departments and instrumentalities;

Note Issue Department, which is responsible for note issue, local distribution of currency, and gold lending; and

Payments Settlements Department, which is responsible for the settlement of high-value payments and interbank obligations arising from the conduct of Exchange Settlement Accounts and the Bank's own trading activities, as well as the operations of RITS (Reserve Bank Information and Transfer System), an electronic settlement system for transactions in Commonwealth Government securities.

The Business Services Group has an office in each Australian State capital (except Hobart) and in the Federal capital, Canberra.

Corporate Services Group comprises four departments which provide services to other parts of the Bank:

Facilities Management Department, which is responsible for the Bank's properties, purchasing and transportation, food services and security matters;

Financial Administration Department, which prepares the Bank's financial and management accounts and handles various staff services such as payroll and superannuation;

Support Services Department, which brings together the remaining internal services, including records management, publishing, communications, health and safety, and staff training; and

Systems and Technology Department, which is responsible for the planning, development and management of the Bank's computer and communications systems.

Audit Department is responsible for conducting independent appraisals of the Bank's activities, functions and operations to ensure that an adequate framework of internal controls has been established and is operating effectively.

Personnel Policy Department is responsible for the development of personnel policies to meet the Bank's changing needs.

Secretary's Department provides secretarial and legal services and acts generally as a co-ordinating department. It services the Reserve Bank Board and the Payments System Board and is responsible for disseminating information to the public and media.

4 Overseas Representative Offices

The Bank has representative offices in London and New York. The European representative office in London maintains liaison with central banks and other institutions and authorities in Europe, including the Bank for International Settlements and the Organisation for Economic Co-operation and Development. The New York office performs similar functions in respect to North America. Both offices monitor economic and financial developments in the local markets, and are responsible for foreign exchange operations and investment of international reserves.

5 Note Printing Australia Limited

Note Printing Australia Limited is responsible for the manufacture of Australia's currency notes and a range of other security products for domestic and overseas markets. It is a separately incorporated, wholly owned subsidiary of the Bank.

6 Staff

In February 1999, staff of the Bank numbered around 1 050 with around 700 in Sydney, around 180 at Note Printing Australia Limited and the remainder at the Australian branches and overseas representative offices. Over the past few years, overall staff numbers have declined substantially from their 1983 peak of 3 827.

<div align="right">

About the Bank
Bank of Canada(BoC)

</div>

The Bank of Canada is Canada's central bank and is responsible for Canadian monetary policy, issuing bank notes, regulating and supporting Canada's principal systems for clearing and settling payments, and acting as fiscal agent for federal government debt.

This web site includes a variety of financial statistics, news releases, general and research publications, speeches and other information about our activities.

General information about the Bank

The Bank of Canada is Canada's central bank. The Bank of Canada does not carry out ordinary banking business, nor does it accept deposits from the general public. The Bank of Canada's primary responsibilities are set out in the Bank of Canada Act and can be grouped into four broad functions:

Monetary policy
Bank notes

Central banking services
Debt management

Backgrounders

Additional information about what we do is found in our "Backgrounders", a series of short publications explaining a variety of topics related to the Bank of Canada's primary functions.

Structure & History

The Bank of Canada is structured like many corporate entities: overall responsibility for business affairs rests with its Board of Directors, and the Governor of the Bank is the Chief Executive Officer and Chairman of the Board. Collective responsibility for management of the Bank is in the hands of its Governing Council.

The Bank of Canada was founded in 1935, when the bank was given responsibility for regulating "credit and currency in the best interests of the economic life of the nation."

For More Information
For general information about the Bank beyond what is available on this web site, please contact our:

PUBLIC INFORMATION OFFICE:

E-mail:
paffairs@bank-banque-canada.ca
Telephone:
1-800-303-1282
Facsimile:
(613) 782-7713
Mail:
Public Affairs
Bank of Canada
234 Wellington, Ottawa, ON, K1A 0G9

<u>Annexure 2</u>

Mission Statement
(issued by RBNZ)

This is the Reserve Bank

OUR COMMITMENT TO NEW ZEALANDERS

As New Zealand's central bank, our role is to do everything in our power to build national and international confidence in the stability and integrity of New Zealand's money and monetary system.

We do that by:

- operating monetary policy so as to maintain price stability,
- promoting the maintenance of a sound and efficient financial system,
- meeting the currency needs of the public.

The Reserve Bank of New Zealand is this country's central bank.

At the most basic level, the Reserve Bank has the duty of ensuring that people can buy and sell goods and services using money, instead of having to barter. Part of this involves providing currency. Cash is physically issued to the public by banks, but they in turn buy their cash from the Reserve Bank. In addition, banks hold accounts with us that they use to make payments to each other, on behalf of their customers.

For that reason the Reserve Bank is often called "the banks' bank".

As the agency that issues money, the Reserve Bank is also required, by statute, to ensure that money retains its buying power. In other words, the Reserve Bank must guard against inflation or deflation.

Another duty is to screen and, where appropriate, register banks, and then to supervise the banking system. We also oversee and operate in financial markets, with the objective of maintaining market stability and confidence.

The Reserve Bank manages the country's foreign exchange reserves, offers registry and depository services, and provides the secretariat for the Overseas Investment Commission. When the Government wants to borrow in New Zealand dollars, the Reserve Bank raises the funds on behalf of the Treasury.

To do all this, the Reserve Bank employs about 300 staff, mostly at the Bank's head office in Wellington. Currency processing branches also operate in Auckland and Christchurch.

The Reserve Bank's purpose

The Reserve Bank's mission statement says, "As New Zealand's central bank, we will do everything in our power to build national and international confidence in the stability and integrity of New Zealand's money and monetary system." By doing this, the Reserve Bank contributes to New Zealand's economic prosperity and security.

The Reserve Bank's primary function, as set by Section 8 of the Reserve Bank of New Zealand Act 1989, is to conduct monetary policy to maintain "stability in the general level of prices". This means keeping inflation low, to ensure that money retains its value or buying power.

Price stability

Stability in the general level of prices is achieved by formulating and implementing monetary policy. This refers to Reserve Bank actions, affecting interest rates, the exchange rate and the money supply, taken to influence the pace of spending and, by that, the inflation rate in New Zealand.

If the Reserve Bank expects inflation to rise, it takes action likely to increase wholesale short-term interest rates. Retail banks usually then adjust their interest rates to reflect higher wholesale market interest rates, and this discourages borrowing and encourages saving, both of which reduce consumer spending. Reduced demand for goods and services then forces people to stop putting prices up, curtailing inflation. The exchange rate may also rise, affecting the price of imported goods and services and the profitability of exporting.

Note that the Reserve Bank is as keen to avoid deflation as to avoid inflation. Deflation is where prices on average are falling, as can happen in a severe recession or depression. Deflation creates many of the same problems as inflation, as well as the perverse effect that the smartest investment may be doing nothing with one's money, as it appreciates in value regardless. In this situation, to preserve price stability the Reserve Bank moves to bring down interest rates and the exchange rate, which also gets the economy moving again. Good monetary policy, aimed at price stability, tends to moderate boom-bust cycles.

Price stability is worth having because it protects the value of people's incomes and savings, and encourages investment in the nation's productive capacity, thereby contributing to employment, growth, export competitiveness and a more just society.

Setting the inflation target

The Reserve Bank Act requires a public agreement between the Government and the Reserve Bank which sets out in detail how the Reserve Bank is to interpret its mandate to maintain "stability in the general level of prices." This is called the Policy

Targets Agreement (PTA). The current PTA, signed in December 1996, says price stability is defined as annual average price increases between 0 and 3 percent in an adjusted Consumers Price Index. Previously, between 1990 and the end of 1996, the target was 0 to 2 percent inflation.

Stabilising day-to-day financial conditions

Just as the public hold bank accounts with banks, the banks themselves bank with the Reserve Bank. The balances in the banks' accounts with the Reserve Bank fluctuate substantially from day to day as the Government spends and collects taxes, and as people's need for cash fluctuates, especially around holiday times. The risk is that this

could create very large fluctuations in financial conditions, including interest rates, which would hurt the economy.

To avoid this, the Reserve Bank regularly undertakes transactions in the financial markets, specifically to smooth out these peaks and troughs. Most days the Reserve Bank either mops up money, when the Government is spending more than it collects in taxes, or puts money into the system, when the reverse applies.

Foreign exchange market

Since 1985 New Zealand has had a floating exchange rate; in other words the value of the New Zealand dollar against other currencies has been set by the market. However, successive governments have resolved to retain a capacity, via the Reserve Bank, to intervene in the foreign exchange market. This could be done to counteract so-called disorderly market conditions such as market paralysis, that might arise after a major political or financial crisis, or natural disaster. Intervention would involve buying or selling New Zealand dollars in exchange for other currencies, with the aim of restoring a smoothly functioning private market. So far intervention has not been required.

To maintain a capacity to do this, the Reserve Bank holds and manages the Government's foreign exchange reserves of about $4 billion. The Bank invests and actively manages these assets to earn a good rate of return, while ensuring that risks of loss are kept to a minimum, and cash is accessible at short notice.

Government debt programme

The Reserve Bank conducts the Government's borrowing within New Zealand under an agency arrangement with the Treasury's Debt Management Office. Treasury bills, conventional bonds and inflation indexed bonds are sold by tender to raise funds for the Government. Banking supervision

Under the Reserve Bank Act, the Bank is charged with "promoting the maintenance of a sound and efficient financial system; [and] avoiding significant damage to the financial system that could result from the failure of a registered bank".

This, in part, means promoting prudent behaviour by registered banks. The Reserve Bank does NOT underwrite individual banks, and it does NOT provide a safety net for depositors in the case of bank failure.

However, all organisations wishing to be known as banks have to be registered and the Reserve Bank operates a banking supervision system intended to help reduce the likelihood of a bank collapse. The Reserve Bank also has a range of powers to respond to bank distress or failure.

Since January 1996 banking supervision has been based mainly on requiring banks to release public disclosure statements four times a year. These provide comprehensive

financial and risk-related information for each registered bank. Public disclosure statements are intended to help depositors assess whether or not a bank is at risk and, more importantly, to encourage banks and their directors to behave prudently in the first place.

There are no restrictions on the number of banks that can be registered. However, all banks are subject to standardised minimum requirements, such as a minimum capital position in relation to their loans and other assets, and quality standards. The Reserve Bank also seeks to ensure that legislative, payments, accounting and other infrastructure systems assist the overall soundness and efficiency of the financial system.

The Reserve Bank Act gives the Bank the sole right to issue New Zealand's bank notes and coins, as legal tender. The Reserve Bank controls the design and printing of New Zealand's currency and issues money to registered banks. The Reserve Bank also withdraws from circulation damaged or unusable currency. Old notes are destroyed by shredding.

Retail banks buy currency from the Reserve Bank at face value and sell surplus notes and coins back to the Bank in the same way. The Reserve Bank's offices, in Wellington, Auckland, and Christchurch, have sophisticated automatic sorting machines to process bank notes from the banks. These sorting machines count the notes and separate out counterfeits or damaged notes Good quality notes are then re-issued to the banks.

The Reserve Bank has to be constantly vigilant against counterfeit money. When the current range of bank notes was introduced in 1992/93, many sophisticated security features were included.

Special commemorative coins for collectors are also issued regularly; these are profiled in our Mintage Notes newsletter. More information is available in the Reserve Bank booklet Explaining Currency.

Registry Services

The Reserve Bank provides registration and payment services for debt securities. These securities are bonds, bills and notes issued by the Government, local authorities and others in the public and private sectors. The Reserve Bank provides these services on a commercial basis and accounts for them via its wholly-owned subsidiary, RBNZ Registry Limited.

In essence, this means that the Reserve Bank maintains a record of who owns each security, records changes of ownership as securities are traded in the market, pays interest to the owners on due date, and repays the principal owing as the security matures.

The Reserve Bank also provides a real-time delivery on payment service for traders in debt and equity securities. This is done electronically, using a system known as

Austraclear New Zealand. All securities in the Austraclear system are held on behalf of participants by New Zealand Central Securities Depository Limited, which is a custodian trustee wholly owned by the Reserve Bank.

Overseas Investment Commission

The Reserve Bank provides secretariat and administrative support for the Overseas Investment Commission. The Commission advises the Government on inward foreign investment issues and also recommends whether or not specific applications from foreign companies seeking to make large new investments should be accepted. The Reserve Bank's Governor, or his nominee, is an ex officio member of the four person Commission, with one of the Bank's Deputy Governors filling this role.

The Reserve Bank of New Zealand Act 1989

The Reserve Bank of New Zealand Act 1989 provides the Reserve Bank with its statutory powers and obligations. As a result, the Reserve Bank is not a conventional government department or state agency.

Instead, the 1989 Act gives the Reserve Bank autonomy in the way it achieves price stability. Previously the Minister of Finance could in secret direct the Reserve Bank to follow a particular policy. Because of the 1989 legislation, this can not happen now.
The Treasurer can still change the monetary policy objective, via an override provision (Section 12), but specific rules apply and the details must be made public.

The Reserve Bank is also independent in relation to the management of overseas reserves, bank registration, currency design and investment of Reserve Bank's assets. Some matters, however, remain subject to ministerial direction.

The Governor

The Governor is personally accountable to the Government for the Bank's performance. However, in most areas, and especially monetary policy, the Governor has statutory independence as to how outcomes are achieved.

The Governor is appointed by the Treasurer, on the recommendation of the Bank's Board of Directors, for a five-year term. Dr Donald Brash was appointed to the post in September 1988, and was re-appointed for his second five year term in 1993.

The Board of Directors is also appointed by the Treasurer. The Board regularly reviews the Governor's and the Reserve Bank's performance, and provides feedback to the Government.

Annexure 3

Excellence
We pursue excellence in all that we do and we achieve it by actively challenging, reviewing and improving the way we work.

Our People
We value the talents of our people and enhance those talents by providing encouragement, support and opportunities for growth and development.

Our Reputation
We strive to inspire public confidence by acting with integrity, exercising sound judgement and using public resources responsibly.

Working Together
We respect and encourage both open communication and diverse contributions aimed at achieving the Reserve Bank's goals.

Annexure 4

(BANKING SUPERVISION HANDBOOK) (RBNZ)

Banking supervision policy documents and regulations

TABLE OF CONTENTS
All document links are to Adobe Acrobat files .

Explanatory Information on the Registered Bank
Disclosure Orders In Council (34Kb)
      NZ Gazette No. 126

            OIC1 Full and Half-Year - New Zealand
            Incorporated Registered Banks Consolidated
            Orders (125Kb)

            OIC2 Off-Quarter - New Zealand Incorporated
            Registered Banks Consolidated Orders
            (113Kb)

            OIC3 Full and Half-Year - Overseas
            Incorporated Registered Banks Consolidated
            Orders (121Kb)

            OIC4 Off-Quarter - Overseas Incorporated
            Registered Banks Consolidated Orders
            (110Kb)

Annexure 5

POLICY TARGETS AGREEMENT
(RBNZ)

This agreement between the Treasurer and the Governor of the Reserve Bank of New
Zealand (the Bank) is made under sections 9 (1) and 9(4) of the Reserve Bank of New
Zealand Act 1989 (the Act), and shall apply for the balance of the Governor's present
term and for his next five year term, expiring on 31 August 2003. It replaces that signed
on 10 December 1996.

In terms of section 9 of the Act, the Treasurer and the Governor agree as follows:

1. Price stability

Consistent with section 8 of the Act and with the provisions of this agreement, the Bank
shall formulate and implement monetary policy with the intention of maintaining a
stable general level of prices, so that monetary policy can make its maximum
contribution to sustainable economic growth, employment and development
opportunities within the New Zealand economy.

2. Policy target

 a) In pursuing the objective of a stable general level of prices, the Bank shall monitor
prices as measured by a range of price indices. The price stability target will be defined
in terms of the All Groups Consumers Price Index excluding Credit Services (CPIX), as
published by Statistics New Zealand.

b) For the purpose of this agreement, the policy target shall be 12-monthly increases in the CPIX of between 0 and 3 per cent.

c) Notwithstanding clause 2(a), the Treasurer and the Governor may agree to use an alternative index of consumer price inflation following the implementation of the changes to the calculation of consumer prices proposed by the
Government Statistician to take effect during 1999.

3. Unusual events

a) There is a range of events that can have a significant temporary impact on inflation as measured by the CPIX and mask the underlying trend in prices which is the proper focus of monetary policy. These events may even lead to inflation outcomes outside the target range. Such disturbances include, for example, shifts in the aggregate price level as a result of exceptional movements in the prices of commodities traded in world markets, changes in indirect taxes, significant government policy changes that directly affect prices, or a natural disaster affecting a major part of the economy.

b) When disturbances of the kind described in clause 3 (a) arise, the Bank shall react in a manner which prevents general inflationary pressures emerging.

4. Implementation and accountability

a) The Bank shall constantly and diligently strive to meet the policy target established by this agreement.

b) It is acknowledged that, on occasions, there will be inflation outcomes outside the target range. On those occasions, or when such occasions are projected, the Bank shall explain in Policy Statements made under section 15 of the Act why such outcomes have occurred, or are projected to occur, and what measures it has taken, or proposes to take, to ensure that inflation comes back within that range.

c) The Bank shall implement monetary policy in a sustainable, consistent and transparent manner.

d) The Bank shall be fully accountable for its judgments and actions in implementing monetary policy.

Signed

Hon Winston Peters
Donald T Brash
Treasurer
Governor

Reserve Bank of New Zealand

DATED at Wellington, this 15th day of December 1997

March 1990 (Brash/Caygill)
December 1990 (Brash/Richardson)
December 1992 (Brash/Richardson)
December 1996 (Brash/Birch)

Annexure 6

Job Opportunity
(On FRBNY)

Current Opportunities
Campus Recruitment
Summer Internships
Salaries & Benefits
Federal Reserve System Career Opportunities

Annexure 7
Date 3 May 1999
Time Immediate   NEWS RELEASE

Polymer $20 notes out today

New Zealand's first polymer bank notes go into circulation today.

Other denominations will be issued in polymer during the remainder of 1999 and into the beginning of 2000. The next polymer notes to be issued will be the $10 and $100 notes in late June or early July, followed by the $5 note in October. The polymer $50 note will be issued early next year.

Reserve Bank Currency Department Chief Manager Brian Lang said today: "Polymer $20 notes are legal tender as of this morning. People should start seeing them this week, especially in money withdrawn from ATMs and banks.

"When people see these new notes they will want to know that they are seeing the real thing. Polymer notes do not have a silver thread, but do have two transparent windows which makes these notes much harder to forge. The notes also carry a shadow image of the Queen, which is similar to the watermark on the paper notes. The size and design is much the same as before, but the colours are brighter, and some fonts have been modernised.

"Paper $20 notes will remain legal tender but will gradually be withdrawn from circulation. By this time next year I would expect most of bank notes in circulation to be made of polymer," Mr Lang concluded.

The Reserve Bank has published a free pamphlet entitled The New Polymer Bank Notes, which shows the enhanced security features of polymer bank notes. Copies of the brochure can be obtained from the Reserve Bank by telephoning (04) 471 3660 or from the Bank's website at www.rbnz.govt.nz.

Collectors' $20 presentation packs of uncut pairs are available for sale from the Reserve Bank by telephoning 0800 426 467.

For further information contact:
Lisa Weekes
Communications Officer
Phone 04 471 3767, pager 026 103 787
Email weekesl@rbnz.govt.nz

Annexure 8

Publication (FRBNY)

A selected publication is available for on-line viewing
 Annual Reports
 Governors' Reports,
 Speeches, and Testimony
 General Publications
 Research Publications
 Special Reports
 Payments Risk Committee

Some of the database are also available on-line

 To access on-line database:

 See Fed In Print - an index to
 Federal Reserve economic research.
 (Source: FRB-SF)

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Consumer Protection
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Interest Rates
Loans and Credits
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Research Update
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Staff Reports

Staff Economists

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Announcements by the bank
Bank Conditions and Income Database (Source: FRB
Chicago)
Central Banking Information
Circulars
Community Affairs
Computer Interface Services
CRA (Community Reinvestment Act)
Fed Services
Mergers and Acquisitions
Operating Circulars
Payment Systems Information
Regulatory and Legal Matters
Year 2000 Information

Annexure 9A

Alert Mail for item added to web page

Added to the Research page:

Staff Report Number 82 Heat Waves, Meteor
Showers, and Trading Volume: An Analysis of
Volatility Spillovers in the U.S. Treasury Market
by Michael J. Fleming and Jose A. Lopez

Monday, June 28, 1999

Added to the Banking Information page:

A new page entitled Central Banking Information.
The page features on-line registration to the
various courses offered by the NY Fed to central
bankers.

Wednesday, June 23, 1999

Added to the Speeches page:

William J. McDonough: Remarks before the Money
Marketeers of New York University

Annexure 10

Alert Mail for new circular

This free service provides you with an e-mail notification whenever new Circulars are available on our website.

To subscribe, send an e-mail to listserv@peach.ease.lsoft.com. In the body of the e-mail type the following:

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CIRCALERT Ram Sharma ")

Annexure 11(FRNBY)

Alert Mail for new page added at the linked website

Added to the Special Reports Bank for International Settlements page:

Consultative Paper on a New Capital Adequacy Framework (Source: BIS)

Added to the Special Reports Bank for International Settlements page:

Credit Risk Modelling: Current Practices and Applications Recommendations for Public Disclosure of Trading and Derivatives Activities of Banks and Securities Firms
Supervision of Financial Conglomerates

Annexure 12

Key word search (BoC)

Use commas to separate words and phrases. You can also use the Boolean operators
AND OR NOT.

EXAMPLES

A comma is a shortcut for the word OR. If you type:

low inflation, labour

you will find pages containing the exact phrase low inflation OR the word labour.

If you type:

low inflation AND labour NOT 1997

you will find pages that contain the exact phrase low inflation, AND the word labour, but NOT 1997.

If you type:

low, inflation, labour

you will find pages containing either low OR inflation OR labour.

Annexure 9

Research Page at FRBNY

Regional Economy
Current Issues in Economics and Finance
Economic Policy Review
Publications & Other Research Brochure
Research Papers
Research Update
Second District Highlights
Staff Reports