
NON-SOVEREIGN RISK ASSESSMENT MODEL FOR USAID'S HOUSING GUARANTEE PROGRAM

FINAL REPORT

*Bureau for Private Enterprise
U.S. Agency for International Development*

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Private Enterprise*

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*Sponsored by: Private Enterprise Development Support Project II
Project Number 940-2028.03
Contract Number PDC-2028-Z-00-7186-00
Prime Contractor: Coopers & Lybrand*

October 1993

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LIST OF ACRONYMS

BIAPE	<i>Banco Interamericano de Ahorro y Prestamo</i>
CABEI	Central American Bank of Economic Integration
CAMEL	Capital Adequacy, Asset Quality, Management, Earnings and Liquidity
EDI	Economic Development Institute
ExIm	Export-Import Bank of the United States
FM	USAID's Office of Financial Management
GC	USAID's Office of General Counsel
HDFC	Housing Development Finance Corporation (India)
HG	Housing Guarantee Program
HGPMS	Housing Guarantee Portfolio Management System
ICRAS	Inter-Agency Country Risk Assessment System
IFC	International Finance Corporation
IFI	Intermediary Financial Institution
IIC	Inter-American Investment Corporation
LPG	Loan Portfolio Guarantees offered by PRE/I
OMB	Office of Management and Budget
OPIC	Overseas Private Investment Corporation
PRC	Portfolio Review Committee
PRE	Bureau for Private Enterprise
PRE/I	Bureau for Private Enterprise's Office of Investment
PSIP	Private Sector Investment Program
RHUDO	Regional Housing and Urban Development Office

EXECUTIVE SUMMARY

A. TASK

Following the passage of the Credit Reform Act of 1990, all U.S. government agencies are required to calculate a credit subsidy on all loans and guarantees authorized after October 1, 1991. PRE/H has requested that Coopers & Lybrand develop a risk assessment model to calculate credit subsidies for the "non-sovereign" risk associated with its Housing Guarantee (HG) Program.

B. APPROACH

The team evaluated four main areas in developing the model:

1. The risk assessment methods of international private banks and development finance institutions such as Citibank, Chemical Bank, Moody's Investors Service, Merrill Lynch, and the International Finance Corporation.
2. The credit subsidy models and risk assessment procedures of other U.S. government agencies including OPIC, the Export-Import Bank of the United States, and PRE/I's Private Sector Investment Program.
3. The historical data for the Housing Guarantee Program.
4. The risk characteristics of the "non-sovereign" loan guarantees.

C. MAJOR FINDINGS

The major findings upon which the risk assessment model is based are:

- All risk management methods are tailored to each financial institution's portfolio. The risks are directly related to the financial obligations.
- The quality of the risk management system is determined by the quality of the credit review process and the experience of the credit officer completing the evaluation.
- In all cases, the financial institutions adjust their pricing policies, i.e., interest rate and fees, to account for changes in risk.
- Any system must have the flexibility to allow the risk factor weightings to be adjusted.
- Private sector risks in a country can be less risky than the sovereign risk in the same country.

- The Export-Import Bank's model is the approach most similar to the HG Program of all U.S. government agencies. The ExIm Bank's financial instruments, risk profiles and financial structure for its guarantees are similar to those of the HG Program.
- The risk structure for the PRE/H loan guarantees can be broken down into three risk areas: Country Risk, Intermediary Financial Institution (IFI) Risk and Transaction Risk Mitigation.
- The HG Program's historical financial data is not relevant because new "non-sovereign" guarantees will not be structured as were the old guarantees and because there is limited information for a complete analysis.
- The HG Program will provide a limited number of "non-sovereign" guarantees each year, so the model should be as simple as possible and based as much as possible on existing procedures.

D. MODEL STRUCTURE

There are two basic methodologies used by other government agencies in constructing their risk assessment methods for private sector financial obligations: a risk premia system and a historical default method. Since the "non-sovereign" program does not have a financial or default history, the proposed model uses the risk premia method for calculating credit subsidies. This is similar to the ExIm Bank method. Under the risk premia methodology, each borrower is given a letter rating and a corresponding risk premium. The risk premium is then used to calculate the credit subsidy.

The model is broken down into the three main risk categories: country risk, IFI risk, and transaction risk mitigation. This is similar to both the ExIm Bank and PSIP methodologies for loan guarantees to local financial institutions. Each category is given an independent rating in the credit review process. These ratings are then converted into comparable scales which are weighted and combined to give an overall borrower rating. The overall borrower rating is converted to a letter grade and given a corresponding risk premium. The risk premium and fees are then used to calculate the credit subsidy using the OMB model.

E. CREDIT REVIEW RECOMMENDATION

The team recommends that PRE/H establish a standard credit evaluation and risk assessment process. This would include establishing a credit review committee, determining specific credit information to be assembled and evaluated, and establishing clear lines of responsibility for tasks in the credit review process.

I. INTRODUCTION

A. TASK

The Bureau for Private Enterprise's Office of Housing and Urban Programs (PRE/H) requested that Coopers & Lybrand develop a risk assessment model for non-sovereign risk associated with its Housing Guarantee (HG) Program. For purposes of the HG Program, PRE/H defines non-sovereign risk housing guarantee loans as those in which the borrower's obligations to repay are not backed by the full faith and credit of a sovereign government or the equivalent.

Nearly all of the housing guarantees issued by PRE/H during the past twenty years have been supported by host country guarantees. Specifically, PRE/H's standard loan guarantee structure has offered a full faith and credit guarantee of the U.S. government to U.S. financial institutions to encourage them to lend to governments for the purpose of financing housing and urban development. The central bank or finance ministry of the country receiving a particular loan on-lends for the intended purpose and, on behalf of its government, offers a full faith and credit guarantee to USAID.

B. OMB REQUIREMENTS

Following the passage of the Credit Reform Act of 1990, all U.S. government agencies are required to calculate a credit subsidy on all loans and guarantees authorized after October 1, 1991 (i.e., those initiated during and after fiscal year 1992). The credit subsidy reflects the estimated defaults from any loan or loan guarantee. An inter-agency task force (the Inter-Agency Country Risk Assessment System, or ICRAS) was established to set the subsidy methodology and estimates for evaluating sovereign borrowers. Each agency was given the responsibility for creating a methodology for evaluating private sector loans and guarantees.

The ICRAS system is based on two main precedents -- the rating agency model for assessing risk and bond pricing in the capital markets. As with the rating agencies, the ICRAS system assigns one of eleven letter grades to each country. Under the ICRAS system, the best rating is A and the following ratings, in descending order, are B, C, C-, D, D-, E, E-, F, F-, F--. The ICRAS system then assigns a risk premium over the Treasury bond rate for each letter grade at various maturities. The risk premium is a proxy for the market's perception of the credit. It increases as the letter grade moves from A to F--. The subsidy amount for any borrowing is simply the present value calculation of any expected losses.

In its simplest form, the calculation of the subsidy amount for loan guarantees provided by PRE/H is the present value of the net cash flows of the guarantee. The net cash flow is the difference between inflows and outflows. The main inflows are financing fees and the main outflows are payments for defaults.

C. BRIEF HISTORY OF HOUSING GUARANTEE PROGRAM

The Housing Guarantee Program is USAID's primary capital resource for shelter and related urban programs. Since the HG Program's inception in 1964, USAID has authorized more than \$2.8 billion in loan guarantees which have supported more than 200 housing and urban development projects in over 40 countries.

The loan guarantees issued since the inception of the program can be divided into three main categories:

- Loans directly to housing developers. From 1965 to 1971, the Housing Guarantee Program consisted of loans made by U.S. financial institutions directly to housing developers (primarily U.S. developers) in USAID-assisted countries in Latin America. Once the developer received the final disbursement of the loan, responsibility for the loan transferred to an administrator whose job it was to collect the home mortgage payments and remit them to the particular U.S. lender. USAID, through PRE/H, would guarantee the repayment of 100 percent of the principal and interest to the U.S. lender. These loans, however, did not carry a host country guarantee to indemnify USAID for any losses incurred under its loan guarantee. Losses incurred by USAID during this period were due to foreign exchange fluctuations because the loans were pegged to local currency, leaving USAID with the foreign exchange risk. PRE/H no longer offers this type of loan guarantee, since the only other option for handling the foreign exchange risk would have been to transfer it to individual mortgage holders.
- Sovereign loans. In 1972, PRE/H made several significant changes to the program, thereby creating its present loan guarantee structure. Firstly, it broadened its focus to include other USAID-assisted countries with housing development needs. Secondly, it initiated a new loan guarantee structure whereby loans would be made by U.S. financial institutions to central banks, finance ministries or local banks to be on-lent for single- or multi-family housing needs. USAID, through PRE/H, continues to guarantee the repayment of 100 percent of the principal and interest to the U.S. lender. Thirdly, these loans carry a full faith and credit guarantee by the host country (hence the reference to "sovereign loans") to indemnify USAID for any losses incurred under its loan guarantee. Another significant change associated with this structure is the shifting of the foreign exchange risk to the host country. With the exception of about ten outstanding developer loans (described above) and a handful of non-sovereign loans (described below), nearly all of PRE/H's loan guarantee portfolio consists of sovereign loans of the type described in this paragraph.
- Non-sovereign loans. Since 1987, PRE/H has initiated five non-sovereign housing guarantees which are different from its standard sovereign guarantees in two important ways: (i) the U.S. bank loans guaranteed by USAID were made directly to intermediary financial institutions (IFIs) for on-lending for housing purposes and (ii) USAID received no host country guarantee. These loans are considered non-sovereign loans because of

the absence of a full faith and credit host country guarantee. Each loan has been structured somewhat differently from one another, depending on the particular circumstances surrounding the transaction. In some cases, collateral and/or other security is sought to mitigate some of USAID's risk of loss associated with its guarantee. Descriptions of the five guarantees are contained in Appendix 2.

II. RISK MANAGEMENT BY OTHER INSTITUTIONS

A. PRIVATE AND DEVELOPMENT FINANCE INSTITUTIONS

The C&L team met with a major credit rating agency and several private and multilateral financial institutions¹ in New York and Washington to discuss their risk management methodologies and credit assessment procedures. Findings which we believe are relevant to the HG Program are described briefly below. Full descriptions of our meetings with several of these entities are contained in Appendix 3.

1. All risk management methods are tailored to each financial institution's portfolio. The risks are related directly to the financial obligations. Merrill Lynch has an international risk management procedure tied to the short-term nature of its obligations. Citibank and Chemical Bank have methods which limit their exposure in any one country.
2. The quality of the risk management system is determined by the quality of the credit review process and the credit officer completing the evaluation. The better the process and the capability of the officer, the better the risk analysis.
3. In all cases, the financial institutions adjust their pricing policies, i.e., interest rate and fees, to adjust for risk. PRE/H may want to consider this as an option for the HG Program.
4. All the institutions indicated that any system must have the flexibility to allow the risk factor weightings to be adjusted. There is no static model which can accurately reflect risks in many situations. The risk factors have to be adjusted based on the circumstances in a particular case. The need to adjust risk factors based on circumstances highlights the need for the involvement of an experienced credit officer to make such decisions.
5. The best determinant of future performance by an international borrower is past behavior. This is normally the best place to start an evaluation.

¹ Moody's Investors Service, Chemical Bank, Citibank, Merrill Lynch, the Inter-American Investment Corporation and the International Finance Corporation.

6. Experience is showing that private sector risk in a country can be lower than the government or sovereign risk in the same country. This is because private sector entities may either be better managed or have more stable access to foreign exchange.

B. U.S. GOVERNMENT AGENCIES

The team also met with the following U.S. government agencies, all of which are in the process of dealing with "post-credit reform" loans and guarantees. They must calculate a credit subsidy (i.e., reserve) on all loans and guarantees authorized after October 1, 1991. Full descriptions of our meetings with these entities are contained in Appendix 3.

1. USAID: Private Sector Investment Program

There are several important similarities between the Private Sector Investment Program (PSIP), offered by the Office of Investment of USAID's Bureau for Private Enterprise (PRE/I), and the procedures proposed for non-sovereign guarantees in PRE/H's HG Program. Both programs work through intermediary financial institutions and divide the risk factors into three main categories - country risk, credit risk (IFI risk) and risk mitigation. PSIP established the use of a system for the evaluation of IFIs. PRE/H is expected to adopt a modified version of this system.

There are also several differences between the programs which preclude PRE/H's use of PSIP's entire methodology. For example, the HG Program guarantees 100 percent of loans from U.S. lenders to IFIs, while PSIP guarantees 50 percent of loans from IFIs to sub-borrowers. Also, PSIP's guarantees are far smaller, in size and maturity, than those offered under the HG Program. PSIP has a method which fits the medium-term and risk sharing structure of its financial obligations. PSIP also uses a default estimate in its credit subsidy calculation which is based on historical data. The HG Program lacks sufficient default data on non-sovereign loans to use this method of future default estimation.

2. Overseas Private Investment Corporation

Unless PRE/H decides to do direct project finance, either directly or through IFIs, OPIC has a completely different financial product than the HG Program. OPIC has an operating history with private sector loans which HG does not have and has therefore been able to use historical data as the basis for its risk management process. For PRE/H, the important factor regarding OPIC's methodology is the ability to alter factor weights depending on circumstances.

3. Export-Import Bank of the United States

ExIm provides a good model for the HG process for several reasons. Both ExIm and PRE/H provide loan guarantees to intermediary financial institutions. They both provide sovereign and non-sovereign guarantees. They also provide long-term facilities and have not used much pricing flexibility. The one weakness of the ExIm model is that the weightings of

the various factors are fixed and cannot be adjusted to reflect changed conditions between countries.

III. RISK ANALYSIS COMPONENTS

A. GENERIC STRUCTURES

Any risk assessment method is based on the financial structure and risks of the financial products involved. From our discussion with PRE/H, and based on the examples we have been given, there are two basic structures which will be used. At the request of the PRE/H staff, we have provided a general description of a third alternative which they currently do not plan to use, but may be considered in the future.

The first structure is the private sector version of the standard sovereign guarantee structure. In this case, the HG Program provides a 100 percent guarantee of a loan from a U.S. investor (insurance company or commercial bank) to an intermediary financial institution (IFI) in a developing country. The IFI on-lends to housing or urban infrastructure borrowers. The local bank provides a general pledge of its assets to the U.S. investor and the HG Program. The credit is the general obligation of the IFI. The main financial risk is the ability of the local IFI to pay back the loan. A variation on this alternative involves the bank pledging collateral in addition to its general obligation. This collateral pledged would be considered supplementary credit.

A second structure for the program could operate as follows: the HG Program provides a guarantee of a loan from a U.S. investor to a regional development bank or a supra-national bank which on-lends for specific projects. In this case, the security or credit for the USAID guarantee is the general obligation of the regional or supra-national bank. The difference between this and the structure described above is that in this case the financial institution is not legally incorporated in, or controlled by, a single country.

A potential third structure, which we will mention but not recommend at this point, involves a loan (with a USAID guarantee) made by a U.S. investor directly to an IFI. The money is then on-lent for a project, and the only pledge of security or credit are revenues or assets of the project. In this case, there would be no pledge of the IFI's general obligation and the security would only be the credit of the project. This alternative would require a project finance evaluation and an alternative risk management system.

B. RISK ANALYSIS

Any risk management system involves the process of identifying and quantifying the risks involved. The risks in a financing are tied to its structure. The total risk is the sum of the individual risks. The individual risks are based on the characteristics of the financing.

For the HG Program, there are two basic financial risk factors: the country risk and the IFI risk. This is based on the financial structure of the program, which guarantees loans to financial institutions in foreign countries. If the financial structure changes, the risk profile will also change. If the program were to do a project in which the only assets pledged are project assets, then a project risk profile would be substituted for the IFI component. For each of the two major risk factors there is also the possibility of reducing risk through financial structuring. We have included this as a separate section in the discussion of risk analysis, followed by brief discussions of risk factor weighting and the relevant characteristics of development and supranational banks.

1. Country Risk

The housing guarantee program has two options for its assessment of country risk. The HG Program can either adopt the assessments done by the inter-agency task force or conduct its own evaluation. Since the HG Program is only planning to guarantee two or three non-sovereign loans a year, the team recommends that the HG Program adopt the inter-agency country risk assessments.

The inter-agency task force system (ICRAS) evaluates five main risk categories: Payment Arrears History, Debt Service Capacity, Balance of Payments, Macroeconomic Conditions, and Political/Social Conditions. It also looks at several factors in each of the five main areas. Although the HG Program will simply take these assessments as is, it is important to consider several of these factors. Firstly, the most important element is the foreign exchange component of the Debt Service Capacity section. Secondly, by identifying specific risks, guarantees can be structured to minimize these risks.

2. IFI Risk

The absence of host country guarantees and the central role played by intermediary financial institutions (IFIs) in the proposed non-sovereign loan guarantees elevates the importance of assessing creditworthiness using a thorough credit analysis method. Rating agencies and financial institutions in the United States and elsewhere have based much of their creditworthiness or risk assessment techniques on the CAMEL rating system developed by the three U.S. bank regulatory agencies² in 1978. The acronym stands for the five factors used to determine an overall bank rating: Capital Adequacy; Asset Quality; Management; Earnings; and Liquidity. This system resulted from efforts of the regulators to standardize their monitoring system and assign a standard rating for each bank at the conclusion of on-site examinations.

Various financial ratios are used to measure the capital, asset, earnings and liquidity levels of each bank analyzed. The ratios are compared with existing benchmarks for international banks and peer banks. The management rating is determined subjectively, although

² The three federal bank regulatory agencies are: the Federal Reserve; the Federal Deposit Insurance Company (FDIC); and the Office of the Comptroller of the Currency within the Treasury Department.

management's effectiveness is usually reflected in the other categories one way or the other. Each of the five CAMEL categories is rated by the credit analyst on a scale of 1 to 5, with 1 being strong, 2 being satisfactory, 3 being fair, 4 being marginal, and 5 being unsatisfactory.

Appendix 4 contains portions of a report³ prepared for PRE/I, in 1989, which provides a framework for the analysis of financial institutions in developing countries and established guidelines for USAID Investment Officers. The guidelines discussed in this report are intended to ensure that financial institutions are properly reviewed. Appendix 4 also includes excerpts from a recently published training handbook⁴ on bank regulation and analysis prepared by Mr. Robert S. Porter for the Economic Development Institute. Some of the key points of these reports are:

- **Capital adequacy** measurements mainly include comparisons of capital to assets, both risk-adjusted and in total. The CAMEL system measures how much capital a bank has to protect its depositors and if this amount is sufficient.
- **Asset quality** measurements include comparisons of past-due loans, non-performing loans and loan loss reserves to the total amount of loans as well as to total assets. The CAMEL system determines the strength of assets and off-balance sheet items, as well as the financial impact of problem loans.
- The CAMEL system evaluates a bank's **management** based on performance, policies established, controls, depth and adherence to law and regulation.
- **Earnings** measurements include the standard returns on assets and equity, as well as net interest margin and operating efficiency ratios. The CAMEL system measures bank profitability to see if it is sufficient to support future growth.
- **Liquidity** measurements include comparisons of cash and short-term funds to deposits and borrowings. The CAMEL system determines if a bank is liquid enough to meet its regular, as well as most of its unexpected, obligations.

The CAMEL system needs to be modified somewhat for use in the non-sovereign guarantee model being proposed. Two additional categories will be combined with the five standard categories described above to form the CAMEL PLUS system. The first category, *ownership and regulatory environment*, consists of an evaluation of: shareholder stability; government ownership and control; regulatory constraints; supervisory authority; and related factors which are considered to be relevant. This category would be rated on a 1 to 5 scale

³ Manual for Off-Site Analysis of Financial Institutions in Developing Countries. September 1991. Prepared by International Science and Technology Institute, Inc. for USAID/PRE/I.

⁴ Introduction to Banking Regulation, Supervision and Bank Analysis. 1993. Prepared by Mr. Robert S. Porter for the Economic Development Institute of the World Bank.

according to the strength of each of these elements. For example, if the IFI operates in an efficient regulatory environment where it is free of political or otherwise excessive government interference and is examined regularly by a competent supervisory authority, it would receive a better rating than an IFI which operates under excessively burdensome regulations or political interference.

The second category, *previous experience with borrower*, consists of an evaluation of the borrower's relationship with PRE/H. Suggested guidelines for determining a rating which reflects PRE/H's previous experience with the borrower (IFI) are as follows:

Borrower current on payments for more than five years	1
Borrower current on payments for three to five years	2
Borrower current on payments for one to two years	3
Borrower has missed a payment within the past two years	4
Borrower has not made a payment for more than two years	5

3. Risk Mitigation

Certain risk elements can be either reduced or eliminated depending on how the guarantee is structured. Examples of risk reduction or mitigation are: pledging collateral; lending in countries which use U.S. dollars as their legal tender; guarantees of foreign exchange and using offshore escrow accounts. These structuring elements can reduce either country or IFI risk. In order to make the analysis more transparent, the team recommends a separate category which looks at risk mitigation structures. This is similar to the method used by the Export-Import Bank and PSIP in their evaluations.

4. Weighting the Risk Factors

As important as identifying the risk is the process of weighting the various risk factors. In our conversations with financial institutions, most indicated that it is impossible to have a fixed weighting system which can apply in all cases. This is particularly true for the relative weightings between country risk and IFI risk. While a risk factor may be irrelevant in one country, it may be the most important risk factor in another country or in another situation. As an example, the country risk is less important for higher rated countries because the country risk as a portion of total risk is smaller for such countries. Conversely, in a weaker country, the country risk is probably a higher proportion of total risk, so country risk would in this case be given a higher weighting. Similarly, the relative weights also depend on the length of the financial obligation. For a short-term obligation, country risk will play a smaller role because country risks in the short term are easier to predict. However, in the longer term, country risk

plays a larger role, and is considerably more difficult to predict, as political and economic swings are given more time to impact the financial obligation.

5. Risk Assessment of Development and Supranational Banks

Development banks and supranational banks have different financial structures and mandates which have to be analyzed differently than private banks. Examples of these different financial elements are: governments as stockholders; callable capital to cover losses or liabilities; loans guaranteed by host governments; and financial policies which limit leverage and financial gearing. The financial structure for each bank is different so they have to be analyzed separately. In each case, the most important element to determine is the role of governments in the management and operations of the bank. It will be the responsibility of the USAID credit officer to make this determination and assign the relative weighing of government participation in the bank.

The difference in financial structure can affect either the risk assessment of the financial institution or the country weighting. There are several factors that have to be addressed. One factor is capital. Some of the questions are: who provided the capital for the bank; did governments provide capital; and what are the obligations of the participating governments to provide more capital if the bank cannot meet its obligations. The higher the participation of governments, the higher the country weighting for the bank. In a similar manner, the risk profile of the assets and the role of host governments has to be identified. The importance of financial management versus the guarantees provided by governments has to be considered. In some cases, especially where there is large government participation in providing and pledging capital, the risk assessment may simply be a weighted average of the risk ratings for the individual governments providing the equity. In other cases, government may play a small role and the risk rating will depend on the financial management and credit history of the bank. In each case, this will have to be determined based on a rigorous credit review of the financial institution.

IV. PROJECT IDENTIFICATION AND CREDIT REVIEW PROCESS

A. CURRENT PROCESS FOR PRE/H LOAN GUARANTEES

Project Identification and Review. PRE/H's current project identification and credit review process originates at the regional level. Regional Housing and Urban Development Offices (RHUDOs) advise USAID Missions and co-manage with them most of USAID's capital and technical assistance programs for housing and urban development. PRE/H uses its RHUDOs to identify new projects, as well as monitor existing projects, within the Housing Guarantee Program. RHUDO staff regularly confer with PRE/H and periodically travel to Washington to discuss proposed projects or provide input on a policy level.

For example, a RHUDO in a particular country may identify a need for long-term financing for housing or water and sanitation services. The first step in the review process would involve the RHUDO collecting information and preparing a Project Paper or the equivalent. This field report would include, among other things: a review of the implementing institution, including its capacity to participate in the proposed project; a discussion of the proposed structure, including how and where funds will flow; and a discussion of the type and amount of financing required to support the project. This information is a critical part of the current credit review process. The Project Paper is then presented in Washington for review by PRE/H and the relevant representatives of regional bureaus. Once the report is accepted by PRE/H and receives final Mission approval, an authorization is made for the proposed amount of financing for the project.

Role of U.S. Investor, PRE/H and Borrower. In order to work out the desired terms of the guaranteed loan, discussions are held among the various participants: RHUDO, USAID Mission, PRE/H, General Counsel for PRE (GC/PRE) and the borrower. An advertisement for a 48-hour bid auction is then placed in the Federal Registry for two weeks, inviting bids for financing from U.S. financial institutions. During the 48-hour bidding period, the borrower and PRE/H evaluate the bids. The borrower subsequently identifies what it considers to be the best bids in three or four categories (e.g., fixed rate, variable rate, etc.). PRE/H's Portfolio Review Committee (PRC) evaluates the options identified by the borrower before authorizing the final selection. The PRC members include representatives from PRE/H, GC/PRE and USAID's Office of Financial Management (FM).

Credit Review Process. USAID has offered U.S. financial institutions a 100 percent guarantee of principal and interest since the inception of the Housing Guarantee Program. PRE/H's credit analysis procedure for loan guarantees in which USAID receives a host country guarantee has consisted of using the ICRAS sovereign risk rating for the country in which the borrower (central bank or IFI) is located. There is little, if any, credit analysis of the ability of the particular central bank or IFI to repay the loan since it is guaranteed by the full faith and credit of the host country.

Representatives from the Portfolio Review Committee reviewed background information and documentation on the IFIs involved in the non-sovereign loan guarantees referred to in Appendix 2. All of the recent non-sovereign deals were "pre-credit reform" and therefore did not require credit subsidy calculations.

PRE/H has observed that nearly all defaults it has experienced in the program have been due to foreign exchange problems normally associated with country risk; rapid devaluations or lack of access to foreign exchange. Since all of the loans made through the Housing Guarantee Program, with the exception of some developer loans made in the 1960s and the handful of non-sovereign loans referred to in Appendix 2, were accompanied by a host country guarantee, PRE/H has regularly selected the sovereign risk rating to determine the risk associated with each loan carrying a host country guarantee. For this reason, outside of the ad hoc credit reviews

performed by its Portfolio Review Committee, PRE/H has not developed a standard credit review process for situations when a host country guarantee is not available.

B. PROPOSED REVIEW PROCESS FOR NON-SOVEREIGN GUARANTEES

Background. Appendix 3 of this report contains descriptions of discussions held recently with public and private sector entities concerning risk assessment and credit review procedures. Following these discussions, as well as several meetings with the staffs of PRE/H, the USAID Directorate for Finance and Administration's Office of Budget and the Office of Management of Budget (OMB), it became obvious that PRE/H must develop a somewhat sophisticated credit review process for the assessment of non-sovereign risk.

The characteristics of the guarantee offered by USAID through PRE/H are different from most of the loans and guarantees offered by the public and private sector institutions interviewed in terms of size, maturity and guarantee coverage. For example, PRE/H housing guarantees have a 30-year maturity, while the maturities of the loans and guarantees offered these institutions range from several weeks to ten or so years. PRE/H's guaranteed loans also range, on average, from \$10 million to \$25 million in size while PSIP guarantee facilities, for example, are \$3 million or less. PRE/H structures each guarantee so that it covers the repayment of both principal and interest, whereas several other guarantee programs cover only the net principal amount of eligible loans.

Recommendations. PRE/H should develop a thorough and transparent credit review procedure. It must develop a credit review process which assesses borrower creditworthiness and complements the proposed non-sovereign risk model. Several steps are necessary to develop a credit review process that is both user-friendly and thorough enough to be effective. The following recommendations are intended to strengthen PRE/H's ability to initiate financially-sound non-sovereign loan guarantee projects. They are also intended to enable PRE/H to closely monitor the financial condition of each borrower during the life of the guarantee.

1. Use the CAMEL bank rating system as the principal method of assessing the risk associated with an IFI borrowing without the support of a host country guarantee. The standard CAMEL system should be modified so as to include a review of ownership and regulation (as done by PSIP) as well as PRE/H's previous experience with the IFI and/or development banks. The new system could be referred to as "CAMEL PLUS."
2. Incorporate creditworthiness assessment into the field design work conducted by RHUDOs. We recommend that the RHUDOs assume the responsibility for arranging for the CAMEL PLUS analysis to be performed by local credit analysts who have been pre-approved by each RHUDO. The CAMEL PLUS analysis would then be included in the proposal presented in Washington.
3. Establish a credit committee that would include current members of PRE/H's Portfolio Review Committee as well as representatives from other parts of USAID. Access to a

formal credit committee is necessary to ensure that the credit review process is thorough and transparent. This committee should include an experienced credit officer in order to: properly interpret credit data; ensure that a thorough credit analysis is performed according to the modified CAMEL system referred to above; and implement an effective credit monitoring system. This credit officer's role will extend beyond the credit review process to the selection of the appropriate weightings and other variables to be used in the proposed non-sovereign risk model discussed later in this report. All PRE/H loan guarantees would be reviewed by the proposed credit committee.

4. Design and implement a credit analysis training seminar(s) and a credit review procedures manual for RHUDO and PRE/H staff in order to thoroughly familiarize them with proper credit analysis and monitoring methods. The PRE/I manual and the EDI training handbook referred to in Section III.B.2. of this report can serve as a starting point.
5. Establish step-by-step credit review procedures incorporating the recommendations listed above. Although specific details, such as staffing and budget considerations, will have to be worked out within PRE/H, the team suggests the following framework:
 - a. Expand project design process. RHUDOs will identify projects and gather necessary background and financial data necessary in the project design process, including information required for CAMEL PLUS analysis of the intermediary financial institution.
 - b. Emphasize PRE/H - RHUDO coordination. RHUDOs should continue to coordinate closely with PRE/H to ensure that both have the necessary information upon which to base the critical credit and risk management decisions associated with non-sovereign loan guarantees. In effect, RHUDOs should make full use of PRE/H as a backstop for their field operations.
 - c. Establish a clear line of responsibility. Once a credit committee is established, PRE/H should determine the credit assessment responsibilities of each RHUDO and PRE/H. This will range from a determination of the level of participation and "voting rights" in the committee to the establishment of a credit approval hierarchy which includes PRE/H, RHUDOs and key credit committee representatives. This will include determining who is responsible for gathering project credit information as well as who is responsible for completing each credit analysis. This may eventually involve granting some field credit approval authority to RHUDOs.
 - d. Improve Monitoring Capabilities. A critical link in any credit review process is the monitoring of the borrower's financial condition and the

loan guarantee agreement's terms and conditions. PRE/H should establish credit monitoring procedures and then determine the credit monitoring responsibilities of each RHUDO and PRE/H. Monitoring the financial condition of IFIs should include: regular visits to IFIs; semi-annual reviews of financial condition; and CAMEL analyses on a regular schedule determined by the credit committee. Monitoring of compliance with debt service requirements and other terms and conditions should include not only the tracking of payments, but an on-going analysis of the frequency and the reasons for defaults, among other things. PRE/H should also work closely with FM to improve the monitoring capabilities of HGPMS (its portfolio management system) and the RHUDOs.

V. STATISTICAL ANALYSIS

The Housing Guarantee Program has operated since 1964. Since that time, the program has provided approximately 220 loan guarantees with a total value approaching \$3 billion. From a risk management viewpoint, this history represents a record of financial performance. If the proposed non-sovereign guarantee program were to be structured similarly to the former programs, this historical record would represent a basis from which to make projections about future performance and defaults. As part of the team's effort to assess prospective performance of the non-sovereign guarantees, the team conducted a general analysis of the program's historical financial performance. This analysis is described in more detail in Appendix 5.

Although non-sovereign loan guarantees have been made in the past and the HG Program has a history of loan guarantees, the past performance has limited relevance to the proposed non-sovereign guarantee program for two reasons. One, the proposed program and the existing programs are not structured comparably. The old private sector loans went directly to developers and were made in local currencies. The current program lends in dollars and provides its guarantees to local financial institutions. The current sovereign guarantee program and the non-sovereign program have completely different risk profiles. The second reason is the unavailability of complete information on past loans. The program's financial information was computerized in 1988 but a detailed analysis would be necessary to track the paper trail of individual guarantees back to 1964. Given the limited relevance of the information to the proposed non-sovereign activity, it was considered neither useful or relevant for the proposed non-sovereign guarantee risk model. However, the team recommends that, once additional non-sovereign guarantees have been initiated, a complete analysis of the historical performance data be performed. Such a study, accompanied by a thorough analysis of PRE/H's sovereign guarantee historical data (e.g., determining reasons for defaults), would be of use to PRE/H for both its sovereign or non-sovereign programs.

VI. NON-SOVEREIGN RISK MANAGEMENT MODEL

A. CRITERIA

There are some factors about the non-sovereign HG Program which are important to consider in constructing the risk model.

1. The program plans to provide non-sovereign guarantees on an exceptional basis. This means the process should be as simple as possible and based on information (e.g., ICRAS) provided by other U.S. agencies, as much as possible. The sample, even over a number of years, will be small, probably averaging two per year.
2. The non-sovereign guarantees and the types of financial structures will not all be the same. This means that the method established will have to be flexible in order to accommodate various potential financial structures.
3. As previously mentioned, the risk evaluation process has to be fitted to the financial structure and risks of the HG Program. This means that the program cannot simply adopt the procedures of any other government program because the financial obligations of each program are different and have different risk profiles.
4. The model should accurately reflect the program's risk without creating a complicated methodology.
5. The risk management evaluation should be a part of the credit review process, rather than a completely separate element. It is therefore important to integrate, where possible, the risk evaluation with the credit review process.

B. APPROACH

There are two basic methodologies used by other government agencies in constructing their risk assessment methods for private sector financial obligations. One is to use the risk premia system established for the sovereign risk model. This is also the method used by the Export-Import Bank. Another method, used by OPIC and PSIP, uses the historical default experience or an expected default range as the basis for making any credit subsidy calculations. Although the methodology based on historical default information is preferred, because this methodology uses a statistical foundation upon which to estimate potential defaults, the team has adopted the risk premia method because it is more established as part of the government credit subsidy process and because there is no historical data on the expected defaults of PRE/H's non-sovereign loans.

Under the risk premia system used by the Export-Import Bank and proposed for the HG Program, there is an equivalence between guarantees to sovereign borrowers and guarantees to private or non-sovereign borrowers. In both cases, all borrowers are assigned a letter rating which corresponds to a risk premium. The risk premium changes as the letter grade changes and increases as the risk of the guarantee increases. As an example, a high risk private sector borrower in a B country might have the same risk premium as that of a D country, a much riskier country. For all borrowers, there is a risk premium associated with the risk of the borrower. The purpose of the credit review process and the risk assessment process is to assess this risk and assign a risk premium to the borrowers.

C. STRUCTURE

1. General Structure

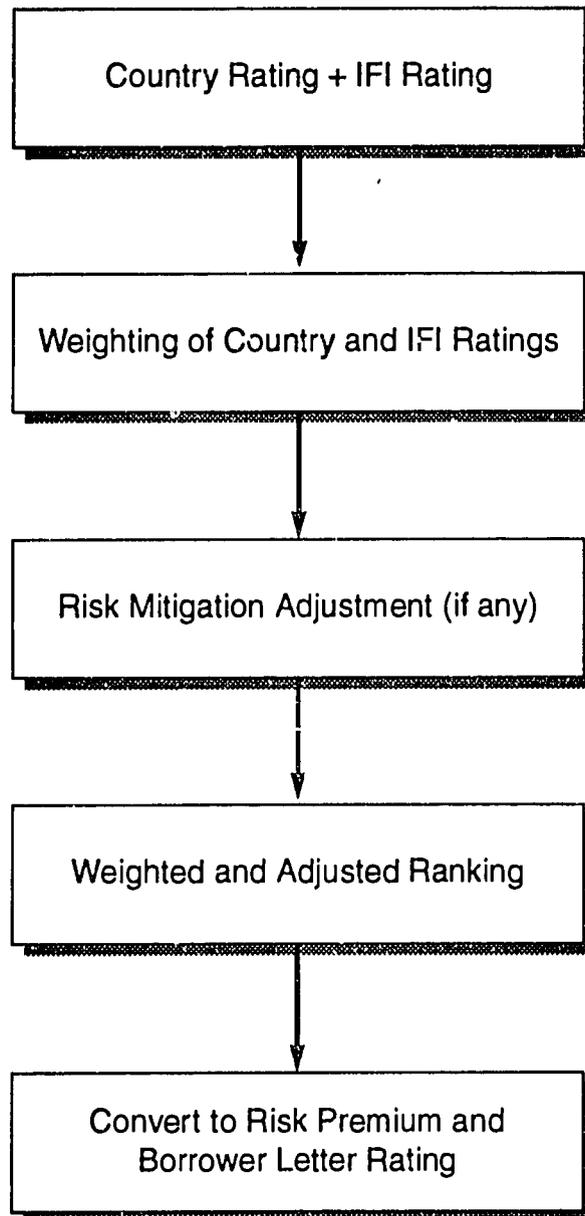
The proposed risk assessment model is broken down into three main parts: country risk, IFI risk and risk mitigation. The three risk factors are based on the financial structure of the HG Program and the main financial risks for each guarantee. The risk assessment model takes the independent ratings for the three risk factors (determined by the credit review process), converts them to comparable scales which are then weighted and combined into a single borrower rating. The model then assigns the guarantee an ICRAS letter rating and a corresponding risk premium.

Country Rating. For the country risk rating, the model simply uses the ICRAS assessment. The credit analyst will only need to obtain the ICRAS letter rating for the country in which the guarantee is made. For a regional development bank, a number of country letter ratings may be required.

IFI Rating. The intermediary financial institution (IFI) analysis will consist of a CAMEL PLUS analysis. As mentioned previously, the CAMEL analysis is a financial analysis system which evaluates the capital adequacy, asset quality, management, earnings and liquidity of financial institutions. In the CAMEL PLUS system developed for the proposed non-sovereign risk model, an analysis of the ownership/regulatory structure and PRE/H's previous experience, if any, with the particular IFI, will be added. These last two items comprise the PLUS portion of the CAMEL PLUS system. All of the elements will be rated on a 1 to 5 scale. The weighting of the elements will depend on whether the Housing Program has any experience with the financial institution. If the HG Program has no experience with the financial institution, this section will not be included and the weightings for the CAMEL will be 80 percent and the ownership/regulatory section will be 20 percent. If there is past experience, then the CAMEL will be weighted 70 percent and the ownership/regulatory and the experience sections will each be weighted 15 percent.

Weighting. Since the HG Program will be offering guarantees to many different countries, and using various financial structures, the model has to have the ability to weight the main risk factors based on their contribution to risk for any one financing. Therefore, the model

Model Process



has been constructed to allow for the weighting of country risk and IFI risk. As explained later in the report, risk mitigation is not included in the weighting because it is an offset to total risk. The model allows for a complete range of weighting between country and IFI risk, allowing the country to be 100 percent and the IFI to be 0 percent, or vice versa. The exact amount will depend on the risk conditions for each guarantee. However, on average, the country risk will in all likelihood be larger than the IFI risk.

Since the HG Program is providing long-term guarantees (up to 30 years), its guarantees will have the highest exposure to country risk of any financial obligation provided by U.S. government agencies. Its guarantees, therefore, should be assigned, on average, the highest weighting for country risk of any financial obligation of a U.S. entity. The longer amount of time a guarantee is outstanding, the longer it is exposed to changes in political and macro-economic stability. The ExIm Bank uses a 50/50 weighting between country and IFI risk for its loans and loan guarantees, which are for a maximum of 12 years.

If the ExIm Bank weighting is accepted as a reasonable average, then the reasonable average for the HG Program is 60 percent for the country risk and 40 percent for the IFI risk, since its obligations are longer than those of ExIm Bank. However, this average is mitigated by the fact that the country risk will be a lower portion of total risk: in the better countries and higher in the weaker countries. It is very difficult to assess what the proper weighting should be for weak IFIs in weak countries. The HG Program should be wary of providing guarantees in these situations.

At the request of PRE/H, the team has also included a recommended weighting for each combination of country rating and CAMEL PLUS rating. This is contained in Appendix 6 and reflects the need to be flexible and realistic about the relative weightings of country and IFI risk.

Risk Mitigation. In some cases, the PRE/H loan guarantees will be structured with a risk mitigation factor in order to minimize or eliminate certain elements of risk. In other cases, there will not be any risk mitigation. Examples of risk mitigation include: escrow accounts; guarantees of foreign exchange; lending in countries which include U.S. dollars as their legal tender; and pledges of collateral. As with the CAMEL PLUS analysis, risk mitigation will be rated on a scale of 1 to 5, with 1 providing the highest risk mitigation and 5 providing the least.

In general, it is not possible to define the specific ratings of any risk mitigators. The exact rating will depend on the individual guarantee and the particular country. The ranking of the risk mitigation along the 1 to 5 rating scale will depend on the strength of the risk mitigation. A collateral pledge of 200 percent of the guarantee will probably be a 2 or 3 on the risk mitigation scale while a pledge of 100 percent will be either a 4 or 5. Lending in a country which uses U.S. dollars as its currency will decrease foreign exchange risk and probably have a risk mitigation rating of 3 or 4. A dollar escrow account, held in a U.S. bank under U.S. banking laws, in the amount of the guarantee might warrant a 1.

Combining Risk Assessment Components. As explained in detail below, the rating for each of the three main risk factors is combined through a common scale, given an ICRAS letter rating and assigned a corresponding risk premium. A suggested worksheet is included in Appendix 7.

2. Model Description

The proposed risk assessment model displayed in Appendix 6 is broken down into three main parts: country risk, IFI risk, and risk mitigation. This breakdown is similar to both the PSIP and the Export-Import Bank models. As with the Export-Import Bank rating system, the risk assessment for the borrower is converted into a letter grade which is then converted into a risk premium. The method for converting the risk assessments into letter grades and risk premia is a 0 to 100 point scale. The general process is that each of the risk or credit assessments for the three main risk factors -- country risk, IFI risk, and risk mitigation -- is an input and/or adjustment on the overall 100 point scale. The overall scale is then converted into a sovereign letter grade.

The country risk and the IFI risk are both assessments of potential risk. The country risk is indicated by the letter rating given the country through the ICRAS system. The IFI risk is assessed through the CAMEL PLUS review. Therefore, the country risk and the IFI risk have to be combined to assess the total risk for the guarantee. As explained below, the risk mitigation factor reduces total risk. The country risk and the IFI risk are combined by taking the country risk rating and the CAMEL PLUS rating through the 0 to 100 overall point scale.

For example, a country letter rating of D represents a 28 on the 0 to 100 point scale, while a CAMEL PLUS rating of 2 represents an 11. In order to combine the risks, the country ranking of 28 and the IFI ranking of 11 are weighted 60% for the country and 40% for the IFI and then added together to obtain a total risk rating of 21 [$(28 * .60 = 17) + (11 * .40 = 4) = 21$]. The current example assumes there is a risk mitigation factor and it is rated 3. The 3 converts to an overall risk reduction of 35%. In this case, the 21 is reduced by 35% and yields an overall rating of 14 ($21 - 35\% = 14$). The 14 is then converted into a sovereign letter grade of C.

The scale is arranged from low risk to high risk. A zero represents the lowest risk and a 100 represents the highest risk. The lower the overall risk, the lower the rating, the better the letter grade, and the lower the risk premium. Conversely, the higher the overall risk, the higher the rating, the weaker the letter grade, and the higher the risk premium. This scale is simply a mechanism for combining the different risk assessments and converting them into the corresponding ICRAS country risk assessments. In a general sense, this is a process of trying to assess and combine the probabilities and magnitudes of potential defaults.

For each of the three main risk factors -- country, IFI, and risk mitigation -- there is a different process for converting the risk assessments to the 100 point scale. This is because each factor has a different process for assessing risk or risk mitigation. However, it is important to

emphasize that country and IFI risk assessments contribute to risk while risk mitigation decreases total risk.

Country Risk. The country risk factor must be converted from the sovereign letter grade for the country into a rating on the 0 to 100 point scale. As with the total rating, the country risk factor has its own 0 to 100 point scale. This scale is used to parallel the 0 to 100 point scale for the overall rating and to allow for weighting of the country element. The country scale must range from 0 to 100 because if the country factor was the only element of risk (i.e. there was no IFI risk) the country scale would have to match the overall scale. Each sovereign risk letter grade is given a corresponding rating on the 0 to 100 point country scale. For example, as indicated in the table below, a sovereign letter grade of B is given a 4 and a letter grade of E is given a 55. As the country letter grade increases, the country rating number increases. The rating given to each letter grade is adjusted to reflect the increasing probability of default and the increasing subsidy amount for each letter grade. It is a skewed scale, directly correlating to the increasing subsidy calculation as the letter grade moves from A to F--. The skewing or adjustment process can be seen below and in Table 1 of Appendix 6. The country element rating is then given a weighting, which is explained below, and used in the overall 0 to 100 point rating. In the example below, a country rating of D corresponds to an assigned ranking of 28.

Country Risk Example:

Borrower Country Rating: D
Assigned Ranking for a D Country: 28

Country Rating	Number Ranking	Assigned Ranking
A	0	
B	4	
C	11	
C-	17	
D	28	28
D-	39	
E	55	
E-	69	
F	84	
F-	92	
F--	100	

IFI Risk. The process for the IFI risk factor is very much the same as it is for the country risk factor. It involves converting the 1 to 5 point CAMEL PLUS scale into ratings which can be used in the overall 0 to 100 point scale. The CAMEL PLUS ratings can be whole numbers, such as 1 or 3, or decimal fractions, such as 1.9 or 4.2. To be consistent with the overall rating and the country risk scale, a 0 to 100 point scale is used. Each CAMEL PLUS rating between 1 and 5 is converted to a rating on the 0 to 100 scale. As with the country rating, the CAMEL PLUS rating scale is skewed. Again, this is done to reflect the increasing probability and magnitude of default as the CAMEL PLUS rating increases from 1 to 5. There is not a linear relationship between the rating and the risk or magnitude of default. The process of converting the CAMEL PLUS rating is shown in Table 2 of Appendix 6 and summarized in the table below. In order to maintain some consistency between the CAMEL PLUS and ICRAS systems, the CAMEL PLUS ratings were converted into Moody's equivalent ratings, which were then converted into the sovereign letter grades with corresponding risk premiums. As with the country scale, the IFI scale was then skewed or adjusted based on the subsidy amounts corresponding to each CAMEL PLUS rating. In the example below, a CAMEL PLUS rating of 2 corresponds to a ranking of 11.

IFI Risk Example:

CAMEL PLUS Rating: 2

Assigned Ranking for a CAMEL PLUS Rating of 2: 11

CAMEL PLUS Rating	Number Ranking	Assigned Ranking
1	0	
2	11	11
3	28	
4	55	
5	100	

Weighting. The IFI rating and the country rating are the additive factors contributing to risk. As mentioned earlier, depending on the country in which the loan guarantee is made or the conditions surrounding the IFI, the country risk element and the IFI risk element will contribute different amounts to total risk. For some countries, country risk relative to IFI risk will be high and in other countries, country risk relative to IFI risk will be low. The model has been structured to allow for the relative risk of these two components to be adjusted or weighted depending on the country or their relative contribution to total risk. Risk mitigation is not included in the weighting because it can only decrease total risk.

Together, country risk and IFI risk represent 100 percent of the total additive risk. The CAMEL PLUS rating of the IFI and the country rating are weighted depending on their contribution to total risk. For example, a country contribution to total risk in a given situation may be high and will therefore be given a 70 percent weighting while the CAMEL PLUS rating of the IFI will be given a 30 percent weighting. In another situation, the two may be reversed with the IFI rating being given a 70 percent weighting and the country rating being given a 30 percent weighting. Since the country rating and the IFI rating represent total additive risk, they must add up to 100 percent but the relative weighting between the two factors can change. For each guarantee, a relative weighting must be selected. A table containing suggested weightings is included in Appendix 6. In the example below, the country rating was given a 60% weighting and the IFI rating was given a 40% weighting.

Weighting Example:

	Assigned Ranking	Weighting	Weighted Ranking
Country	28	60%	17
IFI	11	40%	4
Total Weighted Ranking		100%	21

Risk Mitigation Factor. A risk mitigation factor may or may not be included in the risk assessment model. This will depend on how the guarantee is structured. The model has been designed with a switch (indicated by a 0 or a 1) which allows for the risk mitigation factor to either be included or not be included in the risk assessment model. In the input section of the model, a 0 indicates there is no risk mitigation factor, while a 1 indicates that a risk mitigation factor is present in the model.

Risk mitigation reduces overall risk. Unlike the IFI or country ratings, which are assessments of additive risk, risk mitigation is an assessment of risk reduction. Risk reduction will result through the use of escrow accounts, additional collateral or dollar denominated transactions. As mentioned previously, the ratings for risk mitigation range from 1 to 5. A rating of 1 is the strongest risk mitigation, i.e. reduces risk the most, while the rating of 5 is the lowest risk mitigation, i.e. reduces risk the least. The assigning of the rating will depend on the structure of the guarantee.

Risk mitigation could be calculated on an absolute scale or a percentage reduction method. Using an absolute scale, such as from 0 to 25, would have a disproportionate affect across the categories, i.e. a rating of 25 subtracted from 25 has a greater affect than a 25 subtracted from 100. Instead, the team has chosen a percentage reduction method in order to maintain consistency across the letter rating categories. Under the percentage reduction method, each rating from 1 to 5 is given a corresponding percentage risk reduction. This is shown in

the table below and in Appendix 6. The percentage risk reductions range from 60% for a rating of 1 to a 10% reduction for a rating of 5. The total risk, which is the combination of country and IFI risk, is then reduced by the percentage corresponding to the rating chosen. As an example, if the risk mitigation rating is 5, the risk mitigation factor is 10%. If the total risk for IFI and country is 100, then a 10% reduction for risk mitigation reduces the overall risk rating to 90 (100 less the 10% reduction). As demonstrated below, a rating of 3 corresponds to a risk reduction of 35%. This reduces the overall rating of the example above from 21 to 14.

The percentage reductions start at 10% and go to 60%. The team selected 10% as the minimum amount because smaller percentage reductions would have no material affect on changing the subsidy calculations. The maximum amount selected is 60% because, clearly, not all risk can be eliminated in any case. However, in high risk countries, significant amounts of risk can be eliminated through financial structuring. The other amounts are mathematical estimates between the maximum and minimum amounts.

Risk Mitigation Example:

Risk Mitigation Rating: 3

Assigned Percentage Reduction: for a Rating of 3: 35%

Adjustment to Total Weighted Ranking of 21: $21 - 35\% = 14$

Risk Mitigation Rating	Percentage Reduction	Assigned Reduction
1	60%	
2	48%	
3	35%	35%
4	22%	
5	10%	

Conversion. The next step in the process is to convert the weighted and adjusted ranking back to a letter grade. This is shown in Appendix 6. The overall rating is converted back to a letter grade using a 0 to 100 scale. The 0 to 100 point scale used is once again a skewed scale, which is an average of the skewed IFI and country risk scales. This is done to maintain consistency in the model and to maintain consistency between the IFI scale and the country scale. The overall rating is then assigned a letter grade from the original ICRAS letter ratings. As explained below, this letter rating is assigned either a direct risk premium or a proportional risk premium for this letter grade. The risk premium for the resulting rating and the fees are then used as inputs in the OMB computer model to determine the subsidy for the guarantee. The lower the ranking on the 0 to 100 overall scale, the better the letter rating, the lower the risk premium, and the lower the subsidy amount. The process works in reverse for a higher overall rating.

Assigning Risk Premia. The model has been constructed to assign the corresponding risk premium in two ways. This has been done to give the HG Program greater specificity in calculating its subsidy amounts. The HG Program can either use the risk premia directly assigned to individual letter ratings (i.e., A is equivalent to 40 basis points and E is equal to 758), or use a proportional risk premium. Under the direct method, each number in the overall scale corresponds to a letter grade and a specific risk premium. Under the proportional method, the risk premium will be the proportionate share of the risk premium at one point on the overall rating.

An example can help illustrate the difference between the direct and proportional methods. Under the direct method, a 13 overall rating is between 11 and 18. It is closest to a ranking of 11 on the skewed scale and is equal to a letter grade of C. A C has a risk premium of 135. Under the proportional method, a 13 is between the ratings of 11 and 18, which represent the letter grades of C and C-. A rating of 13, therefore, falls between two letter grades. The two letter grades of C and C- have risk premiums of 135 and 195, respectively. Under the proportional rating method, the risk premium assigned to 13 is not either 135 or 195, but 151, which is the proportional amount between the two assigned risk premia. Proportional risk premia simply allow for a greater amount of specificity in calculating subsidy amounts. In the lower letter grades, a movement of one grade represents a very large movement in risk premia and, corresponding, subsidy amounts. It is also consistent with the basic philosophy of the risk premia method, which is based on rating agency letter grades and market pricing of securities. The team recommends the use of the proportional method.

D. PROCESS

The proposed model requires the following information:

1. the letter country rating for that country;
2. the CAMEL PLUS ratings;
3. the risk mitigation rating, if any; and
4. the relative weighting between country risk and IFI risk.

The model will take the country letter rating and convert this into a rating on the 100 point scale. It will also take the CAMEL PLUS rating and convert this into a rating on the 100 point scale. The model will then weight these two factors and subtract out any risk mitigation factor based on the risk weighting. The overall rating is then converted back into a letter grade equivalent with a corresponding risk premium. This risk premium is then entered into the OMB Subsidy Model to calculate the credit subsidy amount for the loan guarantee.

VII. APPLICATIONS OF THE MODEL

PRE/H requested that the team prepare two illustrative applications of the proposed model, using two financial institutions for which it is planning to provide housing guarantees. PRE/H provided the necessary background information, including the CAMEL PLUS analyses, interest rates, fees and maturities of the proposed guarantees.

A. CASE 1: Regional Development Bank

The key assumptions provided by PRE/H for the Case 1 application of the proposed model were a country rating of E- and a 75/25 country/IFI risk weighting. The country rating was an average of the estimated ICRAS ratings for the regional shareholding countries. The country rating was given a higher weighting for two reasons. Firstly, as stated earlier, in a weaker country the country risk is probably a higher proportion of total risk and country risk should therefore be given a higher weighting. Secondly, the participating governments play a large role both as shareholders and as guarantors of loans made by this bank. The relatively strong financial condition and management performance of this bank indicated by PRE/H warranted a 25 percent IFI weighting. Since this guarantee is not expected to contain any risk mitigating factors such as collateral or offshore escrow accounts, a risk mitigation rating was not used. The individual CAMEL PLUS ratings and the resulting composite rating are listed below.

<u>CAMEL</u>	
● Capital Adequacy	1
● Asset Quality	2
● Management	2
● Earnings	2
● Liquidity	3
<u>PLUS</u>	
● Ownership/Regulatory	2
● Previous Experience w/IFI	1
CAMEL Component [(1 + 2 + 2 + 2 + 3)/5] * 70%	1.4
PLUS Component [(2 * 15%) + (1 * 15%)]	<u>0.5</u>
Composite CAMEL PLUS Rating (rounded)	2.0

Since the guarantee for this bank is expected to be authorized (and the associated subsidy obligated) during FY93, the results produced by the proposed non-sovereign guarantee model were entered into the 1993 OMB Subsidy Model. Appendix 8 contains the complete calculations of the proposed model as well as the output of the OMB Subsidy Model into which its results were entered. The assumptions and results of the risk calculation for Case 1 are listed below:

Assumptions

Country Rating (ICRAS): E-
 CAMEL PLUS Rating: 2
 Risk Mitigation Rating: N/A
 Weighting: Country -- 75%
 IFI -- 25%
 Initial Fee: 1.0%
 Utilization Fee: 0.5%

Results

Overall Borrower Rating: E
 Risk Premium (Proportional): 7.5%
 OMB Subsidy Calculation: 64.5%*

* Note: Use of the FY94 OMB Subsidy Model would have resulted in a subsidy calculation of 55.34%.

B. CASE 2: Commercial Bank

The key assumptions provided by PRE/H for the Case 2 application of the proposed model were a country rating of C- and a 50/50 country/IFI risk weighting. The country rating used was the ICRAS rating for the country in which this bank is located. The country and IFI ratings were given equal weighting because of the relative creditworthiness of the country and financial institution. As stated earlier, the country risk is less important for higher rated countries because the country risk as a portion of total risk is smaller for such countries. This guarantee has yet to be fully designed but PRE/H expects the transaction to include collateral or some other risk mitigating factor such as U.S. dollars held in an offshore account. For this reason, the team chose to demonstrate the influence of a risk mitigator on the results produced by the proposed model and, ultimately, the OMB Subsidy Model. A conservative estimate of 4 (which converted to 22% on the risk mitigation conversion scale) was used in the calculation, thereby reducing the weighted country/IFI rating. The individual CAMEL PLUS ratings and the resulting composite rating are listed below.

CAMEL

- Capital Adequacy 1
- Asset Quality 2.5
- Management 1
- Earnings 2
- Liquidity 2

PLUS

- Ownership/Regulatory 2
- Previous Experience w/IFI n/a

CAMEL Component [(1 + 2.5 + 1 + 2 + 2)/5] * 70% 1.4

PLUS Component [2 * 20%] 0.4

Composite CAMEL PLUS Rating (rounded) 2.0

Since the proposed guarantee for this bank is expected to be authorized (and the associated subsidy obligated) during FY94, the results produced by the proposed non-sovereign guarantee model were entered into the 1994 OMB Subsidy Model. Appendix 9 contains the complete calculations of the proposed model as well as the output of the OMB Subsidy Model into which its results were entered. The assumptions and results of the risk calculation for Case 2 are listed below:

Assumptions

Country Rating (ICRAS): C-
 CAMEL PLUS Rating: 2
 Risk Mitigation Rating: 4
 Weighting: Country -- 50%
 IFI -- 50%
 Initial Fee: 1.0%
 Utilization Fee: 0.5%

Results

Overall Borrower Rating: C
 Risk Premium (Proportional): 1.34%
 OMB Subsidy Calculation: 9.97%

PH 180-4.1

NON-SOVEREIGN RISK ASSESSMENT MODEL FOR USAID'S HOUSING GUARANTEE PROGRAM: APPENDICES

FINAL REPORT

*Bureau for Private Enterprise
U.S. Agency for International Development*

*Prepared for: Office of Housing and Urban Programs, Bureau for
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*Sponsored by: Private Enterprise Development Support Project II
Project Number 940-2028.03
Contract Number PDC-2028-Z-00-7186-00
Prime Contractor: Coopers & Lybrand*

October 1993

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Appendix 1

Scope of Work

Non-Sovereign Risk Assessment Model for AID's Housing Guaranty Program

Scope of Work

A. Background

Most of the Housing Guarantees issued by PRE/H in recent years have been supported by Host Country guarantees. With the advent of the Credit Reform Act of 1990, credit subsidies must now be calculated on loans authorized from 1992 on. For loans supported by Host Country guarantees, PRE/H uses a Sovereign Risk computer model which has been established by AID and OMB. However, since there are a few Non-Sovereign Risk programs "in process" and more can be expected in the future, it is now necessary to develop for PRE/H a risk assessment model for Non-Sovereign risk. This model will be utilized to calculate the credit subsidies required by the Credit Reform Act and will provide a method for PRE/H to analyze the risks involved in non-sovereign risk transactions.

Non-Sovereign risk PRE/H Housing Guarantee Loans ("HG's") are defined as those where the Borrower's obligations to repay the HG loan are not backed by the full faith and credit of a sovereign government or the equivalent. Examples of possible Borrowers include privately-owned banks or non-bank financial institutions, government-owned corporations (where the government bears no responsibility to repay the corporation's debts), builders/developers and other private sector profit or non-profit firms.

B. Objective

Develop a Non-Sovereign Risk Model similar to one utilized by AID's Private Sector Investment Program ("PSIP"), but reflecting the differences between PRE/H and PSIP products and terms and conditions. Contractor shall recognize also the value of the risk management precedent established by other similarly situated agencies and strive to recommend a model that has been tested and found acceptable. The following principal risk categories are to be considered:

1. Country Risk
2. Financial Risk
3. Transaction Risk

C. Work Plan

The contractor shall schedule an opening interview with PRE/H to elaborate on the scope. The following day, the contractor shall submit a Work Plan outline to Assistant Director, PRE/H/PS, covering tasks outlined below.

D. Tasks

1. Examine and describe private or non-sovereign risk assessment methodology used by PSIP and other foreign affairs agencies making credit available in similar circumstances to PRE/H. This will require obtaining information from other lenders in the community:
 - EXIMBANK (to the extent possible)
 - OPIC (to the extent possible)
 - Development Banks
 - Investment Banks and Commercial Banks
2. Prepare a comprehensive non-sovereign risk assessment methodology and model that complies with the requirements of the Credit Reform Act of 1990 and the OMB regulations promulgated thereunder.
3. Utilizing the model, run several "what if" scenarios reflecting different risk assumptions, which should be incorporated as examples in Consultant's report of findings/recommendations.
4. Recommend an administrative framework by which PRE/H would apply the methodology.

Appendix 2

Structure of Recent Non-Sovereign Housing Guarantees

STRUCTURE OF RECENT NON-SOVEREIGN HOUSING GUARANTEES

A. RECENT EXAMPLES

Since 1987, PRE/H has initiated five housing guarantees (each covering several loans) which are different from the standard guarantees in two important ways: the U.S. bank loans guaranteed by USAID were made directly to IFIs for on-lending for housing purposes and USAID received no host country guarantee. These loans, referred to as non-sovereign loans, were each structured somewhat differently, depending on the particular circumstances surrounding the transaction. In some cases, non-sovereign loans were made because USAID was prohibited from dealing directly with the host country government (e.g., Chile).

Chile: Two USAID-guaranteed non-sovereign loans were made by Citibank New York, directly to Chilean cooperatives. The first loan was made in 1988 and the second in 1991. At the time of the first loan, USAID was prohibited from doing business with the government of Chile, so it agreed to the following structure.

A swap mechanism was established with Chile's central bank so the cooperative would have U.S. dollars available to repay Citibank New York. The swap mechanism, however, carried a cost which caused the cooperative to ask Citibank's branch in Santiago to prepay (and thereby assume) the loan from Citibank New York. The loan was prepaid by Citibank Santiago in 1992 and the note it assumed was guaranteed by USAID. The foreign exchange risk was removed because the borrower was now repaying a local IFI in local currency.

In the event of a default by the cooperatives, USAID would pay Citibank Santiago in U.S. dollars and Citibank is under instructions to foreclose. These loans are not guaranteed by the government of Chile but Citibank Chile is holding dollar-denominated collateral at a ratio of 1.25 to 1. The collateral consists of construction in progress, land and cash held in Chile. The quality of the collateral is maintained by Citibank Santiago.

Panama: In 1987, PRE/H authorized US\$25 million in guarantees for housing loans to interested IFI's in Panama. It was structured so that interested IFI's could access a portion (e.g., five or six million dollars) of the US\$25 million guarantee authorized. Due to the problems which existed in Panama for several years following the authorization, this loan has yet to be contracted. It is now expected that the first borrowing will take place in August 1993.

For this guaranteed loan, USAID has appointed a Panamanian bank as administrator of the program. The bank accepts the mortgage deeds and brings them to the public registry where the mortgage is registered as collateral for the USAID housing guaranteed loan. If the IFI, as borrower, failed to pay, the administrator would go to the public registry to obtain the collateral, which is maintained at a ratio of 1.25 to 1.

The structure chosen for this program leaves USAID with three levels of protection. The first level consists of an escrow arrangement whereby the borrowing IFI would have to deposit the first semi-annual interest payment with the administrator six months in advance of disbursement. The second level of protection for USAID is the collateral referred to above.

Each borrowing IFI will also be asked to guarantee USAID with the assets of its bank. The third level of protection for USAID, therefore, would be the assets of the borrowing IFI, which, if all else fails, could be liquidated to recover any claims paid by USAID on behalf of the IFI. Foreign exchange risk was not involved since Panama uses U.S. dollars as its legal tender.

To date, three banks have expressed interest in becoming borrowers in the housing guarantee program for Panama. Interested IFIs in Panama wishing to borrow through the \$25 million guarantee will negotiate with PRE/H and an interested U.S. lender.

CABEI: The Central American Bank of Economic Integration (CABEI) is a multi-lateral development bank focusing on the countries of Central America. CABEI's purpose is to promote the economic integration and balanced economic integration of its regional member countries. It is headquartered in Tegucigalpa, Honduras. CABEI's shareholders consist of governments from the group of countries it serves (Guatemala, El Salvador, Honduras, Nicaragua and Costa Rica) as well as non-regional countries (Venezuela, Mexico, Spain and China).

Beginning in 1970 a series of thirteen housing loans, totaling US\$140 million, were made to CABEI for the financing of housing. The most recent loan was made in 1988. CABEI on-lends much of the funds, through private banks, to municipalities for housing programs. A new program under design would finance municipal infrastructure such as waste water treatment facilities.

Overall, CABEI has an excellent payment record with PRE/H. These loans have never defaulted but some have been refinanced. Unlike the housing guarantee program in Panama referred to above, the loans to CABEI are secured only by the general assets of CABEI itself. In this case, the creditworthiness of CABEI is USAID's sole level of protection against the risk associated with the guarantee.

BIAPE: The Banco Interamericano de Ahorro y Prestamo (BIAPE) is a Venezuela-based regional savings bank created in 1970 to finance housing. It was incorporated in Venezuela with capital contributions from public and private financial institutions in Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Spain, the United States and Venezuela. Approximately 15 percent of the shares are owned by private sector financial institutions or associations. Although it is not a development bank, it resembles a for-profit multilateral development bank in that it was created by these countries to channel funds to their respective housing sectors.

A US\$6 million loan was made to BIAPE in 1979. The loan was divided into two parts: US\$3 million for Costa Rica and US\$3 million for Bolivia. BIAPE is responsible for repayment of the loan to the U.S. lender. PRE/H advised BIAPE to endorse the notes over to USAID in order to secure USAID's loan guarantee, which was also secured by the general assets of BIAPE. The loan to Bolivia was later refinanced and was assumed by the government of Bolivia. Both notes held by BIAPE were eventually repaid but BIAPE has not yet repaid the

U.S. lender since the loan has a 30-year term. BIAPE gradually went out of the mortgage business.

India: These seven loans, the first of which was made in 1983 and the most recent of which was made in 1991, total US\$150 million. They involved the Housing Development Finance Corporation (HDFC) in India. It is a private sector financial institution as well as the largest mortgage lender in the country. The loans had a term of ten years with a bullet repayment at maturity. The loan guarantee terms in this case were different than the standard terms. When the loans were initiated, a decision was made concerning a method to cover the foreign exchange risk. As a prerequisite for the deal, a swap agreement between the State Bank of India and HDFC was arranged whereby HDFC was the borrower but the U.S. dollars were paid to the State Bank of India's New York branch. This transaction ensured that the dollars remained in the United States.

The HDFC is considered the equivalent of a sovereign entity but it does not carry the full faith and credit guarantee of the government. EXIM refers to this type of borrower as a public non-sovereign entity. The loans are secured by the general assets of HDFC and the guarantee of the State Bank of India. The USAID loan guarantee is still considered to be non-sovereign in this case because there is no host country guarantee.

Appendix 3

**Descriptions of Meetings With U.S. Government Agencies,
Development Finance Institutions and Private Sector Institutions**

U.S. Government Agencies

1. The Private Sector Investment Program

The Private Sector Investment Program (PSIP) was created by USAID in 1983 to promote sustainable economic development by encouraging private sector intermediary financial institutions (IFIs) in developing countries to lend to viable small and medium-sized businesses in their communities. It is administered by the Bureau for Private Enterprise's Office of Investment (PRE/I).

In 1988, Congress added loan guarantee authority to PSIP's existing direct lending authority and stated that guarantees would thereafter become PSIP's primary instrument. Unlike guarantee programs which work through developing country government ministries or agencies, PSIP provides a loan portfolio guarantee (LPG) directly to private sector IFIs. A unique feature of PSIP is that the guarantee covers a maximum of 50 percent of the net losses on the principal amount of eligible loans placed under coverage by the IFI. This risk-sharing arrangement encourages each participating IFI to make loans to creditworthy borrowers and to monitor them closely, since the IFI will have to absorb 50 percent of any loan losses related to the program.

With the introduction of Credit Reform, PRE/I was asked to develop a risk model which was related to the sovereign model developed by OMB. The sovereign model centers on how the bond market views risk. PRE/I observed that the sovereign model places a heavy emphasis on the country rating and, while allowing for an upward adjustment in risk, does not allow for a situation where the risk rating for a proposed transaction with a privately owned and managed IFI would be better than the rating assigned to the country in which the transaction takes place. PRE/I believed that the bond market risk premium used in the sovereign model is based on government, not private sector, risk and would therefore produce an inaccurate assessment of the risks associated with its private sector guarantee program.

In light of the somewhat unique private sector focus of its PSIP program, PRE/I sought to create a model which would accurately address the risks associated with non-sovereign guarantees and direct loans. It undertook a private sector approach in designing its model because of the fact that many individual subsidy calculations will differ from country calculations. It allows for the consideration of factors that could mitigate some of the country and credit risks factors.

Credit Risk Subsidy Calculation

In developing its credit subsidy calculation methodology, PRE/I reviewed various sources before determining the precise method of subsidy calculation for PSIP. It subsequently developed a multi-phase process whereby a calculated risk premium is associated with an expected rate of loss to determine the figure to be used in the OMB Subsidy Model. The PSIP loss estimates used in this process are based on PRE/I's historical loss record and the judgement of its Investment Officers. The risk premium analysis for PSIP guarantee facilities is based on

a weighted average model (from which the estimated subsidy will be obtained) involving the following risk weightings for the risk factors comprising the model:

Country risk 30%; Credit Risk (IFI risk) 35%; Transaction Risk 35%.

PRE/I established a fairly even split, giving slightly less weight to country risk. Each risk factor is assigned a rating ranging from 1 to 5, with 5 representing the highest risk. The individual risk factors - and their corresponding allocation percentages - within each of the three main risk categories are as follows:

●	<u>Country Risk Factors</u>	30%
	A. Political Stability -	10%
	B. Economic Stability -	10%
	C. Foreign Exchange -	10%
●	<u>Credit Risk (IFI Risk) Factors</u>	35%
	A. Financial Management	
	Capital Adequacy -	5%
	Asset Quality -	5%
	Management -	5%
	Earnings -	5%
	Liquidity -	5%
	B. Ownership/Regulation	10%
●	<u>Transaction Risk Factors</u>	35%
	A. Target Market/Location	
	B. Structure of the Transaction	
	C. Amount of the Facility	
	TOTAL	100%

The 30/35/35 structure already factors in the 50 percent split in guarantee coverage between USAID and the IFI, thereby partly mitigating the transaction risk. If PSIP's guarantee coverage increased to 100 percent, it would need to increase the transaction risk weighting by about 10 percent. PRE/I would also be likely to reduce the IFI (credit) risk weighting because PRE/I would at that point need to deal with more creditworthy banks.

The overall project risk determined by the risk premium analysis must then be used to determine the proper subsidy amount which must be reported to OMB. Rather than using the discounted risk premium method (used by ExIm Bank) of determining the input figure for the

OMB Subsidy Model, PRE/I uses an expected rate of loss scale based on the weighted average of the past experience of PSIP guarantee facilities. The figure (e.g., 3.5) produced by its risk premium analysis is used to determine a loss expectation (e.g., 15.0 percent), using the expected rate of loss scale developed by PRE/I.

At this point the weighted average risk factor (3.5) and the loss expectation (15.0 percent) are entered into the LOTUS spreadsheet designed by PRE/I, which adheres to the guidelines established by OMB for use in the OMB Subsidy Model. This model uses the spreadsheet data to calculate the risk subsidy for the transaction. The discount rate used is the Treasury rate supplied by OMB every quarter. Appendix 10 includes a recent credit risk analysis and subsidy calculation performed by PRE/I for PSIP.

Credit approval process

PRE/I Investment Officers identify opportunities during field visits and continual interaction with USAID Missions. Following the receipt of a completed LPG application from an interested IFI, a proposal is presented to the Credit Committee which includes PRE/I Investment Officers, a representative from USAID's Office of Financial Management (FM) and General Counsel for PRE (GC/PRE). A CAMEL analysis (described in Section III) is prepared on the applicant IFI and other supporting data is collected. Each risk ranking included in the risk premium analysis presented to the committee is reviewed (except the CAMEL analysis, which is independently performed) and either confirmed or adjusted. The results of this meeting are then released to a wider audience within USAID and Mission concurrence is sought before presenting the proposal to PRE's Investment Review Committee.

The Investment Review Committee reviews proposals presented to it by PRE/I Investment Officers. Other offices within USAID, including the relevant country desk officer, are represented on the committee. Members of the committee review the risk analysis and subsidy calculation containing the weighted average risk factors determined by the relevant Investment Officer and previously reviewed by the Credit Committee. Paperwork is sent for official signature clearance by those attending the meeting; it is then signed by PRE's Assistant Administrator.

2. Export-Import Bank of the United States

The ExIm Bank makes loans and loan guarantees to developing countries. It makes both sovereign and non-sovereign guaranteed loans and guarantees for both short- and long-term investments. The longest facilities are for a maximum of twelve years. Most of the financial commitments are for the exporting of U.S. goods and services and it makes commitments to local financial institutions in developing countries which on-lend the funds for projects. The terms for most its facilities are determined by international agreements among export credit agencies.

The basic premise behind the ExIm credit subsidy or risk ranking system is the five basic C's of banking analysis: Capital, Capacity, Character, Collateral, and Condition. Sample ExIm Bank risk rating sheets are contained in Appendix 11. For its foreign exposure, ExIm has

simply changed Condition to Country Risk and uses the analysis of the ICRAS system for country risk. Within each of the other categories there are numerous financial elements which are analyzed. The main decision facing ExIm when developing its system was how to allocate the risk among the five categories. Also, since ExIm makes financial commitments for a broad range of products, it developed risk assessment ratings for the main areas, each of which depends on the credit evaluations for the individual products.

ExIm created a 200 point scoring system. Since it makes both sovereign and non-sovereign loans, it decided it also wanted a system that would be equivalent or comparable between sovereign and non-sovereign guaranteed facilities. After much discussion, country risk was allocated 50 percent of the risk in all cases. Capacity, Capital, and Character are allocated the remaining 50 percent while Collateral is an offset against the other factors.

The process is fairly straightforward. The ICRAS rating for the country is given a score between 1 and 100. Each letter grade of the eleven grade system has a score. The other three elements can each contribute up to 30 points, depending on the risks within each category. The Collateral category can be an offset for up to approximately 50 points, depending on the strength of the collateral. The total ranking is the sum of the country and financial rankings, less the collateral amount. Each amount between 1 and 200 corresponds to an ICRAS letter grade. The risk premium for that grade is then used in calculating the subsidy amount. The system is set up to follow the credit procedures of ExIm. The risk evaluation process is completed by the loan officer and reviewed by the various credit committees involved in the credit review process.

ExIm provides a good model for the HG process for several reasons. Both ExIm and the HG Program provide loan guarantees to intermediary financial institutions. They both provide sovereign and private sector guarantees, offer long-term facilities and have not used much pricing flexibility. The one weakness of the ExIm model is that the weightings of the various factors are fixed and cannot be changed to reflect differences among countries.

3. Overseas Private Investment Corporation

OPIC provides project financing for projects in developing countries. It provides both loans and loan guarantees and the main credit for its projects are the assets and cash flows of specific projects. None of its loans have sovereign guarantees.

OPIC adopted a historical approach to its risk management process. Since it has historical loan performance data, and since future loans will be structured essentially the same as past loans, OPIC was able to rely on its past operating history as a guide in constructing its methodology. OPIC reviewed the performance of about 200 of its past loans in terms of the frequency of non-accrual, the severity of the losses and the amount of repayment. From this data, OPIC was able to construct a range and probability of expected defaults.

The project risk analysis was taken directly from the factors OPIC evaluates in its credit review process. It was only slightly modified for Credit Reform. Essentially, OPIC already had a risk management process. It simply had to be modified to calculate the credit subsidy amounts. In its risk evaluation, OPIC looks at nine factors. These are shown in the matrix

contained in Appendix 12. One of the factors is country risk. Each factor is given a ranking from one to five and the weighting of the factors is flexible. Country risk could be as low as 1 percent or as high as 25 percent of the risk. For each loan, the ratings are given, the weightings are made, and a loan risk factor is calculated. The risk factor is then compared to the historical default performance, and this default estimate is applied to future cash flows to calculate the credit subsidy.

The risk management process is closely tied to the OPIC credit review process. The credit process is coordinated by the investment officer/loan officer. The main parts of the process are the application, the site visit, the loan report, and the reviews by the management committees and the Board of OPIC. During this process the risk management evaluation is also completed and reviewed. Pricing of fees and interest rates may change, depending on the risk profile of the facility.

Unless PRE/H decides to do direct project finance, either directly or through IFI's, OPIC has a completely different financial product than the HG Program. OPIC has an operating history with non-sovereign loans while PRE/H does not. OPIC has been able to use the historical data as the basis for its risk management process. For PRE/H, the important factor regarding OPIC's methodology is the ability to alter risk factor weights depending on circumstances.

Private Sector Institutions

1. Citibank

Citibank provides a myriad of financial products in over 125 countries. It provides short- and long-term products and many types of derivatives. It has operated internationally for over 40 years and uses this experience as the basis for making much of its cross-border lending decisions.

Citibank separates its foreign lending into two main areas: cross-border exposure and credit exposure. The cross-border exposure is set by a committee of senior executives. The committee makes all decisions concerning the amount of lending in any country, the terms for the loans, and the general parameters on pricing. The main factors reviewed are Citibank's current portfolio exposure, its history with the country and some financial statistics provided by others outside the bank. They meet regularly and set the limits for all countries in which Citibank operates. They also review special cases, usually large-scale projects.

All credit decisions are made by the loan officers or product officers working in a particular country. These officers can operate freely within the general guidelines established by the cross-border lending committee.

This is a heavily qualitative approach to cross-border lending. Citibank relies to a great extent on the experience of its executive committee. The main objective is to manage exposure. Citibank does not distinguish between private and public sector loans, instead focusing on

whether or not a particular loan is a cross-border risk. It believes, however, that it is possible for private sector loans to be stronger than sovereign guaranteed loans.

2. Chemical Bank

Chemical Bank's lending is much like Citibank's. It operates in over 100 countries, has many different financial products, and many different types of risk. It separates credit analysis from cross-border analysis and sets broad guidelines for activity in particular countries. However, the Chemical process is also more mechanical. It ranks each country on a scale of 1 to 10 and maintains a distinct country assessment unit. Chemical ranks each loan and one of the factors it considers in its rankings is country risk.

Chemical Bank believes that, based on its experience, a fixed weighting system makes no sense. Different countries have different risks and any system must be flexible enough to be able to evaluate these risks. Also, while one factor may be viewed as small or slight in one country, it may cause the entire loan to default in other country.

As important as any qualitative evaluation is the market perception of the country's creditworthiness at any one time. In addition to reviewing the relevant quantitative factors such as financial and economic data, Chemical spends a great deal of its time evaluating the market's perception of the country and talking to people within the country. One factor it feels is particularly important is "environmental risk," which they define as a combination of, among other things, regulations, tariffs, labor conditions, and the ability to obtain licenses.

A critical factor in risk management is proper monitoring of loans and risk fluctuations. Chemical believes this is very difficult to do in a large organization where people change positions somewhat regularly and contact with particular clients changes over time. Poor loan monitoring procedures usually results in loan losses which could otherwise have been avoided if the bank had procedures in place to regularly monitor its loans. According to the Chemical representative, "poorly monitored loans can easily get lost in the system - until a default occurs!"

3. Merrill Lynch

Since Merrill Lynch is an investment bank, most of its product exposure to foreign countries is short-term in nature. Therefore, its assessment of country risk is closely tied to its trading mentality and short-term credit allocation, rather than to long-term loans or guarantees. Also, more than either the commercial banks or multilateral institutions, Merrill Lynch ties its risk exposure evaluation to its return on capital. While banks adjust their return by changing the terms of loans, Merrill and, it is assumed, other investment banks, do this by assessing risk and then demanding a return commensurate with the risk. Merrill is currently setting up a company-wide credit committee to institutionalize the process.

In evaluating a country, Merrill looks at two main factors liquidity and solvency. These are factors which reflect the short-term nature of Merrill's exposure. In each of these two areas, Merrill looks at three categories: commercial, financial and political risk. It is trying to assess the ability of the country, or the private sector within the country, to make payments on shorter term claims. Of all the institutions the team evaluated, Merrill Lynch has potentially the most sophisticated risk management system but also the least applicable to PRE/H because of the very long-term nature of the HG Program's financial commitments.

4. Moody's Investors Service

Moody's coordinates all international financial institution analysis with its sovereign risk unit. Moody's looks at U.S. banks which lend dollars outside the United States. The transfer risk faced by these banks nearly always exceeds the credit risk. Moody's has found that foreign loan customers of many of the U.S. banks it reviews are creditworthy in local currency but often experience difficulties relating to the conversion of local currency to the foreign exchange necessary for loan repayment.

Moody's takes the "weak link approach" to credit analysis. In other words, rather than designing a model and assigning point values to a number of categories, Moody's looks at key areas and asks "what could go wrong?" With a large portion of international lending, transfer risk is often the weak link.

If there is the probability of a foreign exchange shortage, it is likely that not all claimants will be serviced by the central bank when it comes time to convert local currency. Moody's tries to get a sense of the likely ranking of financial instruments in order to determine how foreign exchange would be allocated in the event of a crisis. It believes that government debt or trade-related debt will most likely be honored before private sector bank credits.

Moody's often sees situations where local banks and companies have a strong capacity to pay in local currency. The weak link is often the particular government's inability to provide foreign exchange. A foreign exchange shortage could be the result of mismanagement of the economy, an unexpected period of low foreign exchange earnings or political decisions. Moody's cautioned that any agreements arranged with central banks to provide foreign exchange to repay bank loans guaranteed by USAID are not likely to be honored if the country faces a currency crisis. Moody's also cautioned not to get hung up on formulas. In addition to a thorough review of the quantitative factors, qualitative factors must be considered carefully. Those analyzing and monitoring the loans must be sensitive to the differences between countries.

Moody's acknowledged that the risk faced by USAID in guaranteeing the 30-year non-sovereign housing loans is higher than any U.S. commercial bank would be willing to accept. Moody's indicated that USAID may wish to consider requiring the local financial institution to pledge offshore assets to secure the loan. Collateral (preferably T Bills or an equally safe security) could be entirely dedicated to the guaranteed loan.

Moody's gave the team a copy of its annual default study which tracks defaults according to bond rating categories over the previous twenty years. This may be helpful in USAID's attempt to predict loan defaults.

Credit review process. The Moody's bank analyst performs a standard creditworthiness assessment, including a review of financial statements, regulatory environment, size of bank relative to the banking market in its country, and several other categories. The credit analyst writes a report and a rating for the bank will be determined. If the bank is a parastatal, it is important to determine what role it plays in the government. Moody's has found that the creditworthiness rating of banks in general is often closely tied to the country rating, due mainly to the many government-related factors which affect the financial sector.

Development Finance Institutions

1. International Finance Corporation

The International Finance Corporation (IFC), a subsidiary of the World Bank Group, makes loans to, or equity investments in, private companies in developing countries. It is forbidden to make loans or take equity positions which are guaranteed by a host government. Its standard loans are the same as OPIC's loans and the security for each loan is the assets and revenues of the project. These are project finance loans.

The IFC risk management methodology is an integral part of its credit review process. A separate risk analysis is not performed. Loans or equity investments are coordinated by investment officers who prepare most of the documentation, including a complete analysis of the investment which is reviewed by management and the IFC's Board of Directors. Country exposure is considered in this process and pricing is adjusted for any additional risk associated with a particular country.

Risk management is done the "old fashioned way". The IFC monitors each loan every six months to determine the likelihood of repayment. This is done by the loan officer in charge of the loan. Investments are placed in one of three categories: 1. OK and making payments; 2. should be watched; and 3. in default. The good, the bad, and the ugly. Reserving for the loans is done during these evaluations.

2. Inter-American Investment Corporation

The Inter-American Investment Corporation (IIC), a subsidiary of the Inter-American Development Bank, makes the same types of loans and equity investments as the IFC, but only in Latin America. The security for its loans is exactly the same as that for the IFC.

The IIC has adopted a more quantitative approach to risk management which is more directly tied to its credit approval process. For each loan, the investment officer is required to calculate the risk rating based on a checklist. There are 20 categories in the checklist, including two for general country analysis and numerous subcategories. Each category is given a ranking from 1 to 10 and the weighting of each category is fixed. The total country weighting is about

20 percent. The investment officer is responsible for coordinating the information on the investment and completing the risk assessment.

Appendix 4

Excerpts from USAID and Economic Development Bank Analysis Reports

**MANUAL FOR OFF-SITE ANALYSIS OF
FINANCIAL INSTITUTIONS
IN DEVELOPING COUNTRIES**

Submitted to:

**Office of Investment
Bureau For Private Enterprise
Agency for International Development**

Under USAID Contract No. PDC-2002-C-00-7184-00

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September 1989

**MANUAL FOR OFF-SITE ANALYSIS OF
FINANCIAL INSTITUTIONS IN DEVELOPING COUNTRIES**

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ANNEX C

**Financial Institutions in Developing Countries:
Guidelines for Investment Officers**

FINANCIAL INSTITUTIONS IN DEVELOPING COUNTRIES

GUIDELINES FOR INVESTMENT OFFICERS

INTRODUCTION

The purpose of these guidelines is to assist Investment Officers and PRE personnel with regard to analyzing the financial condition of banks or other financial institutions in developing countries. These guidelines are particularly aimed at making the best use out of on-site visits to the financial institution in order to enable the Investment Officer to make a preliminary assessment of the institution's financial condition.

Part I gives a series of suggested questions to ask management during an on-site visit. Part II explains some key ratios for a basic financial analysis which can be done quickly and on-site. While the use of these guidelines may go beyond the LPG program, they should be used in conjunction with the revised Part IV of the LPG application (financial information). Part IV calls for comprehensive information in order to do a complete off-site financial analysis. While these guidelines are directed toward a more concise on-site assessment, the overall approach is similar. Also, the on-site visit should determine what information, if any, in Part IV cannot be provided.

PART I

SUGGESTED QUESTIONS FOR MANAGEMENT

A. GENERAL INFORMATION

1) Under what type or class of financial institution are you licensed?

The major categories of financial institutions would traditionally include commercial banks, development banks, finance companies, and merchant or investment banks. While the definitions of these types of institutions may vary from country to country and region to region, the various regulations and prudential requirements will clearly differ for each type of institution. Also, financial ratios should be within the context of the type of institution, otherwise the comparison of say, a commercial bank to a development bank, may be of "apples to oranges."

2) Who is your supervisory authority?

Quite often this will be the central bank, but in many countries a separate agency exists. Also, the supervisory authority may not be the authority that licenses new financial institutions. In some countries where supervision is shared by several entities (Central Bank, Ministry of Finance, Superintendent of Banks, etc.), supervision may be less effective due to jurisdictional disputes or differing policies. For example a central bank's supervision may be severely hampered if it has no say in licensing, and licenses are based on political considerations.

2) What are your management criteria and systems for monitoring advances that are not performing?

This is especially important if there are no supervisory criteria for past due/non-performing loans. Also, conservative bank management may set performance standards that are stiffer than supervisory norms. If the response is a vague sounding "watch list" of problem loans as determined by lending officers or branch managers, a further question may be needed as to how management determines a problem loan and what subsequent action is taken. The intent is to ensure that the system detects problem loans at an early stage, and appropriate action is taken. This is best determined by an objective standard of loan performance which triggers a problem status when payment terms are not met.

3) Is a provision for loan losses maintained? If so, are the provisions general (for potential future losses) or specific (for presently identified losses)?

The absence of provisions in all but the newest of financial institutions is an indication of unwillingness to recognize the risks inherent in lending. If properly understood, provisions can be a useful indicator of asset quality.

It is essential to distinguish the motives behind the creation of, or addition to, provisions. If a general provision exists solely as a cushion against potential future losses (not yet identified), a large cushion is better than a small one. However, if a large transfer to general provisions is made due to management's recognition of present weakness in the portfolio, it is tantamount to a specific provision for presently identified losses.

Specific provisions are made against all or part of existing loans, depending upon judgment as to what portion, if any, is ultimately collectible. The total of specific provisions is simply the sum of provisions against individual loans. A sharp rise in specific provisions indicates recognition of an increased level for problem loans. Such an increase often lags behind a rise in the level of past due/non-performing loans. In turn, a reduction in the total of specific provisions probably indicates management's overall judgment that the portfolio has improved. When a loan improves in status, specific provisions against it may be reduced. If such loans exceed others to which provisions have been made, the net effect is a reduction on in the total of specific provisions.

Perhaps the most conservative approach to provisions is a combination of specific and general. In such a system, specific provisions exist as offsets to problem loans and a general provision is also established, usually as a set percentage up to 2% of total loans. Thus, general provisions will automatically increase as loans grow, while specific provisions will fluctuate according to overall asset quality.

4) Who approves of provisions before annual accounts are finalized?

While bank management should have the initial and primary role in determining an adequate level of provisions, outside approval is virtually essential. The external auditor normally performs this function, and an unqualified opinion of the accounts indicates the auditor is satisfied as to the level of provisions. If a "cloud" of some sort exists or the auditors and management disagree, the auditor may qualify the accounts and explain his concern in the introduction to the financial statements.

D. PROFITABILITY

1) What factors, either positive or negative, have heavily affected your institution's profits in recent years?

Earnings are probably the easiest financial factor to measure overall. While there are several different ratios showing levels of profits, a highly profitable bank will almost certainly look good on all of them. However, determination of why a bank is performing well or not is much more complex.

Bank management will certainly have a view as to why their institution is doing well or not doing well. Their answer will fall into two main areas: economic factors and market forces. Banks, of course, will prosper from a strong economy. Loss losses will be low and loan demand for viable projects will be high in an expanding economy. Market forces are composed of two components, the level of competition and the degree of regulation, especially on interest rates.

When a significant number of new financial institutions enter a market in a short period of time (a decade or less), the competitive impact will be felt keenly by all (except possibly large well-established first tier banks) and profit ratios will fall. In turn, a country where profit ratios are high for all banks probably lacks sufficient competition within its system.

A high degree of regulation on rates and bank charges (fees, commissions, etc.) usually ensures healthy bank profits. Bankers seem often able to influence the authorities as to minimum spreads needed in a rate controlled system, even if they have no input on nominal levels. Also, many systems allow banks, often through directives or the blessing of the central bank, to set minimum charges or fees for various services. Such cartels contribute heavily to high profit levels in many developing countries.

In summary, a banker's response as to what has caused the bank's recent profit performance (either good or bad) is likely to include comments on the economy, the level of banking competition, interest rate regulation (or deregulation), and the structure of fees and other charges.

E. LIQUIDITY

1) What are the liquidity requirements imposed by the central bank or supervisory authority?

The analysis of liquidity is likely to be of less financial significance than asset quality, capital, and profits in LPG type programs (loan guarantee) and most direct lending arrangements. However, a basic understanding of an institution's liquidity is useful, and it should be based on the requirements imposed in the local currency. In addition to reserve requirements, most financial institutions in developing countries are subject to some form of liquidity or liquid asset requirement. Like reserve requirements, these may have a monetary policy purpose, but they are also supposed to ensure financial institutions have a sufficient level of liquid assets to meet even unexpected obligations. In most cases, the requirement will call for liquid assets, as defined, to be at least equal to certain percentages of deposit liabilities. The percentages vary by types, with longer term deposits having lower requirements. While such requirements are often simplistic, the degree of

PART II

KEY RATIOS FOR BASIC FINANCIAL ANALYSIS

The following ratios can be calculated from basic financial information. They are provided along with very broad based norms which would apply to commercial banks, but not normally to other types of financial institutions. These norms, however, would, in most cases, be less significant than the trend and where the institution ranks within its peers.

A. ASSET QUALITY RATIOS

1. Past due (non-performing) loans

Calculation:
$$\frac{\text{Past Due Loans (as defined)}}{\text{Gross Loans (net loans plus provisions)}}$$

Aspects To Note:

The definition of past due or non-performing loans is essential. The most commonly used at present is 90 days or more in arrears with regard to interest and/or principal plus those on non-accrual (cash basis) plus those where the payment terms have been renegotiated. However, past due standards can be as strict as one day after maturity or as generous as 180 days in arrears. Obviously, the stricter the definition, the higher the percentage. Also, overdrafts, which by their nature lack repayment terms, may not be factored into past due totals. Past due totals that are not determined by objective criteria (payment due dates, etc.) usually have little value.

Trends and Levels:

A past due ratio that is increasing is obviously adverse. Such a trend is especially worrisome if it is not due to worsening economic conditions or other factors beyond management's control. For a commercial bank (which should be dealing with better quality borrowers and less reliance on security) a past due ratio of five percent or more is usually considered high. For a higher risk loan portfolio, such as is held by a finance company, a higher ratio would be expected, and more emphasis should be placed on net loan losses as explained below.

Trends and Levels:

A sharp rise in specific provisions shows management's recognition of problem loans that existed at the time. In theory, gross loans less specific provisions equals viable (collectible) loans. Only an on-site examination of the loan portfolio can determine if more specific provisions are needed. A reduction in specific provisions will often, but not always, mean asset quality is improving. If the bank only uses specific provisions, the year-to-year increase can be viewed as net loan losses, and a percentage larger than one percent is usually considered high. Overall however, specific provisions are a less reliable indicator of asset quality than past due loans and movements within general provisions.

4. Net Loan Losses

Calculation:
$$\frac{\text{Loans Charged Off less Recoveries (on previous charge-offs)}}{\text{Average Gross Loans}}$$

Aspects to Note:

It is important to understand if a general provision (also called reserve for loan losses) is used with uncollectible loans being charged to the provision and recoveries on previous charge-offs being credited to it. If so, the above ratio is valid and will give the best indication of asset quality on an historical basis. Net loan losses will not, however, predict future asset quality. Again, if specific provisions are used alone, the measurement of net loan losses is the net increase to the provision as described above, but this is a less reliable indicator. Unless a more precise method is available, average gross loans can be calculated by the average of present and prior year-end balances of gross loans.

Trends and Levels:

Clearly an increase in net loan losses to average total loans indicates the bank has experienced deteriorating asset quality. While this ratio does not predict future asset quality problems, a combination of a high past due percentage plus high levels and an adverse trend of net loan losses is worrisome. In commercial banks, a high level of past due is often followed by substantial loan losses. A very broad benchmark for net loan losses to average gross loans is one percent. A ratio much above that probably indicates asset quality has been a problem.

In non-bank financial institutions, especially finance companies, high levels of past due often do not result in high net loan losses. This is because the financing is to higher risk customers and is heavily based on security which can be liquidated. Such institutions downplay the high levels of arrears and point to their ability to ultimately collect outstandings through sale of security. If such a pattern does exist over a period of years, concerns over past due levels can be partially mitigated.

percent for commercial banks and eight percent for other types of financial institutions, though the ratios will vary widely between countries and different types of institutions.

It is also important to understand that the basic capital ratio is somewhat simplistic since it does not take into account the varying degrees of risk existing both on and off the balance sheet. The new international capital standard does rely on risk weighted measurement, but this calculation is quite complex. The basic capital ratio, while not ideal, will give a clear trend and overall indication whether or not capital is adequate.

2. Total Capital to Total Assets

Calculation: $\frac{\text{Core Capital plus Supplementary Capital (as defined)}}{\text{Total Assets}}$

Aspects to Note:

If the basic capital ratio, as explained above, is satisfactory, there is no need to calculate a total capital ratio which includes elements known as supplementary capital. Supplementary capital includes revaluation reserves (as mentioned above), general provisions (provided they are truly unencumbered), most preferred shares and subordinated debt or capital notes. All of these elements add protection to depositors' funds but are of lower quality than the pure equity included in core capital.

Trends and Levels:

As with the basic capital ratio, an increasing trend is favorable. A broad benchmark for total capital to total assets would be eight percent for commercial banks. Non-bank financial institutions are not likely to have significant amounts of supplementary capital.

The key element regarding supplementary capital is that it only provides a partial reassurance to a mediocre or weak core capital position. A bank with a marginal basic capital ratio should not be viewed as adequately capitalized due to large amounts of supplementary capital.

3. Dividend Payout Ratio

Calculation: $\frac{\text{Dividends (as defined)}}{\text{Net Income}}$

Aspects to Note:

Dividends must only represent amounts paid out of net income (after tax) to shareholders. Normally this is only cash dividends either declared or already paid. Dividends in the form of stock normally would be excluded from this ratio. Financial statements often include a reconciliation of

and among peer institutions, general profit benchmarks do exist. A one percent return on average assets is satisfactory, and many, if not most, major banks in industrial countries are well below this level. A two percent level or higher is very good in any banking system, while three percent or more is likely to be excessive due to extraordinary factors or negligible competition.

D. LIQUIDITY

While basic liquidity ratios can be calculated from a balance sheet, they are usually simplistic and sometimes misleading. Thus, the best approach to a quick analysis of liquidity is to learn the institution's liquidity requirement imposed by the supervisory authority and calculate how easily it is being met. As previously stated, such liquidity requirements usually define liquid assets, and such liquid assets must equal a certain percentage of deposits, which varies by type of deposit.

The two liquidity ratios used in the LPG analysis were only intended to reveal a trend and did not judge whether liquidity was sufficient. The first was cash and other short term funds as a percentage of deposits and borrowing (purchased funds). An upward trend in this ratio indicates improving liquidity. The second ratio used was gross loans as a percentage of deposits and borrowings. Since loans are normally illiquid assets, an upward trend in this ratio is usually adverse with regard to liquidity. Again however, neither ratio takes into account access to liquidity on short notice through available credit lines or discount facilities at the central bank. Also such ratios do not measure the volatility of deposits, as a large number of small depositors (especially savings accounts) provides a base of core depositors. Liquidity studies have shown that a large core deposit base significantly reduces vulnerability to sudden liquidity crises.

PROFITABILITY

- 1) What factors, either positive or negative, have heavily affected your institution's profits in recent years?

LIQUIDITY

- 1) What are the liquidity requirements imposed by the central bank or supervisory authority?
- 2) What access does your institution have to markets or discount window privileges when liquidity becomes tight?

STATISTICAL COMPARISONS

- 1) Does your institution have any recent surveys or statistical data comparing all financial institutions of your type or class, especially with regard to size, capital and profits?

PART IV

FINANCIAL INFORMATION TO BE SUBMITTED BY THE FINANCIAL INSTITUTION

Note:

As stated in Part I, A.I.D. promptly reviews the application for acceptance (or rejection). The review process includes a financial analysis based on both quantitative and qualitative aspects. The data called for below are essential for the quantitative analysis. However, because banking standards and methods vary substantially throughout the world, management is urged to describe or clarify responses, where useful, to enhance understanding of the data provided.

I. Financial Statements

Provide annual audited statements, with footnotes, for the preceding three (or available) years. (Where audited statements clearly provide information called for below, this can be indicated in place of the question or schedule.)

II. Asset Quality

A. Provide approximate percentages of the loan portfolio (total advances) by type as follows:

Amortizing (scheduled payments of principal and interest)	_____ %
Demand (scheduled payments of interest only)	_____ %
Authorized Overdrafts	_____ %
Other (describe)	_____ %
Total	_____ 100% _____ %

B. Explain criteria used by supervisory authority to determine past due and/or non-performing loans (advances).

C. If no criteria under (B) exists, explain internal management criteria for determination of past due and/or non-performing loans (advances).

D. If credit facilities are provided by means of authorized overdrafts, explain supervisor's and/or management's criteria for determination of non-performing status.

E. Schedule of past due/non-performing loans (as of financial year-end, past 3 years)

	198_	198_	198_
Balance outstanding of past due/ non-performing loans			
Total outstanding loans (gross of provisions)	_____	_____	_____
Past due/non-performing percentage	_____ %	_____ %	_____ %

(If overdrafts are excluded from this schedule, so indicate)

III. Off-Balance-Sheet Items (As of latest financial year-end.) Complete if not clearly presented in audited financial statements.

- A. Direct credit substitutes (guarantees, standby letters of credit, acceptances not on balance sheet, etc.) _____
- B. Transaction-related contingent items (performance bonds, bid bonds, warranties, etc.) _____
- C. Self-liquidating trade related (documentary credits, commercial letters of credit) _____
- D. Formal credit commitments _____
- E. Other significant off-balance-sheet items (describe) _____

IV. Capital Adequacy

- A. Describe capital requirements, either statutory or regulations imposed by the supervisory authority, for your class of financial institution (bank, finance company, etc.)
- B. Capital elements (as of latest financial year-end). Complete if not clearly presented in audited financial statements)

Core Capital:

- Paid-in shares (common stock) _____
- Share premiums (surplus) _____
- Statutory reserves _____
- Retained profits _____
- Total-Core Capital _____

Supplementary Capital:

- Undisclosed reserves (approved by supervisory authority) _____
- Asset revaluation reserves _____
- Unencumbered general provisions _____
- Other (describe) _____
- Total-Supplementary Capital _____



**Economic Development Institute
of The World Bank**

**Introduction to Banking
Regulation, Supervision
and Bank Analysis**
Training Handbook

Robert S. Porter
Mary Elizabeth Ward, editor

EDI WORKING PAPERS

FINANCE, INDUSTRY, AND ENERGY DIVISION

PART II: BANK ANALYSIS

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1. INTRODUCTION TO THE CAMEL RATING SYSTEM

A PRIME TASK OF BANK SUPERVISORS IS TO JUDGE OR EVALUATE THE FINANCIAL CONDITION OF THE BANKS FOR WHICH THEY ARE RESPONSIBLE.

- * In evaluating or "rating" a bank, it is important that a standard system be used so all bank supervisors can look at it in the same way.
- * With a clear rating system, everyone from the Governor to the newest staff member in bank supervision can quickly understand the financial condition of a bank by learning its rating.
- * However, such a system needs to take into account all the financial aspects that are important to a bank's soundness.
- * In the United States, the three bank supervision agencies, the Federal Reserve, the Comptroller of the Currency, and the Federal Deposit Insurance Corporation, all previously used their own rating systems.
- * In 1978, these three agencies all agreed to standardize their rating system. This agreed upon system has been in place since then.
- * This rating system takes into account all the major components of bank soundness. Thus, learning the system in detail serves as a method of teaching financial analysis of banks.
- * Because this system is clear and most of its concepts are easily understood, even by those not highly trained in bank supervision, many supervisory authorities in developing countries are now using this system for rating their banks.

THE AMERICAN BANK RATING SYSTEM IS CALLED "CAMEL" AS THE FIRST LETTER OF EACH COMPONENT THAT IS ANALYZED SPELLS OUT THAT WORD. CAMEL IS MADE UP OF THE FOLLOWING:

- C** "C" is for capital adequacy. The system measures how much capital a bank has to protect its depositors and if this amount is sufficient.
- A** "A" is for asset quality. The system determines the collectibility of assets and off-balance sheet items, as well as the financial impact of problem advances.
- M** "M" is for management. The system evaluates a bank's management based on performance, policies established, controls, depth, and adherence to law and regulation.
- E** "E" is for earnings, or profitability. The system measures bank profitability to see if it is sufficient to support future growth.
- L** "L" is for liquidity. The system determines if a bank is liquid enough to meet regular and most unexpected obligations.

SOME OF THE CAMEL AREAS CAN BE EVALUATED OFF-SITE FROM RETURNS SENT TO THE CENTRAL BANK, BUT OTHERS REQUIRE AN ON-SITE EXAMINATION TO MAKE A FULL DETERMINATION. RATING A BANK WITH THIS SYSTEM CAN BE AN ON-GOING PROCESS, BUT THE BEST TIME IS AT THE END OF AN EXAMINATION.

BANK SUPERVISORS LOOK AT CAPITAL AS THE MAIN SOURCE OF PROTECTION FOR DEPOSITORS. A WELL CAPITALIZED BANK CAN ABSORB LARGE LOSSES WITHOUT THE DEPOSITORS LOSING THEIR MONEY. TO EVALUATE A BANK'S CAPITAL ADEQUACY, BANK SUPERVISORS PRIMARILY RELY ON RATIOS.

- * Before a ratio can be calculated, capital must be defined, meaning what types of accounts can be used as capital.
 - ** Paid-up capital by shareholders, share premiums on capital, retained profits, and general or legal reserves are widely recognized as capital and are sometimes called core capital.
 - ** Other types of capital that may be included are sometimes known as supplementary capital. These include revaluation reserves on fixed assets, unencumbered general provisions for future loan losses, and various types of debt instruments which can be subordinated to the interests of the depositors.
- * Once capital is defined, a choice is to be made as to what it is compared to. Traditionally, it has been deposits or more recently total assets. A consensus has formed, however, that capital should be measured against the risks a bank assumes, both on and off its balance sheet.
- * As a result, a simple gearing or leveraging ratio of capital to total deposits or total assets has been replaced by a risk-based method which we will discuss in detail later on.

A MAJOR PART OF BANK SUPERVISION IS DETERMINING ASSET QUALITY, WHICH INCLUDES WHICH ASSETS ARE UNCOLLECTIBLE OR WHOSE TRUE VALUE IS LESS THAN THAT SHOWN ON THE BANK'S BOOKS.

- To rate asset quality, it is usually necessary for an on-site examination to be done.
- Examiners who are well trained in evaluation of advances and other credit facilities will assign a classification to the problem loans based on analysis of collectibility.
- The classification system of substandard, doubtful, and loss enables the supervisor to quantitatively determine a bank's overall asset quality rating in the CAMEL system, and to judge the adequacy of the provisions for loan losses.
- It is essential to remember that while submitted returns can give some indicators of asset quality, a true and thorough evaluation of it comes from on-site examinations done by examiners trained in credit analysis.

THE THIRD COMPONENT OF THE CAMEL RATING SYSTEM IS MANAGEMENT. HOWEVER, BANK SUPERVISORS USUALLY EVALUATE MANAGEMENT LAST, AS IT BRINGS TOGETHER ALL OTHER AREAS OF IMPORTANCE.

- * Of course, management must be rated subjectively and thus a ratio cannot be used, unlike with the other components of the CAMEL system.
- * Evaluation of management begins by looking at the performance of the bank.
 - ** Well managed banks should have adequate capital, good asset quality, adequate profits, and sufficient liquidity;
 - ** As a result, bank supervisors using the CAMEL system will not rate management until after the other four areas have been rated.
- * It is equally important to judge management through policies, systems, and controls that have been put in place.
 - ** Policies set a specific framework for key banking areas, such as lending, foreign exchange, and liquidity to guide managers in day to day activities;
 - ** Systems and controls help ensure policies are carried out efficiently and are adhered to.
- * Management should also be evaluated on the bank's adherence to laws and regulations, including timely and accurate submission of reports to the Central Bank.
- * Finally, supervisors evaluate management depth which looks at the development of future top managers for the bank.

THE FINAL PART OF THE CAMEL RATING SYSTEM IS LIQUIDITY WHICH INDICATES THE ABILITY OF A BANK TO QUICKLY MEET ITS OBLIGATIONS.

- * It is important to remember that for a bank to properly manage its liquidity, it must be able to meet its obligations without a loss.
 - ** Banks must have available liquid assets which can quickly be turned into cash, or they must be able to raise funds on very short notice to meet an obligation;
 - ** Managing liquidity involves both sides of the balance sheet, meaning having available back-up sources to raise liquidity quickly.
- * Since liquidity involves many factors, no single ratio measures all a supervisor needs to know about liquidity. Several ratios can be indicators as will be discussed.
- * As part of an on-site examination, the examiners review how liquidity is managed which includes:
 - ** Are specific policies in place to set liquidity targets and limits to meet statutory requirements and to manage liquidity as set by directors and senior management?
 - ** Are reporting systems and data bases sufficient to give quick and accurate information on a bank's position?
 - ** How much reliance has the bank placed on deposits or other funding which might be withdrawn on very short notice?
- * The on-site review is combined with an analysis of various liquidity ratios to determine the trend of liquidity and how it compares to other banks.

USING THEIR JUDGEMENT IN BOTH THE ON-SITE EXAMINATION OF HOW A BANK MANAGES ITS LIQUIDITY AND FROM LIQUIDITY RATIOS, LIQUIDITY IS THEN RATED AS SOUND, SATISFACTORY, FAIR, MARGINAL, OR UNSATISFACTORY.

ONCE A BANK SUPERVISOR HAS EVALUATED THE FIVE COMPONENTS OF THE CAMEL RATING SYSTEM, IT IS POSSIBLE TO DETERMINE THE OVERALL RATING FOR THE BANK. THIS IS KNOWN AS THE COMPOSITE RATING.

- * Each component is assigned a number from one which is "strong" to five which is "unsatisfactory."
- * The five components are added and then divided by five to get a composite CAMEL rating.
- * The composite rating gives the bank supervisor the clearest indication of whether the bank overall is sound, satisfactory, fair, marginal, or unsatisfactory.
- * Most importantly, the composite rating also is an important indicator of the extent and degree of follow-up or normal supervisory action that may need to be taken with the bank.
- * The CAMEL rating system provides a standardized method for rating banks, but it is only as effective as the skills and judgement of the supervisors who are examining, evaluating, and rating banks on a regular basis.

THIS HAS BEEN ONLY A BRIEF INTRODUCTION TO THE CAMEL RATING SYSTEM AS A MEANS OF FINANCIAL ANALYSIS FOR A BANK. THE REMAINDER OF THIS SESSION AND THE SESSIONS TO FOLLOW COVER THE CAMEL COMPONENTS IN MORE DETAIL, WITH THE OBJECTIVE BEING TO TEACH A WIDELY RECOGNIZED METHOD OF FINANCIAL ANALYSIS OF BANKS.

COMPOSITE RATINGS

Composite 1

- * basically sound in every respect
- * findings are of a minor nature and can be handled routinely
- * resistant to external economic and financial disturbances
- * no cause for supervisory concerns

Composite 2

- * fundamentally sound
- * findings are of a minor nature and can be handled routinely
- * stable and can withstand business fluctuations well
- * supervisory concerns are limited to the extent findings are corrected

Composite 3

- * financial, operational or compliance weaknesses ranging from moderately severe to unsatisfactory
- * vulnerable to the onset of adverse business conditions
- * easily deteriorate if actions are not effective in correcting weaknesses
- * supervisory concern and more than normal supervision to address deficiencies

Composite 4

- * immoderate volume of serious financial weaknesses
- * unsafe and unsound conditions may exist which are not being satisfactorily addressed
- * without corrections, these conditions could develop further and impair future viability
- * high potential for failure
- * close supervision and surveillance and a definite plan for correcting deficiencies

Composite 5

- * high immediate or near-term probability of failure
- * severity of weaknesses is so critical that urgent aid from stockholders or other financial sources is necessary
- * without immediate corrective actions, will likely require liquidation, merger, or acquisition

COMPONENT RATINGS

Rating 1

- * strong performance
- * significantly higher than average performance

Rating 2

- * satisfactory
- * average or above average performance
- * adequately provides for safe and sound operation

Rating 3

- * performance flawed to some degree
- * considered fair
- * neither satisfactory nor average but is characterized by below average quality

Rating 4

- * marginal performance
- * significantly below average
- * weaknesses could evolve to threaten viability of bank

Rating 5

- * unsatisfactory
- * critically deficient and needs immediate attention
- * such performance could threaten the viability of the institution

2. ANALYSIS OF CAPITAL

In general terms, the function of bank capital is to support the volume, type and character of the bank's business, to provide for the possibilities of losses that may arise, and to enable the bank to continue to fulfill the reasonable credit needs generated within the community that it serves. Inasmuch as it is generally agreed that depositors are not meant to assume risks emanating from the operation of the bank, capital should be sufficient to absorb shrinkage in asset value and other losses that may be incurred.

The risk asset ratio is an objective measure of the amount of shrinkage that can be absorbed by a bank's capital structure and is to be used in rating bank capital. This ratio defines the relationship of gross capital to those assets which contain some potential for loss (i.e. risk assets) without attempting to specify the loss inherent in any given risk asset or risk asset category.

The risk asset ratio is calculated from the bank's most recent Consolidated Report of Condition (including foreign and domestic subsidiaries, when applicable) and is defined as follows:

$$\text{Risk Asset Ratio} = \frac{\text{Gross Capital Funds}}{\text{Risk Assets}}$$

The term gross capital funds includes total equity capital, the reserve for possible loan losses and subordinated notes and debentures. Risk assets are defined as total assets plus reserve for possible loan losses less cash and due from banks, U.S. Treasury securities, obligations of U.S. Government agencies, trading account securities, and Fed funds sold and securities purchased under agreements to resell.

Since the risk asset ratio does not distinguish the degree of risk associated with differing asset structures, it is to be used in tandem with the quality of assets rating to arrive at the final rating of bank capital. The following tables provide the ratio guidelines and the limiting conditions which are to be used in arriving at the overall capital rating.

ASSET QUALITY LIMITING CONDITIONS

<u>Capital Rating</u>	<u>Conditions</u>
1	Asset quality must be rated 1 or 2.
2	Asset quality must be rated at least 3.
3	Asset quality must be rated at least 4.
4	Capital is so rated if weighted classifications impair the capital stock account.
5	Capital is so rated if assets classified loss impair the capital stock account.

For ratings 1 through 4, a bank's risk asset ratio should generally equal or exceed the specified guideline ratio associated with a particular capital rating in order to be assigned that rating. For rating 5, an upper limit is provided below which a risk asset ratio warrants the lowest capital rating. A risk asset ratio that is somewhat below a particular ratio guideline does not necessarily preclude the more favorable rating, provided asset quality is rated strong or satisfactory and, in the judgement of the rater, the more favorable rating is supported by and consistent with the bank's overall financial condition. If a limiting condition is not met, the capital rating should be lowered to a level that is felt to be consistent with the volume and severity of classified assets. Limiting conditions 4 and 5 apply regardless of risk asset ratio.

The guidelines reflected in the foregoing tables are not meant to establish rigid and inviolable criteria nor to preclude the element of judgement. However, capital is presumed to be rated in accordance with the guidelines unless other relevant considerations are brought to bear in support of what is believed to be a more appropriate rating. No capital rating should be accorded based on the ratio and condition guidelines above without full consideration of all pivotal factors that determine the need for capital. In addition to the volume and severity of problem credits, other factors warranting consideration in rating capital are internal capital generating capacity, accessibility to capital markets, and deposit and liability structure. Thus, capital ratings that do not fully accord with the foregoing ratio and condition guidelines are acceptable

if, in the rater's judgment, other factors and considerations are sufficient to justify a departure from the guidelines. Any departure, however, should be noted and explained in the discussion of capital in the confidential section of the examination report.

Within the context of the foregoing discussion, bank capital is rated (1 through 5) as follows:

Rating 1 (Strong)

Capitalization is strong in relation to:

- (a) the volume of risk assets;
- (b) the volume of marginal and inferior quality assets;
- (c) bank growth experience, plans and prospects; and
- (d) the strength of management in relation to (a), (b) and (c).

Ordinarily, a bank whose asset quality is strong or satisfactory and whose risk asset ratio equals or exceeds the appropriate percentage reflected in the table should be considered as deserving of a 1 capital rating.

Rating 2 (Satisfactory)

Capitalization is satisfactory in relation to:

- (a) the volume of risk assets;
- (b) the volume of marginal and inferior quality assets;
- (c) bank growth experience, plans and prospects; and
- (d) the strength of management in relation to (a), (b), and (c).

Where management competence is adequate to satisfactorily resolve any modest complications arising out of points (a), (b) and (c), a bank's capital should be rated 2 if its asset quality is no worse than fair and its risk asset ratio equals or exceeds the appropriate percentage reflected in the foregoing table.

Rating 3 (Fair)

Capitalization is not fully adequate in relation to:

- (a) the volume of risk assets;
- (b) the volume of marginal and inferior quality assets;
- (c) bank growth experience, plans and prospects; and
- (d) the strength of management in relation to (a), (b) and (c).

A 3 rating should be ascribed to a bank's capital position when the relationship of the capital structure to points (a), (b) or (c) is adverse, even giving weight to management as a mitigating factor. Such conditions would generally prevail where asset quality is no worse than marginal and the risk asset ratio equals or exceeds the appropriate percentage reflected in the foregoing table.

Rating 4 (Marginal)

Capitalization is inadequate. This normally should include banks whose weighted asset classifications impair the capital stock account or whose risk asset ratio is within the appropriate range prescribed in the foregoing table.

Rating 5 (Unsatisfactory)

This rating is ascribed in cases where assets classified loss impair the capital stock account or where the bank's risk asset ratio falls below the prescribed ratio in the foregoing table.

CRITICAL FINANCIAL FACTORS **CAPITAL**

- 1) Size of the bank--community, regional or multinational
 - * Compare primary capital ratio with minimum level
 - * Determine in which zone the total capital ratio falls
 - * Compare ratios with peer group averages--consider trends
- 2) Volume of risk assets
 - * Compare risk asset ratio to peer group averages
 - * Consider trends
- 3) Volume of marginal and inferior quality assets
 - * Weighted classification ratio
 - * Classification ratio, trend and mix of classifications
- 4) Bank's growth experience, plans and prospects
 - * Compare capital formation rate to asset growth rate
 - * Recent trends
 - * Branch expansion plans or major building and remodeling plans
- 5) Quality of capital
 - * Ratio of debt capital to equity should not exceed 50% per Board's guidelines
- 6) Retained earnings
 - * Compare dividend payout ratio to peer group averages
 - * Past trend and prospective earnings
- 7) Access to capital markets
 - * Strength of parent
 - * Control owners ability to inject
 - * Return on equity--trend and peer group averages
- 8) Non-ledger assets and sound values not shown on books
 - * Real property at nominal values
 - * Charge-offs with firm recovery values
 - * Tax adjustments

CAPITAL ADEQUACY RATING

<u>Rating</u>	<u>Total Capital Ratio</u>	<u>Primary Capital Ratio</u>	<u>Limitations</u>
1	7.0%	6.0%	Asset quality no less than 2. Risk asset ratio no less than 11%.
2	6.0%	5.5%	Asset quality no less than 3. No risk asset limit.
3	5.5%	5.0%	Asset quality no less than 4. No risk asset limit.
4	5.0%	5.0%	Weighted classifications are greater than primary capital.
5	< 5.0%	< 5.0%	Loss classifications are greater than primary capital.

3. ANALYSIS OF ASSET QUALITY

In rating asset quality, the system is designed to distinguish the degree of risk inherent in classified assets by ascribing weights to each category of classification, thereby providing a more reliable measure of the impact of risk on bank capital.

The following weights are to be used:

<u>Classification</u>	<u>Weights</u>
Substandard	20%
Doubtful	50%
Loss	100%

Total weighted classifications equal the aggregate of 20 percent of assets classified substandard, 50 percent of doubtful and 100 percent of loss.

The ratio of weighted classifications to gross capital funds (as defined above) is the primary criterion to be used in determining the quality of assets. Asset quality is rated (1 through 5) as follows:

Rating 1 (Strong)

Ordinarily, asset quality is so rated when total weighted classifications do not exceed 5 percent of gross capital funds. Aggregate weighted classifications somewhat in excess of 5 percent of gross capital should not preclude a 1 rating when economic conditions are conducive and management has demonstrated an ability to effectively collect problem credits. However, where such is not the case, or if additional problems exist in concentrations of investments or credits, a high level of non-earning assets, other assets "specially mentioned," or a heavy investment in fixed assets, a less favorable rating may be used even though the total of weighted classifications is less than 5 percent of gross capital funds.

Rating 2 (Satisfactory)

Instructions and latitude to exercise judgment in using a more or less favorable rating are the same as noted above, except banks with asset quality so rated should not have an aggregate of weighted classifications in excess of 15 percent of gross capital funds.

Rating 3 (Fair)

Instructions and latitude to exercise judgment in using a more or less favorable rating are the same as noted above, except banks with asset quality so rated should not have an aggregate of weighted classifications in excess of 30 percent of gross capital funds.

Rating 4 (Marginal)

Instructions and latitude to exercise judgment in using a more or less favorable rating are the same as noted above, except banks with asset quality so rated should not have an aggregate of weighted classifications in excess of 50 percent of gross capital funds.

Rating 5 (Unsatisfactory)

Asset quality should be so rated when aggregate weighted classifications are in excess of 50 percent of gross capital funds.

CRITICAL FINANCIAL FACTORS
ASSET QUALITY

- 1) **Volume of classifications**
 - * **Weighted classification ratio**
 - * **Total classification ratio**
 - * **Trend of ratios and dollar amounts**
- 2) **Special mention loans--level and trend**
- 3) **Level, trend and composition of non-accruai and renegotiated loans**
- 4) **Effectiveness of loan administration**
 - * **Formalized lending and investment policies**
 - * **Volume and trend and past-due loans**
 - * **Adequacy of loan review system**
- 5) **Volume of concentrations in excess of 25% of capital and surplus**
- 6) **Volume and character of insider transactions**
- 7) **Depreciation in securities portfolio**

ASSET QUALITY RATING

Substandard \$ _____ x .2 = \$ _____

Doubtful \$ _____ x .5 = \$ _____

Loss \$ _____ x 1.0 = \$ _____

Total Weighted Classifications (TWC) = \$ _____

$\frac{\text{TWC}}{\text{PC}^*} = \text{_____} \%$

* Common stock, perpetual preferred, capital surplus, unincumbered provisions, reserves for contingencies and other capital reserves, mandatory convertible instruments, and reserve for loan losses.

<u>Ratings</u>	<u>Asset Quality Ratio Guidelines</u>		
1	0	≤	5%
2	5	≤	15%
3	15	≤	30%
4	30	≤	50%
5		>	50%

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4. ANALYSIS OF EARNINGS

Earnings are to be rated based upon their level (quantity) and their composition (quality). Both aspects of earnings must be appraised to derive the final rating. The quantitative aspect is to be evaluated by analyzing the bank's return on assets relative to its peer group mean or average. The peer group approach is utilized in appraising the quantitative aspect of earnings because income and expense items vary greatly depending upon the size and nature of a bank's operations. The preliminary assessment derived from peer group analysis is then modified, if necessary, to reflect the quality or composition of the bank's net income. This step is essential. No rating is to be assigned to earnings without a careful consideration of the quality of earnings.

The quantitative aspect of earnings is evaluated through an analysis of the bank's return on assets (defined as net income divided by the average total assets) relative to the three-year mean for its particular peer group. The following total asset level cutoffs define the nationwide peer groups to be used for the earnings analysis:

- under \$50 million
- \$50 million to \$100 million
- \$100 million to \$300 million
- \$300 million to \$1 billion
- \$1 billion to \$5 billion
- over \$5 billion

A three-year mean return on assets is derived for each peer group and a three-year average return on assets is calculated for each peer group bank. This permits the determination of cutoffs, or benchmark ratios, based upon the three-year peer group array against which an individual bank's return for any given year can be compared. Cutoffs that divide the three-year peer group array into the highest 15 percent, the top 50 percent, the next 35 percent, and the bottom 15 percent will be used to set the ratio benchmarks. These benchmarks will then be used as standards against which an individual bank's return on assets for any given year will be evaluated. The use of three-year data to set standards diminishes the immediate effect of an industry-wide decline in earnings on the standards of performance, thus making the earnings criteria more stable and less subject to cyclical changes.

In practice, the examiner will compare a bank's most recent full year's return on assets with the benchmarks to determine a bank's preliminary earnings rating. Interim year-to-date earnings, especially for examinations conducted later in the year, must also be considered in assigning a final rating. As discussed below, the quality or composition of earnings is also a factor to be weighed in arriving at a final earnings rating.

Since the return on assets ratio alone does not always present a wholly reliable picture of a bank's earnings performance, the quantitative evaluation must be modified, if appropriate, to reflect the quality or composition of net income. Judgment must be brought to bear in determining the adequacy of transfers to valuation reserves and the extent to which securities transactions, tax effects, or any other unusual items contribute to net income. The quantitative evaluation may be modified upward or downward in a manner consistent with the definitions below in the event that an analysis of the composition of net income supports such an adjustment. Other things equal, net income that reflects, to an overly large degree, inadequate loan loss provisions, substantial tax credits, oversized securities gains, or significant non-recurring income items, is generally of lower quality than net income of similar magnitude that derives basically from operations and has not been materially influenced in any of the foregoing ways. Thus, earnings that are judged to be of inferior quality may be downgraded from the rating suggested in the preliminary assessment, since an inability to generate sufficient income from operations constitutes a serious deficiency and must be properly reflected in the final earnings rating.

In light of the foregoing discussion, earnings are to be rated (1 through 5) in accordance with the following guidelines:

Rating 1 (Strong)

Earnings so rated are sufficient to make full provisions for the absorption of losses and the accretion of capital when due consideration is given to asset quality and bank growth. Ordinarily, earnings so rated will reflect a return on assets that exceeds the cutoff for the top 15 percent of banks in the three-year peer group array. However, a return at a somewhat lower level will not preclude a 1 rating, provided the dividend payout rate is not so high as to cause an adverse relationship between the rate of increase in retained earnings and the rate of increase in banking assets, taking into consideration the adequacy of capital. Likewise, a dividend payout rate that is sufficiently high as to cause an adverse relationship to exist suggests conditions warranting a lower

rating despite the favorable return on assets. In general, earnings rated 1 should reflect reasonable loan loss provisions given the level and severity of problem credits and should not depend to a proportionately large degree on tax credits, securities gains, or other unusual nonrecurring income or expense items. Thus, such banks are characterized by high quality earnings and strong operating results.

Rating 2 (Satisfactory)

With the same latitude as noted above for exercising judgment in ascribing a more or less favorable rating, a bank whose earnings are relatively static or even moving downward may receive a satisfactory rating provided its return on assets is equal to or above the three-year average of its peer group. Earnings so rated should also be sufficient to make full provision for the absorption of losses and the accretion of capital. In general, any negative or downward trend is transitory and should not reflect the likely emergence of serious future earnings problems. Such earnings, also, are of high quality and reflect satisfactory operating results.

Rating 3 (Fair)

Earnings so rated are not sufficient to make full provision for the absorption of losses and the accretion of capital in relation to bank growth. Generally they will reflect a return on assets that is less than the peer group average but higher than the cutoff for the bottom 15 percent of banks in the three-year peer group array. The earnings picture of such a bank may be further clouded by static or inconsistent earnings-trends, a high dividend payout rate, inadequate capital, or less than satisfactory asset quality. Earnings so rated may be of lower quality and reflect operating results which presage more serious future earnings problems.

Rating 4 (Marginal)

While net income should be positive, earnings so rated will generally reflect a return on assets that falls below the cutoff for the bottom 15 percent of the banks in the three-year peer group array. The earnings picture of such a bank may be characterized by erratic fluctuations in net income, the development of a downward trend, intermittent losses or a substantial drop from the previous year. In general, such earnings reflect poor operating results, are wholly inadequate to make full provision for

absorption of losses and accretion of capital, and may rely heavily or entirely on tax credits, securities gains or other non-recurring items.

Rating 5 (Unsatisfactory)

This rating reflects a level of earnings so inadequate as to constitute, in the rater's judgement, a possible threat to continued viability. Ordinarily, earnings so rated will reflect net losses. However, positive net income may warrant an unsatisfactory rating if significant losses are only precluded by the existence of tax credits, securities gains, or other unusual items.

CRITICAL FINANCIAL FACTORS
EARNINGS

- 1) **Return on assets--compare to peer group averages and bank's own profit trend**
- 2) **Material components of income and expenses--compare to peers and bank's own trends**
 - * **Operating expense/operating income**
 - * **Non-interest expense/operating income**
 - * **Spread between cost and use of funds**
- 3) **Adequacy of provision for loan losses**
 - * **Level and trend of loan losses--compare net loan losses to average loans with peer group averages and review bank's own trends**
 - * **Adequacy of valuation reserves--compare to gross loans and peer group averages**
- 4) **Quality of earnings**
 - * **Extent to which extraordinary items, security transactions and tax effects contribute to net income**
- 5) **Dividend payout ratio in relation to the adequacy of bank capital**

EARNINGS RATING

Earnings are rated based upon their level (quantity) and their composition (quality). Other things equal, net income that reflects, to an overly large degree, inadequate loan loss provisions, substantial tax credits, outsized securities gains, or significant non-recurring items, is generally of lower quality than net income of similar magnitude that derives basically from operations and has not been materially influenced in any of the foregoing ways.

RETURN ON ASSETS BENCHMARKS

(percent)

Size of Total Assets

<u>Rating</u>	<u>Under Million</u>	<u>\$100-300 Million</u>	<u>\$300-1,000 Million</u>	<u>\$1-5 Billion</u>	<u>Over \$5 Billion</u>
1	1.15	1.05	0.95	0.85	0.75
2	0.95	0.85	0.75	0.65	0.55
3	0.75	0.65	0.55	0.45	0.35
4	0.75	0.65	0.55	0.45	0.35
5	Net Losses	Net Losses	Net Losses	Net Losses	Net Losses

5. ANALYSIS OF LIQUIDITY

Liquidity must be evaluated on the basis of a bank's capacity to promptly meet the demand for payment of its obligations and to readily fulfill the reasonable credit needs emanating from the community or communities which it serves. Since banks of varying sizes operate under vastly different circumstances attendant to local, regional, national and international markets, analyses of liquidity will vary greatly from bank to bank depending upon the magnitude, nature and scope of a bank's operations. Thus, no single ratio or formula adequately captures and summarizes the many-faceted dimensions of liquidity for all sizes and categories of banks. Instead, liquidity must be judged with regard to a bank's ultimate ability to fund its obligations and commitments. In practice, then, the examiner must review the bank's current liquidity position and ask how liquidity would be affected by certain events in the bank's relevant economy or service area that might reasonably be expected to occur given the nature of the bank's operations and past experience. Thus, scenarios that include reductions in the level of deposits or shocks within the money markets should be considered and analyzed for their likely effect on an institution's liquidity position. Similarly, consideration should be given to the expected impact on funding requirements emanating from the bank's responsibility to provide for the credit needs arising from the market which it serves.

An individual bank's liquidity, therefore, is rated (1 through 5) with respect to (a) the volatility of deposits; (b) the degree of reliance on interest-sensitive funds; (c) availability of assets readily convertible into cash; (d) accessibility to money markets; (e) overall effectiveness of asset-liability management strategies and policies; (f) compliance with internal liquidity policies; and (g) the nature, volume and anticipated usage of credit commitments. It is recognized that these factors will have varying degrees of relevance for different banks depending on their size and particular financial structure, and that any evaluation of liquidity must necessarily address an individual bank's unique circumstances. Within the context of the foregoing discussion, bank liquidity is rated in accordance with the following guidelines:

Rating 1 (Strong)

Liquidity so rated provides more than a sufficient volume of liquid assets and/or ready and easy access to external sources of liquidity, thereby furnishing the capacity to promptly meet the demand for payment of obligations and readily fill the reasonable credit needs emanating from

the community being served. Ordinarily, this situation will reflect liquidity ratios that significantly exceed acceptable norms associated with the character and size of the bank's operations. Liquidity ratios that are at a somewhat lower level, however, will not preclude a 1 rating where the bank has easy access to ready markets, provided that (a) borrowed (including rate sensitive) funds are within a moderate level; and (b) the relationship between the increase in core deposits and the increase in bank loans is not adverse. Moreover, a large volume of rate sensitive funds, coupled with an adverse trend in the relationship between the growth of core deposits and loans, suggests conditions deserving a lower rating in spite of favorable liquidity ratios.

Rating 2 (Satisfactory)

A bank developing a trend toward decreasing liquidity and increasing reliance on borrowed funds, yet still within acceptable proportions, may be accorded a satisfactory rating provided its liquidity ratios are at or above acceptable norms associated with the size and character of the bank's business.

Rating 3 (Fair)

Liquidity so rated is characterized by (a) a volume of liquid assets that is not sufficient to fully provide for the demands that may emanate from its obligations and adequately meet the reasonable credit needs of the community without necessitating an increasing reliance on borrowed funds, and (b) a level of borrowed (including rate sensitive) funds that is already approaching or exceeds reasonable proportions. Such a situation may require a bank to pay additional premiums to obtain short-term funds in the money markets and, generally, would involve liquidity ratios below acceptable norms given the character and size of the bank's business.

Rating 4 (Marginal)

The liquidity ratios for banks so classified are significantly less than the acceptable norms associated with the character of the bank's business. Ordinarily, such banks are vulnerable to a loss of confidence in the money markets. Moreover, it is likely that banks so rated are foreclosed from certain money market maturities and are forced to pay considerable premiums for borrowed funds. The volume of readily convertible assets

CRITICAL FINANCIAL FACTORS
LIQUIDITY

- 1) **Reliance on volatile liabilities--compare with peer group averages and bank's own trends; consider criticism when amount exceeds 25% of total assets**
- 2) **Availability of assets readily convertible to cash**
 - * **Volume of temporary assets--compare temporary investments/total assets to peer group averages and bank's own trends**
 - * **Volume of securities due in five years or less as percentage of total portfolio**
 - * **Amount and percentage of unpledged securities**
 - * **Extent of depreciation in securities portfolio**
- 3) **Reliance on core deposits--compare with peer group averages and bank's own trends**
- 4) **Overall effectiveness of asset/liability management**
 - * **Compare loan/deposit ratio with peers, review in relation to borrowings**
 - * **Compliance with internal liquidity policies**
 - * **Consider maturity structure of deposits against loan maturities**
- 5) **Level and frequency of borrowings**
 - * **Review average lending or borrowing position**
 - * **Frequency and amount of deficiencies in maintaining required reserves**
 - * **Review reasons for borrowing**
 - * **Rates paid for borrowings--compare with going interest rates**
- 6) **Nature, volume and anticipated usage of bank's loan commitments**
 - * **Total commitments to total deposits--review bank's trends**
 - * **Is there a trend toward increasing the issuance of standby letters of credit or other non-use of funds lending vehicles?**
- 7) **Ability to borrow**
 - * **Number and size of correspondents**
 - * **Discount window (collateral)**

may be so thin as to threaten the viability of the bank, requiring concerted effort by bank management to remedy the deficiency.

Rating 5 (Unsatisfactory)

The liquidity of such banks is so critical as to constitute an imminent threat to continued viability. Banks so rated require immediate remedial action or urgent financial assistance to allow them to meet their obligations and commitments.

6. ANALYSIS OF MANAGEMENT

Inasmuch as management is rated on the effectiveness with which it conducts the bank's business, the responsibilities with which it is charged vary in complexity depending on the conditions inherent in any given situation. These conditions are affected by size and type of business and, for a given bank, will vary through time. Therefore, management that is competent to effectively discharge responsibilities under given conditions may be less than competent as these conditions are altered by size, type of business, or through time. Management should, then, be rated accordingly.

Management's performance is evaluated against a wide variety of objective and subjective factors. In addition to evaluating performance in light of adequacy of capital and liquidity, asset quality and profitability, management is also rated with respect to (a) technical competence, leadership, and administrative ability; (b) compliance with banking regulations and statutes; (c) ability to plan and respond to changing circumstances; (d) adequacy of and compliance with internal policies; (e) depth and succession; (f) tendencies toward self-dealing; and (g) demonstrated willingness to meet the legitimate banking needs of the community. Management is rated in accordance with the following guidelines:

Rating 1 (Strong)

Management that is capable of discharging the responsibilities emanating from the situation in which it is found. Its performance with respect to virtually all factors considered is fully effective, and it exhibits a responsiveness and ability to cope successfully with existing and foreseeable problems that may arise in the conduct of the bank's affairs.

Rating 2 (Satisfactory)

While performance may be deficient in minor respects, management so rated is both competent and able to operate the bank within accepted banking practices and in a generally safe and sound manner. Overall, such management is adequate to its responsibilities and has demonstrated a satisfactory record of performance in the situation in which it is found.

Rating 3 (Fair)

Management performance that is lacking in some measure of competence desirable to meet the responsibilities of the situation in which it is found. Either it is characterized by modest talent when above-average abilities are called for, or it is distinctly below average for the type and size of bank in which it operates. Such management may be safe at the moment, but criticizable features of the bank's operations weigh heavily against the more favorable factors. Its responsiveness or ability to correct less than satisfactory conditions may be lacking.

Rating 4 (Marginal)

This rating is indicative of a management that is generally inferior in ability compared to the responsibilities with which it is charged. In most instances, banks with marginal management should be accorded a composite rating which indicates vulnerability, and often may warrant a more adverse composite rating because of marginal capital, asset quality, earnings or liquidity, or strong evidence of deterioration in these areas with which present management may not be able to cope.

Rating 5 (Unsatisfactory)

This is the lowest rating and is applicable to those instances where incompetence has been demonstrated. In these cases, management must be substantively strengthened or replaced before sound conditions can be reestablished.

CRITICAL FINANCIAL FACTORS
MANAGEMENT

- 1) Evaluation of capital adequacy, asset quality, earnings, and liquidity within safe and sound limits
- 2) Technical competence, leadership and administrative ability, integrity of senior and middle management
 - * Qualifications, experience level and ability of junior officers to assume greater responsibilities
 - * Quality of supervision provided by management
 - * Adequacy of staff training
 - * Depth of and provision for management succession
- 3) Compliance with banking laws and regulations
- 4) Adequacy of and compliance with internal policies
 - * Internal controls, records and accounting systems
 - * Personnel policies--adequacy of salary and promotional policies
 - * Compliance with loan policies, investment policies, asset/liability management guidelines
- 5) Tendencies toward self-dealing
 - * Granting of loans on unsound basis, preferential terms and conditions to large shareholders, directors, officers, or their interests
 - * Payment of excessive salaries, fees, dividends
 - * Using bank funds for unjustified personal expenses of officers, directors
- 6) Ability to plan and respond to changing circumstances
 - * Effect of recession, inflation, and depressed industries on the bank's operations
 - * Ability or inability to take advantage of suggested changes and to correct former errors or weaknesses
- 7) Demonstrated willingness to serve the legitimate credit needs of the community

- 8) Adequacy of directorate**
- * **Board members represent broad cross-section of service community**
 - * **Good attendance at meetings**
 - * **Minutes well documented and reflect active participation by all members in selecting managing officers, determining policies, reviewing operations, financial results, etc.**
 - * **Domination of decision-making by one or two directors which negatively affects operations**
 - * **Adequacy of committee structure--loan committee, audit and exam committee**
- 9) Existence and adequacy of qualified audit staff and programs**

Appendix 5

Statistical Analysis

Statistical Analysis

A. INTRODUCTION

As mentioned previously, there are three historical periods to the HG Program: the early private sector loans from 1965 to 1971; the sovereign guaranteed loans from 1972 to the present; and the new non-sovereign loans from the late 1980's until the present. For the earlier private sector loans and the sovereign guaranteed loans there is a historical pattern of lending, repayments, defaults and recoveries. While the structure of the new non-sovereign loans is not the same as either the earlier private loans or the sovereign guaranteed loans, there is at least some correlation between the historical performance of these loans compared to the new non-sovereign loans. Therefore, the team has reviewed some basic information about the performance of these loans. The information is based on readily available information from the HG Program; an in-depth analysis of the information might be useful for the HG Program in the future. The team has also reviewed a study conducted by PRE/H to evaluate the housing program's historical performance from a credit subsidy perspective.

B. HISTORICAL PERSPECTIVE

The Housing Office has information on both the old private sector loans and the sovereign guaranteed loans. Because the accounting for these loans is different, the information base is not comparable between the two groups. Further, since the data base for all loans was only established in 1988, there is no readily available information on flows before 1988 without evaluating the portfolio in detail. What is available is some aggregate information on the portfolio.

According to the information provided by PRE/H, the HG Program has made 42 loans without host government guarantees since 1964. The bulk of these loans were made between 1964 and 1975. Some of these loans have been repaid in full, but of the loans currently outstanding, about 33, or 79 percent, are currently in arrears. Arrears in this case means not making at least one principal or interest payment on time. The contract or par amount of these guarantees was about \$135 million, of which \$16 million, or 13 percent, has had to be paid by USAID. While the frequency of default has been high, the severity or magnitude of the principal default has been considerably less. However, a full subsidy calculation would also have to include an interest calculation and this cannot be readily done with the available information.

Based on the information provided, the Housing Program has issued 178 sovereign guarantees since the program's inception. At this time, these loans are either: (i) current; (ii) in arrears for principal, interest or both; or (iii) have been rescheduled one or more times. Because of the numerous rescheduling of loans which are not matched on a one-to-one basis, it is very difficult to track the ultimate cost to USAID of any loans which have defaulted.

Of the 178 loans under contract, 68 are either currently in arrears or have been rescheduled. This is about 35 percent of the guarantees. What we do not have is any readily available information to judge the magnitude of the losses which are much more comparable to

credit subsidy calculations. Of the 123 loans classified as rescheduled which have defaulted at least once, another 56, or 45 percent, defaulted again after being rescheduled. Again, the information is not available to determine the magnitude of these losses.

Since the program's inception, 53 loans have been repaid. The contract or par amount of these loans is approximately \$236 million. Of this principal amount, the borrower paid \$220 million and USAID paid \$16 million or 6.7 percent. However, what the team does not have is any calculation of the interest payment made by the borrower and USAID, or an offset for any fees paid.

C. SUBSIDY CALCULATIONS

In 1991, a study was conducted which included a calculation of representative subsidy calculations for the HG Program based on historical cash flows. The study calculated the subsidy amounts by country based on the country's past performance with the HG Program. The study did not separate private from sovereign guarantees or evaluate the entire portfolio, and it used a methodology which approximated subsidy amounts. Nevertheless, the study does provide a good historical perspective of the portfolio from a credit subsidy viewpoint.

The study showed that defaults really fall into two main groups: those that do not default and those that have serious defaults. Over half the countries (20 of 39) receiving guarantees had negative subsidies and no defaults. Some had negative subsidies because of fees paid. Nine of the 39, or 23 percent, had subsidy calculations greater than 40 percent, which shows that when a country defaults, it usually defaults substantially. Some countries had subsidy calculations above 100 percent because of the method used to calculate the subsidy amount. In general, countries have either a good or very poor repayment record. The average unweighted subsidy for all the countries is 26 percent but the weighted average is 10 percent, which means that some of the larger guarantors have been the better credits. When the estimated subsidies were compared to the ExIm subsidies, the historical amounts were lower in the stronger countries, but the actual subsidies were higher in the weaker countries.

Since all the information has not been confirmed or analyzed in detail, it is difficult to make any generalizations. However, there are some general conclusions. One, there is a wide disparity between the incidence of default and the magnitude of the default. The difference is difficult to follow because of the limitations of the information base and the accounting methods which have been adopted. Two, as other bankers indicated, the guarantees tend to break down between the good and the very bad. This means that any risk assessment should attempt to identify those elements which cause a total default on the loan. Three, although a large number of loans have had problems, many countries have a solid record of repayment and records which are better than those indicated by the ICRAS model.

In summary, since the old information is not comparable to the current program, and the information base is weak, the team could not use historical information in developing the non-sovereign risk model.

Appendix 6

Non-Sovereign Risk Model and Supporting Schedules

Non-Sovereign Risk Assessment Model

AID Housing Guarantee Program



Borrower: Example
Country: Example

Inputs

Country (ICRAS) Rating: D

CAMEL PLUS Rating: 2

Risk Mitigation Rating (If Any):
(Yes=1, No=0) 1
Rating 3

Weighting of:

Country	60.00%
IFI	40.00%
=====	
Total	100.00%

Results

Borrower Rating C

Risk Premium
(Basis Points) 135
(Percent) 1.35%

Proportional Risk Premium
(Basis Points) 158
(Percent) 1.58%

Sample

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1. Country Rating

Country Rating	Number Ranking	Assigned Ranking
A	0.00	0
B	4.00	0
C	11.00	0
C-	17.00	0
D	28.00	28
D-	39.00	0
E	55.00	0
E-	69.00	0
F	84.00	0
F-	92.00	0
F==	100.00	0
		===== Country Ranking
		28

2. IFI Rating

CAMEL PLUS Rating	Number Ranking	Assigned Ranking
1	0	0
2	11	11
3	28	0
4	55	0
5	100	0
		IFI Ranking
		11

3. Country and IFI Weighting

	Assigned Ranking	Weighting	Weighted Ranking
Country Ranking	28	60.00%	17
IFI Ranking	11	40.00%	4
Total Weighted Risk Ranking		100.00%	21

4. Risk Mitigation Rating (If any)

Risk Mitigation Rating	Percentage Reduction	Assigned Reduction
1	60.00%	0.00%
2	48.00%	0.00%
3	35.00%	35.00%
4	22.00%	0.00%
5	10.00%	0.00%
	Risk Mitigation Reduction	35.00%

5. Total Risk Ranking

Weighted Risk Ranking		21
Risk Reduction (1=Yes,0=No)	1	-35.00%
Weighted and Adjusted Ranking		14

6. Interest Premia Conversion

Weighted and Adjusted Ranking =====	Ranking Scale =====	Country Rating =====	ICRAS Risk Premia =====	Borrower Risk Premium =====	Proportional Risk Premium =====	Borrower Letter Rating =====
0	0	A	40	0	0	1
0	5	B	75	0	0	1
14	11	C	135	135	158	C
0	18	C-	196	0	0	1
0	28	D	317	0	0	1
0	40	D-	464	0	0	1
0	55	E	759	0	0	1
0	68	E-	1138	0	0	1
0	81	F	1896	0	0	1
0	90	F-	2655	0	0	1
0	100	F=-	4172	0	0	1
				135	158	

CONVERSION TO SKEWED SCALES

Country Conversion

Country Rating	Country Subsidy	Converted 1-100	Rounded	Average of Country and IFI
=====	=====	=====	=====	=====
A	4.60%	0.00	0	0
B	8.50%	4.33	4	5
C	14.60%	11.10	11	11
C-	20.29%	17.42	17	18
D	30.09%	28.30	28	28
D-	39.87%	39.16	39	40
E	54.43%	55.32	55	55
E-	66.76%	69.01	69	68
F	80.51%	84.28	84	81
F-	87.64%	92.19	92	90
F--	94.67%	100.00	100	100

Camel Adjustment

CAMEL Rating	Moody's Equiva	ICRAS Equiva	Subsidy	Rounded	Converted to 0 to 100
=====	=====	=====	=====	=====	=====
1	AA	A	5.00%	5	0
2	Baa	C	15.00%	15	11
3	Ba	D	30.00%	30	28
4	B	E	54.00%	54	55
5	C	F--	94.00%	94	100

Summary Chart -- Suggested Weightings

Country Rating =====	Country Subsidy =====	CAMEL Ranking Borrower Subsidy				
		1 =====	2 =====	3 =====	4 =====	5 =====
1. Country - B		30/70	30/70	30/70	30/70	30/70
2. Country - C		40/60	40/60	40/60	30/70	30/70
3. Country - D		60/40	60/40	60/40	50/50	50/50
4. Country - E		60/40	60/40	60/40	50/50	50/50

Guideline for Previous Experience with Borrower Ratings

Borrower current on payments for more than five years 1

Borrower current on payments for three to five years 2

Borrower current on payments for one to two years 3

Borrower has missed a payment within the past two years 4

Borrower has not made a payment for more than two years 5

Appendix 7

Worksheet for Non-Sovereign Risk Model

**WORKSHEET
FOR
NON-SOVEREIGN RISK ASSESSMENT MODEL
FOR
AID HOUSING GUARANTEE PROGRAM**

=====

I. COUNTRY RISK

COUNTRY NAME:
COUNTRY ICRAS LETTER RATING:

II. IFI RISK

	RANKING =====	WEIGHTING W/EXPERIENCE (WO/EXPERIENCE) =====	WEIGHTED RANKING =====
1. CAMEL RATING:		70% (80%)	
2. OWNERSHIP/REGULATION:		15% (20%)	
3. EXPERIENCE:		15%	
			=====
4. CAMEL PLUS RATING			

III. RISK MITIGATION RATING:

IV. WEIGHTING

1. COUNTRY:
2. IFI:
=====
100%

V. INPUTS FOR OMB MODEL

1. RISK PREMIUM
 - Borrower Letter Grade:
 - Interest Rate Risk Premium:
2. FEES
 - Upfront:
 - Annual:
3. BORROWING RATE
4. TREASURY RATE:

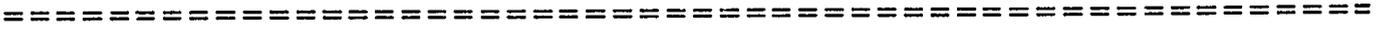
VI. CREDIT SUBSIDY AMOUNT:

Appendix 8

Non-Sovereign Risk Model Output for Case 1: Regional Development Bank

Non-Sovereign Risk Assessment Model

AID Housing Guarantee Program



Borrower: Regional Development Bank
Country: Multiple

Inputs

Country (ICRAS) Rating: E-

CAMEL PLUS Rating: 2

Risk Mitigation Rating (If Any):
(Yes=1, No=0) 0
Rating 0

Weighting of:

Country	75.00%
IFI	25.00%
=====	
Total	100.00%

Results

Borrower Rating E

Risk Premium
(Basis Points) 759
(Percent) 7.59%

Proportional Risk Premium
(Basis Points) 750
(Percent) 7.50%

1. Country Rating

Country Rating	Number Ranking	Assigned Ranking
A	0.00	0
B	4.00	0
C	11.00	0
C-	17.00	0
D	28.00	0
D-	39.00	0
E	55.00	0
E-	69.00	69
F	84.00	0
F-	92.00	0
F=-	100.00	0
Country Ranking		69

2. IFI Rating

CAMEL PLUS Rating	Number Ranking	Assigned Ranking
1	0	0
2	11	11
3	28	0
4	55	0
5	100	0
IFI Ranking		11

3. Country and IFI Weighting

	Assigned Ranking	Weighting	Weighted Ranking
Country Ranking	69	75.00%	52
IFI Ranking	11	25.00%	3
Total Weighted Risk Ranking		100.00%	55

4. Risk Mitigation Rating (If any)

Risk Mitigation Rating	Percentage Reduction	Assigned Reduction
1	60.00%	0.00%
2	48.00%	0.00%
3	35.00%	0.00%
4	22.00%	0.00%
5	10.00%	0.00%
	Risk Mitigation Reduction	0.00%

5. Total Risk Ranking

Weighted Risk Ranking		55
Risk Reduction (1=Yes,0=No)	0	0.00%
Weighted and Adjusted Ranking		55

6. Interest Premia Conversion

Weighted and Adjusted Ranking =====	Ranking Scale =====	Country Rating =====	ICRAS Risk Premia =====	Borrower Risk Premium =====	Proportional Risk Premium =====	Borrower Letter Rating =====
0	0	A	40	0	0	1
0	5	B	75	0	0	1
0	11	C	135	0	0	1
0	18	C-	196	0	0	1
0	28	D	317	0	0	1
0	40	D-	464	0	750	1
55	55	E	759	759	0	E
0	68	E-	1138	0	0	1
0	81	F	1896	0	0	1
0	90	F-	2655	0	0	1
0	100	F=-	4172	0	0	1
				759	750	

Appendix 9

Non-Sovereign Risk Model Output for Case 2: Commercial Bank.

Non-Sovereign Risk Assessment Model

AID Housing Guarantee Program

=====

Borrower: Commercial Bank
Country: Single

Inputs

Country (ICRAS) Rating: C-

CAMEL PLUS Rating: 2

Risk Mitigation Rating (If Any):
(Yes=1, No=0) 1
Rating 4

Weighting of:

Country	50.00%
IFI	50.00%
=====	
Total	100.00%

Results

Borrower Rating C

Risk Premium
(Basis Points) 135
(Percent) 1.35%

Proportional Risk Premium
(Basis Points) 134
(Percent) 1.34%

Commercial Bank

1. Country Rating

Country Rating	Number Ranking	Assigned Ranking
A	0.00	0
B	4.00	0
C	11.00	0
C-	17.00	17
D	28.00	0
D-	39.00	0
E	55.00	0
E-	69.00	0
F	84.00	0
F-	92.00	0
F=-	100.00	0
	Country Ranking	17

2. IFI Rating

CAMEL PLUS Rating	Number Ranking	Assigned Ranking
1	0	0
2	11	11
3	28	0
4	55	0
5	100	0
	IFI Ranking	11

3. Country and IFI Weighting

	Assigned Ranking	Weighting	Weighted Ranking
Country Ranking	17	50.00%	9
IFI Ranking	11	50.00%	6
Total Weighted Risk Ranking		100.00%	14

4. Risk Mitigation Rating (If any)

Risk Mitigation Rating	Percentage Reduction	Assigned Reduction
1	60.00%	0.00%
2	48.00%	0.00%
3	35.00%	0.00%
4	22.00%	22.00%
5	10.00%	0.00%
	Risk Mitigation Reduction	22.00%

5. Total Risk Ranking

Weighted Risk Ranking		14
Risk Reduction (1=Yes,0=No)	1	-22.00%
Weighted and Adjusted Ranking		11

6. Interest Premia Conversion

Weighted and Adjusted Ranking =====	Ranking Scale =====	Country Rating =====	ICRAS Risk Premia =====	Borrower Risk Premium =====	Proportional Risk Premium =====	Borrower Letter Rating =====
0	0	A	40	0	0	1
0	5	B	75	0	134	1
11	11	C	135	135	0	C
0	18	C-	196	0	0	1
0	28	D	317	0	0	1
0	40	D-	464	0	0	1
0	55	E	759	0	0	1
0	68	E-	1138	0	0	1
0	81	F	1896	0	0	1
0	90	F-	2655	0	0	1
0	100	F=-	4172	0	0	1
				135	134	

Appendix 10

Example of PSIP Credit Risk Analysis for Risk Subsidy Purposes

6/27

CREDIT RISK ANALYSIS

**(Annual Review of Overall Project Risk/Subsidy Calculation)
FY 1993**

Small Business Loan Portfolio Guarantee

[REDACTED]

I. COUNTRY RISK FACTOR (30%)

A. Political Stability:

A number of important events have taken place in the political environment over the past two years which have significantly impacted political stability in South Africa. In July of 1991, the U.S. Government lifted most of the sanctions imposed upon the South African Government in 1986, following action taken by the Government to release political prisoners, repeal the state of emergency, unban the formation of democratic political parties, repeal the Group Areas Act and the Population Registration Act and agree to enter into good faith negotiations with official representatives of the black majority. Subsequently, the Convention for a Democratic South Africa (CODESA), a multi-party negotiating forum, was established. CODESA negotiations have repeatedly broken down, reflecting the sharp differences between the representative parties regarding the transitional arrangements that will lead to the transfer of power to a popularly elected post-apartheid government. Moreover, political violence and civil unrest have escalated. (The reaction to the Hani assassination was indeed a setback.)

It is clear that frustration and tension are mounting due to the continuing uncertainty regarding the outcome of the political transition. The process of political reform however continues to move forward and measurable progress is being made. Another multi-party negotiating forum, which has replaced CODESA, was established in April 1993. This group has a broader representation than CODESA, capturing parties at both ends of the political spectrum. It is expected that a Transitional Executive Council (TEC) will soon be formed, the membership of which is likely to be drawn from the ranks of the multi-party negotiating forum.

The TEC will function as an oversight committee or advisory body to provide guidance through the transition period to elections (scheduled for April 1994). Although its role has not yet been formally defined, the TEC will have official status and some decision making authority, i.e., the present Government is likely to consult with the TEC before making any important decisions. The establishment of the TEC and an official date for the elections will mark the beginning of the election campaign. The elections

will produce a constituent assembly and some form of executive body which will be charged with the responsibility of drafting South Africa's new constitution.

Percentage Allocation: 10%

Risk Factor: 4.5

0.45

B. Economic Stability

The South African economy grew by .8% in the first quarter of 1993, as agricultural production improved, due to the end of the drought, and mining output increased. (In 1992, a negative growth rate of 2.1% was recorded.) While interest rates remain high, inflation is currently running about 8%, reflecting a downward trend. On the basis of these figures and other indications, some economists are predicting that, in the absence of widespread civil disturbances, South Africa's four year recession, the longest downturn in the economy since the decline of 1904-1908, could end this year.

The prospects for improved economic performance will depend to a great extent upon the outcome of the political negotiations currently underway. Inflows of foreign capital, which have been slow in forthcoming due to the political uncertainty, will be an important factor in stimulating the economy.

Nonetheless, growth projected over the next five years (under the best case scenario) is unlikely to do much more than keep pace with the rapid population growth, allowing little scope for improvements in living standards or reduction in unemployment. This could result in discontent over the longer term, as the level of expectations is running very high, thus placing pressure upon the new government to implement policies which do not encourage long term sustainable economic growth.

These issues, while of concern, should be considered within the context of the size and nature of the South African economy.

Percentage Allocation: 10%

Risk Factor: 3.5

0.35

C. Foreign Exchange:

1) The A.I.D. guarantee, in this instance, covers loans that are made in local currency. Thus, the availability of foreign exchange to service debt is not a factor that needs to be considered in evaluating the risk of this transaction. 2) The Reserve Bank of South Africa manages the foreign exchange reserves of this country very carefully. As such, South Africa has maintained a very good record in meeting its foreign obligations despite the political problems of past years. Given the highly developed nature of the South African economy, there is an ample supply of raw materials and production inputs in the local market to service the needs of industry. Therefore, possible constraints on the availability of foreign exchange which could arise are not likely to adversely

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impact the performance and productivity of small business borrowers.

Percentage Allocation: 10% Risk Factor: 1.0

0.1

The ratings for the above country risk factors are consistent with the overall sovereign risk rating assigned to South Africa in the Inter-Agency Sovereign Risk Assessment Report (FY 1994).

The commentary on political and economic conditions contained in this section was developed primarily on the basis of information extracted from Economic Highlights and other cable traffic emanating from the American Embassy in Pretoria, discussions with the State Department Desk Officer and information contained in various periodicals providing coverage on South Africa.

0.90

II. CORPORATE RISK FACTORS (35%)
(INTERMEDIARY FINANCIAL INSTITUTION (IFI))

A. Financial Management:

[REDACTED], acting as agent for [REDACTED], is the primary user of the loan guarantee facility. [REDACTED] was established in 1991 as a division of [REDACTED], the holding company for [REDACTED]. It was created as a specialized financial services division of the Group (as opposed to the Bank) to reflect the importance of the Group's commitment to the development of business at the informal and entrepreneurial levels.

[REDACTED] works closely with [REDACTED], through which all transactions will be processed, but has access to its own resources. The General Manager of [REDACTED] reports directly to the Group Manager of [REDACTED] and has had several years of credit experience at a very senior level in the banking industry.

In accordance with standard internal procedures, an independent analysis of [REDACTED] FY 1992 audited financial statements was done, using the CAMEL model. This analysis resulted in an overall risk rating of "2" (Satisfactory), with individual ratings as follows:

Capital Adequacy (5%)		1.0
Asset Quality (5%)		2.5
Management (5%)		1.0
Earnings (5%)		2.0
Liquidity (5%)		2.0
	(25%)	8.5 divided by 5 = 1.7

CAMEL is the standardized rating system developed and used by the three U.S. federal banking agencies to analyze the financial condition of U.S. banks. Each of the five factors cited above is assigned a numerical rating, as follows:

- 1 Strong
- 2 Satisfactory
- 3 Fair
- 4 Marginal
- 5 Unsatisfactory

Percentage Allocation: 25%

Risk Factor: 2.0

0.5

B. Ownership/Regulation:

[redacted] is wholly-owned by [redacted] and accounts for about [redacted] of the Group's total assets. [redacted] is the [redacted] banking group in South Africa with US\$ [redacted] billion in assets and US\$ [redacted] million in capital. Principal shareholders are as follows: [redacted] (51.1%), nominee companies (16.1%), pension and provident funds (15.7%), and other insurance and assurance companies (9.9%). The balance of shares (7.3%) are held by various corporations and individuals.

The activities of all South African banks are governed by the 1990 Deposit-Taking Institutions Act. [redacted] is in compliance with the regulations set forth in this Act. The Reserve Bank of South Africa, the Central Bank, provides further supervisory and regulatory control of banking activities. The Reserve Bank enjoys an excellent reputation and is well regarded in international financial circles for its conservative and prudent management practices.

Percentage Allocation: 10%

Risk Factor: 2.0

0.2
0.70

III. TRANSACTION RISK (35%)

A. Target Market/Location:

The purpose of the guarantee facility is to provide targeted support for the credit needs of individuals which have been "disadvantaged" by apartheid, i.e., South African individuals of black, "colored" or Asian descent whose principal place of business and residency is in the Republic of South Africa. As a result of the limitations created by the apartheid system, it has traditionally been difficult for these individuals, in particular black businesses, to access credit through the formal financial sector.

[redacted] was specifically created to service the financial needs of these "emerging" entrepreneurs. It has developed a fully

integrated approach to providing support for black enterprises by designing specialized financial products for emerging markets.

[REDACTED] has placed a total of 62 loans under coverage amounting to US\$832,000, since the establishment of the guarantee facility in September 1992. The pilot lending program has been very successful which has encouraged management to significantly expand its lending activities. It is within this context that A.I.D. has been requested to increase the amount of its Guarantee Limit.

It is worth noting that only two of these 62 loans have fallen into arrears. Nonetheless, the level of risk associated with these kinds of transactions continues to be relatively high. Management is applying new concepts in lending and is still testing the waters.

B. Structure of the Transaction:
(Risk Sharing/Financial Analysis/Third Party Guarantees/Collateral/Fees)

Because of the 50% risk sharing arrangement in place with the Intermediary Financial Institution (IFI), A.I.D.'s risk under the Small Business Loan Portfolio Guarantee Program is, in general, diminished substantially. In this instance, A.I.D. relies upon [REDACTED] acting as agent for [REDACTED], to undertake the financial analysis of the project and to determine the appropriate level of collateral and/or third party guarantees that are be required to support the viability of the project. Because of [REDACTED]'s substantial involvement in these projects and the risk that it bears as a result, A.I.D. is confident that [REDACTED] will exercise the level of due diligence necessary to protect A.I.D.'s position.

The CAMEL analysis plays an important role in assisting A.I.D. in evaluating the management practices and credit policies of the IFI. An overall satisfactory rating is a good indication that [REDACTED] has the management capability to exercise prudent judgement in making new loans. A.I.D. does not intervene in the IFI's decision making process with respect to the approval of individual loans. Instead, guidelines are set forth in the legal documentation which governs the operation of the guarantee facility, which establish the criteria for a qualifying loan.

Under the Small Business Loan Portfolio Guarantee Program, A.I.D.'s standard fees are as follows:

Facility Fee	.25%
Utilization Fee	.75%

Unless otherwise approved by the PRE Credit Review Committee, this fee structure applies to all new guarantee facilities. In the case of [redacted] these fees are considered acceptable in light of its overall satisfactory risk rating.

C. Amount and Term of the Facility:

The PRE Credit Review Committee approved a US\$ 500,000 Guarantee Limit for [redacted] Limited in FY 1992. A.I.D. has since been requested to increase the size of the Guarantee Limit to US\$ 1.5 million to provide [redacted] with additional coverage, as it begins to expand its lending activities. This request was approved by the PRE Credit Review Committee on June 23, 1993. At the same time, it was decided to extend the term of the Guarantee from three to six years to reflect the recommendations contained in the PRE/I Phase Out Plan. The Guarantee will now expire along with the three other guarantee facilities in South Africa, which are also being extended, in FY 1998.

The new guarantee facility represents less than .2% of [redacted]'s total capital [redacted] and about .01% of [redacted]'s total loan portfolio [redacted].

The subsidy cost has been recalculated to reflect the changes in the size and term of the guarantee facility, and the adjustment in certain risk factors. It now stands at US\$ _____. Thus, the additional subsidy requested for this transaction is US\$ _____.

Percentage Allocation: 35%

Risk Factor: [redacted] 4.9

1.575

OVERALL PROJECT RISK

(based on a weighted-average of the individual risk factors)

~~3.75~~

3.2

3.175 or

Attachments

- (1) Summary of Transaction Terms
- (2) Scale of Risk Factors/
Loss Assumptions
- (3) Calculation of Subsidy Cost (US\$ _____)

3.2

↓

12% losses

(1)

Summary of Transaction Terms

Type of Facility:	Small Business Loan Portfolio Guarantee
Maximum Coverage Portfolio:	US\$ 3.0 million
Amount of Guarantee Limit:	US\$ 1.5 million
Term:	six years
Fees:	0.25% Facility Fee 0.75% Utilization Fee
Guarantee Coverage:	up to 50% of the loss on the principal amount of the loan, net of recoveries.
Currency:	local currency (Rand)
Definition of Small Business:	Any individual or enterprise majority-owned by individuals of black, "colored" or Asian descent whose principal place of business and permanent residency is in the Republic of South Africa whose total assets (excluding land and buildings) do not exceed the local currency equivalent of US\$ 250,000.

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(2)

<u>Scale of Risk Factors</u>		<u>Loss Assumptions*</u>
1	(low risk)	5.0%
2	(low to medium risk)	7.5%
3	(medium risk)	10.0%
4	(medium to high risk)	20.0%
5	(high risk)	30.0%

*Percentages are based on the amount of the Guarantee Commitment.

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ASSUMPTIONS:

(a) Utilization:

Year 1 30% Utilization
 Year 2 60% Utilization
 Years 3 thru 6 100% Utilization

(b) Projected Losses:

The distribution of losses over the life of the project based upon a) an overall project risk of 3.35 and b) the past experience of PSIP guarantee programs is as follows:

<u>Year</u>	<u>Percentage Loss</u>
1	0 1.5
2	1.5 2.50
3	2.5 3.0
4	4.0 3.0
5	2.5 2.8
6	1.5 1.0
Total	13.5
	12.5

update

LPG - Original Terms: WARF=3.2; Losses = 12%

Project Amount (\$ million)	1.00	Default Schedule:	1983
Percent Guaranteed	50%	Yr 1	0.00%
Treasury rate	5.68%	2	1.50%
Facility fee rate	0.00%	3	3.00%
Utilization fee rate	1.50%	4	4.00%
Utilization Schedule		5	3.00%
Yr 1	58%	6	1.50%
2	41%	7	0.00%
3	0%	8	0.00%
4	0%		
5	0%		
6	0%		

1 Commitments (face value) (+)								
2 Private Lender Disbursements (+)								
3 Percent Guaranteed (as xx.x) (+)								
4 Upfront fees (+)								
5 Annual fees (+)								
6 Premiums (+)								
7 Other inflows (+)								
8 Payments on defaults (+)								
9 Recoveries on defaults (-)								
10 Other payments (incl. subsidies) (+)								
11 Other outflows (+)								
12 Other recoveries (-)								

29-Jun-83

1.000								
0.584	0.408	0.000	0.000	0.000	0.000	0.000	0.000	0.000
50.000								
0.000								
0.002	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007
0.000	0.008	0.015	0.020	0.015	0.008	0.000	0.000	0.000

```

#####
n LOAN GUARANTEE SUBSIDY CALCULATIONS                               Output screen 1 of 2 n
n#####n
n Disbursements by commercial lenders as percent of 1993 commitments: n
n      1993..... 59.4      1996..... 0.0 n
n      1994..... 40.6      1997..... 0.0 n
n      1995..... 0.0       1998..... 0.0 n
n
n Net present value of inflows (constant factor discount).      0.043 million n
n Net present value of outflows (pro-rata factor discount)      0.058 million n
n
n BASED ON CASH FLOW INPUT, NOT ON APPROPRIATION: n
n Lifetime subsidy outlays for 1993 cohort.      0.015 million 1.50 percent n
n Interest rate/grace period component..      0.000 million 0.00 percent n
n Net default component.....      0.058 million 5.77 percent n
n Fee, prepayment and other components..      -0.043 million -4.27 percent n
n
n Cancellations as a percentage of gross obligations.....      0.00 percent n
n Lifetime defaults net of recov. as % of disbursements...      6.60 percent n
n#####n
n ESC..... Previous menu      F1..... Help n
n F5..... Data input screens      Page Down ..... More output n
n CTRL-Page Down... Consolidated summary, all cohorts n
n Keypad +/-..... Change base year n
#####

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Appendix 11

Export-Import Bank Risk Rating Sheets

EXPORT-IMPORT BANK OF THE UNITED STATES RISK RATING SHEET 1: FINANCIAL INSTITUTION BORROWERS

(Includes Commercial Banks and Government-Owned Development Finance Institutions)

Financial Institution:

Country:

Date of This Assessment:

Most Recent Financial Data:

Prepared By:

Approved By:

RISK RATING	A	B	C	C-	D	D-	E	E-	F	F-	F-
Summary Numerical Score at least:	190	170	150	130	110	90	70	50	30	10	-

SUMMARY NUMERICAL SCORE:

FACTOR SCORES: COUNTRY + CAPACITY of 30 Points + CAPITAL of 30 Points + CHARACTER of 30 Points + POL-ONLY? Plus 20 Pts

COUNTRY CONDITIONS (Ask Country Economist)
Number of Points (100 to 0)*

Sovereign Guarantee _____ Public Non-Sovereign _____ Private Sector _____

*If Sovereign Guarantee, analyst may choose to use 200-0 point score for Country Conditions, RATHER than assess borrower's capacity, capital, and character factors.

CAPACITY FACTOR Number of Points Identify Particularly Important Indicators:

For most recent financial year:

	30	27	24	21	18	15	12	9	6	3	0	
Net Interest Income or Net Interest Margin was at least \$ million:	1,200	700	450	250	160	90	40	10	0	(2)	-	-
Net Income (After tax) was at least \$ million:	1,200	700	450	250	160	90	40	10	0	(2)	-	-
Net Interest Income/Assets or Net Interest Margin was at least:	4.0%	3.5%	3.0%	2.5%	2.0%	1.5%	1.0%	0.5%	0.0%	-0.5%	-	-
Annual Loan Loss Charges/Net Interest Income were at most:	5.0%	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	40.0%	45.0%	50.0%	-	-
Net Income/Assets or ROA was at least:	4.0%	3.5%	3.0%	2.5%	2.0%	1.5%	1.0%	0.5%	0.0%	-0.5%	-	-
Taxes/Net Income Before Taxes were at most:	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	-	-
Net Interest Income Growth over Last Year Percent per Annum was at least:	12%	10%	8%	6%	4%	2%	0%	-2%	-4%	-6%	-	-
Annual Loan Loss Charges, Change over Last Year Percent per Annum was at most:	-8%	-4%	-2%	0%	2%	4%	6%	8%	10%	12%	-	-
Net Income Growth over Last Year Percent per Annum was at least:	12%	10%	8%	6%	4%	2%	0%	-2%	-4%	-6%	-	-

(CONTINUATION -- RATING SHEET 1)

Financial Institution:

Country:

CAPITAL FACTOR
Number of Points

<input type="text"/>											
30	27	24	21	18	15	12	9	6	3	0	

Identify
Particularly
Important
Indicators:

For most recent financial year:

Assets were at least \$ million:	<input type="text"/>											
	30,000	20,000	15,000	10,000	8,000	6,000	4,000	2,000	1,000	500		
Equity was at least \$ million:	<input type="text"/>											
	3,000	1,800	1,200	700	480	300	160	60	20	5		
Loans were at least \$ million:	<input type="text"/>											
	8,400	7,600	7,200	5,500	4,800	3,780	2,860	1,200	600	275		
Deposits were at least \$ million:	<input type="text"/>											
	21,000	13,000	9,000	5,500	4,000	2,700	1,600	700	300	125		
Cash & Equivalents were at least:	<input type="text"/>											
	300	200	150	100	80	60	40	20	10	5		
Equity/Assets was at least:	<input type="text"/>											
	10.0%	6.0%	8.0%	7.0%	6.0%	5.0%	4.0%	3.0%	2.0%	1.0%		
Loans/Deposits were at most:	<input type="text"/>											
	40%	60%	80%	100%	120%	140%	180%	180%	200%	220%		
Asset Growth (Dollars) over Last Year Percent per Annum was at least:	<input type="text"/>											
	12%	10%	8%	6%	4%	2%	0%	-2%	-4%	-6%		
Equity Growth (Dollars) over Last Year Percent per Annum was at least:	<input type="text"/>											
	12%	10%	8%	6%	4%	2%	0%	-2%	-4%	-6%		
Loan Growth (Dollars) over Last Year Percent per Annum was at least:	<input type="text"/>											
	12%	10%	8%	6%	4%	2%	0%	-2%	-4%	-6%		
Deposit Growth (Dollars) over Last Year Percent per Annum was at least:	<input type="text"/>											
	12%	10%	8%	6%	4%	2%	0%	-2%	-4%	-6%		
Cash Growth (Dollars) over Last Year Percent per Annum was at least:	<input type="text"/>											
	12%	10%	8%	6%	4%	2%	0%	-2%	-4%	-6%		

CHARACTER FACTOR
Number of Points

<input type="text"/>											
30	27	24	21	18	15	12	9	6	3	0	

Identify
Particularly
Important
Indicators:

Eximbank Satisfactory Credit Relations with Borrower date back at least:	<input type="text"/>											
	20 Years	15 Years	10 Years	5 Years	2 Years	No Credit Experience				Arrears/Claims		
Does Eximbank Now Have Arrears/Unrecovered Claims vis-a-vis this Borrower?	<input type="text"/>											
	No					No Credit Experience				Yes		
Has Eximbank Experienced Arrears/Claims vis-a-vis this Borrower within last 10 years?	<input type="text"/>											
	No					No Credit Experience				Yes		
Has this Borrower Been Subject to Country-Wide Reschedulings within last 10 years?	<input type="text"/>											
	No					No Credit Experience				Yes		
Other Creditors' Experience with Borrower within the Last 10 Years?	<input type="text"/>											
	Positive					Unclear				Negative		
Quality of Financial Statements Audited or Unaudited:	<input type="text"/>											
Age of Statements:	Audited Recent	Audited Recent	Audited Recent	Audited Recent	Audited Aging	Audited Aging	Audited Aging	Audited Aging	Unaudited Recent	Unaudited Aging	Unaudited (Partial)	
Using International or Local Standards:	Intl Stds	Loc Stds										
Unqualified or Qualified:	Unqual.	Unqual.	Qual.	Qual.	Unqual.	Unqual.	Qual.	Qual.				
Risk Rating of Institution's Owners	<input type="text"/>											
	AAA/AA	A	BBB	BBB/BB	BB	BB/B	B	B/CCC	CCC	CC	C/D	

Name and Country of Institution: _____

(1) If Ownership is Widely Diversified (no shareholding > 33%), Use "A" Risk Rating
 (2) If Largest Shareholder is Government or Government Ministry, Use Sovereign Risk Rating Equivalent
 (3) If Largest Shareholder is Rated by Commercial Risk Rating Service, Use this Rating
 (4) If Largest Shareholder is Not Rated by Commercial Risk Rating Service, use "B" risk rating to indicate uncertainty.

EXPORT-IMPORT BANK OF THE UNITED STATES RISK RATING SHEET 4: LIMITED-RECOURSE PROJECT BORROWERS

(Includes Transactions in which Repayment Relies Essentially on Output or Cash Flows of Project)

Project Borrower: _____

Country: _____

Date of This Assessment: _____

Most Recent Financial Data: _____

Prepared By: _____

Approved By: _____

RISK RATING	A	B	C	C-	D	D-	E	E-	F	F-	F=
Summary Numerical Score at least:	180	170	150	130	110	90	70	50	30	10	0

200
real

SUMMARY NUMERICAL SCORE:

FACTOR SCORES:

COUNTRY	CAPACITY of 30 Pts	CAPITAL of 30 Pts	CHARACTER of 30 Pts	EXTL PAYMNTS COLLATERAL	POL-ONLY Plus 20 Pts
 50%	 15%	 15%	 15%	 B	 ① ② ③

COUNTRY CONDITIONS

Number of Points (100 to 0)*

Sovereign Guarantee _____ Public Non-Sovereign _____ Private Sector _____

*If Sovereign Guarantee, analyst may choose to use 200-0 point score for Country Conditions, RATHER than assess borrower's capacity, capital, and character factors.

CAPACITY FACTOR
Number of Points

 30	 27	 24	 21	 18	 15	 12	 9	 6	 3	 0
---	---	---	---	---	---	---	--	--	--	--

Identify
Particularly
Important
Indicators:

In first FULL Year of Project Debt Service, the Following Performance is Expected:

Sales/Assets will be at least:	 70%	 65%	 60%	 55%	 50%	 45%	 40%	 35%	 30%	 25%	 20%	 15%	 10%	 5%	 0%
Hard Currency Sales / Sales will be at least:	 100%	 90%	 80%	 70%	 60%	 50%	 40%	 30%	 20%	 10%	 5%	 0%	 -5%	 -10%	 -15%
Taxes/Net Income Before Taxes will be at most:	 0%	 10%	 20%	 30%	 40%	 50%	 60%	 70%	 80%	 90%	 100%	 110%	 120%	 130%	 140%
Cash Flow (NIAT+Dep)/Sales will be at least:	 70%	 65%	 60%	 55%	 50%	 45%	 40%	 35%	 30%	 25%	 20%	 15%	 10%	 5%	 0%
Debt Service Cover (NIAT+Dep+Int)/(Pnn + Int) will be at least:	 300%	 280%	 260%	 240%	 220%	 200%	 180%	 160%	 140%	 120%	 100%	 80%	 60%	 40%	 20%
Net Income (aftertax)/Sales will be at least:	 34%	 32%	 30%	 27%	 24%	 20%	 15%	 9%	 0%	 -12%	 -15%	 -18%	 -21%	 -24%	 -27%
Net Income (aftertax)/Assets or ROA will be at least:	 24%	 21%	 18%	 15%	 12%	 9%	 6%	 3%	 0%	 -3%	 -6%	 -9%	 -12%	 -15%	 -18%

Assuming a 2% Reduction in Sales (Dollars) in the first FULL Year of Project Debt Service, the Following Performance is Expected:

Cash Flow (NIAT+Dep)/Sales will be at least:	 70%	 65%	 60%	 55%	 50%	 45%	 40%	 35%	 30%	 25%	 20%	 15%	 10%	 5%	 0%
Debt Service Cover (NIAT+Dep+Int)/(Pnn + Int) will be at least:	 300%	 280%	 260%	 240%	 220%	 200%	 180%	 160%	 140%	 120%	 100%	 80%	 60%	 40%	 20%
Net Income (aftertax)/Sales will be at least:	 34%	 32%	 30%	 27%	 24%	 20%	 15%	 9%	 0%	 -12%	 -15%	 -18%	 -21%	 -24%	 -27%
Net Income (aftertax)/Assets or ROA will be at least:	 24%	 21%	 18%	 15%	 12%	 9%	 6%	 3%	 0%	 -3%	 -6%	 -9%	 -12%	 -15%	 -18%

(CONTINUATION -- RATING SHEET 2)

Borrowing Airline:

Country:

CAPITAL FACTOR
Number of Points

<input type="checkbox"/>	Identify Particularly Important Indicators:												
30	27	24	21	18	15	12	9	6	3	0			

For most recent financial year:

Assets were at least \$ million:	<input type="checkbox"/>												
	5,000	3,333	2,500	1,667	1,333	1,000	667	333	167	83			
Equity was at least \$ million:	<input type="checkbox"/>												
	2,500	1,500	1,000	583	400	250	133	50	17	4			
Cash & Equivalents Holdings were at least \$ million:	<input type="checkbox"/>												
	100	67	50	33	27	20	13	7	3	2			
Equity/Assets was at least:	<input type="checkbox"/>												
	50%	45%	40%	35%	30%	25%	20%	15%	10%	5%			
Current Ratio Current Assets / Current Liabilities was at least:	<input type="checkbox"/>												
	200%	180%	160%	140%	120%	100%	80%	60%	40%	20%			
Accounts Receivable/Sales were at most:	<input type="checkbox"/>												
	5.0%	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	40.0%	45.0%	50.0%			
Asset Growth (Dollars) over Last Year Percent per Annum was at least:	<input type="checkbox"/>												
	12%	10%	8%	6%	4%	2%	0%	-2%	-4%	-6%			
Equity Growth (Dollars) over Last Year Percent per Annum was at least:	<input type="checkbox"/>												
	12%	10%	8%	6%	4%	2%	0%	-2%	-4%	-6%			
Cash & Equivs (Dollars) Growth over Last Year Percent per Annum was at least:	<input type="checkbox"/>												
	12%	10%	8%	6%	4%	2%	0%	-2%	-4%	-6%			

CHARACTER FACTOR
Number of Points

<input type="checkbox"/>	Identify Particularly Important Indicators:												
30	27	24	21	18	15	12	9	6	3	0			

Eximbank Satisfactory Credit Relations with Borrower date back at least:	<input type="checkbox"/>												
	20 Years	15 Years	10 Years	5 Years	2 Years	No Credit Experience					Arrears/Claims		
Does Eximbank Now Have Arrears/Unrecovered Claims vis-a-vis this Borrower?	<input type="checkbox"/>												
	No					No Credit Experience					Yes		
Has Eximbank Experienced Arrears/Claims vis-a-vis this Borrower within last 10 years?	<input type="checkbox"/>												
	No					No Credit Experience					Yes		
Has this Borrower Been Subject to Country-Wide Reschedulings within last 10 years?	<input type="checkbox"/>												
	No					No Credit Experience					Yes		
Other Creditors' Experience with Borrower within the last 10 Years?	<input type="checkbox"/>												
	Positive					Unclear					Negative		
Does this Borrower Exercise Official Monopoly Powers?	<input type="checkbox"/>												
	Yes												
Quality of Financial Statements Audited or Unaudited:	<input type="checkbox"/>												
Age of Statements:	<input type="checkbox"/>												
Using International or Local Standards:	<input type="checkbox"/>												
Unqualified or Qualified:	Unqual.	Unqual.	Int'l Stds Qual.	Loc Stds Qual.	Int'l Stds Unqual.	Unqual.	Unqual.	Qual.	Qual.				
Risk Rating of Institution's Owners	<input type="checkbox"/>												
	AAA/AA	A	BBB	BBB/BB	BB	BB/B	B	B/CCC	CCC	CC	C/D		

Name and Country of Institution: _____

(1) If Ownership is Widely Diversified (no shareholding > 33%), Use "A" Risk Rating.
 (2) If Largest Shareholder is Government or Government Ministry, Use Sovereign Risk Rating Equivalent.
 (3) If Largest Shareholder is Rated by Commercial Risk Rating Service, Use this Rating.
 (4) If Largest Shareholder is Not Rated by Commercial Risk Rating Service, use "B" risk rating to indicate uncertainty.

(CONTINUATION -- RATING SHEET 4)

Project Borrower:

Country:

EXTERNAL PAYMENTS COLLATERAL FACTOR

(EXTRA CREDIT POINTS)

POINTS:

Escrow Account: Relative to Exim Principal Payment Ratio to Semiannual Principal Payment, at least:

12 Points	10 Points	8 Points	6 Points	4 Points
250%	200%	150%	100%	50%

Above 250%. 2 Points for Each Additional 50%

Escrow Account: Relative to Exim Debt Outstanding Ratio to Total Exim Exposure, at least:

12 Points	10 Points	8 Points	6 Points	4 Points
25%	20%	15%	10%	5%

Above 25%. 2 Points for Each Additional 5%

Escrow-Assigned Sales: Relative to Exim Principal Payment Ratio to Semiannual Principal Payment, at least:

8 Points	5 Points	4 Points	3 Points	2 Points
500%	400%	300%	200%	100%

Above 500%. 1 Point for Each Additional 100%

Escrow-Assigned Sales: Relative to Escrow Account Ratio to Escrow Account, at least:

8 Points	5 Points	4 Points	3 Points	2 Points
250%	200%	150%	100%	50%

Above 250%. 1 Point for Each Additional 50%

Escrow-Assigned Sales: Relative to Borrower's Sales Ratio to Borrower's Total Sales, at least:

8 Points	5 Points	4 Points	3 Points	2 Points
50%	40%	30%	20%	10%

Above 50%. 1 Point for Each Additional 10%

Escrow-Assigned Sales: Relative to Borrower's Net Income Ratio to Borrower's Net Income, at least:

8 Points	5 Points	4 Points	3 Points	2 Points
250%	200%	150%	100%	50%

Above 250%. 1 Point for Each Additional 50%

THE RATIOS ABOVE USE THE FOLLOWING DATA:

Escrow Account, at time of First S/A Payment \$ Million

Escrow-Assigned Sales, During First Year \$ Million

Semiannual Principal Payment \$ Millions

Eximbank Total Exposure on Transaction \$ Million

Borrower's Total Sales, during First Year \$ Millions

Borrower's Net Income, during First Year \$ Million

EXPORT-IMPORT BANK OF THE UNITED STATES RISK RATING SHEET 3: ESTABLISHED BORROWERS (OTHER)

(Includes Private Non-Financial Companies and Public Enterprises Other than Airlines,
and Established Non-Financial Borrowers Involved in Project Finance Transactions)

Borrowing Company/Enterprise:

Country:

Date of this Assessment:

Most Recent Financial Data:

Prepared By:

Approved By:

RISK RATING	A	B	C	C-	D	D-	E	E-	F	F-	F+
Summary Numerical Score at least:	190	175	150	130	110	90	70	50	30	10	

SUMMARY NUMERICAL SCORE:

FACTOR SCORES: COUNTRY + CAPACITY of 30 Pts + CAPITAL of 30 Pts + CHARACTER of 30 Pts + EXTL PAYMNTS COLLATERAL + POL-ONLY? Plus 20 Pts

COUNTRY CONDITIONS

(Ask Country Economist)

Number of Points (100 to 0)*

Sovereign Guarantee Public Non-Sovereign Private Sector

*If Sovereign Guarantee, analyst may choose to use 200-0 point score for Country Conditions, RATHER than assess borrower's capacity, capital, and character factors.

CAPACITY FACTOR

Number of Points

Identify Particularly Important Indicators:

For most recent financial year:

	30	27	24	21	18	15	12	9	6	3	0
Sales were at least \$ million:	3,500	2,187	1,500	917	667	450	267	117	50	21	<input type="text"/>
Cash Flow (NIAT+Dep) was at least \$ million:	2,450	1,408	900	504	333	202	107	41	15	5	<input type="text"/>
Net Income (aftertax) was at least \$ million:	1,200	700	450	250	160	90	40	10	0	(2)	<input type="text"/>
Sales/Assets were at least:	70%	65%	60%	55%	50%	45%	40%	35%	30%	25%	<input type="text"/>
Hard Currency Sales / Sales of at least:	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	<input type="text"/>
Cash Flow (NIAT+Dep)/Sales of at least:	70%	65%	60%	55%	50%	45%	40%	35%	30%	25%	<input type="text"/>
Debt Service Cover (NIAT+Dep+Int)/(Prin + Int) of at least:	300%	280%	260%	240%	220%	200%	180%	160%	140%	120%	<input type="text"/>
Net Income (aftertax)/Sales of at least:	34%	32%	30%	27%	24%	20%	15%	9%	0%	-12%	<input type="text"/>
Net Income (aftertax)/Assets or ROA was at least:	24%	21%	18%	15%	12%	9%	6%	3%	0%	-3%	<input type="text"/>
Taxes/Net Income Before Taxes were at most:	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	<input type="text"/>
Sales Growth (Dollars) over Last Year Percent per Annum was at least:	12%	10%	8%	6%	4%	2%	0%	-2%	-4%	-6%	<input type="text"/>
Net Income Growth (Dollars) over Last Year Percent per Annum was at least:	12%	10%	8%	6%	4%	2%	0%	-2%	-4%	-6%	<input type="text"/>

(CONTINUATION -- RATING SHEET 3)

Borrower:

Country:

CAPITAL FACTOR
Number of Points

30 27 24 21 18 15 12 9 6 3 0

Identify
Particularly
Important
Indicators:

For most recent financial year:

Assets were at least \$ million:	<input type="checkbox"/>											
	5,000	3,333	2,500	1,667	1,333	1,000	667	333	167	83		
Equity was at least \$ million:	<input type="checkbox"/>											
	2,500	1,500	1,000	583	400	250	133	50	17	4		
Cash & Equivalents Holdings were at least \$ million:	<input type="checkbox"/>											
	100	67	50	33	27	20	13	7	3	2		
Equity/Assets was at least:	<input type="checkbox"/>											
	50%	45%	40%	35%	30%	25%	20%	15%	10%	5%		
Current Ratio Current Assets / Current Liabilities was at least:	<input type="checkbox"/>											
	200%	180%	160%	140%	120%	100%	80%	60%	40%	20%		
Accounts Receivable/Sales were at most:	<input type="checkbox"/>											
	5.0%	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	40.0%	45.0%	50.0%		
Asset Growth (Dollars) over Last Year Percent per Annum was at least:	<input type="checkbox"/>											
	12%	10%	8%	6%	4%	2%	0%	-2%	-4%	-6%		
Equity Growth (Dollars) over Last Year Percent per Annum was at least:	<input type="checkbox"/>											
	12%	10%	8%	6%	4%	2%	0%	-2%	-4%	-6%		
Cash & Equivs (Dollars) Growth over Last Year Percent per Annum was at least:	<input type="checkbox"/>											
	12%	10%	8%	6%	4%	2%	0%	-2%	-4%	-6%		

CHARACTER FACTOR
Number of Points

30 27 24 21 18 15 12 9 6 3 0

Identify
Particularly
Important
Indicators:

Eximbank Satisfactory Credit Relations with Borrower date back at least:	<input type="checkbox"/>											
	20 Years	15 Years	10 Years	5 Years	2 Years	No Credit Experience				Arrears/Claims		
Does Eximbank Now Have Arrears/Unrecovered Claims vis-a-vis this Borrower?	<input type="checkbox"/>											
	No					No Credit Experience				Yes		
Has Eximbank Experienced Arrears/Claims vis-a-vis this Borrower within last 10 years?	<input type="checkbox"/>											
	No					No Credit Experience				Yes		
Has this Borrower Been Subject to Country-Wide Reschedulings within last 10 years?	<input type="checkbox"/>											
	No					No Credit Experience				Yes		
Other Creditors' Experience with Borrower within the last 10 Years?	<input type="checkbox"/>											
	Positive					Unclear				Negative		
Is this Borrower Covered under Bilateral Incentive / Non-Interference Agreement?	<input type="checkbox"/>											
	Yes											
Does this Borrower Exercise Official Monopoly Powers?	<input type="checkbox"/>											
	Yes											
Does this Borrower Control Substantial Mineral or Energy Resources?	<input type="checkbox"/>											
	Yes											
Quality of Financial Statements Audited or Unaudited:	<input type="checkbox"/>											
	Audited	Unaudited	Unaudited	Unaudited	Unaudited							
Age of Statements:	<input type="checkbox"/>											
	Recent	Recent	Recent	Recent	Agng	Agng	Agng	Agng	Recent	Agng	(Partial)	
Using International or Local Standards:	<input type="checkbox"/>											
	Intl Stds	Loc Stds										
Unqualified or Qualified:	<input type="checkbox"/>											
	Unqual.	Unqual.	Qual.	Qual.	Unqual.	Unqual.	Qual.	Qual.				
Risk Rating of Institution's Owners	<input type="checkbox"/>											
	AAA/AA	A	BBB	BBB/BB	BB	BB/B	B	B/CCC	CCC	CC	C/D	

Name and Country of Institution: _____

- (1) If Ownership is Widely Diversified (no shareholding > 33%), Use "A" Risk Rating
- (2) If Largest Shareholder is Government or Government Ministry, Use Sovereign Risk Rating Equivalent.
- (3) If Largest Shareholder is Rated by Commercial Risk Rating Service, Use this Rating
- (4) If Largest Shareholder is Not Rated by Commercial Risk Rating Service, use "B" risk rating to indicate uncertainty.

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(CONTINUATION -- RATING SHEET 4)

Project Borrower:

Country:

EXTERNAL PAYMENTS COLLATERAL FACTOR

(EXTRA CREDIT POINTS)

POINTS:

Escrow Account: Relative to Exim Principal Payment Ratio to Semiannual Principal Payment, at least:

12 Points	10 Points	8 Points	6 Points	4 Points
250%	200%	150%	100%	50%

Above 250%, 2 Points for Each Additional 50%

Escrow Account: Relative to Exim Debt Outstanding Ratio to Total Exim Exposure, at least:

12 Points	10 Points	8 Points	6 Points	4 Points
25%	20%	15%	10%	5%

Above 25%, 2 Points for Each Additional 5%

Escrow-Assigned Sales: Relative to Exim Principal Payment Ratio to Semiannual Principal Payment, at least:

6 Points	5 Points	4 Points	3 Points	2 Points
500%	400%	300%	200%	100%

Above 500%, 1 Point for Each Additional 100%

Escrow-Assigned Sales: Relative to Escrow Account Ratio to Escrow Account, at least:

6 Points	5 Points	4 Points	3 Points	2 Points
250%	200%	150%	100%	50%

Above 250%, 1 Point for Each Additional 50%

Escrow-Assigned Sales: Relative to Borrower's Sales Ratio to Borrower's Total Sales, at least:

6 Points	5 Points	4 Points	3 Points	2 Points
50%	40%	30%	20%	10%

Above 50%, 1 Point for Each Additional 10%

Escrow-Assigned Sales: Relative to Borrower's Net Income Ratio to Borrower's Net Income, at least:

6 Points	5 Points	4 Points	3 Points	2 Points
250%	200%	150%	100%	50%

Above 250%, 1 Point for Each Additional 50%

THE RATIOS ABOVE USE THE FOLLOWING DATA:

Escrow Account, at time of First S/A Payment \$ Million

Escrow-Assigned Sales, During First Year \$ Million

Semiannual Principal Payment \$ Millions

Eximbank Total Exposure on Transaction \$ Million

Borrower's Total Sales, during First Year \$ Millions

Borrower's Net Income, during First Year \$ Million

(CONTINUATION -- RATING SHEET 2)

Borrowing Airline:

Country:

CAPITAL FACTOR
Number of Points

<input type="checkbox"/>	Identify Particularly Important Indicators:											
30	27	24	21	18	15	12	9	6	3	0		

For most recent financial year:

Assets were at least \$ million:	<input type="checkbox"/>											
	5,000	3,333	2,500	1,667	1,333	1,000	667	333	167	83		
Equity was at least \$ million:	<input type="checkbox"/>											
	2,500	1,500	1,000	583	400	250	133	50	17	4		
Cash & Equivalents Holdings were at least \$ million:	<input type="checkbox"/>											
	100	67	50	33	27	20	13	7	3	2		
Equity/Assets was at least:	<input type="checkbox"/>											
	50%	45%	40%	35%	30%	25%	20%	15%	10%	5%		
Current Ratio Current Assets / Current Liabilities was at least:	<input type="checkbox"/>											
	200%	180%	180%	140%	120%	100%	80%	80%	40%	20%		
Accounts Receivable/Sales were at most:	<input type="checkbox"/>											
	5.0%	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	40.0%	45.0%	50.0%		
Asset Growth (Dollars) over Last Year Percent per Annum was at least:	<input type="checkbox"/>											
	12%	10%	8%	8%	4%	2%	0%	-2%	-4%	-6%		
Equity Growth (Dollars) over Last Year Percent per Annum was at least:	<input type="checkbox"/>											
	12%	10%	8%	8%	4%	2%	0%	-2%	-4%	-6%		
Cash & Equivs (Dollars) Growth over Last Year Percent per Annum was at least:	<input type="checkbox"/>											
	12%	10%	8%	8%	4%	2%	0%	-2%	-4%	-6%		

CHARACTER FACTOR
Number of Points

<input type="checkbox"/>	Identify Particularly Important Indicators:											
30	27	24	21	18	15	12	9	6	3	0		

Eximbank Satisfactory Credit Relations with Borrower date back at least:	<input type="checkbox"/>													
	20 Years	15 Years	10 Years	5 Years	2 Years	No Credit Experience					Arrears/Claims			
Does Eximbank Now Have Arrears/Unrecovered Claims vis-a-vis this Borrower?	<input type="checkbox"/>						<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	No						No Credit Experience						Yes	
Has Eximbank Experienced Arrears/Claims vis-a-vis this Borrower within last 10 years?	<input type="checkbox"/>						<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	No						No Credit Experience						Yes	
Has this Borrower Been Subject to Country-Wide Reschedulings within last 10 years?	<input type="checkbox"/>						<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	No						No Credit Experience						Yes	
Other Creditors' Experience with Borrower within the last 10 Years?	<input type="checkbox"/>						<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	Positive						Unclear						Negative	
Does this Borrower Exercise Official Monopoly Powers?	<input type="checkbox"/>												<input type="checkbox"/>	
	Yes													
Quality of Financial Statements Audited or Unaudited:	<input type="checkbox"/>													
	Audited	Unaudited	Unaudited	Unaudited	Unaudited									
Age of Statements:	<input type="checkbox"/>													
	Recent	Recent	Recent	Recent	Agng	Agng	Agng	Agng	Recent	Agng	(Partial)			
Using International or Local Standards:	<input type="checkbox"/>													
	Intl Stds	Loc Stds	Qual.	Qual.										
Unqualified or Qualified:	<input type="checkbox"/>													
	Unqual.	Unqual.	Qual.	Qual.	Unqual.	Unqual.	Qual.	Qual.						
Risk Rating of Institution's Owners	<input type="checkbox"/>													
	AAA/AA	A	BBB	BBB/BB	BB	BB/B	B	B/CCC	CCC	CC	C/D			

Name and Country of Institution: _____

(1) If Ownership is Widely Diversified (no shareholding > 33%), Use "A" Risk Rating
 (2) If Largest Shareholder is Government or Government Ministry, Use Sovereign Risk Rating Equivalent.
 (3) If Largest Shareholder is Rated by Commercial Risk Rating Service, Use this Rating
 (4) If Largest Shareholder is Not Rated by Commercial Risk Rating Service, use "B" risk rating to indicate uncertainty.

(CONTINUATION -- RATING SHEET 2)

Borrowing Airline:

Country:

AIRCRAFT COLLATERAL FACTOR
(EXTRA CREDIT POINTS)

POINTS:

At Time of Sale: Asset Value / Sales Price
of at least:

8 Points	7 Points	6 Points	5 Points	4 Points	3 Points	2 Point	1 Point
100%	95%	90%	85%	80%	75%	70%	65%

At Time of Sale: Sales Price / Exim Loan Balance
of at least:

8 Points	7 Points	6 Points	5 Points	4 Points	3 Points	2 Point	1 Point
125%	120%	115%	110%	105%	100%	95%	90%

At Time of Sale: Asset Value / Exim Loan Balance
of at least:

8 Points	7 Points	6 Points	5 Points	4 Points	3 Points	2 Point	1 Point
125%	120%	115%	110%	105%	100%	95%	90%

Asset Value: End of Year 6 / At Time of Sale
of at least:

8 Points	7 Points	6 Points	5 Points	4 Points	3 Points	2 Point	1 Point
85%	80%	75%	70%	65%	60%	55%	50%

End of Year 6: Asset Value / Exim Loan Balance
of at least:

8 Points	7 Points	6 Points	5 Points	4 Points	3 Points	2 Point	1 Point
170%	160%	150%	140%	130%	120%	110%	100%

Private Sector Participation in Financing
of at least:

8 Points	7 Points	6 Points	5 Points	4 Points	3 Points	2 Point	1 Point
30%	26%	22%	18%	14%	10%	6%	2%

Flights From/To Repossession-Friendly Airports
Expected Percent of Flights at least:

8 Points	7 Points	6 Points	5 Points	4 Points	3 Points	2 Point	1 Point
90%	80%	70%	60%	50%	40%	30%	20%

Type of Financing Structure:
Lease or Mortgage

8 Points	1 Point
LEASE	MORTGAGE

Geneva Aircraft Convention: Host Country Status
Ratification or ad hoc Adherence

8 Points	1 Point
FULL RATIFICATION	ADHERENCE FOR THIS CASE

Flights to Areas where Outbreaks of
Violence are Common or Likely

8 Points	1 Point
NONE ARE LIKELY	CANNOT BE RULED OUT

THE RATIOS ABOVE USE THE FOLLOWING DATA:

Asset Value at Time of Sale
\$ Millions

Aircraft Model
& Number of Aircraft

Sales Price
\$ Millions

Exim Loan Balance at Time of Sale
\$ Millions

Asset Value at End-Year 6
\$ Millions

Exim Loan Balance at End-Year 6

Aircraft Resale Values
are Commercial Estimates / Forecasts.
Available from Office of Senior Vice President.

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Appendix 12

OPIC Risk Assessment Matrix

NONSOVEREIGN PROJECT RISK ASSESSMENT MATRIX

DATE _____ PROJECT _____ COUNTRY _____

	Project Paper Reference	Weight × Rank	Project specific weighting (0-10)	Risk Ranking:				
				LOW 1	MED LOW 2	MEDIUM 3	MED HIGH 4	HIGH 5
1. Management capabilities (of the borrower, project operator, intermediate financial institution, etc.)	<u>2.1, 5.1</u>	<u>28</u>	<u>7</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>X 4</u>	<u>5</u>
2. Business risk	<u>3, 5.1</u>	<u>14</u>	<u>7</u>	<u>1</u>	<u>X 2</u>	<u>3</u>	<u>4</u>	<u>5</u>
3. Project structure/leverage	<u>1.4</u>	<u>15</u>	<u>5</u>	<u>1</u>	<u>2</u>	<u>X 3</u>	<u>4</u>	<u>5</u>
4. Project liquidity	<u>1.4, Ex V</u>	<u>15</u>	<u>5</u>	<u>1</u>	<u>2</u>	<u>X 3</u>	<u>4</u>	<u>5</u>
5. Financial forecasts	<u>4.2, Ex IV V</u>	<u>15</u>	<u>5</u>	<u>1</u>	<u>2</u>	<u>X 3</u>	<u>4</u>	<u>5</u>
6. Country risk	<u>5.2, Ex VIII</u>	<u>35</u>	<u>7</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>X 5</u>
7. Collateral security	<u>1.4</u>	<u>6</u>	<u>6</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
8. Sources of repayment	<u>1.4, Ex III, V</u>	<u>30</u>	<u>10</u>	<u>1</u>	<u>2</u>	<u>X 3</u>	<u>4</u>	<u>5</u>
9. Other/offsetting factors	<u> </u>	<u>--</u>	<u>--</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
TOTAL		<u>158</u> ÷	<u>52</u> =	<u>3.04</u>				
				OVERALL PROJECT RISK RATING				

Appendix 13

List of Persons Contacted

Persons Contacted

USAID

Mr. David Grossman
Assistant Director
PRE/Office of Housing and Urban Programs

Mr. Peter Pirnie
Financial Advisor
PRE/Office of Housing and Urban Programs

Mr. Eliecer Fernandez
Financial Advisor
PRE/Office of Housing and Urban Programs

Mr. Robert Freed
former Housing Officer
PRE/Office of Housing and Urban Programs

Mr. Adel Sobh
Chief
Guarantee Program Branch
Office of Financial Management

Ms. Judith Coker Evans
Investment Officer
PRE/Office of Investment

Mr. Mark Wagner
Financial Analyst
PRE/Office of Investment

Ms. Rebecca A. Bowsbey
Budget Analyst
Directorate for Finance & Administration/Office of Budget

Other U.S. Government Agencies

Mr. Ron Silberman
International Affairs Division
Office of Management and Budget

Ms. Alice McNutt Miller
International Affairs Division
Office of Management and Budget

Mr. Clement K. Miller
Special Assistant to the Senior Vice President for International Lending
Export-Import Bank of the United States

Mr. Joe Kuge
Export-Import Bank of the United States

Ms. Anne H. Predieri
Deputy Treasurer
Overseas Private Investment Corporation

Mr. Mark W. Neal
Manager, Financial Services and Budget Policy
Overseas Private Investment Corporation

Mr. Thomas P. McQueeney
Assistant Vice President
International Banking Department
Federal Reserve Bank of New York

Mr. Warren Moskowitz
Research Department
Federal Reserve Bank of New York

Multilateral Development Banks

Mr. Edward J. Doheny
Senior Portfolio Officer
International Finance Corporation

Mr. Sergio A. Pombo
Portfolio Management Analyst
Inter-American Investment Corporation

Ms. Barbara Cassidy
Private Sector Investment Officer
Asian Development Bank

Private Sector Institutions

Mr. Robert Visek
Vice President, Country Risk Management
Chemical Bank

Mr. David T. Devlin
Vice President and Deputy Senior Advisor for International Operations
Citibank

Mr. Guillermo Estebanez
Vice President
Sovereign Risk Unit
Moody's Investors Service

Ms. Lynn Exton
Senior Analyst, Financial Institutions
Moody's Investors Service

Mr. Carl F. Adams
Vice President & Manager
Sovereign Risk Unit
International Credit
Merrill Lynch & Co., Inc.

Mr. Stuart Burnet
Assistant Vice President & Senior Credit Analyst
International Credit
Merrill Lynch & Co., Inc.